

PENICILLIN IN SUBACUTE BACTERIAL ENDOCARDITIS

REPORT TO THE MEDICAL RESEARCH COUNCIL ON 269 PATIENTS TREATED IN 14 CENTRES
APPOINTED BY THE PENICILLIN CLINICAL TRIALS COMMITTEE

BY
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Secretary of the Committee

January, 1945, and March, 1946. 269 patients with subacute bacterial endocarditis were treated as appointed by the Medical Research Council in 14 centres: Bristol, Edinburgh, Liverpool, London (St. Mary's), Middlesex, New's Hospital, Manchester, Newcastle, Sheffield. All patients were unselected, diagnosed and treated according to a

83 patients receiving 250,000 units a day for 28 days, 13 (16%) relapsed or died infected. Of 58 patients who received 500,000 units a day for 28 days, 4 (6.9%) relapsed or died infected. Only occasionally can failure be explained on the basis of a highly resistant organism; in the four failures referred to above the coefficient of resistance was expressed as a multiple of that of the Oxford staphylococcus was 2, 2, 6, and 32.

Only two previously untreated patients received other systems of dosage, and the results in this group, although the not instructive from a therapeutic point of view, are shown in Table 1:1.

Results in Previously Untreated Cases

Investigation was planned not only was but very few cases of recovery had been or these organisms of penicillin were now known to be adequate.

Of 52 patients with a total of 5 million daily dosage was used (Table 1). Thus experi-

Received a Total of 5 Million Units of Penicillin, of 5, and 20 mg. (No case had previously received penicillin)

Treated	Died with Infection Apparently Controlled	Infection Uncontrolled	Relapsed	"Cured"	Average Follow-up (Days)	Relapsed or Died Infected
18	1	2	13	0	665	83%
16	4	0	4	25%	579	50%
18	6	0	4	44%		12%

that, with these limits of dosage, treatment was of greater importance than in given only a conclusion which was non-ance but which at that time was of

Of 155 patients the duration of treatment was 21 days but the daily dose was 100,000 units. Of 11 patients who received 100,000 units a day relapsed or died infected.

ful. The patients with a Daily Dose of 100,000 units had previously received

trial under M.R.C. auspices, ap

TABLE III—Patients Receiving Courses not Included in Tables I or II (No case had previously received penicillin)

Dose	Total	Died with Infection Apparently Controlled	Died with Infection Uncontrolled	Re-lapsed	"Cured"
0.25 mega unit a day for from 5 to 6 weeks	3			1	2
0.5 mega unit for 21 days	11	1		2	8
0.5 mega unit for 5 weeks	4				4
0.5 mega unit for 2 weeks, increased to 1 mega unit for 2 weeks	4		1		3

Except in a few cases penicillin hourly injection or by continuous (946) found that a peptide which No difference in the therapeutic crystalline proteins, including strated, and opinion on the potential for the growth of haemolytic divided. In some cases try also for the growth of mice in mately as stated: these essential amino-acids plus glycine. He previous report in the "strepogenin." Strepogenin is present 1946 (p. 381). Polysates but not in acid ones.

Urinary Leakage after Injections

Patients who his colleagues found that, soon after giving with regard acids intravenously, substantial amounts were patients who eted in the urine; the excretion was less when 59% again given by the skin and least by mouth. Clinicians calculated even by the skin and least by mouth. Clinicians not previous America have found that large amounts of have been in the urine in the first half-hour or so after who re polysates by vein. The losses can be detected to the appearance and smell of the urine. This raises to a portant question whether, in normal absorption (Take intestine, amino-acids undergo any change in 1 or chemical properties in passing through the al wall and the liver. It may be that the epithelium

to amino-acids and peptides. The body is intolerant of foreign proteins, and if they get into the blood they cause reactions of an anaphylactic type. Human blood can, however, be given by vein with impunity.

This evidence, provided mainly by Madden and Rose (1940), that blood proteins can supply the "building" required for the construction of the body's protein for long it was assumed that the amino-acids, if absorbed, went via the portal vein to the liver, where those not wanted by the body were de-aminized to a non-nitrogenous residue used for energy, while the rest was used for growth or repair by any organ or tissue picked up from the general circulation. Whipple, on the basis of much experimental evidence, has advanced a new theory about the fate of absorbed amino-acids and peptides. It is that (a) the amino-acids are absorbed mainly in the liver, into plasma proteins; (b) there is a constant ebb and flow between plasma and tissue; (c) in the tissues there is a reserve store of amino-acids for emergency use; and (d) normally a state of equilibrium exists between the plasma proteins, tissue proteins, and those ingested.

Proteins.—It would follow from Whipple's theory that we have had, since blood transfusion became a means of supplying by vein all the proteins the body requires; but it is doubtful if supplies of human plasma are available, or likely to be available in the near future, would suffice for the very many uses to which plasma could be put in intravenous alimentation. However, we do not know whether plasma proteins can be used for energy purposes. As I point out later, a large portion of the energy needs of the patient treated by intravenous alimentation must, in the present state of knowledge, come from the proteins injected. The use of plasma is therefore likely to be confined to the purposes for which it was originally intended—namely, to combat shock and the effects of haemorrhage and of certain diseases.

Protein Hydrolysates.—Loewi in 1902 was evidently the first to show that nitrogen equilibrium and weight could be maintained by administering protein digests by mouth. He fed dogs on pancreatic digests of protein, plus starch and fat. In 1913 Henriques and Andersen kept goats in weight equilibrium for twenty days with intravenous protein digests, sugar, and salts. In 1938 Rose showed that ten of the thirty or so known amino-acids, given by mouth as the only source of N, sufficed for maintenance of N balance and weight in rats. The practical significance of these findings did not become apparent until Elman and Weiner (1939) reported the successful administration of protein digests by vein to human patients. Since then increasing attention has been paid to the subject, and there are at present on the market American and British hydrolysates of proteins, which can be given to human patients day after day in substantial quantities without reaction and often with striking success. The subject has been reviewed by Cuthbertson (1944), Cuthbertson (1944), and Gaunt (1944).

Hydrolysis of protein can be effected by acids or by enzymes, but enzymic preparations have been found to be the more successful. The earlier preparations often provoked reactions which were caused, as animal experiments showed, either by toxic substances produced by bacteria or by large polypeptide aggregates. The enzymic preparations now used very extensively in North America seem to be practically free from such risks and less prone to cause digests to cause thrombosis. An enzymic preparation made in this country, and at present being subjected to an extensive trial under M.R.C. auspices, appears

also to be giving satisfactory results, but further experience must be gained before its full therapeutic value can be stated.

Amino-Acids

Madden and Whipple (1946) have done much experimental work on dogs to ascertain whether solutions of pure amino-acids given parenterally could maintain the animals in N equilibrium. The work of Rose (1938), showing that only ten amino-acids are essential, simplified the trials of Whipple's school. He was able to secure substantial quantities of these amino-acids, most of them synthetically prepared, and showed that, when given by mouth, skin, vein, or peritoneum along with glucose, they sufficed for N equilibrium, but weight was not wholly maintained. Whipple, when I saw him in his laboratory in October, 1946, expressed the opinion that another protein element, perhaps a peptide, is essential for health, and it may well be the strepogenin of Woolley (1946); I will take this up later.

All synthesized amino-acids are in racemic form—i.e., a mixture of the natural and unnatural isomers. The animal body can make use of only the natural isomers, and the unnatural forms, which Madden and Whipple (1946) and Madden *et al.* (1946) found to be non-toxic to man, however administered, are excreted unchanged by the urine. The ten essential amino-acids are: threonine, valine, leucine, isoleucine, lysine, tryptophan, phenylalanine, methionine, histidine, and arginine. The use of mixtures of these on an extensive scale is out of the question; they are difficult and very costly to manufacture.

Rose *et al.* (1942, 1943), who maintained young men for several weeks on a diet of which the N was in the form of amino-acids, are of the opinion that arginine and histidine are less essential for man than for the other animals tested. Madden, Whipple, *et al.* (1945) have always incorporated glycine in the amino-acid mixture given to human patients because this seems to make it better tolerated. They have reported the maintenance of, and even gains in, weight of several patients suffering from various diseases with mixtures of the ten essentials and glycine given by vein, skin, or mouth, plus small amounts (about 7 g.) of protein by mouth. It may well be that the protein consumed by mouth filled the part of strepogenin in the animal experiments. One patient suffering from ulcerative colitis was kept going in this way for 100 days, during which a gain in weight of 11 kg. occurred (Madden *et al.*, 1946).

Strepogenin.—Woolley (1946) found that a peptide which he isolated from certain crystalline proteins, including insulin, and which is essential for the growth of haemolytic streptococci, is necessary also for the growth of mice in addition to the ten essential amino-acids plus glycine. He called the peptide "strepogenin." Strepogenin is present in enzymic hydrolysates but not in acid ones.

Urinary Leakage after Injections

Whipple and his colleagues found that, soon after giving amino-acids intravenously, substantial amounts were rapidly excreted in the urine; the excretion was less when they were given by the skin and least by mouth. Clinicians here and in America have found that large amounts of N are lost in the urine in the first half-hour or so after giving hydrolysates by vein. The losses can be detected even by the appearance and smell of the urine. This raises the important question whether, in normal absorption from the intestine, amino-acids undergo any change in physical or chemical properties in passing through the intestinal wall and the liver. It may be that the epithelium

renders the amino-acids more easily metabolized or convertible into plasma proteins. Kotschneff (1926) claims to have found in dogs an increase in polypeptides in the portal vein during absorption of protein meals and of amino-acids. The findings of Madden and Whipple (1946), showing that amino-acids given orally result in better production of blood proteins than when given by vein, support Kotschneff. He used the technique of London (1927), which enables blood to be drawn from the deep blood vessels in unanaesthetized animals. Analysis of blood samples from the portal and hepatic veins of dogs before and after protein meals by modern biochemical methods would be worth while.

There is an important difference between the routes followed by amino-acids absorbed in the ordinary way and by intravenously injected amino-acids or hydrolysates. Normally, of course, all the amino-acids pass via the portal vein to the liver; and, as we have seen, the great bulk of them are apparently changed into polypeptides and proteins. Small amounts of amino-acids are, however, found in the general circulation, but evidently not in such high concentrations as after injections of amino-acids or protein digests. The injected hydrolysates go in the venous blood to the right heart, the lungs, the left heart, and thence in the arterial blood all over the body. If, according to the older theory, the amino-acids were straightway used by the tissues of the body, leakage by the kidney would probably not be as great as it is, but if they must first be changed into blood proteins by the liver, according to Whipple's view, then the dispersal of the material through the circulation would make the necessary transformation in the liver and removal of amino-acids from the blood a very gradual process. The kidney threshold for the separate amino-acids may thus be exceeded. This, it seems to me, is the main reason for the losses of N by the kidney after intravenous infusions. There are clearly many gaps in our knowledge, and it is important that steps should be taken to fill them.

Clinical Experiences

Notwithstanding our lack of knowledge, there is no doubt that protein hydrolysates have provided much success, even where their use has been very limited, as in this country. Very few cases have, however, been published. Two interesting ones came under my observation (Magee, 1946). Both were cases of homologous serum jaundice and were in *extremis* before treatment began; the response and recovery were spectacular. They were given 5% acid hydrolysate in amounts up to 1,000 ml. in twenty-four hours (50 g. of protein and 200 calories) at the rate of 500 ml. in about three hours. The hydrolysates were usually preceded and sometimes followed by 500 ml. of 5% glucose given in amounts up to 1,600 ml. (320 calories) in 24 hours. The rate of administration in North America varies from 350 to 600 ml. an hour of a 5% solution each of digest and glucose, and about 4 litres is apparently the maximum that can be given with impunity in twenty-four hours (200 g. of protein and 1,600 calories). Experience there indicates that it would be difficult to exceed this amount because of the care and attention required for the infusions and because of the risk of reactions and extensive thrombosis.

The conditions in which protein hydrolysates have been used with success include hepatitis, injury or disease of the bowel, intestinal obstruction, severe typhoid state, enteritis, colitis, severe burns, cyclic vomiting, peptic ulcers, and after operations. The most striking case I know of was reported by Brunschwig *et al.* (1945). The patient was kept alive for eight weeks entirely by venous infusions of protein hydrolysate plus glucose, and during this time

he had two severe operations—one for removal of a tumour and the other a bowel resection. Brunschwig, when I saw him in October, 1946, informed me that the man was enjoying a normal life about two years after his discharge from hospital.

Thrombosis

Thrombosis has occurred in every case treated with acid preparations that I know of in this country, but it would seem that it is less likely to occur with enzymic preparations. Although they have rarely reported thrombosis in their papers I found that the Americans have also been bothered with it. Brunschwig told me that in his famous case so many superficial veins were affected that he had difficulty in giving injections towards the end of the treatment. The Americans are now combating this complication with fair success by using different veins and giving no more than 500 ml. at a time by the same vein. Joliffe showed me in a New York hospital a novel method of infusion in an emaciated patient—through a cannula tied into a vein. He treated this patient with blood, then protein hydrolysate for a week, and later with a 25% solution of albumin. The improvement in the patient was remarkable. She had had a large intestinal resection and was in desperate plight before the treatment was started.

Energy Requirements

The energy requirement of an adult male confined to bed is probably not much less than 2,000 calories daily, and may be 2,400 or more in febrile states. If the maximum we can give by vein is substantially less than this, then we run the risk of the hydrolysates being used largely for energy purposes, so that nothing would be left over for reconstruction of damaged tissues. It is to avoid this that glucose is given immediately before or in solution with hydrolysates. To what extent this succeeds is unknown, but the question would not arise if we were able completely to satisfy the energy needs from non-protein sources and have, say, 70 g. of protein for reconstruction. This cannot be done with any combination of hydrolysates and glucose because stronger solutions are excluded owing to the risk of extensive thrombosis and losses via the kidneys, and with solutions of the present strengths the bulk of fluid which would have to be given would be too great.

Fats

As we have seen, the maximum energy we can hope to give by vein day after day is only 1,600—i.e., 400–800 calories less than requirements. There can be little doubt therefore, that a large proportion, maybe all in many cases of the injected hydrolysate is oxidized for energy, thus frustrating its primary purpose—namely, tissue reconstruction. Now that we have succeeded in making digests of proved value on a commercial scale, the problem remaining to be solved is how to "protect" the protein hydrolysates by sufficient non-protein energy-giving materials so that the bulk of the amino-acids and peptides will be spared for tissue-building. To do this we would require to give 2,000 calories or more a day in non-protein form.

At present we have no means of giving fats and are therefore restricted to glucose, but the maximum energy we can provide in this form is only about 800 calories a day. The energy problem then becomes one of incorporating fat in usable form in the injections. If this were possible we could reduce the protein hydrolysate about 75 g. more or less—i.e., to 1,500 ml. of solution. It would, however, be better to increase to 2,000 ml. and reduce the concentration of 3.5%, thereby lessening the risk of leakage by the

With glucose in a concentration of 5% this would give 400 non-protein calories, leaving 1,600 to come from fat in order to reach the 2,000 target. About 170 g. of fat would be required.

So far it has not been found possible to give to human subjects fats in amounts that matter, but research is proceeding. Hegsted, Hay, and Stare (1945) have got so far as to risk giving small amounts to patients, but reactions, none serious, have followed in several instances. Dunham and Brunschwig (1944) have also busied themselves on the subject, experimenting with dogs, but apparently with little success. The main difficulty seems to be to get an emulsion stable enough to stand sterilization. Ivy has been working vigorously on the subject, and he informed me at the International Physiological Congress in Oxford in July, 1947, that he had succeeded in making a stable emulsion with which he has kept dogs in N balance, constant weight, and good health by exclusively venous feeding for 42 days. Since then he has been good enough to send me the following particulars of his emulsion.

Preparation of the Emulsion

1. 50 g. of butter oil refined.
2. 2 g. of lecithin "purified."
3. 2.5 g. of "span 20" (a wetting agent).

Mix thoroughly and heat and mix on a steam bath. Then add, stirring, to :

4. 445 ml. of either 5% or 10% glucose solution made in triple-distilled water and containing 0.1% sodium cholate.

Homogenize five times at a pressure of 3,000-4,000 lb. per square in. (210-280 kg. per cm.²) in a Cherry-Burrell viscolizer (junior model) or its equivalent. Autoclave twice at 10 lb. for 10 minutes within 24 hours.

This yields a mixture of : 10% fat by weight, 0.4% lecithin, 0.5% span 20, 0.1% sodium cholate, 5% glucose.

1. The butter oil is refined by melting and removing curd and water. Then the oil is washed with three or four volumes of hot freshly distilled water three times. Highly refined oil may also be used, though most experiments have been done with butter oil.

2. The "purified lecithin" is a soya-bean lecithin prepared by the "Lecithin" Products Co., Elmhurst, New Jersey. If the lecithin is not purified, or even if a 1% concentration of this lecithin is used, anaemia results.

3. Span 20 is a sorbitan wetting agent made by the Atlas Powder Company, Wilmington, Delaware. It is the best (non-toxic) of numerous wetting agents so far used.

4. Sodium cholate is obtained from Breon and Co., of Kansas City, Missouri, or G. D. Searle and Co., of Chicago.

The emulsion is infused slowly intravenously so that the total calorie and nitrogen requirement is given in six to eight hours. Various protein hydrolysates have been used (one by Mead Johnson and Co., Evansville, Indiana, and another prepared by Cutter Laboratories, Berkeley, California). Enough of the hydrolysate is given to keep the dogs in N balance. It can be used separately or mixed with the emulsion.

The total daily mineral and vitamin requirement may be added to the solution. Calcium and iron may disturb the emulsion; these should be given separately.

There can be no doubt that if we succeed in making a preparation suitable for human intravenous use and containing about 75 g. of protein hydrolysate and 2,000 non-protein calories in 2 litres or so we shall have a therapeutic agent of great possibilities. This work of Ivy and his colleagues is an important step in that direction.

Summary

Until recent years we had no adequate means of combating the malnutrition which complicates many diseases, especially

those directly hindering the ingestion, digestion, absorption, or metabolism of food. A preparation of protein suitable for intravenous use and metabolizable by the body was required. Although there is evidence suggesting that the plasma proteins can supply the elements for tissue growth and repair, it is doubtful if transfusion with human plasma is the solution of the problem; sufficient human blood might not be obtainable for such extensive use.

Enzymic hydrolysates of protein suitable for administration by vein have been prepared in U.S.A. and Great Britain and have been used with impunity and success in a wide variety of conditions in which secondary malnutrition is a prominent feature. They include acute hepatitis, comatose states, typhoid state, infantile diarrhoea, and post-operative conditions. The hydrolysates are usually given in 5% solution with 5% glucose at about 500 ml. an hour to a maximum of about 4 litres (200 g. of protein and 1,600 calories) in twenty-four hours. Thrombosis can be lessened by using different veins and giving no more than 500 ml. at a time by the same one.

A defect in the present procedure is that a large proportion of the injected hydrolysate is oxidized to supply energy and is thus diverted from its intended purpose of tissue-building, because it is not yet possible to incorporate enough non-protein calories in the infusion fluid.

It is desirable to administer up to 2,000 calories as glucose and fat emulsion; the hydrolysate could then be reduced to about 2,000 ml. of a 3.5% solution (70 g. of protein) and the bulk would probably be used for tissue repair.

It has not yet been possible to make a fat emulsion suitable for human use; but dogs have been kept in N equilibrium for six weeks by intravenous feeding on protein hydrolysates and glucose-fat emulsions which withstand sterilization.

An important problem remaining to be solved is to check the urinary leakage of hydrolysate which occurs in the first thirty minutes or so after starting infusions.

I am indebted to Prof. Himsworth and Dr. Stannus for comments on the paper, and especially to Prof. Ivy for his great courtesy in allowing me to publish for the first time the details of his fat emulsion.

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The number of technical dictionaries available to the medical worker interested in foreign languages is very limited, and any reliable addition to their number is welcome. The *English-Spanish Chemical and Medical Dictionary*, by Morris Goldberg (pp. 692, 50s., McGraw-Hill, New York, 1947), will be of more use to Spanish-speaking medical men than to their English-speaking colleagues and should provide them with a fairly complete guide to British and American technical terms. The dictionary is up to date and includes such newcomers to medicine as streptomycin and thiouracil. Definitions of words are given in Spanish. It is inevitable that in a new book there should be a number of relatively important omissions. For example, the author has omitted the names of some muscles while including others less commonly referred to. Nevertheless, he has prepared the dictionary as a whole with care, and we can recommend it not only to those interested in medicine and the allied sciences but also to chemists and biologists.

RARER MANIFESTATIONS OF HERPES ZOSTER

A REPORT ON THREE CASES

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Herpes zoster usually presents as a mild illness with a characteristic rash accompanied by local pain and preceded by a varying degree of constitutional disturbance. Post-herpetic neuralgia is a common sequel, but complications are rare. Of the complications which have been recorded a concomitant varicelliform eruption is perhaps the most common. The rarer, and more serious, complications include lesions of the motor neurones, myelitis and meningitis, encephalitis, and osteoarthritis (Wilson, 1940). It is the occurrence of such complications that at once dispels the concept of zoster as a uniformly benign infection confined to the sensory neurones. Moreover, these complications open controversial aspects on the aetiology and pathology of the disease and upon the difficult problem of the relationship between zoster and varicella. The following three cases are placed on record as exemplifying certain of these rare complications. All three patients showed evidence of affection of motor neurones, and two of them exhibited a generalized eruption during the course of the disease.

Case 1

Zoster, accompanied by paralysis, in the distribution of the fifth cervical segment.

A solicitor's clerk aged 60 was admitted to hospital on July 4, 1947. He gave a history of chicken-pox in childhood. In 1918 he had sustained a shrapnel wound of the right elbow, which had left him with a complete ulnar lesion on that side and much limitation of movement of the elbow-joint.

Six weeks before his admission he had suffered from acute pain in the right shoulder. Three days later a rash appeared in the antecubital fossa and rapidly spread up the outer side of the arm as far as the right shoulder. Three days after the appearance of the rash he noticed, quite suddenly, that his right arm was weak and that he could raise the arm from the side only with difficulty. The weakness increased over the next few days until the right arm was quite useless. Since that time the rash had cleared up, but the weakness had not improved at all. After the disappearance of the rash he had felt tingling and numbness in the area of skin previously affected.

Examination showed a healthy well-built man. There was a pigmented scarring over the site of the recent rash, distributed on the outer side of the upper arm from the shoulder to the elbow—i.e., in the cutaneous distribution of the fifth cervical dermatome. There was some hypo-aesthesia to pin-prick and cotton-wool sensation in the same area. There was considerable wasting of the right deltoid, supraspinatus, and infraspinatus muscles. No abduction of the shoulder was possible, although a flicker of muscular contraction was palpable over the deltoid muscle when abduction was attempted. Slight contraction of the supraspinatus and infraspinatus was likewise palpable over the muscle bellies. The biceps and brachioradialis muscles on the right side were weaker than those on the left. Under the nomenclature suggested by the Medical Research Council (1942) the muscular contractions at this time were: deltoid 1, supraspinatus 1, infraspinatus 1, biceps 4, brachioradialis 4. There was a deep scar of the old wound on the inner side of the right elbow, and below the elbow there was a complete ulnar-nerve palsy. The biceps and supinator reflexes on the right side were impaired; the triceps-jerk was normal. The remainder of the physical examination revealed nothing abnormal. Lumbar puncture on July 6 showed a clear fluid under normal pressure. The cerebrospinal fluid contained 5 cells per c.mm. The protein was 0.055%, with a slight increase

of globulin, and the chlorides 0.75%. The Wassermann reaction and Lange curve were negative.

The patient was treated by resting the arm in an abduction splint and by faradic stimulation of the muscles affected. He was discharged from hospital on July 30 to continue treatment as an out-patient, and at this time there was pronounced objective improvement. He was last seen on Aug. 16, when recovery was almost complete.

Case 2

Ophthalmic zoster with generalized eruption, followed by weakness of the levator palpebrae.

A housewife aged 48 was admitted to hospital on July 9, 1946. There was no history of previous illness, and she denied having had chicken-pox. She complained of an irritation on the left side of the forehead for the previous week, and on July 6 she had first had severe neuralgic pains over the left eyebrow. On the day before admission the left eye became swollen and painful, and a rash was noticed on the forehead. On admission the patient looked ill and had a fever of 101.8° F. (38.8° C.). There were a moderate number of vesicles on erythematous bases in the distribution of the ophthalmic division of the trigeminal nerve on the left side. The left eye showed conjunctival injection, with some photophobia and extreme tenderness to pressure. There were no other abnormal signs, and the rest of the skin was clear. During the next three days (July 10 to 12) the number of vesicles increased, the erythema spread, and the upper and lower lids became grossly oedematous. The appearance was now quite typical of a severe herpes zoster.

On July 13 the patient complained of irritation of the skin. Examination then showed that she had a generalized eruption on the trunk and proximal parts of the limbs, with a single lesion on the face. The eruption was quite typical of that seen in varicella, and the subsequent course of pustule formation and healing followed as customary in that disease. It was noted, however, that after the first 24 hours no fresh crops of vesicles arose. Whether or not the previous lesions had occurred in crops is not known, as no examination of the skin had been carried out between the initial examination and the complaint of irritation. As the herpes recovered it was evident that there was considerable weakness of the levator palpebrae muscle on the left, giving rise to obvious ptosis. The scabs from the varicelliform rash separated on Aug. 1, 14 days after their occurrence, and the patient was allowed to leave hospital. The ptosis was still present on discharge and persisted for many weeks. The patient was last seen in December, 1946, when the ptosis had completely recovered. At no time was there any oculomotor paralysis or abnormality in the pupil response.

Case 3

Zoster of trigeminal and cervical distribution accompanied by generalized eruption and followed by facial palsy.

An engineer aged 43 was admitted to hospital on July 13, 1947. In his youth he had suffered from scarlet fever, diphtheria, and chicken-pox. In February, 1945, he developed shingles over the lower half of the left side of the face, the upper part of the neck, and behind the left ear. He stated that in spite of careful search no lesions were found in the ear or inside the mouth. Four days after the appearance of the zoster he developed "an attack of chicken-pox," and because of this he was transferred to an isolation hospital. Within a day or two he suddenly developed a complete left facial palsy, which persisted until his discharge from hospital some five weeks later. Since that time there had been some improvement in the weakness of the face, but he had always been greatly troubled by difficulty in eating, numbness of the face, and severe neuralgia. His present admission followed a cerebral vascular accident which had occurred twelve weeks previously and which had caused aphasia and weakness of the right arm and face. The disability arising from this cerebral lesion had almost disappeared on admission.

Examination showed a pronounced left lower neurone facial weakness, together with diminished sensations over the lower

part of the face and on the inside of the left cheek. The tongue was protruded centrally. Although the patient complained of lack of appreciation of taste on the left side of the tongue, the presence of hemiageusia was not confirmed by crude tests. In addition to these signs there was an increase in the tendon reflexes and a diminution of the abdominal reflexes on the right, representing the residuum of the recent cerebral thrombosis. His blood pressure was 210/120. No other abnormal findings were present. Lumbar puncture showed a clear fluid under normal pressure. The cerebrospinal fluid contained 3 cells per c.mm.; the protein was 0.04%; and the Wassermann reaction and Lange curve were negative.

Discussion

Zoster Generalisatus and Its Relation to Varicella

The occurrence of a varicelliform rash in the course of herpes zoster is a well-recognized entity. It is variously referred to as zoster generalisatus, zoster universalis, and varicelliform zoster. The condition was probably first described by Tenneson in 1893, and many examples have been recorded since. Minet and Leclercq (1911) collected 25 cases, and Parkes Weber (1913, 1916a, 1916b) described several cases and quoted 20 references. Most reports stress its occurrence in elderly patients. The extent of the eruption varies from the presence of a few aberrant vesicles to a diffuse eruption indistinguishable from the exanthem of varicella. The rash in Case 2, described above, was typical of varicella. Case 3 was not seen in the acute phase of the disease, but the eruption was evidently so like that of varicella that the patient was transferred to an isolation hospital.

The condition is of particular interest in that it provides a no-man's-land in the perennial battle between the monists and the dualists over the relationship between zoster and varicella. It has been assumed by some writers that the eruption constitutes a true attack of chicken-pox (Allen, 1944; Manning, 1944; Sharpe, 1946; and others), or that the concurrence of the two conditions is proof that zoster and varicella are but phases of one and the same disease (Le Feuvre, 1917). But, as Parkes Weber (1916a) has pointed out, this conclusion is hardly justified, as some of the cases show only a few aberrant vesicles, and evidence of an increase in cases of zoster during epidemics of varicella is lacking.

The experimental work of Kundratitz (1925) and Bruusgaard (1932) has an important bearing on this issue. These writers showed that the inoculation of children with vesicle fluid from cases of zoster produced a quasi-varicella rash and that contacts with these children also developed an eruption indistinguishable from varicella. Bruusgaard draws no definite conclusions from this work, but points out that the findings are compatible with the postulate of Haslund (1900) that the difference in the manifestations of infection with the zoster virus might well depend on the portal of entry. Haslund suggested that in zoster the virus gains access to the body via the nasopharynx and spreads to the nervous system, and that the generalized eruption is due to haematogenous dissemination to the skin.

The problem of the relationship between the two diseases is clearly not proved (cp. Wilson, 1940) and will remain so until further facts accumulate. Such data will become available only as the result of systematic investigations, and two lines of approach seem possible. The first is an extension of the work of Aitken and Brain (1933) on the complement-fixation test for the zoster virus, which they found to be positive in all of nine cases of zoster. Application of this test to cases of varicella does not seem to have been undertaken. The second line of approach, suggested by Le Feuvre (1917) and Taylor (1945), is the compulsory notification of herpes zoster, so that its

epidemiology might be compared with that of varicella. From observations made in a relatively isolated community Pickles (1939) showed that the epidemic peaks of the two diseases roughly correspond.

Motor Symptoms in Zoster

Of considerable interest and importance are the rare cases of zoster in the course of which the motor nervous system is affected. Involvement of the upper motor neurones has been described (Parkes Weber, 1915), and references to this condition are given by Carter and Dunlop (1941). The majority of recorded cases, however, refer to lesions of the lower motor neurones. These lower motor neurone pareses may be conveniently divided into three clinical types: facial palsy, oculomotor paresis, and segmental spinal-cord paralysis. The three cases described above provide one example of each of these types. As will be seen in the discussion that follows, the mechanism of the production of the motor symptoms is probably different in the three types. In facial palsy the motor fibres are incidentally involved in their transit through the geniculate ganglion, oculomotor lesions arise from peripheral spread of the infection, and spinal paralyses are probably due to actual involvement of the spinal cord by the zoster virus.

Facial palsy is by far the commonest of the motor lesions (Hunt, 1909). It was first clearly described by Ramsay Hunt (1907), and the syndrome often goes by his name. The primary lesion is in the geniculate ganglion, and the herpetic eruption occurs in the cone-shaped area of the cutaneous distribution of the facial nerve, which includes the posterior portion of the tympanic membrane and the external canal, the concha, the antitragus, and the antihelix. In addition to this classical syndrome, facial palsy occurs as a complication of trigeminal herpes (Wilson, 1940; Spillane, 1941). In such cases presumably the Gasserian and geniculate ganglia are affected simultaneously.

An important group of cases is that in which trigeminal herpes occurs with facial palsy but without herpetic eruption in the seventh-nerve distribution. In these cases, of which Case 3 is an example, it has been suggested that the inflammation of the geniculate ganglion is extensive enough to produce paresis, but not to produce herpes (Sharpe, 1915). The significance of these cases is that they provide examples of "zoster sine herpete" of the geniculate ganglion, with abundant evidence of zoster of the neighbouring ganglia. It is but a short step to the assumption that certain cases of "idiopathic" Bell's palsy might be formes frustes of zoster. Ample substantiation of this supposition is to be found in the work of Aitken and Brain (1933), who demonstrated a positive complement-fixation reaction for zoster in four out of 22 cases of facial palsy in which there was no rash. Spillane (1941) brought other evidence to bear in support of this concept when he described a small epidemic of zoster in the course of which a single case of Bell's palsy was seen.

When oculomotor palsy occurs in the course of zoster it does so invariably as a complication of zoster ophthalmicus. The condition was probably first described by Vernon in 1868, and cases were later reported by Hall (1903), Mules (1903), and Parkes Weber (1916a, 1916b). The paresis may be slight, as in Case 2, in which ptosis was the sole manifestation, or more severe, producing complete paresis of the muscles supplied by the third, fourth, or sixth nerves (Hunt, 1909; Carmody, 1937). The clinical aspect is fully reviewed by Edgerton (1942). According to Kinnier Wilson (1940) the probable mechanism of its production is that spread takes place via the small communicating fibres between the first division of the

trigeminal nerve and the oculomotor nerves in the wall of the cavernous sinus. From analogy with geniculate zoster it is tempting to assume that certain of the oculomotor paralyses, especially when associated with ophthalmic neuralgia, might be due to "zoster sine herpette." No work seems to have been done on the complement-fixation test in such cases. It is of interest to note that this possibility was suggested by Mules (1903) some years before the classical work on geniculate zoster by Ramsay Hunt (1907).

Segmental paralysis of spinal-root distribution is rare in the course of zoster, but the complication was clearly described by Sir William Broadbent (1866), who reported a case in which paralysis of the arm followed herpes of the arm and neck. Joffroy (1882) described two cases—one affecting the deltoid and the other the small muscles of the hand. Most of the reports of cases describe cervical segment paralysis (Buzzard, 1902; Wilson, 1940), but involvement of the abdominal muscles (Taylor, 1895) and of the leg muscles (Carter and Dunlop, 1941) has been recorded. In Case 1, reported above, the cutaneous rash and the paralysis were in the distribution of the fifth cervical segment. Recovery was practically complete in three months from the onset. That the prognosis is not always so good is indicated by Carter and Dunlop (1941), in neither of whose cases had complete recovery taken place in nine months to one year.

These cases of segmental motor paralysis throw further light on the pathology of herpes zoster. The primary lesion in zoster is usually to be found in the posterior root ganglion. Head and Campbell (1900), in a study of the post-mortem changes, demonstrated that these ganglia showed round-cell infiltration, haemorrhage, and cell necrosis. They concluded that the changes in the posterior roots and horns and in the peripheral nerves were secondary and degenerative. This is undoubtedly the common state of affairs, but it fails to explain the rare cases in which there is definite clinical evidence of motor-root lesions. Further light is thrown on this problem by the work of Lhermitte and Nicolas (1924). These authors examined the spinal cord of a patient who died of an incidental disease seven weeks after an acute attack of zoster. In this case there was, in addition to the perivascular infiltration and demyelination in the posterior horns, marked evidence of inflammatory changes in the anterior horns. In spite of this there had been no clinical mention of a motor lesion. This finding confirms affection of the anterior and posterior horns of the spinal cord, and the presence of cord inflammation is borne out by the lymphocytosis and the increase in the protein content of the cerebrospinal fluid which commonly occurs (Wilson, 1940; Carter and Dunlop, 1941). The pleocytosis of the cerebrospinal fluid, the clinical manifestations of motor segmental paralyses, and the anterior horn changes in these cases bear a striking resemblance to those found in poliomyelitis. Parkes Weber (1916a) has taken this analogy even further by suggesting that the two diseases may in fact be caused by the same virus. As evidence he quoted the occasional appearance of the diffuse herpes in certain cases of poliomyelitis and the concurrence of epidemics of the two diseases. Further, he suggested that certain cases of painful muscle paresis of obscure aetiology might be regarded as cases of "zoster sine herpette."

Conclusions

In causing infection of the human body the herpes zoster virus shows a predilection for nervous tissue and the skin. In the classical form the brunt of the infection is borne by the sensory ganglia, the resulting symptoms being pain

and a cutaneous eruption in the peripheral distribution of the fibres proceeding from the affected ganglia. Study of the rarer manifestations of the disease shows that the infection often spreads beyond these confines. In some cases in which motor symptoms occur there is clinical and pathological evidence that the anterior horn cells of the spinal cord are affected in a manner similar to that in poliomyelitis. In others the infection produces an exanthem clinically identical with that of varicella.

From the available evidence it seems no more reasonable to deduce that varicella and zoster are caused by the same virus than it would be to make a similar deduction regarding zoster and poliomyelitis. It seems much more probable that the virus is capable of producing a range of clinical manifestations varying from simple motor lesions on the one hand to generalized skin lesions on the other, and that the classical form of the disease lies midway between these extremes. This clinical range might be represented as follows: poliomyelitis-like illness—zoster sine herpette—herpes zoster with paralysis—classical herpes zoster—herpes zoster with generalized eruption—varicelliform zoster (sine herpette). This suggestion is of course speculative, and it takes no account of the encephalitic symptoms which are said to occur. Nevertheless, clinically proved examples of each group are to be found in the literature, with the exception of the hypothetical poliomyelitis-like illness, and it is unlikely that evidence of this will be found in the absence of specific complement-fixation tests on such cases.

Summary

Three cases of herpes zoster showing unusual motor and cutaneous manifestations are described. It is suggested that the zoster virus produces a pleomorphic group of diseases with varying degrees of cutaneous and nervous symptoms. Further evidence on certain aspects of the disease could be obtained by immunological and epidemiological investigations.

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TREATMENT OF CHRONIC ULCERATION AFTER IRRADIATION OF PLANTAR WART

BY

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The plantar wart is commonly cured by irradiation. In wartime the condition was a frequent cause of minor disability in the Services, and was treated by radiotherapy under out-patient arrangements. A record of dosage sometimes failed to follow the patient on his travels; and over-exposure undoubtedly occurred in some instances. Chronic intractable ulceration of the sole resulted in prolonged disability out of all proportion to the importance of the original lesion.

The ulcer heals slowly or not at all when treated with recumbency and local applications. Deep fibrosis leads to an unstable tender scar on the sole which prevents normal walking. Recurrence follows simple excision performed without skin replacement. A "free" skin-graft is unlikely to provide a permanent cover in this situation even if it succeeds on the relatively avascular base. Local pedicled flaps are as unsatisfactory on the sole as they are on the palm.

Radical excision down to healthy tissue and outwards to normal skin, however, leaves a defect which can readily be filled by means of a direct pedicled flap from the opposite leg. This provides a stable skin cover with a subcutaneous pad. The patient can walk in normal shoes without pain in six to eight weeks. It should be emphasized that this method of treatment is advised for ulceration which results in all probability from the radiation itself, and not for that which may follow repeated attempts to eradicate the plantar wart by mechanical, thermal, and chemical means.

Case 1

A married woman aged 36 complained of an extremely tender ulcer on the sole of the foot. The ulcer had persisted for two and a half years after a repeated application of deep x-ray therapy to a plantar wart. Excision had been performed more than once, and many remedies had been applied locally. The ulcer varied in size and in degree of infection, but had never healed.

When seen on Sept. 4, 1944, the ulcer was 1 1/2 in. (1.25 cm.) in diameter, had an indolent rolled edge, but was relatively free from infection after treatment with penicillin cream during a recent puerperium. A haemolytic staphylococcus was cultured.

On Sept. 7 the ulcer was excised down to healthy plantar fascia and a margin of apparently healthy skin was included; a pedicled flap was raised from the opposite leg to fill the defect. A five-day systemic course of penicillin was given. The pedicle was separated and the flap implanted on Sept. 26. Healing was rapid. The patient left hospital able to walk in normal shoes on Nov. 3.

The pathologist's report was as follows: "The skin changes are compatible with irradiation dermatitis (hyperkeratosis, obliterative endarteritis, and atrophic changes in accessory skin structures), followed by superficial ulceration and subcutaneous fibrosis. There is no evidence of malignant change in the section examined."

Case 2

A soldier aged 34 had suffered from the effects of a plantar wart since 1943. This had been pared by a chiropodist, excised at least four times in different hospitals, and cauterized. The ulcer had been treated with permanganate, salicylic acid, vitriol, formalin, flavine, eusol, gentian violet, penicillin cream, and several other less certain substances. Deep x-ray treatment had been given at more than one hospital, and in several doses.

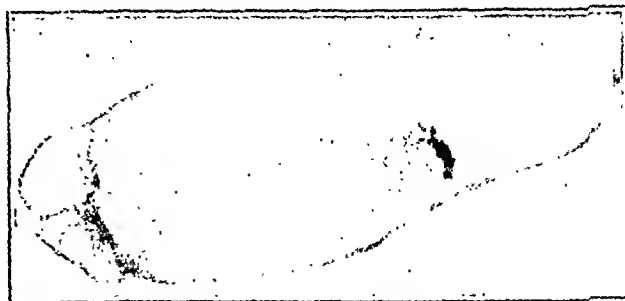


FIG. 1.—The ulcer in Case 2.

When seen on July 12, 1946, there was an ulcer on the sole of the right foot, 1 1/2 in. (3 cm.) in diameter (Fig. 1). The base consisted of firm tender granulations with a yellow slough. The edge was indolent and blue in colour, and was surrounded by an area of dusky induration. The Wassermann reaction was negative.

The ulcer was excised on July 29 and the defect, which extended down to plantar fascia and measured 2 in. (5 cm.) square, was filled by means of a direct pedicled flap from the



FIG. 2.—Application of a pedicled flap from the opposite leg.

opposite leg (Fig. 2). The secondary defect of the donor leg was closed by a dermatome graft from the thigh. A systemic course of penicillin was administered for five days.

The pedicle was divided on Aug. 23, and the flap implanted. The patient began to walk after a course of physiotherapy. He went before the medical board on Oct. 24 and was discharged

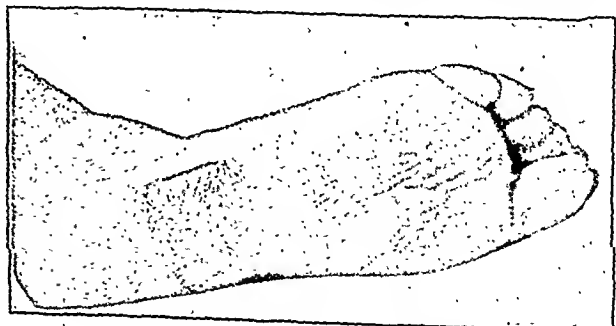


FIG. 3.—Showing the foot soundly healed.

from the Army. The foot was soundly healed (Fig. 3). The pathologist's report was: "Portion of skin shows ulceration with fibrinoid necrosis in the floor of the ulcer."

EXERTION HAEMOGLOBINURIA

REPORT OF A CASE

BY

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The form of paroxysmal haemoglobinuria associated with exertion is rare and its pathology is imperfectly understood. The clinical features and the results of laboratory investigations undertaken in a case studied by us are here recorded.

Case History

The patient, a European sergeant aged 33, first came under our observation at the end of July, 1944, when he was seen as an out-patient by one of us. He brought with him a sample of almost black urine which he had passed after playing a game of football. He gave the following interesting history.

In civil life he had worked as a stevedore and had never noticed any urinary abnormality or suffered from any illness. In September, 1940, on returning to the U.K. from France, he noticed that after a cross-country run his urine was dark. The same occurrence was noticed on two subsequent occasions under similar circumstances. He then remained free from symptoms until June, 1942, when again after a run his urine was dark. He was admitted to hospital for investigation, the results of which are not known to us, but his medical category was lowered to B. In June, 1943, his category was raised to A again, as he was eager for service afloat. In June, 1944, he arrived in East Africa, and early in July, after a route march, he had his first recurrence of the old symptom. On July 27 he played football, and it was a sample of the urine passed after this game that he brought with him to hospital. Examination of this specimen of urine showed: colour very dark brown; reaction acid; albumin + + + +; benzidine test + +; deposit: a few red blood cells, granular casts +, urates ++, a few calcium oxalate crystals.

He was admitted to hospital on July 31 for further investigation. It was established that a 20-minutes run invariably resulted in a paroxysm of haemoglobinuria lasting several hours. No constitutional disturbance accompanied the paroxysms, but there was some aching in the back and abdomen. The patient was of good physique; no other signs of disease were detected, and before an attack the urine contained nothing abnormal. It was decided to lower his medical category to C for six months, and he was discharged to duty in this category on Aug. 30.

During the next three months the patient reported that the paroxysms were becoming more frequent and that less exertion was required to produce them. Actions such as hauling on ropes were now apt to be followed by an attack, and the condition was becoming a liability in his daily work. He was readmitted to hospital on Nov. 29, and the investigations detailed in Table I were carried out.

An attempt was made to demonstrate the presence of intra-vascular haemolysis. The patient's red blood corpuscles and serum were mixed and incubated at 37° C. for two hours, with and without previous exposure to a temperature of 4° C. for 30 minutes, and with and without added complement (Donath-

Landsteiner reaction). Foreign group O cells and patient's serum, and patient's cells and foreign serum, were also set up against each other in a similar manner. All these tests were carried out on blood taken from the patient 3 minutes, 15 minutes, and 30 minutes after the beginning of a 30-minute

TABLE I.—Results of Tests Before and Immediately After a 30-minute Run

Test	Before Exercise	After Exercise
Haemoglobin (Sahli)	120%	106%
Red cells	5,750,000/c.mm.	5,320,000/c.mm.
White cells	9,000/c.mm.	8,400/c.mm.
Neutrophils	74%	78%
Lymphocytes	19%	18%
Monocytes	5%	3%
Eosinophils	2%	0.5%
Basophils	—	0.5%
Primitive white and red cells ..	Nil	Nil
Platelets	545,000/c.mm.	475,000/c.mm.
Coagulation time (at 30° C.) ..	5 minutes	6 minutes
Bleeding time	60 seconds	60 seconds
Reticulocytes	0.6%	0.4%
Blood group	O	O
Fragility of red cells	Total lysis in 0.34% NaCl; no lysis in 0.42% NaCl (within normal limits)	Total lysis in 0.34% NaCl; no lysis in 0.42% NaCl (within normal limits)
Packed cell volume	41%	40%
Mean corpuscular diameter	6.8μ	6.8μ
" " volume	71 c.μ	75 c.μ
" " average thickness	1.9μ	2.1μ
Van den Bergh reaction	Direct, nil.	Marked haemolysis
Icterus index	Indirect, 1.6 units	
	6.6	

run, and then 45 minutes, 90 minutes, and 7 hours after the exercise was finished. Haemolysis *in vitro* was not demonstrated in any of these tests, or in tests for haemolysis on small amounts of fluid aspirated from muscle during and after exercise. Examination of urine taken at intervals after the beginning of exercise gave the results shown in Table II.

A rising and falling curve of oxyhaemoglobinaemia, which approximately paralleled the curve of haemoglobinuria, was demonstrated by tests on blood taken at intervals during and after exertion. It was possible to make only a rough estimate

TABLE III

Time Since Exercise Began:	During Exercise			After Exercise		
	3 min.	15 min.	30 min.	75 min.	120 min.	450 min.
% Hb (Sahli) ..	Less than 0.2	0.5	1.5	1	0.2	Less than 0.2
Hb (calculated from Sahli)	Less than 34 mg.	85 mg.	255 mg.	170 mg.	34 mg.	Less than 34 mg.

of haemoglobin by Sahli's method; the figures obtained are shown in Table III. The absorption spectrum for pseudo-methaemoglobin was not found in any of the sera examined.

The following experiment was performed in an attempt to determine if haemolysis occurs locally in muscle during exercise. First, 5 ml. of blood was withdrawn from a vein in the right arm and allowed to clot. A sphygmomanometer cuff was then applied to the left upper arm and inflated to a pressure of 100 mm. Hg. The patient then exercised the left arm, alternately extending and flexing the wrist and fingers for two minutes. At the end of this time blood was withdrawn from a vein in the left arm, with the sphygmomanometer cuff inflated. The serum from these two specimens showed no perceptible difference in colour. The experiment was repeated, this time releasing the cuff just before blood was withdrawn; the specimen presumably contained blood from all parts of the occluded limb, and it, too, showed no trace of haemolysis.

TABLE II.—Results of Urine Examinations

Hours after Exercise Started	Appearance	Spectroscopy	Protein	Sugar	Deposit
1/2	Dark brown, turbid	Oxyhaemoglobin + +; methaemoglobin + + +	+++	Nil	Granular casts + + +; epithelial and pus cells +
1	Dark brown, very turbid	Methaemoglobin + + + +	+++	"	Granular casts and epithelial and pus cells +
1 1/2	Dark brown, turbid	Methaemoglobin + + +	++	"	Granular casts and epithelial cells +
2	Brown	Methaemoglobin + +	+	"	"
3	Pale brown, slightly turbid	Methaemoglobin +	Trace	"	Epithelial cells +
7	Amber, clear	No blood pigment	"	"	Pus cells and epithelial cells +
24	"	"	"	"	"

Finally it was decided to test the effect of posture. The patient stated that 20 minutes' vigorous swimming had not precipitated an attack. In our experiment he was instructed to "cyele" on his back, supporting his buttocks on his hands, his flexed elbows resting on the bed. This position overcorrected any possible lordosis. After 10 minutes' vigorous exercise in this position blood was withdrawn from a vein. The serum from this specimen showed no trace of haemolysis, and urine passed shortly afterwards was also clear of protein and of haemoglobin derivatives.

Discussion

Our experiments support the view that exertion haemoglobinuria results from haemolysis during exertion in the erect or extended position. This agrees with the common view. Cases, however, seem to vary in their degree of dependence on the postural factor. Thus in the case recorded by Makin (1944) haemoglobinuria was strictly postural, and did not occur after exercise on a bicycle, whereas in the case recorded by Witts (1936) running with bent back and work on the bicycle ergometer were followed by haemoglobinuria. The postural factor and the common association with lordosis suggest that the condition is allied to orthostatic albuminuria. Bicycle exercise in Makin's case was followed by albuminuria but not by haemoglobinuria. Orthostatic albuminuria was not present in our case.

The failure to demonstrate circulating haemolysin is of little significance and does not rule out the occurrence of intravascular haemolysis; for unless combination with red cells is prevented by special factors, as it is in the case of cold haemoglobinuria, haemolysin liberated into the circulation is likely to be fixed rapidly. In nocturnal haemoglobinuria all efforts to demonstrate circulating haemolysin have failed (Witts, 1936). The failure to demonstrate local haemolysin in muscle is in keeping with the postural features of the disorder and with the view of Witts, who regards the kidney as the source of the haemolysin. He considers intravascular haemolysis "hardly conceivable" in view of the absence of anaemia and the slightness of systemic changes and of haemoglobinaemia; he regards a local haemolysis in the vessels of the kidney as more probable.

According to Whitby and Britton (1944), in exertion haemoglobinuria "there are neither the constitutional symptoms nor the haemoglobinaemia so characteristic of haemoglobinuria from cold." In our case there was a cherry-red concentration of haemoglobin in the serum, and it would seem that the lowering of the blood haemoglobin level was slight because haemolysis was of short duration only, accompanying tiring exertion in the vertical posture. Whitby and Britton state that in cold haemoglobinuria haemoglobin appears in the urine when the free haemoglobin in the plasma exceeds 100 to 140 mg. per 100 ml. This is higher than the plasma haemoglobin level recorded after exercise in Witts's case (46.5 mg.) but considerably lower than that recorded in ours.

History of an injury is another inconstant feature in exertion haemoglobinuria, which, however, helps to incriminate an abnormal kidney as the immediate cause of haemolysin production. No history of injury was elicited in our case, but the disease had come on rather suddenly shortly after a campaign, when slight injuries might have been ignored. In contrast to the usual history, our case resembled that of Witts in showing symptoms for a period (with intermissions) of considerably more than one year. The age at onset of the complaint was much above the average, and it is of interest that the condition recurred with unusual severity when the patient came to the Tropics.

Summary

A case of paroxysmal haemoglobinuria of exertion is described.

Laboratory investigations, including attempts to demonstrate circulating haemolysin, are described and discussed.

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"TRIDIONE" IN THE TREATMENT OF PETIT MAL

BY

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Tridione, the synthetic anticonvulsant drug (3,5,5-trimethylloxazolidine-2,4-dione), has been extensively used in the treatment of the petit-mal epilepsies by investigators in America since 1944.

A Preliminary Investigation

Recently, when supplies became available in this country, a preliminary investigation was made at St. David's Hospital (for epilepsy), the findings of which are tabulated below. Most of the patients (who are sane males suffering from idiopathic epilepsy, and whose ages range from 17 to 56) have been taking the drug for three months.

Tridione is supplied in 0.3 g. capsules. So far it has been found that the apparently optimum dose in the average case is four capsules daily, in divided doses. One patient aged 17, however, has had his petit-mal attacks abolished by taking only two capsules daily. The drug was given in addition to other medication, such as phenobarbitone and "epanutin" (soluble phenytoin), which the patients had previously been taking.

Convulsive seizures of the grand-mal type did not appear to be reduced by tridione in any case, and one man experienced, possibly as a coincidence, an increase in the number of his fits. All the patients suffered from petit-mal except one whose seizures were of the myoclonic type. This man's condition did not improve. Another, however, who had myoclonic spasms as well as ordinary petit mal, states that he feels better than he has done for years.

It is possible that the patients who showed no improvement might have been benefited had they been given more than six capsules daily. Unfortunately a shortage of supplies precluded an increase of this dose.

No. of patients	23
Entirely free from petit mal	4 (17.4%)
Petit mal reduced by more than half ..	12 (52.2%)
Definite but slighter improvement ..	2 (8.7%)
No improvement, or toxic symptoms necessitating withdrawal of drug	5 (21.7%)

Because of the notorious difficulty in obtaining an accurate record of petit-mal attacks each patient was given a notebook, and in this he marked down every attack of which he was aware, or which any fellow patient or member of the nursing staff observed. For the purpose of comparison the patients had kept similar records of their attacks for a period of two months before starting tridione medication.

A few days after beginning to take the drug approximately four-fifths of the patients reported a reduction in the number of their petit-mal attacks. After a week or 10 days no fewer than 19 of the 23 patients mentioned that on walking out of a building into the open air they found the

light too bright. This phenomenon was variously described as "dazzle," or "glare," or "a whiteness like mist over everything." Some patients stated that they found reading in the open air to be impossible, and others said that objects appeared to have changed colour, as, for example, a familiar blue motor-car seemed to be cream-coloured. In most instances the sensation ceased after a short interval, but 10 of the men found it trying and were glad to wear dark glasses to mitigate the effect.

Five men were aware of slight drowsiness, apparently due to the drug; one complained of lack of concentration, and one of restlessness. Two developed slight ataxia; two complained of hiccup, and two of slight epigastric discomfort. One developed a slight rash, similar to acne, on the face; and one, whether *post* or *propter hoc*, had a severe rash of the face, neck, and hands which initially looked like urticaria and proceeded to an acute dermatitis with exudation and desquamation. In this case the drug was withdrawn, as it was in four others in which, although no marked toxic symptoms were present, there appeared to be no improvement in the incidence of petit mal. Most of the other 18 patients were anxious to continue taking the drug, as in their opinion the relief obtained from the reduction in their attacks more than outweighed the slight nuisance of the "dazzle phenomenon" or the other symptoms mentioned above.

Comment

Several important points emerge from a review of some of the literature on the subject. Tridione is said to be contraindicated in patients with severe renal or hepatic damage and in conditions in which optic-nerve disease is already present; but no residual damage to the optic nerve has been detected in patients complaining of the "dazzle phenomenon"; and "histological studies on the optic nerves and retinae of experimental animals receiving large doses of tridione over long periods have failed to reveal any evidence of damage." Several investigators have also recorded that when the drug is withdrawn weeks or months may elapse before attacks of petit mal return.

Obviously more time and greater experience are required before this drug can properly be evaluated, but there is no doubt that tridione has a pronounced inhibitory effect on petit mal and also, in the experience of American investigators, on myoclonic spasms and akinetic seizures.

Summary

The treatment by tridione of 23 cases of the petit-mal epilepsies is analysed.

Approximately four-fifths of the patients improved, but various toxic symptoms and signs were manifested in almost every case.

I wish to express my cordial thanks to the male nurses of St. David's Hospital for their keen and efficient co-operation in conducting this investigation.

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 Lennox, W. G. (1945). *J. Amer. med. Ass.*, **129**, 1069.
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The Merseyside Hospitals Council Report for 1946, *Carefree Convalescence*, is a pleasantly illustrated pamphlet with a brief account of the after-care arrangements that the Council has developed during the last twenty years. The Council has continued to acquire houses for convalescent homes, and suggests that the increasing demand for such facilities likely to rise under the National Health Service might be met in part by voluntary assistance. Four members of the Council have been appointed to the Liverpool Regional Hospital Board.

Medical Memoranda

A Fatal Case of Agranulocytosis Associated with "Tridione" Therapy

Now that tridione is being used for the treatment of certain types of epilepsy it is of interest to record the following case. This substance seems to have a high therapeutic value. Nevertheless, until extended use of it proves otherwise, it seems that it should be used with care owing to a possible depressant action on the granulocyte precursors in the bone marrow.

CASE HISTORY

A boy aged 11 had suffered from petit mal for over three years, during which time he had received amphetamine sulphate ("benzedrine") in doses of 0.01 to 0.025 g. daily. For 53 days he received four 0.3-g. tablets of tridione daily. On the 25th day of receiving tridione he developed an urticarial rash on the thighs which faded in two days. On the 51st day of tridione therapy he became ill with gingivitis and a temperature. He lived for 21 days after ceasing tridione. He received sulphathiazole (a small total amount) and penicillin by injection without any helpful effect.

When examined nine days before death he repeatedly complained of sore throat, and was very pale. The mucous membranes were a good colour, the gums were hypertrophied a little and very red, the tongue was furred and had an ulcer on the left margin. The fauces were somewhat red, but there was no lesion. The upper and lower cervical glands and a gland on the edge of the jaw were enlarged. The left submaxillary gland was enlarged and painful. The trachea was pushed to the right. There was tenderness in the right iliac fossa, where a movable tumour 2 by 2 in. (5 by 5 cm.) was felt. The spleen was slightly enlarged, as were the glands in the groins and axillae.

A radiograph of the chest revealed a shadow in the mediastinum displacing the trachea to the right. A blood count showed: Hb, 44%; R.B.C., 2,730,000; colour index, 0.8; W.B.C., 800 per c.mm. A differential count showed: all lymphocytes and no granulocytes; there were abundant platelets; after a prolonged search no "blast" cells were seen; all the white cells were mononuclear in type, and immature. A trace of albumin was present in the urine. A sternal puncture marrow smear revealed an aplasia of the erythroblastic tissue with a primary agranulocytosis.

Treatment consisted of blood transfusion and administration of pyridoxin and plexan. For two days before death he had profuse yellow diarrhoea. Later blood examination showed no change.

Abnormal Post-mortem Findings.—**Bowel:** Small yellow sloughing ulcers in lower foot or so of ileum in Peyer's patches, which were hyperplastic; gross swelling, redness, and ulceration of lower 3 in. (7.5 cm.) of small bowel, ileo-caecal valve, and caecum; multiple yellow ulcers in ascending colon; mesenteric glands +. **Liver:** Dark from free iron +. **Spleen:** Enlarged; free iron +. **Suprarenals:** Greyish with little lipid. **Brain:** Greyish, especially cortex. **Bone:** Dark-red marrow in sternum, ribs, vertebrae, femur.

Microscopical Findings from Post-mortem Material.—The tumour in the right iliac fossa showed non-specific ulceration and gross oedema. **Lumbar vertebra section:** Macroscopically the bone marrow is very red; microscopically there is some erythroblastic (normoblastic) hyperplasia, an almost complete absence of myeloid elements, and an approximately normal number of megakaryocytes.

COMMENTARY

The bone section shows that a complete aplasia of the granulocyte precursors in the marrow had supervened. The amount of sulphathiazole seems much too small to have caused this depression (over 30 g. has usually been taken in agranulocytosis due to sulphonamides). Tridione is strongly inculpated. It will be noticed that about half-way through his tridione course (25th day) the patient developed a rash. Two other children on tridione for epilepsy developed rashes and diffuse lymph-gland enlargement. In their case tridione was stopped immediately the rash appeared, and they recovered uneventfully without abnormality in the blood picture.

If during the course of tridione therapy any generalized rash, lymphatic enlargement, undue redness of gums, anaemia, or changes in the white cell count appear it would be wise to cease using tridione.

I have to thank Dr. E. A. Hunter, senior physician in charge of the case, for permission to publish and Dr. T. N. Gledhill for his report on the marrow section.

R. F. BRAITHWAITE, M.R.C.S., L.R.C.P.

Reviews

CHILD HEALTH

Child Health and Development. By Various Authors. Edited by Richard W. B. Ellis, M.D., F.R.C.P. (Pp. 364; 49 illustrations. 18s.) London: J. and A. Churchill. 1947.

This book is a valuable addition to the growing library of books on child health, and the editor has been fortunate in his authority and special knowledge of the twelve other contributors to the volume. Of its two sections the first—on development—contains an account of anatomical, physiological, and psychological aspects of growth. We would draw attention to his masterly chapter on functional development of the foetus, by the late Sir Joseph Barcroft, and those on growth and puberty by Prof. H. A. Harris and by the editor. Prof. Ellis also contributes to this section two chapters on the newborn and on digestion, nutrition, and feeding, in which he combines in a clear and concise narrative essential scientific knowledge with practical guidance. The second section, "Social Aspects of Child Health," is considerably shorter and is mainly devoted to brief accounts of the social services and institutions dealing with healthy, "deprived," and delinquent children. It also includes a short account of the English educational system by Sir Fred Clarke.

The unfolding and complicated life of the growing child in all its aspects, together with the social problems that are involved, is a vast subject, and we cannot expect a book of this modest size to contain a full account. It is also difficult to give unity to a book of composite authorship. But all who have the care of children will welcome this book; it is a scientific manual and makes fundamental scientific knowledge available for the practical guidance and control of child health.

CHARLES McNEIL.

TREATMENT OF DELINQUENCY

The Psycho-analytical Approach to Juvenile Delinquency. Theory, Case Studies, Treatment. By Kate Friedlander, M.D., D.P.M. International Library of Sociology and Social Reconstruction. (Pp. 296. 18s.) London: Kegan Paul, Trench, Trubner and Co. 1947.

Although a steadily increasing amount of work has been done on the psychological aspects of delinquency, so much indeed that the clinical diagnosis and treatment of delinquency can now be regarded as a special branch of medical psychology, there is an astonishing dearth of reliable textbooks on the subject. Dr. Friedlander's book goes far to remedy this defect. That it is written by a thorough-paced Freudian is not altogether inappropriate, for without Freud's discoveries of the unconscious mind and of the unconscious mechanisms that regulate it the field of delinquency must have remained a *terra incognita*.

Despite the fact that the author devotes a substantial part of her book to presenting psycho-analytical theory and is throughout clearly influenced by psycho-analytical opinions, the scope and method of her presentation give evidence of first-hand clinical experience. In the section on diagnosis she clearly distinguishes unconscious factors from those social factors which not only influence the development of antisocial conduct but often determine its immediate direction. Indeed, she bases her classifications of delinquent states largely on these distinctions. Perhaps here she is least convincing. Like many analysts she pays scant attention to the clinical concept of psychopathy, a neglect which is justified only if psycho-analysts can produce more illuminating and at the same time more useful clinical classifications of character disorder. They do not appear to have done this.

Discussing treatment, Dr. Friedlander carefully distinguishes between psycho-analytic and other forms of psychotherapy and points out the limitations to applying classical psycho-analytic methods to delinquent subjects. She describes clearly the role of "transference" in the various forms of social therapy or disposal and ends with a useful outline of preventive measures. This is a good book.

EDWARD GLOVER.

EXTRACELLULAR FLUID

Chemical Anatomy, Physiology and Pathology of Extracellular Fluid. A Lecture Syllabus. By James L. Gamble. Fifth edition. (Pp. 160. 52 charts. 7s. 6d.) Cambridge, Mass.: Harvard University Press. London: Geoffrey Cumberlege (Oxford University Press). 1947.

Prof. Gamble's monograph is now established as being one of those few medical books which may truly be described as classics. As in previous editions he modestly presents the material as a syllabus of concise lecture notes based on illustrative charts; thus each section is simply headed with the number of a chart, which is explained in the text. This manner of exposition from simple line diagrams enables the author to make complex biochemical subjects easily understandable to the general medical reader. The text is brief, occupying 105 pages in large print, but characterized by remarkable lucidity and by flashes of inspired phrasing.

The main feature of the book is that the author amplifies and gives precision to Claude Bernard's great concept of the internal environment. Prof. Gamble, largely on the basis of his own research, has revealed the essential qualitative and quantitative aspects of the extracellular fluid. His separate papers and this integrated presentation illumine and make real a subject, hitherto dimly understood, which is not only important in the theory of physiology and pathology but of great practical significance in a wide range of medical and surgical disorders. To quote but one example: understanding of the normal and abnormal states of the extracellular fluid is fundamental to the proper use of fluid administration whether by mouth or by parenteral routes. The construction of the book is similar to that of former editions, but it contains some new material. The author begins by describing the normal quantity and composition of the extracellular fluid and then goes on to discuss how its constancy of composition and volume are maintained. In the later part of the book he considers the pathogenesis of dehydration and of acidosis and alkalosis and, finally, parenteral fluid therapy.

H. L. MARRIOTT.

RADIOLOGY

Radiography for Medical Students. By Fred Jenner Hodges, M.D., Isadore Lampe, M.D., and John Floyd Holt, M.D. (Pp. 424; 103 plates. 56/75 or 37s. 6d.) Chicago: Year Book Publishers, Inc. London: H. K. Lewis and Co. 1947.

Confrontations. Radio-Anatomo-Cliniques. Published under the direction of M. Chiray, R. K. Gutmann, and J. S  n  que. Fascicule I. (Pp. 564. 98 figures. 370 francs.) Paris: G. Doin et Cie, Masson et Cie. 1946.

The undergraduate teaching of radiology in Britain is essentially elementary and in most medical schools does not consist of more than half a dozen lectures a year; it is debatable whether more should be packed into the already overloaded curriculum. Radiology is now sometimes taught with anatomy and physiology, and some of the pioneers argue that the combination is particularly instructive. American medicine has gone much further in this direction. This interesting volume, equally divided into accounts of x-ray diagnosis and therapy, is founded on the authors' teaching of undergraduates in the University of Michigan. There is no doubt that if the undergraduate has the time and basic knowledge to read and digest its contents he would become a wiser and better doctor, for it is well written and combines a full account of pathology with instruction in elementary radiology and physics. Judged by British standards it contains far too much, and it is not unreasonable to say that the material is so plausibly presented that there is a danger of diverting the student from more fundamental approaches to health and disease. This book is best for the postgraduate student and the beginner in radiology, but something less than this and more than the meagre pittance we consider necessary for the undergraduate is desirable and has still to be written.

The second volume is neither an essay on radiology nor a textbook but a report of the clinical, pathological, and radiological findings in 53 interesting cases of disease of the gastrointestinal tract. The authors are well known to radiologists for their interesting pre-war contributions to the study of early carcinoma of the stomach. In this series there are many such

cases; they are of considerable interest in that they show how easy it is when certain appearances are present to confuse benign with malignant lesions. With one or two exceptions all the material has been selected because the cases were difficult to diagnose. There are a few striking examples of cholecystography in which the gall-bladder failed to fill after a single dose of radio-opaque substance but concentrated normally when a second dose was given immediately after the first x-ray examination. All these case histories are well worth detailed study by radiologists.

PETER KERLEY.

PHYSIOLOGY

Précis de Physiologie. By L. C. Soula. (Pp. 1,086; 334 figures. 1,450 francs.) Paris: Masson et Cie. 1947.

Perusal of this outline of physiology confirms the significance of its dedication to Sir Charles Sherrington. The author claims—and he is probably right—that it is the first treatise on physiology in the French language to be based on the school of neurophysiology that Sherrington founded, and that it brings into accord the traditional outlook of French universities with that of the modern British medical schools. He emphasizes the large part played by new techniques in the transformation undergone by physiology in recent years. His central idea is the unity of the living animal—as he indicates in an admirable introduction—and everywhere he incorporates the recent teachings of general physiology as they throw light on the mechanisms of the human body. The book is well written, thoroughly up to date, and the diagrams are clear and instructive. It is an outline of modern physiology admirably suitable for the student of medicine.

C. LOYATT EVANS.

ASTHMA

The Diagnosis and Treatment of Bronchial Asthma. By Leslie N. Gay, Ph.B., M.D. With foreword by Warfield T. Longcope, M.D. (Pp. 334; 80 illustrations. 27s. 6d.) London: Baillière, Tindall and Cox. 1946.

Handbooks on bronchial asthma come across the Atlantic with such regularity that one is sometimes tempted to ask, "Is your journey really necessary?" A number of features give this book a certain individuality and interest for the general medical reader. Much of its content is a recapitulation of the author's own work, and it is evident that he has had wide experience in this field. The account of pollen surveys is interesting and shows how much work has been done on this important subject in the U.S.A. The chapter on pathology includes post-mortem records of 24 patients dying of asthma at the Johns Hopkins Hospital. In the last 130 pages the author describes the treatment of asthma in a practical and detailed manner, with a complete account of modern methods. The many case histories illustrating certain points in the history or treatment are an important feature of the book; they are helpful but could often be more concise without impairing their usefulness.

The arrangement of the subject matter is sometimes confusing. For example, in discussing the treatment of asthma combined with bronchial infection, the author does not mention penicillin or sulphonamide therapy, though he adequately describes them under a separate heading later on. In Chapter V the accounts of complications and differential diagnoses of bronchial asthma are inextricably mixed, and we cannot see why the effect of anaesthetics should be discussed here at all. Nor is it clear why cases of asthma starting during pregnancy are considered under the heading of "Psychosomatic Syndrome," while those whose symptoms occur during menstruation or at the menopause are regarded as due to "endocrine disorders."

It is surprising to read that Dr. Gay considers that 50% of patients with hay-fever get asthma unless properly treated; in Britain such a figure would certainly be too high. On the other hand readers in this country will be comforted to know that in the author's opinion there is no field of allergy more overrated than so-called gastro-intestinal allergy, and that the "leukopenic index"—a tedious manoeuvre for the diagnosis of specific food sensitivity—is inconsistent and unreliable.

R. S. BRUCE PEARSON.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

African Medical Handbook. By Michael Gelfand, M.B., M.R.C.P. (Pp. 202. 15s.) Capetown: The African Bookman. 1947.

An outline of medicine and hospital practice for African nurses and orderlies.

Plough and Pasture. By E. Cecil Curwen, M.A., M.B., F.S.A. (Pp. 122. 7s. 6d.) London: Cobbett Press. 1946.

The early history of agriculture and stock breeding.

Physical Fitness Appraisal and Guidance. By T. K. Cureton, Jr., M.A., M.P.E., Ph.D., et al. (Pp. 566. 30s.) London: Henry Kimpton. 1947.

A general account of physique and its measurement.

Psychological Approaches to the Biography of Genius. By L. M. Terman, LL.D., Ph.D., Sc.D. (Pp. 24. 1s. 6d.) London: Hamish Hamilton. 1947.

A presidential address delivered before the Pacific Division of the American Association for the Advancement of Science.

Genetics, Medicine, and Man. By H. J. Muller, C. C. Little, and L. H. Snyder. (Pp. 158. 12s. 6d. or \$2.25.) Ithaca, New York: Cornell University Press. 1947.

Essays on the gene, heredity, and mutation.

Treatment of Some Chronic and 'Incurable' Diseases. By A. T. Todd, O.B.E., M.B., M.R.C.P. 2nd ed. (Pp. 324. 25s.) Bristol: John Wright and Sons, Ltd.; London: Simpkin Marshall, Ltd. 1947.

Includes discussion of epilepsy, cancer, asthma, diabetes mellitus, constipation and rheumatism.

Operative Gynecology. By Richard W. Te Linde, M.D. (Pp. 751. £5 10s.) London: J. B. Lippincott. 1947.

A profusely illustrated textbook by the professor of gynaecology at Johns Hopkins University.

Hormones and Vitamins. By G. A. Stephens, M.P.S. (Pp. 315 21s.) London: George Newnes, Ltd. 1947.

Compiled to facilitate the prescribing and dispensing of hormones and vitamins.

Handbook of Child Guidance. Edited by Ernest Harms. (Pp. 751 No price.) New York: Child Care Publications. 1947.

Articles on child guidance in America by various authorities.

Psychologie der Suggestie en Autosuggestie. By Dr. Berthold Stokvis. (Pp. 263. 15 Dutch florins.) Lochem: De Tijdstroom 1947.

A monograph on the psychology of suggestion and hypnosis. In Dutch.

Lehrbuch der Pharmakognosie. By George Karsten and Dr. Ulrich Weber. (Pp. 428. No price.) Vienna: Verlag von Gustav Fischer. 1947.

A textbook of botany for students.

Modern Drugs in General Practice. By Ethel Browning, M.D. Ch.B. 2nd ed. (Pp. 223. 12s. 6d.) London: Edward Arnold and Co. 1947.

An account for medical practitioners of the more recently introduced drugs.

Clinical Dental Roentgenology. By J. O. McCall, D.D.S. F.A.C.D., and S. S. Wald, D.D.S., F.A.C.D. 2nd ed. (Pp. 343 35s.) London and Philadelphia: W. B. Saunders Co. 1947.

Describes the technique of dental radiography and interpretation of skiagrams.

Nelson Loose-leaf Medicine. Renewal pages. (No price.) Thomas Nelson. 1947.

The Biological Standardisation of the Vitamins. By Katharin H. Coward, D.Sc. 2nd ed. (Pp. 224. 16s.) London: Baillière Tindall and Cox. 1947.

Discusses the methods of standardization and their statistical evaluation.

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CONSULTANTS AND THE ACT

When changes in the Emergency Medical Service were announced by the Minister of Health in November, 1939, the three distinguished men who were then Presidents of the Royal College of Physicians, Royal College of Surgeons, and Royal College of Obstetricians and Gynaecologists wrote a letter to the *Journal*¹ urging the medical profession to accept the Minister's proposals. In this letter the Presidents sought to allay the fears of those who saw in these proposals the nucleus of a State Medical Service. What they then wrote is worth quoting:

"There is a suspicion amongst some doctors that the Ministry of Health may be proposing to use the E.M.S. as the thin end of the wedge for a post-war State Medical Service. We can assure such, on the highest authority, that nothing is further from the Ministry's intention and that all such fears are groundless. It may well be, of course, that after the war economic conditions may make some form of assistance to the voluntary hospitals, by grants-in-aid or otherwise, necessary, but that the voluntary system will continue there is no reason to doubt."

The Presidents' assurance was of course accepted, just as they, and quite rightly, accepted the assurance of the "highest authority." But, as Dr. Alan Wigfield subsequently pointed out,² the assurance must be "based on the assumption that this same Ministry and, indeed, this same Government will be in office when the war is over." Dr. Wigfield went on to say, "Whatever may be the case we must keep before us the possibility that sooner or later a political group for the time being in power may yet seek to introduce a State Medical Service." Dr. Wigfield has proved to be a safe prophet. While recognizing that the voluntary hospitals might need financial assistance, the Presidents undoubtedly believed that they would continue within the framework of the voluntary system. But this is not to be. The voluntary hospitals on July 5 this year will be State hospitals and each will be administered by Boards of Governors the chairmen of which are to be appointed by the Minister of Health. The teaching hospitals, too, it must be emphasized, will be State hospitals. The voluntary system will come to an end, and the State will be the monopoly owner of all voluntary, municipal, and other hospitals the Minister decides to take over on the recommendation of the Regional Hospital Boards.

No one would assert that the hospital service in this country is the best in the best of all possible worlds. The idea of establishing a hospital service on regional lines

under the influence of university centres has received widespread professional support. Some plan of efficient co-ordination in hospitals was clearly necessary. Those who were aware of the defects in the vast hospital service administered by the London County Council were, nevertheless, apprehensive of the dangers of too much planning, of too much Government. Yet it is remarkable to note that the existing owners of hospitals and the medical men who work in them have made little effective criticism of the Minister's hospital proposals in the National Health Service Act. So anxious have many been that they should not come under the control of local authorities that they have accepted with some sense of relief the translation of the municipal hospital into the State hospital. Consultants, but by no means all, have accepted the State hospital as the lesser of two evils, and all have been harked by the spectre of hospital finance from thinking further on constructive lines.

Such is the confusion of minds and of tongues in the consultant and hospital world that there is unlikely to be any effective challenge to the proposed transfer on July 5, 1948, of the hospitals of Great Britain into the ownership of the State. The implications of this revolutionary step will become more and more visible as the months and the years pass. While many consultants and specialists may accept this as an inevitable step, and some may accept it as a desirable step, we believe that the majority are still opposed to a State Medical Service. In the last plebiscite more than 50% of consultants and specialists voting voted against negotiations with the Minister under the present Act. Consultants and specialists may now consider that if there is to be opposition to the State Medical Service foreshadowed in Mr. Aneurin Bevan's Act it must come, if it is to come, principally from general practitioners and that they as consultants and specialists will have little part to play. Those who observed the difference in Mr. Bevan's manner when he addressed himself to the Consultant section of the Negotiating Committee on Dec. 2 and 3 were left in no doubt that he hoped to rule by dividing. But if we fail, because of our differences, to preserve unity as a profession we shall lose what chance is left of moulding the Health Service according to professional ideals. Apart from all this the consultant may feel himself to be in a dilemma. Firmly opposed as he may be to a State Medical Service he knows that to work in a hospital is for him the supreme necessity of his professional life. What, he may well ask, will happen to him if he sees the hospital gates shut against him because of his refusal to work in the National Health Service under the terms of the present Act? This is a dilemma, but one which we believe to be of little significance between now and July 5, 1948. In the first place the report of the Spens Committee on the remuneration of consultants and specialists is unlikely to be completed before Easter. Once the report of this Committee is published it will have to be scrutinized carefully by the profession as a whole and by the various bodies which represent the consultant world. And when the professional debates on this Committee's report have come to an end there will be the inevitable negotiations with the Ministry of Health. These are not matters that can be settled

¹ *British Medical Journal Supplement*, 1939, 2, 231.

² *Ibid.*, 1939, 2, 247.

quickly, because of the varying nature of the commitments consultants will have to undertake. It is therefore highly unlikely that consultants will be in a position to sign contracts of service before July 5, 1948, because for one thing the Government will not be in a position to offer them. They will continue their work in their own hospitals on the same basis as at present. To put it at its lowest, then, consultants and specialists should have no need to fear that by adhering to a principle they will endanger their careers or suffer financial loss. Again, if the result of the plebiscite is the same as the plebiscite of a year ago, no Minister of Health could prevent sick persons in hospitals from receiving the skilled services of such a large number of the consultants and specialists in this country.

The medical profession in Britain is now faced with the most important issue in the whole of its long history. We live in times when ideals and traditions are at a discount and when the cynic may too easily prove his case that principles may be dissolved in gold—or its many equivalents, of which power is one. Mr. Bevan has somewhat cynically dangled before the consultant the bait of no-ceiling paying beds in some State hospitals. But neither this nor his promise to exclude private nursing-homes from State control will affect those consultants—and we believe they are many—who see this Act as the first fulfilment of the Government's policy to introduce a whole-time salaried State Medical Service. This is the one central fact of the present deep conflict between the medical profession and the Minister of Health. He has refused to shift his ground and the profession must be equally resolute in refusing to shift its ground. We have a responsibility to the past as well as to the future, and we have a responsibility to the profession not only in this country but also in others. Unfortunately the World Medical Association at its meeting in September last year in Paris did not find time to hold the debate which all were anxiously awaiting—on the relationship between the doctor and the State. But in the intervals of the meeting, when medical men of close on fifty nations could discuss matters freely, this was clearly the one subject that was of the greatest concern. Medical men in the Dominions, in the U.S.A., in Scandinavia, in Europe, in India, in the Middle East, in China, are all sorely perplexed by the growing tendency of the State machine to thrust itself between the individual doctor and the individual patient. They see this intervention of the State as something essentially harmful to medicine, and they look to this country for a lead and are anxiously awaiting the outcome of the present struggle. The consultant and the general practitioner form an organic whole. Without the closest co-operation between these two the patient suffers. Both general practitioners and consultants must, therefore, resist the painfully obvious attempts being made to sever them. If those who are like-minded in their opposition to a State Medical Service stand firmly together they need remain in no doubt about the result. Mr. Bevan has the advantage that he has to make up only one mind. The medical profession is a collection of highly individualistic minds, but its problem is in essence simple, and that is to make its collective view clear on one point—whether or not it is in favour of a State Medical Service.

PENICILLIN IN BACTERIAL ENDOCARDITIS

It is surprising to recollect that until three years ago the treatment of subacute bacterial endocarditis with penicillin was strongly discountenanced in this country, the official attitude being that the large amount of the drug required could be better employed in other ways. This was perhaps true until that time, but sufferers from this disease have since been more fortunate. Encouraged by reports of its successful treatment in the U.S.A., and by the improving supply position, the Ministry of Health allocated a quantity of penicillin for this purpose at the beginning of 1945, and the control of its use was entrusted to a committee of the Medical Research Council. This committee established fourteen centres where the treatment could be carried out in accordance with a preconceived plan, and results from all centres have been reported to the committee. A report on earlier results by the secretary of this committee, Prof. R. V. Christie, appeared in this *Journal*¹ early in 1946. We now publish (p. 1) a second report in his name amplifying the previous observations not only by the inclusion of further cases but by a more searching analysis of results which have gained in significance by the longer period of the follow-up. This is the largest series of such cases on record, and it makes plain the advantages of organizing the study of a new and difficult form of treatment as a piece of co-ordinated research on a nation-wide scale. Had each institution undertaking this treatment been an independent unit, formulating its own plans and having to base conclusions only on its own experience, a good deal would perhaps have remained uncertain which is now statistically well ascertained.

In the first series of findings it was made clear that the duration of treatment was all-important, and that when this was standardized at one month the larger the dose within the limits then employed the better the results. In the earlier report the numbers on which this conclusion was based were small, but much more extensive experience has been only confirmatory. Of 58 patients given 500,000 units daily, only 6.9% died with the infection uncontrolled or relapsed; among 83 patients given 250,000 units this proportion was 16%, and in 17 receiving only 100,000 units daily it was 41%. The superiority of the largest dose is thus clearly evident, and it may be expected to eliminate the infection in at least 9 cases out of 10. On the other hand, about 35% of these initially successful cases die of heart failure or other complications, and the over-all recovery rate is thus not likely to exceed 60%. That heart failure should figure so largely as a cause of death is perhaps not so unexpected as this report seems to suggest. Unless diagnosed very early, this disease causes a degree of valvular destruction and incompetence unequalled in any other condition, and there is no evidence that healing improves the function of the valve; fibrosis and calcification may even worsen it. Whatever the achievements of chemotherapy, some of these patients must always die from the mechanical consequences of damage done before the diagnosis is made.

From this analysis there are several conclusions which emerge clearly, and other features which remain to be

explained. Prognosis is affected by five factors, of which the duration of the disease, the presence or absence of heart failure, and the state of nutrition have the most decided effect. Since the two latter depend largely on the first, they may be regarded almost as different expressions of the same thing, but they lay treble emphasis on the paramount importance of early diagnosis. The vast majority of these patients owe their predisposition to past rheumatic carditis, and a history of this disease should be borne constantly in mind. If unexplained fever in such a patient were always regarded as demanding hospital admission forthwith and a series of blood cultures, very early diagnosis would be the rule and the recovery rate would undoubtedly improve. Prognosis depends also on age, but only clearly to the extent that it is worse in patients over 50. It also depends on the site of the lesion, combined aortic and mitral disease having the worst prognosis, and septal defects the best. There were only 12 cases of septal defect, and the figures are therefore not conclusive; but the absence of valvular damage puts this form of the disease in a different category, and it would be surprising if the ultimate results were not more favourable. It also seems that the prognosis is worsened by previous treatment with penicillin; the difference is decided if relapse has occurred after a full course, but less marked if previous treatment has been inadequate.

The features which remain to be explained are failure to control infection in a small proportion of patients adequately treated, and relapse—usually within a month—in others in whom treatment was initially successful. It has also been observed that in about one-third of the patients dying after apparently effective treatment "what appeared to be living organisms" were still present in the affected valves. It might have been supposed that the degree of susceptibility of the causative organism to penicillin would be an important factor here. This is known to vary widely, the growth of some of these streptococci being inhibited by less than 0.02 unit per ml.—the approximate concentration inhibiting that of the Oxford staphylococcus—while other strains require many times this amount. The influence of this factor has been analysed in all possible detail, and it seems that unless the coefficient of resistance is 8 or more it has no observable effect. Until the cause of this sort of failure is understood it is unfortunately by no means certain that the higher dosage it is proposed to use will have any better effect. It will be noted that this study is to be continued at eight of the centres which co-operated in the earlier work: they are named at the end of the report, with an invitation that cases be sent to them.

CONDITIONED VITAMIN-D DEFICIENCY

In most children freedom from rickets is ensured if the diet contains adequate and well-balanced amounts of calcium and phosphorus, and if vitamin D is supplied either in the food or by exposure of the body to sunlight. Older subjects are similarly protected from osteomalacia, the adult counterpart of rickets. In some instances, however, calcification is defective even with a diet which appears to be satisfactory, and therapy with ordinary doses of vitamin D is unsuccessful. Among these special patients some may have lesions beyond the control of vitamin D, but others

may be cured by very heavy dosing. Thus ten years ago the American workers Albright, Butler, and Bloomberg¹ reported that a patient who had suffered from rickets for many years in spite of ordinary doses of vitamin D was cured when the dosage was raised to 450,000 i.u. daily. Subsequently Albright and his colleagues² described a series of cases in which osteomalacia was associated with steatorrhoea or with renal lesions. Some of these patients responded to massive doses of vitamin D and were considered therefore to have an abnormal resistance to the vitamin.

In this country R. A. McCance³ has recently studied an interesting case in which severe osteomalacia was traced to R.R.D. (raised resistance to D). The patient, a young woman, came under his care about eight years after the start of her illness. Her early history had been uneventful; she had been born of healthy parents and developed into a strong schoolgirl with a good record in athletics. When she was 14 years old, however, her gait became abnormal. This symptom was soon followed by great muscular weakness, which made it difficult and painful for her to walk, or even rise from a sitting posture. Primary muscular dystrophy was diagnosed and was treated with glycine, but after a slight temporary improvement the patient's condition deteriorated during the next two years until she became completely crippled. X-ray examinations now revealed decalcification of the skeleton and deformity of the pelvis. Serum phosphorus was low, but calcium was normal. When the patient was aged 18½ years, therefore, a double diagnosis of myopathy combined with osteomalacia was entertained. If any further evidence of decalcification was necessary it was soon provided by spontaneous fractures of one ulna, the pelvic bones, and extreme coxa vara. Vitamin D was now given in doses of 2,000–7,500 i.u. daily. Some progress was made, and although decalcification persisted walking became possible with the aid of crutches.

When the patient was 23 years old she came under the observation of Prof. McCance. No evidence was found of abnormalities in her kidneys or intestinal tract. A careful study of her calcium and phosphorus metabolism was made, and the balance for both was found to be negative. X-ray examinations indicated the presence of spontaneous, idiopathic, symmetrical pseudo-fractures which were clearly identical with lesions which have been described by Looser⁴ and Milkman.⁵ In spite of a good dietary history, and of exposure to irradiation as indicated by a sunburnt skin, vitamin D therapy was instituted at the high level of 500,000 i.u. daily. No dramatic change was noticed during the first 14 days of dosing, but soon afterwards both calcium and phosphorus were found to be in positive balance. The faecal excretion of calcium fell to about one-tenth of the previous level, although an increased excretion by the kidneys reduced the net gain. With phosphorus the threshold value of excretion by the kidney appeared to be increased. After therapy had been kept up for about six weeks, with a total intake of 21,000,000 i.u. of vitamin D, there was some evidence of toxic effects, and dosing was stopped. The patient's condition, however, continued to improve. After four months, x-ray examination showed considerable recalcification, with callus formation at the sites of the pseudo-fractures. Ten months after treatment recalcification was still proceeding at the rate of 5 g. weekly, while the bones appeared almost normal on x-ray examination. The final state of the patient, one year after treatment, was most satisfactory. She had no

¹ *Amer. J. Dis. Child.*, 1937, 54, 529.

² *Medicine*, 1946, 25, 399.

³ *Quart. J. Med.*, 1947, 16, 33.

⁴ *Disch. Z. Chir.*, 1920, 152, 210; *Zbl. Chir.*, 1920, 47, 1470.

⁵ *Amer. J. Roentgen.*, 1934, 24, 29.

pain, could walk with confidence, and was physically capable of earning her living. In addition to providing an illustrative and authentic example to add to our list of conditioned vitamin deficiencies, therefore, Prof. McCance has had the satisfaction of restoring to a normal life a patient who appeared to be a hopeless cripple.

CHOLERA IN EGYPT

The recent epidemic of cholera in Egypt began in September at El Kurein in the Delta province of Sharkiya. Details were given from week to week in our epidemiological notes, and some account of the measures taken to control the epidemic appeared in these columns.¹ It is now clear that during the first week the infection spread from Sharkiya to the neighbouring provinces of Dakahliya, Minufiya, and Kalyubiya in Lower Egypt, and to Ismailia and Suez. By the end of the second week there were cases in Upper Egypt, and all the Delta provinces were involved except Beheira. It was at the end of the fourth week that the curve of incidence rose steeply to the peak figure of 1,022 cases, with 581 deaths, on Oct. 20. In that week there were 4,566 cases, with 2,057 deaths.

The later course of the epidemic has recently been reviewed.² The worst day was Oct. 20, but the fifth week brought a further 5,976 cases and 2,933 deaths, and by this time 367 of the 425 villages in Dakahliya Province were affected. A decline began in the sixth week and thereafter continued steadily. During the eighth week no new areas were affected, and in the seven days there were reported 750 cases and 505 deaths. Over the eight full weeks from Sept. 23 to Nov. 16 there was a total of 20,877 cases, with 10,265 deaths—a case fatality of 49%. It should perhaps be recalled that when Egypt experienced its last cholera epidemic forty-five years ago there were over 40,000 cases, with a case fatality rate of 85%, and since the 1902 epidemic the population of Egypt has almost doubled. Once again the great majority of the cases appeared in the villages, and the disease failed to establish itself in any of the towns provided with satisfactory water supplies and adequate sewage disposal systems. It is true that the over-all incidence began to decline as soon as 80% of the population had been inoculated with anti-cholera vaccine, but whether this represents a causal relationship or merely the coincidence of inoculation and a spontaneous autumnal decline it is too early to say.

The part played by the World Health Organization in meeting a grave threat to international public health augurs well for the future. As soon as news of the outbreak was received members of the Interim Commission were consulted and authorized certain expenditure. The Division of Epidemiology advised all countries connected with Egypt by land, sea, and air routes, and every country which might possibly be concerned was provided with up-to-date information and thus enabled to take the necessary quarantine measures. The expert committee on quarantine met in Geneva, and we reported then the measures that were advised or that had already been taken by the Egyptian Government.³ So far as this country is concerned, only one individual arriving by air from Egypt was ever suspected as a possible case of cholera,⁴ and this suspicion proved to be unfounded. It should also be recorded that the mere concentration of orders for cholera vaccine through the W.H.O. Secretariat is said to have resulted in a saving for the Egyptian Government of \$125,000.

HABITUATION TO STREPTOMYCIN

Bacteria can acquire some degree of tolerance to almost any lethal agent. Unfortunately the antibiotics are far from being an exception to this: penicillin-resistant strains of certain species, particularly *Staph. aureus*, are now frequently encountered, and this subject was discussed in a leading article in the *Journal* of Nov. 29. But no such habituation as that exhibited by some bacteria on contact with streptomycin has ever been seen before; it is well recognized as a defect which severely limits the usefulness of this drug and renders its employment always something of a gamble. How rapid and extreme the change may be is illustrated in the studies of Finland and his colleagues¹ of the treatment of urinary tract infections caused by coliform bacilli. These organisms, originally inhibited by not more than 25 units of streptomycin per ml., became resistant within a few days—in one patient after only one day—to no less than 50,000 units per ml. Similar observations are features of many reports of failure in streptomycin treatment for conditions of various kinds. There has been much speculation about the mechanism by which this resistance is acquired, and some authors believe that the original bacterial population may contain a very small minority of naturally resistant cells. Alexander and Leidy² offer actual proof of this, obtained by the study of cultures of *H. influenzae* from cases of meningitis. By inoculating with enormous numbers of organisms media containing 1,000 units of streptomycin per ml. they obtained a few colonies, thus indicating that an infinitesimal proportion (1 in some billions) of cells in cultures obtained before treatment was begun possessed this high resistance. Strains from 14 patients all behaved in this way *in vitro*, although 10 of the patients had been cured by streptomycin and 4 had not, failure in 3 being attributable to the development of resistance *in vivo*. These authors believe that the outcome of treatment depends on whether one or more of these resistant cells is present when treatment is begun. The probability of this increases with progress of the disease and the greater total number of bacilli in the meninges. A patient whose strain developed resistance during treatment was found to have in the nasopharynx a year later *H. influenzae* still resistant to 1,000 units of streptomycin per ml. It is clearly only a matter of time before such strains become common, if not predominant, and a new antibiotic will consequently be needed.

A stage further than habituation has now been described, no less than the ludicrous situation in which a previously susceptible organism now requires streptomycin to enable it to grow and produce disease. Miller and Bohnhoff³ have shown previously that meningococci originally very susceptible to streptomycin can be trained within a week to withstand 75,000 units per ml. In an extension of these studies⁴ they have observed two types of resistant variant. One of these is unchanged except in its capacity for resistance to the drug; it grows normally on all media, whether containing streptomycin or not, and retains its previous pathogenicity for mice. The second type grows only on streptomycin-containing media, having lost its capacity for growth on ordinary media altogether. Its behaviour in mice corresponds: avirulent in the ordinary sense, it assumes full virulence, producing a fatal infection, only in animals treated with streptomycin. What are we to think of a chemotherapeutic agent which can become an essential growth factor for a previously susceptible organism?

¹ *British Medical Journal*, 1947, 2, 619.

² *Chronicle of W.H.O.*, 1947, 1, 157.

³ *British Medical Journal*, 1947, 2, 801.

⁴ *Ibid.*, 1947, 2, 851.

¹ *J. Amer. med. Ass.*, 1946, 132, 16.

² *J. exp. Med.*, 1947, 85, 329, 607.

³ *J. Amer. med. Ass.*, 1946, 130, 485.

⁴ *Science*, 1947, 105, 620.

PULMONARY HEART DISEASE

Pulmonary heart disease may be defined as a disorder of the heart resulting from disease of the lungs or of the pulmonary circulation. It may be acute, as in massive pulmonary embolism; subacute, as in recurrent thrombo-embolism; and secondary carcinomatosis of the lungs; or chronic.

Massive pulmonary embolism is responsible for approximately 1% of all obstetrical, surgical, and medical deaths in hospital. Thrombosis usually begins in the calves of the legs. The most useful early sign of a dangerous phlebothrombosis is a rise of the skin temperature of the affected leg. The clinical features of massive pulmonary embolism include sudden faintness and dyspnoea, subcutaneous constricting pain, an abrupt and marked fall of blood pressure, elevation of the venous pressure, and signs of profound compensatory peripheral vaso-constriction. The most certain way of making a correct diagnosis is by means of multiple chest-lead electrocardiography.¹ Treatment by heparin and dicoumarol should be instituted at once, preferably as soon as phlebothrombosis is suspected.

An interesting form of pulmonary heart disease is that due to progressive blocking of the pulmonary circulation by carcinomatous emboli or by multiple thromboses secondary to perivascular lymphatic carcinomatous infiltration.² Chorion-epithelioma or carcinoma of the stomach is usually responsible.

Chronic pulmonary heart disease is of two main types, hypertensive and anoxic, though the latter rarely, if ever, occurs alone. Hypertensive pulmonary heart disease may be of known or unknown aetiology. Known causes include schistosomiasis, periarteritis, and Buerger's disease, but the majority of cases seen in this country are of obscure origin. The sexes are equally represented. Most of the patients reported have been relatively young, and some have been children. Clinically, the disease is characterized by a preliminary variable period of breathlessness, followed by progressive congestive heart failure with a high right-ventricular pressure, low cardiac output, normal or near-normal arterial oxygen saturation, and peripheral cyanosis. There is radiological and electrocardiographic evidence of great enlargement of the right ventricle, and the pulmonary artery is dilated. Treatment is singularly ineffective and the outcome invariably fatal.

Pathological findings have been variable. Medial hypertrophy of the smaller arteries is far from constant, and when present rarely affects more than about a quarter of the vessels.³ Intimal thickening of patchy distribution is the rule, and atherosclerosis is commonly extensive. Multiple thromboses have also been described and, when old, may be difficult to distinguish from atherosclerotic lesions. Dilatation of the pulmonary artery may be associated with medial hypoplasia, as in the case described by Gold.⁴ Gilmour and Evans⁵ reported a case very similar to Gold's, and suggested that endarteritis, which seemed to be responsible for the hypertension, began as a compensatory reaction to medial hypoplasia. They thought that a vicious circle then became established, endarteritis leading to hypertension and hypertension to further endarteritis. As the authors observe, however, medial deficiencies are not believed to be the rule in cases of "primary pulmonary vascular sclerosis." Nevertheless, the idea that some congenital abnormality of the pulmonary arterial tree may be an

important aetiological factor in these cases is worth further investigation.

The anoxic type of pulmonary heart disease is characterized by a long history of chronic bronchitis or asthma, evidence of marked emphysema, cyanosis due to reduction of the arterial oxygen saturation, compensatory elevation of the cardiac output,⁶ and finally by congestive heart failure. The right ventricular pressure is raised,⁷ but much less so than in "primary" hypertensive cases. X-ray investigation again shows enlargement of the right ventricle and dilatation of the pulmonary artery. It is possible that anoxia due to emphysema is responsible for the hypertension.⁸ Aneurysmal dilatation of the pulmonary artery, of its left or right branch, or of all three may occur when medial hypoplasia is associated with pulmonary hypertension from any cause.

INTRATHORACIC NEUROGENIC TUMOURS

Neoplasms arising from nervous tissue are the commonest tumours of the posterior mediastinum. They grow from the sympathetic system or from an intercostal nerve and originate from Schwann cells, connective-tissue cells, or true nervous tissue. Most of them are benign but some are malignant, or become malignant after many years. Even those that are not biologically malignant threaten life, like all intrathoracic tumours, owing to their position; they may grow rapidly and become very large. Although these tumours are comparatively rare, they are being met with in larger numbers to-day because of the increasing applications of radiography. Susman¹ describes four cases treated by operation; two were examples of sympathetic ganglioneuromata, and two were neurofibromata arising from the sheath of an intercostal nerve. One of these last appeared in a child aged 11 who had a generalized neurofibromatosis—von Recklinghausen's disease. A huge left basal tumour eroding two ribs was removed, but several months later complete paraplegia developed and death followed. This liability of the neurogenic tumours to be associated with an intraspinal portion (dumb-bell tumour) is another reason for operative removal.

Olivier Monod,² in a study of 19 cases, states that it is better not to attempt removal, unless there is definite compression, when the tumour is a part of a neurofibromatosis because of the danger of malignant change. He points out that the neurogenic tumours are usually solitary, rounded, posterior, and subpleural; they have a poor blood supply and are easily freed and removed. Symptoms are often slight and the differential diagnosis must generally be made radiologically and depends upon the demonstration that the tumour is in the posterior mediastinum. Artificial pneumothorax often helps diagnosis by dissociating the lung from the tumour. Any pulmonary symptoms such as cough or haemoptysis are against the diagnosis of a neurogenic tumour. Monod recommends extrapleural rather than transpleural removal. Of the 17 tumours that he has removed, 11 were dealt with extrapleurally. His description of the extrapleural approach is interesting and should be consulted, but it is not entirely satisfactory except for the smaller tumours. It can be seen from his radiographs that it has been necessary to resect as many as four ribs. A transpleural approach should enable even a very large tumour to be removed after resecting only one rib, with possibly the division of one adjacent rib. Most thoracic surgeons feel that it is difficult to avoid opening the pleura when removing a large tumour, and the extrapleural approach is so apt to be cramped that they prefer a deliberate transpleural operation for almost all cases.

¹ Wood, P., *Brit. Heart J.*, 1941, 3, 21.

² Brill, I. C., and Robertson, T. D., *Arch. Intern. Med.*, 1937, 60, 1043.

³ Brenner, O., *Ibid.*, Parts 1-4, 56, 211, 457, 724, 976.

⁴ *Ibid.*, 1946, 78, 197.

⁵ *J. Path. Bact.*, 1946, 58, 687.

⁶ Howarth, S., et al., *Clin. Science*, 1947, 6, 187.

⁷ Courmand, A., et al., *J. clin. Invest.*, 1946, 25, 639.

⁸ Motley, H. L., Courmand, A., Werko, L., Himmelstein, A., and Dresdale, D., *Amer. J. Physiol.*, 1947, 150, 315.

¹ *Austral. New Zeal. J. Surg.*, 1947, 18, 200.

² *Le Poumon*, 1947, 3, 97.

CANCER RESEARCH

ANNUAL REPORT OF B.E.C.C.

The Annual Report of the British Empire Cancer Campaign consists as usual of a compilation of separate reports from research laboratories, radium institutes, and hospitals, as well as from individual investigators, scattered over this country and to some extent over the Dominions. Most of the chemical, physical, and biological investigation here recorded is of a highly specialist character, employing techniques familiar only to those working in that particular field. For the twenty-fourth year in succession Mr. J. P. Lockhart-Mummery has done a useful service in editing this mass of material, but even so it is not easy to place all this work in perspective. As Lord Horder put it at the annual meeting of the Campaign recently, many pieces of the jig-saw have been found, but the masterpiece which reveals the picture is still hidden. Many of the investigations which are proceeding are long-term ones, and immediate results are not to be expected. Among the investigations described are those on the production of gene mutation in mice by dibenzanthracene, the cytochemistry of avian tumours, and the effect of sulphamezathine in inducing precocious growth in young cockerels. Every ray of light, however indirect, is presumably valuable, and one of the fascinating things about work of this kind is that no one knows at what point the whole landscape may be suddenly illuminated.

Mass Statistics

In the present report an unusually large number of cancer statistics is given. At a recent symposium on breast cancer at the Royal Society of Medicine the main controversy appeared to surround not competing methods of treatment but the interpretation to be placed upon statistics. Statistics, it is said, can be made to prove anything—even the truth. At this symposium three-year survival rates were discarded altogether. Even five-year rates were looked upon in some quarters with scepticism, and one speaker argued that the percentage claimed by one surgeon as his ten-year survival rate after operation was in excess of the ten-year expectation of life for the normal population of the same age group, demonstrating to his mind the fallacy underlying all statistics on such bases.

Whatever their exact worth, however, such statistics as are quoted in this report are of interest. The Marie Curie Hospital, for example, records 1,832 cases of cancer of the cervix treated radiologically, mostly by radium alone, since 1925. The five-year survival rate here for all the four stages is given as 45%. Attention is drawn to the difficulty of estimating the relative merits of surgery and of radiology in cancer of the body of the uterus, because comparable groups of cases treated primarily by either method are not easy to obtain. The same hospital has treated 510 cases of breast cancer over a period of 25 years, and gives the ten-year survival rate for patients in stage I as 27.2%, and for stage II, 17.6%.

Cancer of the Lung

Under the leadership of Sir John Kennaway workers in the pathological department at St. Bartholomew's Hospital have been studying the death certificates for cancer of the lung and of the larynx in men during the period 1921–38. During this period deaths attributed to cancer of the lung increased by 16.5 times in men, and by 8 times in women, though the incidence of cancer of the larynx has not risen in either sex during the last fifteen years. The examination of occupations does not disclose anything which would account for a large fraction of the increase in these deaths, and the two largest industries in the country, agriculture and coal mining, show a low incidence. The possibility of the great increase in the habit of tobacco smoking being a factor has been considered. During the period in question the consumption of tobacco roughly doubled. But the investigators do not commit themselves on this or any other factor in causation, nor indeed on whether or to what extent the increase is a real one.

The Clinical Cancer Research Committee of the Campaign presents every year a highly elaborate statistical analysis of

cases of cancer, derived from London hospitals, pertaining to some region of the body. This year attention is given to 914 cases of cancer of the colon and the results are analysed in some 40 tables. Cancer of the caecum and proximal colon is relatively more common among females, who form 60% of the cases. In cancer of the descending colon and sigmoid the proportion of the sexes is nearly equal. The mean ages of males and females in this series were 62.1 and 60.8, respectively. No significant variation was found pointing to an occupational factor among the males. The patients who consulted a doctor within three months of the onset of symptoms constituted 63% of the whole series. In 21% palliative treatment had been persisted in for more than three months before reference to a hospital. Radical operation was possible in only a little over one-third of the cases, with a mortality of 18.3%. The five-year survival rate was 31.2%.

Of the various radiobiological investigations which are recorded attention may be drawn to some interesting work carried out in the department of biophysics at Mount Vernon, which was lately brought before the British Institute of Radiology. This concerns the effect of ionizing radiations on the broad-bean root (*Vicia faba*). These roots have been found to be more easily damaged by x rays when irradiated either at 3° C. or when under the influence of hydrocyanic acid, and less easily damaged when irradiated in an atmosphere of nitrogen. The difference between the degree of growth inhibition resulting from aerobic and anaerobic radiation has been shown to be closely related to the difference in the proportion of cells in which structural changes in the chromosomes are produced under corresponding conditions of radiation.

Virus Research

The Campaign awarded some £75,000 as grants to hospitals and research workers during the year, and made a further special grant of £25,000 for virus research in relation to cancer. This special grant is to be applied over a period under the direction of the Scientific Advisory Committee. Work has been begun under its auspices in Glasgow, at the Royal Cancer Hospital; in Edinburgh, at the Institute of Animal Genetics; and in London, at the Middlesex, Royal Cancer, and Westminster Hospitals. The scheme embraces all aspects of the problem, including the use of the electron microscope and of the ultra-centrifuge, and an important part of the project is the training of workers in virus research. It takes from six months to two years for even a bacteriologist, if his previous studies have been limited to bacteria, to master the finer manipulations required in virus work. It is expected that the £25,000 will need to be considerably supplemented as the work goes on.

On the whole of this slow-moving and many-sided research Lord Horder's speech at the annual meeting may again be quoted: "We can juggle (I use the word deliberately) with carcinogens, with oestrogens, with susceptible and with resistant animal strains, with invisible 'agents' and with undefined 'factors,' but the essential causation of cancer in a woman's breast or in a man's stomach still eludes us."

Reports of Societies

RENAL FUNCTION IN DISEASE

At a meeting of the Manchester Medical Society on Dec. 3 Prof. ROBERT PLATT gave an address on "Renal Function in Disease."

He first considered the syndrome of renal failure, which was characterized by a steady deterioration in the power of the kidney to produce a concentrated urine; in the later stages the urine was pale, copious, dilute, and had a specific gravity of about 1010. When the functional power of the kidney was insufficient for the excretory needs of the body the symptoms of uraemia developed, not only because of retention of the waste products of metabolism but because of a general

disturbance of such electrolytes as sodium, potassium, chloride, calcium, and phosphates. The symptoms of uraemia—weakness, anaemia, anorexia, vomiting, wasting, drowsiness, and coma—should be clearly distinguished from the more dramatic symptoms of hypertension, such as severe periodic headache, retinal disturbances, convulsions, and paralysis, which so often co-existed and confused the clinical picture.

The first question to be discussed was why the kidney lost its concentrating power in renal failure. The underlying pathology common to all cases was loss of nephrons, and the usual explanation of the lack of concentrating power was that there was a failure of the cells of the tubules to continue their function of elaborating a highly differentiated urine. This theory was unsatisfactory. Rose Bradford showed fifty years ago that surgical removal of most of the kidney caused the remainder to secrete urine of the same type—copious, dilute, and of low specific gravity. It was inconceivable that in the circumstances the remaining nephrons should suddenly have developed tubular failure. Verney and Winton showed many years ago that an increase in glomerular pressure would also give rise to a urine of this type. More recent investigations by means of inulin and diodrast clearances had shown that the filtration fraction in chronic renal disease was high, which suggested that there was in fact a high glomerular pressure. If this was so, he suggested that it might be brought about simply by a large amount of blood perfusing a small number of nephrons. There could be no humoral mechanism involved because it was possible to have a condition of renal failure in one kidney while the other kidney was secreting a normally concentrated urine.

If it were accepted that a high glomerular pressure accounted for the character of the urine in renal failure, this did not rule out the possibility of a co-existing tubular failure in some cases, but failure of the tubule cells should give rise to glycosuria—which was never present in chronic renal disease. Moreover, the histology of chronic nephritis showed in general that in those areas where there was tubular atrophy the glomeruli were non-functioning, whereas the few remaining glomeruli were surrounded by apparently active and dilated tubules.

Prof. Platt then considered the question of oedema in acute nephritis. This was not due to hypoproteinaemia nor to heart failure. Current literature still subscribed to the view that it was due to increased capillary permeability. This view, which was never satisfactory, was based on observations on the protein content of the oedema fluid in acute nephritis which had since been discredited. Prof. Platt suggested that a low glomerular pressure would account for the scanty urine of high specific gravity which was typical of the early stage of acute nephritis, and would lead to increased reabsorption in the tubules, giving rise to fluid retention and oedema. Inulin and diodrast clearances supported this hypothesis by showing a low filtration fraction. Recent work in Manchester and elsewhere suggested that there was haemodilution with a high blood volume in the early stages of acute nephritis, a finding which supported the view that the kidney was primarily at fault and was strong evidence against the theory of capillary permeability.

Finally, Prof. Platt described briefly the recent work of Trueta, Barclay, and others, which had shown that the renal circulation could be largely diverted from the cortex into the medulla, and he discussed the bearing of these researches on reflex anuria and cortical necrosis of the kidney.

Drs. MARSDEN, ISRAELS, R. W. FAIRBROTHER, LANGLEY, DON, OLIVER, and Prof. G. JEFFERSON, F.R.S., took part in the subsequent discussion, to which Prof. Robert Platt replied.

PRIMARY STERILITY

At a meeting of the Section of Obstetrics of the Royal Academy of Medicine in Ireland, held in the Royal College of Physicians of Ireland on Nov. 7, Dr. BETHEL SOLOMONS took the chair in the absence of the new president, Dr. O'Donel Browne, who was recently elected Master of the Rotunda.

Dr. RAYMOND G. CROSS presented a series of 358 cases of primary sterility which had been investigated and treated at the

Rotunda Hospital by Dr. A. H. Davidson during the years 1935-9. He found the causes of female sterility in his series to be as follows:

	No. of Cases	Percentage of Total
Fibroids	37	10.3
Ovarian cysts	26	7.2
Retroversion	81	22.6
Endometriosis	7	1.9
Tuberculosis (genital)	12	3.3
Adhesions	39	10.8
Salpingitis (unilateral)	27	7.5
Salpingitis (bilateral)	13	3.6
Hypoplasia	26	7.2
Anovular menstruation	8 in 136	5.8
Gonococcal infection	3	0.8
Uterus bicornuate	1	0.27
Carcinoma	1	0.27

A postal survey was carried out to determine the number of patients who subsequently became pregnant; 211 patients replied, and 81 had become pregnant. This represented 38% of the known results and 23% of the total cases. He analysed in detail the pregnancies in the various conditions and compared and contrasted them with the figures from centres in Europe and America. He emphasized the good prognosis in fibroids, ovarian cysts, endometriosis, non-tuberculous salpingitis, and adhesions due to appendicitis. He further discussed the investigation and treatment of hypoplasia and anovular menstruation, and finally drew attention to the poor prognosis in cases of genital tuberculosis.

Dr. BETHEL SOLOMONS asked what was the interval which elapsed before a marriage was considered sterile? One and a half years was a fair average. Although this inquiry was into female sterility, the results were incomplete unless the number of males responsible was shown; in his clinic the male was responsible in 50% of cases. The removal of fibroids meant a cure in a large number of cases, but it should be followed by insufflation of the tubes if pregnancy did not occur within six months. While pregnancy could occur when the uterus was in retroflexion, if the marriage remained sterile and this displacement was present it should be corrected. The removal of an ovarian cyst was also followed by increased fertility. Although the results of salpingostomy were disappointing, pregnancy occurred after a skillfully performed operation in 8 to 10% of cases. Tuberculosis of the Fallopian tubes was difficult to diagnose even when the abdomen was opened. If the tubes were tuberculous, the outlook for pregnancy was hopeless. When the condition was diagnosed, ultra-short-wave therapy was indicated rather than operation. Gonadotrophic hormones were valuable and should be used. The injection of a radio-opaque substance was strongly advised. He had done hundreds of salpingographies without any fatal results and with a minimum of complications. The injection of air, oxygen, or carbon dioxide had been followed by fatal results in several cases in Dublin. He had come to the conclusion that these fatalities were due to an absence of care in technique. Carbon dioxide should be used, the gas should be allowed to percolate very slowly, the pressure should be kept low, and no anaesthetic should be used.

General Discussion

Dr. A. W. SPAIN said that in dealing with these cases it was difficult to lay down any arbitrary time. In the younger group he would be inclined to wait for three years; in older women something should be done in a much shorter time. Curettage was helpful in the diagnosis of tuberculous salpingitis but should not be undertaken in the pre-menstrual stage.

Dr. J. GALLAGHER said that he did not regard as sterile any woman under 35 years of age until after at least three years of unfertile marriage. If the patient was over 35 years of age and had been married for one or one and a half years he would advise salpingography. Most cases in the "early married group" if left alone would become pregnant anyway. He did not think retroversion was a cause of sterility at all. Rubin's test carried a definite risk, and he knew of eight deaths following this investigation.

Dr. EDWARD SOLOMONS, Dr. E. A. KEELAN, Dr. F. GEOGHEGAN, and Mr. O'NEILL also joined in the discussion, to which Dr. Cross replied.

Correspondence

National Health Service

SIR,—The *Journal* of Dec. 20, 1947, makes a reference (p. 1005) to the premature disclosure in the *Tribune*, Dec. 12, 1947, of the discussions conducted by the Minister of Health with the Negotiating Committee. In an answer in *Hansard* (Dec. 19, 1947) the Minister declared that as far as he and his colleague, the Secretary of State for Scotland, and their respective officers are concerned he "could state categorically that no disclosure of any kind had been made or condoned of the discussions, which it had been agreed with the Negotiating Committee would not be published before Dec. 19, 1947." The *Tribune* notoriously draws its inspiration from leading members of the Socialist Party. Mr. Bevan's wife is a director, and he himself was closely associated with its management up to the time of his appointment as Minister of Health.

In these circumstances I submit that it is of the first importance that the profession should be made aware of the terms of this disclosure, and I would suggest further that the *Journal* should reproduce the full text. I would emphasize particularly the passages in which the *Tribune* editorial gleefully records and in great detail how the Minister rejected all the principal demands voiced by the medical representatives, adding the dubious information that "the Minister was supported in doing so by those negotiators who were not tied to the B.M.A." The editorial accords this final meed of praise: "Politically, the Minister's firmness has been most important . . . if he had been weak in face of this reactionary profession, it would have increased doubts as to the intention to carry out a Socialist programme."

In this connexion it must be emphasized that the official "Socialist programme," published in 1943, demanded the establishment of a full-time salaried State medical service, and Mr. Arthur Greenwood (then Lord Privy Seal) in the debate on the Second Reading (*Hansard*, May 1, 1946) stated quite firmly that that demand remains the party's ultimate and unalterable aim. It must be further emphasized that the "regulation-making power," reserved to the Minister in a measure hitherto unprecedented, would enable him to impose by regulation a full-time salaried State medical service when, as he foreshadowed in a speech in the House, "the time is ripe" to do so.

The *Tribune* further reports: "Aneurin Bevan made it quite clear to the Negotiating Committee that the service will start on July 5 'with the resources at our disposal.'" This repeats exactly his reply to my question (*Hansard*, Nov. 10, 1947) in which I asked him to inform the House how many general practitioners and specialists he would require to warrant inaugurating the new health services and what measures had been taken to provide the buildings essential to carry out the undertakings of the Act. He evaded these queries with an answer which recalls a similarly defiant declaration made by the then Minister of Education in a public speech (February, 1946) that "the school-leaving age would be raised on April 1, 1947, whether or not the teachers or the classrooms were there." It would seem that the Minister of Health is similarly resolved to "launch" the National Health Service Act, 1946, whether or not the doctors or the buildings are there. In these examples both Ministers are clearly more concerned with "carrying out a Socialist programme" than with effecting any real improvement in the existing provision of education and health services. In these circumstances, I submit, the profession will be indeed mad (*quem Deus vult perdere primum dementat*) if it hands to the Minister a blank cheque for him to fill in as he will, for that is what acceptance of the present Act would in effect mean.—I am, etc.,

House of Commons.

E. GRAHAM-LITTLE.

are thousands of doctors like myself who have neither the time nor the ability thoroughly to digest and understand the National Health Service Act. The Negotiating Committee has spent a very long time digesting and discussing all the clauses of this Act. It has looked into the obvious, the not so obvious, and the frankly obscure implications of each clause.

Certain principles are considered vitally important. Do not let us be fooled by plausible statements to the effect that the Negotiating Committee is making mountains out of molehills. Let us believe our own experts, who have studied the whole matter with so much care. Let us rally round and support the Negotiating Committee. Let us unite as never before, promise in writing not to join the Service until advised to do so by the Negotiating Committee, and stick to it. By so doing we shall not harm the Service but will safeguard the future, immediate and remote. Surely it is the remote future which is in so much danger.—I am, etc.,

Bungay, Suffolk.

P. G. LEVICK.

SIR,—I am overwhelmed by the benevolence and thought for our welfare shown by that enemy of the upper and middle classes, Mr. Bevan. His attractive financial terms, his previous promises, and the exhibition of skilful skating over legally doubtful ice make delightful reading—almost a Christmas carol. But we must remember: (1) It is established that no Minister of the Crown is bound by his predecessors' promises. (2) Once we have sold our practices we have no legal say in what the purchaser does with them, and will lose all power of individual initiative.

We shall be dependent on a majority agreeing with our individual dislikes and the use of that loathsome weapon, a strike. In the meantime the basic salary can be raised at someone's discretion with a lowering of the capitation fee to balance, or just as likely, in view of an "imminent crisis," merely the latter; and we shall not be able to do a thing about it. Let us, therefore, set our faces against this modern search for easy flesh-pots and keep the standard of individual initiative flying for the rest of our great country to follow.—I am, etc.,

Cromer, Norfolk.

A. H. GREGSON.

SIR,—I am strongly opposed to the National Health Service Act but am not greatly impressed by the Negotiating Committee's case, although the Minister has avoided answering any of the main points. Why does he insist on a basic salary when a system of Government grants for young practitioners would meet all reasonable difficulties?

I feel that I could influence my neighbours and partners if I had information on the following points: (1) Are salary and capitation fee subject to "regulation" by the Minister? (2) Is actual fact how far are regulations subject to the control of Parliament? I understand that the Minister, in practice, has an almost free hand. (3) This Act is the work of one man. Therefore it is right for us to learn what we can of his character and political history before we decide to accept his word which is what he naively asks us to do. What is his record? This is business, not a tea party.

I have a son of 16 who wants to go into general practice; my father too was a G.P. and my grandfather. Why I ask the above three questions is because I find my doctor friends drawn away from consideration of principles to the Minister's statement about remuneration. If these promises are to be mere scraps of paper we shall be forced to consider the main structure of the Act—to what extent we will agree to be his servants, with no alternative employment or employer.—I am, etc.,

Havant, Hants.

M. S. DEWHURST.

SIR,—With the publication of the Minister of Health's reply to the Negotiating Committee, there is certain to be a spate of letters, discussions, and meetings on the subjects raised. May I suggest that much time and energy would be saved if members of the profession would realize that by the Minister's refusal to compromise on the seven basic principles laid down by the B.M.A. the position is entirely unchanged from the time when the plebiscite was answered by the profession earlier in the year?

It was then our feeling that terms of service could not usefully be discussed unless vital principles were conceded. As nothing has happened since then to modify the Minister's original attitude to our demands, it seems to me that Divisions and members should be warned against dissipating their efforts by discussing terms of service in a scheme which is patently unacceptable, as the liberties of the profession have not been safeguarded. Do we still hold to all we said and wrote in those days, or have we allowed ourselves to be "softened up" by the passage of time?—I am, etc.,

Tiverton, Devon.

THOMAS N. RUDIN.

SIR.—Why another plebiscite? Did not the profession indicate in the last its opposition to discussion with the Minister? Why should we allow ourselves to be added to the multitude of slaves of the State? Why present the Minister with our capital, the fruits of our labours? Why even discuss a medical service which fosters numbers and not quality?—I am, etc.,

Gerrards Cross, Bucks.

H. N. HORNIBROOK.

SIR.—It is essential that the impending plebiscite on the Health Act should provide clear information not only of the views of members of the profession but also of the action they are prepared to take in support. There are many who dislike the Act but fear to vote against acceptance on financial grounds and others who would be content to accept it but not against the will of the majority of the profession. The former must be reassured and the numbers of the latter assessed.

I therefore suggest that two questions be asked: (1) Are you in favour of the profession accepting service under the Act? (2) Are you prepared to support the decision of the majority?

The decision should be taken on the vote of private practitioners only (consultant and general), whose future is at stake. Permanent officers of the Armed Forces, salaried officials of the Ministries, county councils, and other public bodies will naturally continue their work in any event, and their votes should not influence the issue.—I am, etc.,

Finchamptead, Berks.

E. BILLING.

SIR.—The time has come when it is necessary to warn all those members of the medical profession who are inclined to regard any promise given by a Minister at the present time as necessarily permanent in the future. After a few years, when the profession is firmly in the grip of the Ministry of Health, the following can and most probably will happen: (a) On grounds of economy the remuneration of the doctors can be reduced, possibly without arbitration. (b) Private practice will ultimately dwindle, and it may happen that the Minister will issue an Order which will prohibit State medical practitioners from taking private patients. This could very well occur when the health centres are finally in operation. (c) Orders can be issued directing a doctor how he may or may not treat his patients, and he will have no more freedom or personal initiative than any other Civil Servant.

We have not forgotten that some years ago a Minister did in fact alter the terms of service, without consulting the profession, in spite of promises given beforehand. Also, we have learnt that an undertaking given by one Minister is not necessarily binding on his successors. Let us ponder these facts very carefully before we barter our heritage of freedom for a mess of pottage, however well sweetened.—I am, etc.,

Keighley, Yorks.

B. A. SLOCOMBE.

SIR.—It is rather difficult, after several years of controversy about the National Health Service Act, to see the wood rather than the trees, but it is not at the back of all our minds that this scheme is as unrealistic as prohibition in America? The ordinary middle-aged doctor who has been any good at his job finds himself with an increasing reputation and demand for his services. He has always been able to meet this situation in one of two ways. If he is as strong as a horse, he can accept more and more patients. If not, he can raise his fees and so keep his work within the limits of his sclerotic arteries. That is the true reason why we fear to see the last of private practice: it reduces the incidence of coronary thrombosis in the medical profession.

As long as a sufficient part of the populace can pay fees, a doctor's life is endurable. A 100% service, whether salaried or by capitation fee, removes any possibility of self-protection except through the bankruptcy court. It puts a premium on untutored youth and physical stamina, and a discount on greying hairs and wise judgement. It is thoroughly bad and, if introduced, is liable to suffer the same fate as prohibition.—I am, etc.,

Ashhead, Surrey

W. EDWARDS.

SIR.—The Minister's reply was more conciliatory than some of us were led to expect. But paragraph 25, "The Doctor's House," requires explanation. Why did the Minister seek advice about the citizen's right inherent in the Common Law of the land to sell what he owns, and from what will the certificate of the Medical Practices Committee protect him? Surely this unnecessary information is there to confuse or to hide something.—I am, etc.,

Haddenham, Bucks.

T. W. S. PATTERSON.

SIR.—The Negotiating Committee's case and the Minister's reply show how far we have travelled already towards first the twilight and then the night of our freedom. Gild it how he may, the Minister is asking us to become Civil Servants, shackled to a State machine, ready to obey the rules and regulations made for us by him and his successors at the Ministry of Health.

It was in May, 1946, that the Representative Body of the B.M.A. passed a resolution by 210 votes to 29 rejecting State ownership of hospitals; and another by 214 votes to 2 rejecting control over doctors with regard to the area in which they practise. In summing up the results of this meeting, the Chairman commented: "Now we have come to the time when one side or the other has to give way. A conflict is inevitable." They were fine motions, fine words, but during the eighteen months that have passed since that date, by subtle whispering propaganda and clever parliamentary tactics, the Minister has been enabled to take action so that he has made the State ownership of hospitals inevitable. During the same period he has formed committees within the framework of the Act and found medical personnel to serve on them; and among other things the functions of these committees have very much to do with the control of doctors in the area in which they practise.

The Minister is a clever psychologist, and in many respects he has jockeyed the profession into false positions. Let us remember that all his premises are based on his false assumption that the working of the Act is inevitable. Let us not make the same assumption: once we do so, we are lost. Most of us are non-political and thoughtful members of society. We are convinced in our hearts, by the tradition we inherit, that the practice of medicine must remain free if it is to prosper.

When we think of the history of our profession we realize that men of outstanding genius were always men of independent, unusual frame; and by their unique genius they made British medicine great. Surely it is only those who in their hearts regard greatness with envy who think that a State medical service is a good thing. I do not believe for one moment that such a service would appeal to first-class minds: with its pettifogging rules, its multitudinous forms, its endless negotiations, it could not do so. Instead, if this Service should come to pass, as it is envisaged by this Minister of Health, by this Government, it will come to be filled with a multitude of second-rate minds of a yes-man shape, who will make of British medicine an institution world-famous for its dull mediocrity, its small scientific exactness, the excellence of its statistics, and the envy the world over of the good bureaucrat. But this will not be the profession that could produce a Lister, a Harvey, a Moynihan, a Treves, and I do not believe that my great profession will meekly give up its freedom when the decisive day arrives.—I am, etc.,

Teignmouth, Devon.

GEORGE A. F. QUINNELL.

SIR.—"And thus, for nearly a year we have worked at the conference table to no purpose." And thus, too, do the Council add confirmation to the fears of many doctors that one of Mr. Bevan's type, creed, and expressed opinions has had from the beginning no intention of amending his Act and would prove impervious to conviction. Twelve months have

been spent in discussions with Ministry of Health officials, almost the net result of which has been to bring into sharper relief the difficulties and the pitfalls for the profession inherent in the Act. Indeed, one has the feeling that to describe such conversations as negotiations is altogether misleading and that the Committee's case could have been as well prepared in discussion among themselves with the help of legal advice, and also in half the time.

In the year that has passed all the business sides of a doctor's life as it concerns future plans have been completely held up. Behind a smoke-screen of secrecy the framework of the new Health Service has been steadily pushed forward, and doctor committee-men have taken their places among the planning authorities. Indeed, the words of the Council quoted above cannot be regarded as an overstatement, unless the delay has served the purpose of the Minister. We are now but little more than six months from the date of implementation of the Act, and still essentials and details are interlocked in a fog of uncertainty and confusion. For example, the sale and purchase of practice are defended in short and concise terms as an essential of continued freedom and efficiency, and then paragraph after paragraph is devoted to legalistic argument anent the difficulties that will arise if sale and purchase are abolished.

On which ground, then, are we prepared to join issue—on a principle of personal liberty or on the practical difficulty of working the Act as it stands? On this point it needs to be pointed out—and it cannot be too strongly emphasized—that the interests of the various sections of the profession are not identical. Of this a paramount example is again that of the sale and purchase of practice. This, though a sheet-anchor of independence and freedom as well as a guarantee of continuing efficiency to the general practitioner, is a matter of minor importance to the health officer or to the consultant. The hard truth should be faced without hypocrisy, for it is part of human nature, that men, or rather the great majority, will be more ready to disavow those principles in which they have no personal interest. Special weighting, therefore, should be allowed to the views of general practitioners in this matter.

In any event further equivocation and delay at this stage would be inexcusable and altogether intolerable. Argument and bargaining points must be put aside and the principles upon which we are prepared to stand fast decided. It is for the Council to strip themselves for action, and at the earliest possible moment to demand from the profession a plain yes or nay on simple issues which none can misunderstand.—I am, etc.,

Wirksworth, Derbyshire.

E. D. BROSTER.

SIR,—The supporters of the National Health Service have derided the present medical services as being inefficient and out of date, and have drawn much attention to the inadequate accommodation and equipment of the surgeries and waiting-rooms in doctors' private houses. The public were told that under the new scheme they would have magnificent health centres, fully equipped with x-ray apparatus and laboratories and a team of doctors who would work regular hours and not be overworked. Now that we know the details the scheme is apparently merely to put the whole nation on the panel and thus accentuate the overcrowding of the already inadequate accommodation, and there is nothing new in it at all.

Mr. Bevan would have been wiser to have followed the example of General Montgomery, who made certain that every detail of his scheme was planned before taking action.—I am, etc.,

Camberley, Surrey.

LESLIE HARTLEY.

SIR,—The doctors can accept the National Health Service Act or refuse it. The choice is theirs, they have but to exercise it. If they so will the Service cannot be forced upon them, for if 75% refuse to join on the appointed day then it cannot function, and an amending Act becomes a certainty—and that soon. The issue now before the profession is therefore remarkably simple and yet of transcendental importance, for it is nothing less than our freedom itself. On the one hand we may accept the Act as it now stands, entailing appropriation of our practices and remuneration by a basic salary—at first small to ensnare and delude us but at any time capable of increase by regulation to, mayhap, 99.9% at the will of the

Minister without reference to Parliament—in short, complete loss of our freedom and liberty of action in a full-time State salaried service. Loss of our practices inevitably implies the loss of our freedom, a disaster to both doctor and patient alike.

On the other hand we may reject the present Act by refusing in resounding majority, to join the Service and indicate this decision by a decisive negative in the forthcoming plebiscite. Such refusal, without doubt, will compel the introduction of an amending Act in which we will retain our practices and be remunerated by capitation fee alone. Thus may we assure our freedom without in any way sacrificing the interests of our patients, but on the contrary safeguarding them.

Either to accept thralldom on the appointed day or to seek service in the future under an amended Act that preserves both the liberty of the profession and the true interests of our patients is the crucial issue now before us. It must not be obscured by endless discussion of items of relatively little importance such as terms of service, remuneration, superannuation, etc. The fundamental consideration now is the future freedom of the profession or its serfdom—nothing less. That freedom is incompatible with service under the present Act. Finally, the profession itself holds the trump card, not the Minister. For pity's sake let us play it and answer in the plebiscite with an emphatic and overwhelming "NO"—I am, etc.,

Tiverton, Devon.

R. E. J. PEMBREY.

The Minister's Gloss

SIR,—Your excellent leading article (Dec. 27, 1947, p. 1037) should be studied by all members of B.M.A. Beveridge's suggestion that it was not in the interest of the State to have sick people on disability funds caused the membership of B.M.A. to rise. The Coalition Minister of Health did listen to argument and was prepared to amend his White Paper when ousted from office. The present Act was heavily opposed by the Opposition in the House, as it is by most of one's patients, be they rich or poor. Sixty-four per cent of G.P.s rejected negotiation, but three great men of the profession overruled this, provided the Minister would consider fresh legislation.

The Minister has evaded this. Why another plebiscite? A year ago, faced with a panel strike, the Minister yielded to the weapon he knows so well. I forecast that this Act will have to be amended and that the stand of the profession will earn the gratitude of millions in this country.—I am, etc.,

Newquay, Cornwall.

J. P. O'SHEA.

Congenital Pyloric Stenosis: Two Cases in One Family

SIR,—Mrs. X., aged 30, was delivered of a male infant. At six weeks the child was diagnosed as a congenital pyloric stenosis and operation performed. Feeding difficulties arose and gastro-enteritis followed, the infant dying 17 days later. Subsequently Mrs. X. was delivered of a boy and then a girl. When 39 she was delivered of an apparently normal male. Projectile vomiting appeared at the third week and one week later congenital pyloric stenosis was confirmed at operation. This infant is making good progress.—I am, etc.,

Wembley, Middlesex.

M. B. STUNGO.

The Dangers of Going to Bed

SIR,—Our congratulations are due to Dr. R. A. J. Asher for his dissertation (Dec. 13, 1947, p. 967) on the dangers of going to bed or, more correctly, being confined to bed. I should like to add one more example of the untoward and contrary result arising from prolonged rest in bed. If we wish to stenose any part of the body immobilization is the accepted procedure. It is the common practice, as mentioned by Dr. Asher, to immobilize cases of rheumatic fever for a considerable period after the fever has departed. In bygone days months in bed was considered sound practice, with mitral stenosis as the inevitable end-result—the most serious of all valvular disorders.

Any barrier erected between the left auricle and the left ventricle must have a disastrous effect on the development of the left ventricle, which carries the burden of general circulation, and this is especially true in the growing heart. The present duration of rest after rheumatic heart disease is still too long, as evidenced by the incidence of obstructive mitral stenosis seen

3

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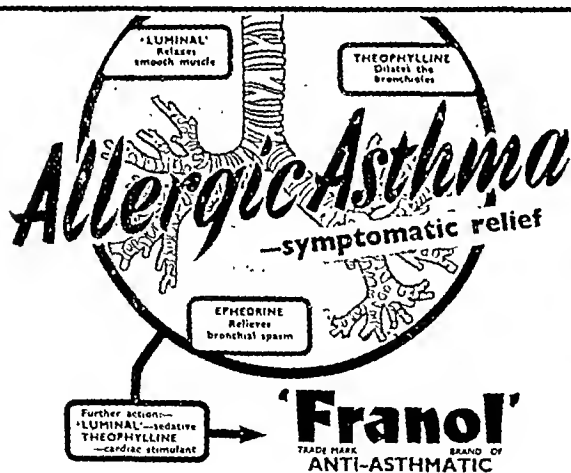
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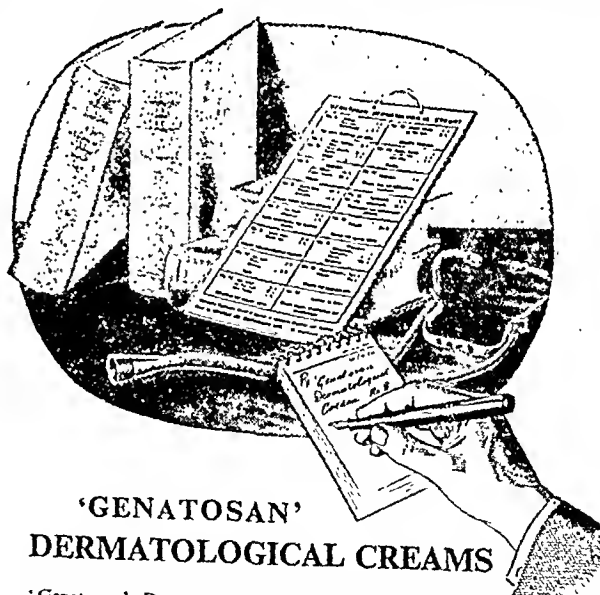


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References : Shortage of space precludes list of references, but full documentation may be obtained on application to Clinical Research, Dept. 6.A.



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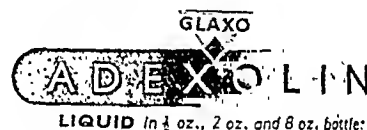


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hospital practice. The incidence of rheumatic fever was found by Coombs to be 5 girls to 4 boys; yet the incidence of mitral stenosis in females must be in the region of 5 to 1 male. This is due to the less active life led by girls, who are seldom permitted to be out of range of the maternal eye; they sit and wait and acquire obstructive stenosis and provide most examples of auricular fibrillation in the forties. Her brother with the same diseases escapes to the playground and, despite restrictive advice, ensures that the cusps of the mitral valve are kept well apart by the vigour of his exercise, thereby securing a greater volume in flow and growth of the left ventricle. At the same time he prolongs his life.

Convalescent heart homes are not the nurseries for the cultivation of mitral stenosis that they used to be; nevertheless the introduction of the sedimentation rate has tended to increase bed rest in these cases, and mitral stenosis is actively encouraged once again. Because the sedimentation rate is increased, active endocarditis is presumed with often no justification; it might well be tonsil, sinus, or other infection. Immobilization and fibrosis are inseparable bed-mates and are to companions for growing hearts.—I am, etc.,

London, W.1.

BRUCE WILLIAMSON.

Diet and the Nation's Health

SIR.—As a humble member of the profession I note with dismay that Dr. S. K. Westman (Dec. 6, 1947, p. 926) regards the Hunterian Society and frivolity as being synonymous. A press précis can be misleading; it is probable that he has now had access to the full discussion and is a wiser man. The comparative statistics given in his letter beg many questions, but this outstanding and alarming fact is borne out—namely, the famine rages of 1919–21 responded, in the absence of adequate food or the body, to a dangerous and devastating dietary of distorted mental and moral feeding. They contributed to the downfall of their country and plunged the civilized world into chaos and economic disaster. Was the subsequent prowess of Hitler's youth in war the triumph of starvation or the thrust behind a fanatical and insatiable ambition for power? In their quest for *Lebensraum* was it not perhaps a bigger dining-room they unconsciously sought?

While I admire Dr. Westman's personal victory of mind over matter, I would remind him that his unusual menu for strength is in short supply in this country. It would be regrettable if our rowing blues were deprived of their sport because they had nibbled their oars and sucked the substance of the boats while in training. The whittling down of our larder has already caused deterioration in our morale and bred dishonesty in many a decent home. The man in the street does not need a learned society to point that out to him. The desire for a high standard of food and health is not actuated by selfishness and greed on Britain's part, but in her upholding the terms of the Atlantic Charter—"that all the men in all the lands may live out their lives in freedom from fear and want." We want butter in our guns and so avoid any continental European or Asiatic parallels of hunger and discontent.—I am, etc.,

Dursley, Gloucestershire.

ISABELLE B. S. FAYLE.

SIR.—May I add a note to Dr. F. M. R. Walshe's eloquent letter (Dec. 13, 1947, p. 971) emphasizing the importance of subjective impressions in the formulation of evidence? Sir Jack Drummond's argument seems to me to suffer from a fallacy of misplaced concreteness. He was mistaking the modern concept of nutrition for a fact, and forgetting that it is a theory still to be tested by experience. He maintained that, because we were getting all the items of diet which the modern theory of nutrition held to be necessary for our health, therefore we must be healthy. But this theory may prove to be inadequate, just as those theories of nutrition in vogue before the discovery of vitamins proved to be inadequate. It may be that from these subjective impressions which he scorns to notice new facts will emerge compelling the theory to be recast.

Of course, subjective impressions are dangerous data. The field they grow in may be thickly sown with the tares of wishful thinking. Disapproval of the Government's activities may easily squeeze itself through the gaps in our sentiment of scientific impartiality and emerge as subjective impressions concealing a grudge. This is what happened, no doubt, to those

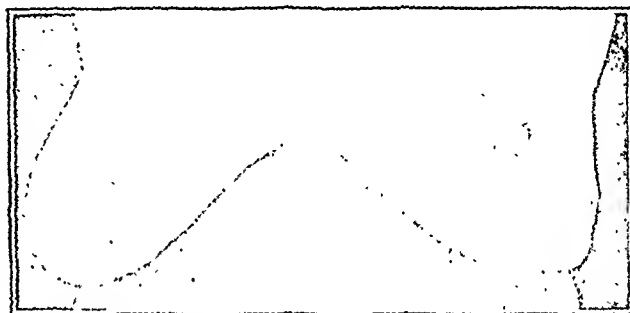
physicians who felt that their patients were suffering from the effects of calcium in the bread at a time when the calcium was present only in their imaginations. Much laborious and honest threshing is necessary to winnow away the chaff of adventitious percepts from the grain of a new impression. But it is the impressions which supply us with new facts and which therefore ought never to be neglected.—I am, etc.,

Wallington, Berks.

E. H. HARR.

A Sign of Carcinoma

SIR.—Carcinoma of the breast frequently presents one of the stiffest problems in surgical diagnosis, and all surgeons of experience approach these cases with humility, which is understandable when pathologists tell us that never a year passes by but they see at least one breast removed in the Halsted fashion for mastitis and more than one local removal of a carcinoma in error for a benign condition.



The simple manoeuvre employed to obtain the accompanying photograph I have found after long experience to be a great help in diagnosis. If the arms are raised above the head as high as possible all the usual signs of carcinoma are increased and, if not already present, are frequently made manifest in the most surprising manner. This applies to the level of the nipples, retraction of the nipple, puckering of the skin, and even peau d'orange. In addition the palpability of the tumour to the flat hand is easier to elicit when the underlying muscles are on the stretch.

The case illustrated was referred to the out-patient department as a case of chronic mastitis, and with the arms hanging by the side the breasts were indistinguishable on inspection and the tumour was vague to the finger and impalpable to the palm of the hand. The raising of the arms above the head instantly made the diagnosis of malignancy indubitable. With chronic mastitis some puckering of the skin may be produced, but it is generally a diffuse rippling over a fair area rather than a well-defined depression such as is seen in the photograph. Feeling sure that others have made this discovery before, this simple test is nevertheless put forward in the hope that wider publicity for it will help in what must be regarded as one of the most responsible and difficult diagnoses which come the way of the clinician.—I am, etc.,

London, W.1.

A. DICKSON WRIGHT.

Staphylococcal Infection due to Penicillin-resistant Strains

SIR.—In her very interesting article (Nov. 29, 1947, p. 863) Dr. Mary Barber draws attention to the increasing incidence of strains of *Staphylococcus pyogenes* that are grossly resistant to penicillin. We have been testing between April and December, 1947, all cultures of *Staph. pyogenes* for penicillin-sensitivity, using the penicillin-ditch method with 1, 5, and 10 units of penicillin per ml. Secondary cultures had been tested throughout. Out of a total of 115 cultures of *Staph. pyogenes*, 9 (7.8%) were penicillin-resistant.

Type of Infection.—Axillary abscess, 1; otitis media, 2; furunculosis, 1; dermatitis, 1; aplastic anaemia, 1 (blood culture). The 3 other penicillin-resistant strains were grown from the throat (2) and nose swabs (1) of carriers. Considering only the strains from infected cases, 6 (5.2%) were penicillin-resistant.

In Czechoslovakia, owing to the comparative shortage, the use of penicillin, especially in the form of ointments lozenges, etc., has not been as widespread as in Great Britain. None of the cases examined had received penicillin prior to the bacterio-

logical examination. Our figures might therefore indicate a "normal" rate of occurrence (about 5%) of penicillin-resistant strains of *Staph. pyogenes*.—I am, etc.,

Košice, Czechoslovakia.

I. FRIEDMANN.

Pica for Pipes

SIR,—I recently encountered rather an unusual instance of pica (craving for unnatural food) in pregnancy, which may be of interest to your readers. The patient, a woman of 36 years, had 14 pregnancies—10 full-term and 4 miscarriages. She was recently in hospital for her fourth miscarriage, with which she had a severe haemorrhage necessitating a blood transfusion. When she was later persuaded to swallow iron in the shape of ferrous sulphate for her still present anaemia, she declared she would sooner have some clay pipes to eat.

It transpired that during all her pregnancies (and most of her married life seems to have been spent in the pregnant state) she developed a craving for clay—generally in the form of clay pipes, which were, at one time at any rate, cheap to buy and easily procurable. She has good strong teeth and evidently experiences no difficulty in the mastication of the pipes, and when she cannot obtain the latter she eats pipe-clay, as used for cleaning stairs. She remarked jocularly that her doctor used to try and dissuade her from her practice by warning that she would give birth to "stooky weans." De Lee (1947) makes a reference to the desire for clay, among other unnatural foods, by certain pregnant women.—I am, etc.,

Bellshill, Lanarkshire.

JOHN M. KING.

REFERENCE

De Lee, J. B., and Greenhill, J. P. (1947). *Principles and Practice of Obstetrics*, 9th edition, W. B. Saunders, Philadelphia, p. 83.

New South Wales Branch of B.M.A. and R.M.B.F.

SIR,—I hope you will allow me through your columns to record the indebtedness of the Royal Medical Benevolent Fund to the New South Wales Branch of the British Medical Association. All your readers will like to know of the great generosity of the members of the New South Wales Branch who have recently sent 360 food gift parcels to beneficiaries of this fund. This is such a warm-hearted and kindly action on the part of our colleagues overseas that I feel all members of the profession living in the home country will join with me in thanking our many friends in New South Wales.—I am, etc.,

ALFRED WEBB-JOHNSON,
President, Royal Medical Benevolent Fund.

POINTS FROM LETTERS

Splints from Spatulas

Mr. A. MACDARMID (Thames, New Zealand) writes: Take an ordinary wooden tongue spatula and introduce it into the steam in a boiling sterilizer. To do this, lower the lid so that it holds the end of the spatula against the edge of the side of the sterilizer. Leave the spatula to steam for about a minute and then take it out. It is now pliable and can be bent to the desired shape between the fingers and thumb. It should be held thus until it dries, hardens, and maintains its shape. In this way it is easy to produce a curved splint or one with several angles of 45 degrees. The splint can be padded with a strip of adhesive felt. Do not put the splint in the water or it will become too wet.

Always in the House

A DOCTOR'S WIFE writes: "My dear, I never pass a day but I think how lucky you are to have a doctor in the house." . . . So speaks one of the best patients as one is laboriously toiling up the bill with a pen, having abandoned that wretched phone to the fates for an hour. Summer isn't quite so bad, but let me sympathize with all those other poor miserable creatures whose bed-companion is the telephone and whose days are spent keeping food eternally at a reasonable temperature so that the patient may have his doctor. Then, what of the evenings? Mentally and physically exhausted, the evening surgery done, and the last sickly patient tucked safely into bed, home comes the doctor to yet another sliding meal—eight, nine, ten—whatever the whim takes him. The newspaper, a pipe, and after a few minutes loud catarrhal snores. What a cheerful evening! Woe betide the wife who inquires for medical remedies at this juncture; they are doomed to be cast off as mere psychological flights of fancy. Better to keep one's thoughts of aching chilblains or children's spots deep in the crevices of the mind. What is there to it? One often wonders; and still every medical school pours out its numerous doctors, and a thousand crazy females go and land themselves into this heaven, with a doctor "always" in the house.

Obituary

G. F. STEBBING, M.B., F.R.C.S.

Mr. G. F. Stebbing, a pioneer of radiotherapy in this country and an outstanding personality, died at his home on Dec. 22 at the age of 63, after a long and painful illness, borne with characteristic optimism and courage. Like many other medical men he succumbed to a disease to the treatment of which he had devoted himself for many years.

George French Stebbing was educated at Guy's Hospital and qualified in 1906, taking the conjoint diploma and the M.B., B.S. with honours and distinction in surgery. After completing his house appointments he told Mr. Symonds, later Sir Charles Symonds, whose house-surgeon he had been, about the kind of institutional work he would like to do. Sir Charles replied that he knew of no such place and that Stebbing must create it for himself. In 1908 Stebbing went to the Lambeth Infirmary, and with the encouragement of the late medical superintendent, Dr. A. L. Baly, he developed the clinical side there and so rapidly raised the standard of work that by 1914 Lambeth Infirmary was held in high esteem by both the local populace and general practitioners. After a period of service in the Navy he returned to Lambeth Hospital, where he remained a leading light until the day of his death. In 1934 he was elected a Fellow of the Royal College of Surgeons and recently was a member of the Council of the College. He was made a Fellow of the Faculty of Radiology in 1939.

In his early years he devoted himself to all branches of medicine and surgery, and with his tremendous capacity for work and wide reading he became a "G.P." in the very best sense of the term. Many old Lambeth medical officers and nurses have reason to thank "Steb," or the "Great White Chief" as he was affectionately termed (he wore a long white coat not usual in those days), for all he taught them. His experience was so great that his phrase, "I am quite familiar with that," disappointed many a junior colleague who felt he had produced a problem for his chief.

Some twenty-five years ago Stebbing became interested in the use of radium for the treatment of malignant disease, and in 1929 arrangements were made between the Lambeth Board of Guardians and the Ministry of Health to provide Lambeth Hospital with radium and deep x-ray therapy plant, which was to be available for the treatment of patients not only from the district but from any part of London. Stebbing visited all the principal clinics in this country and on the Continent, and the information he obtained was applied in equipping the new department. As a first-class surgeon and radiotherapist, a rare combination, he achieved great success in a great number of patients, and even when this was not possible the confidence that he inspired and the infinite pains he took with palliative measures brought comfort to many sad cases.

Stebbing will always be remembered by his contemporaries for his wide interests both inside and outside the hospital. He was a member and honorary secretary of the Radium Commission from its formation in 1929. He was chairman of the London and Counties Medical Protection Society. He was largely responsible for the establishment of the L.C.C. Clinical Research Committee and was its first chairman. From this there developed the L.C.C. Medical Society, of whose first council he was chairman. He was also for many years examiner in radiology for the Conjoint Board. He had the faculty of always being able to interest himself in anything which interested his friends and acquaintances. He was a fine team worker and was never found unwilling to see any case a colleague desired him to see. An American visitor to his clinic once described him as the "human dynamo," a tribute to his amazing energy. His direct approach to the things that mattered and his dislike of non-essentials were characteristic. He inspired complete confidence and affection in his patients and he could remember them years afterwards and what he had done for them. He was a fine lecturer and clinical teacher.

The L.C.C. Public Health Department, and particularly Lambeth, will miss him sadly, and the sympathy of the whole staff goes out to his wife, his married daughter, and the two sons, both doing medicine, who survive him.—A. D.

Sir E. Rock Carling writes: Mr. Stebbing's activities were numerous and widespread. To them all he brought the same inexhaustible energy and enthusiasm. Whatever he did he did with his might, whether as medical secretary of the Radium Commission, as chairman of Council of the Medical Protection Society, as a member of the Cancer Committee and other committees of the Ministry of Health, of the Faculty of Radiologists, or the Medical Research Council's Nuclear Physics Committee, or a dozen other bodies upon which he served. All that, too, was work of supererogation, for he filled the double post of surgeon in charge of a division at the Lambeth Hospital and radiotherapist-in-chief. Stebbing held his views with tenacity. He formed them upon what he believed to be fundamental premises and permitted no deviation. He was utterly free from self-interest, and, if not entirely devoid of ambition, his aims and object had no taint of personal advantage. He wished to exert his influence to the full in the interests of sound and safe treatment for the sick. To that extent he sought positions whence he could apply his influence, but certainly without thought of reward other than a just prestige. He was no respecter of persons but generous in his appreciation of the worth of other men whose work he could admire. His habitual cheerfulness, his sense of the comic, his genuine friendliness made him loved by those who knew him well. His transparent integrity, his professional skill and competence, his upright character, all combined to secure him the esteem and admiration of his colleagues.

Mr. Malcolm Donaldson writes: The death of George Stebbing is not only a very great sorrow to his many friends but a serious loss to the forces ranged against cancer. He was a man of outstanding character and quite fearless in expressing his views. One of the foremost radiotherapists of his time, his work in connexion with the formation of the Faculty of Radiologists is well known, but perhaps his greatest work was done with the National Radium Commission. It is no exaggeration to say that the success of the Commission was largely due to his personality and unbounded energy. Being a general surgeon as well as a radiotherapist he realized that the treatment of cancer cannot be kept in watertight compartments but must be considered as a whole. It was in connexion with the Commission that I first met Stebbing, and the more I saw of him the more I liked and admired him. He was one of the "whitest men" with whom it has been my privilege to serve.

SIR BERNARD SPILSBURY, M.B., F.R.C.P.

Dr. G. Roche Lynch writes: I would like to pay a tribute to the memory of Spilsbury and his medical work, for no one in this country during the last forty years has done more for this subject, which in turn has led to the production of adequate and accurate scientific work for evidence in the criminal courts. Many times have judges complimented him upon his clear, lucid, and accurate evidence. His energy, thoroughness, and capacity for detail are by-words, but I would like to add that the investigation only commenced in the post-mortem room, to be followed up by careful laboratory work, in turn to be followed by many hours of quiet assessment of all the material facts in his study. Thus his final opinion was made after a judicial weighing up of the facts, and it would be doing him a great wrong if it were suggested that he was a witness for the prosecution.

All his life he overworked, and in the later years he continued to do so well knowing that his heart was not strong and that prudence dictated a less energetic mode of life. It is a matter of great regret that he has not left any record of his cases, for this would be of inestimable value to future workers in this field. But his excuse would have been a genuine one—namely, he had no time. Perhaps one of the most important results of his work—one which cannot be overstressed—is his influence upon coroners. When Spilsbury commenced to work for them they employed but few trained pathologists and the work was not of a very high order. Nowadays, thanks to him, coroners have realized the importance of the employment of trained pathologists.

Spilsbury was a very human person and a delightful companion. When away in the country on a long case at the assizes one could not wish for better company and he had a gift of making friends. He was very conscious of the difficulties of the doctor who was suddenly confronted with a serious criminal case and would do everything in his power to make things easy for him.

A correspondent writes: Bernard Spilsbury's professional eminence and skill are too well known to need any eulogy—this is intended rather as a personal tribute to a great man by one who has been privileged to enjoy his friendship for more than twenty-five years. It began by our common membership of a society in which we were both interested and in which not long afterwards we had the honour of holding joint office for several years, Spilsbury later becoming one of its most distinguished presidents. He was one of the most truly modest and humble-minded men I have ever known, for although I am convinced that he knew quite well that in that branch of medicine which he had made his own he stood pre-eminent and without a rival, yet he never spoke of himself or his own achievement, and both hated and, so far as he possibly could, shunned the public notice which was inevitably thrust upon him. His complete absorption in his work was for the sake of the work itself and the advancement of the ends of justice and true knowledge, not for any personal distinction.

Spilsbury was a devoted son of Oxford and of his own College, Magdalen, where he was an honorary member of Common Room, and he used to delight in recalling his own undergraduate days. He preserved in later life much of the gaiety and almost boyish high spirits which usually belonged to much younger men, and I used often to marvel how he was able to do so under the burden of his always exacting, and often grim, professional work. His later years were greatly burdened by the loss of his two elder sons, the younger of whom had just qualified and obtained a house appointment at St. Thomas's when he was killed while on duty in one of the early air raids in the autumn of 1940. The elder son, whose health had never been robust, died in 1945. Notwithstanding these blows he still kept at his work, his capacity for which was enormous, and there was no five-day week or eight-hour day for him. What was to me one of Spilsbury's most striking characteristics as a medical witness was his great sense of fairness, and I believe that this was the general impression of the public who followed with so much interest the notable trials in which he was concerned. His evidence was always directed not to the securing of a conviction, but to the ascertainment of the truth and to the fulfilment of justice, and whenever anything was to be said in favour of an accused person one could be quite sure that Spilsbury would say it. The professions of both medicine and law will deplore his passing, and those who, like myself, have known him as a friend will be the poorer for the loss of one whom to have known as such was in itself both an education and a source of pride.

Dr. HAMISH FALCONER MASSON died suddenly, from coronary thrombosis, on Dec. 7, at the early age of 45. The third son of the late George Masson, J.P., of Kingussie, he was educated at Fettes College and Edinburgh University, where he took the M.A. in 1923. In 1926 he graduated M.B., Ch.B., and passed the examination for the F.R.C.S.Ed. in 1930. After house appointments at Preston Royal Infirmary and Kettering he was for a time in practice in Dingwall before settling in South Woodford, where he had practised for the last ten years. Hamish Masson had intellectual gifts and a personality that could have carried him to a high place among consultants, but he preferred general practice with its more personal human contacts. As a general practitioner he was immensely popular and built up a large practice in South Woodford. His handsomeness made him a conspicuous figure in any company, but no man so gifted was ever more unassuming or more tolerant towards his fellow men. His work made great demands upon him, and he never spared himself. In the last year his health gave some grounds for anxiety, but the end, when it came, was quite unexpected. On Dec. 13 a memorial service was held at All Saints' Church, Woodford Green, Essex. A crowded church was evidence of the respect and affection in which Dr. Masson was held. He will be gratefully remembered in Woodford as a good doctor.—J. B. Y.

Medical Notes in Parliament

The Medical Practitioners and Pharmacists Act received the Royal Assent on Dec. 18.

The Children Bill to make further provision for the care and welfare of boys and girls when without parents, or living away from their parents, or when their parents are unfit or unable to take care of them, and to end the Young Persons Act, 1933, and other Acts, was read a first time in the House of Lords on Dec. 18.

First readings were given in the House of Commons on Dec. 18 to the Attempted Rape Bill, and to the Animals' Bill, extending the period during which payments can be made for eradication of bovine tuberculosis.

The Report of the Committee of the Privy Council for Medical Research and the Report of the Medical Research Council for the war years 1939-45 were presented to Parliament on Dec. 18.

Veneral Disease.—On Dec. 11 Mr. SORESENSEN asked against how many men and women had complaints been lodged in respect of suspected V.D. in the Metropolitan Police area during the past twelve months. Mr. BEVAN replied that figures were not kept for the Metropolitan Police district, but in London and the Home Counties reports were received about 54 men and 875 women in 1946, compared with 37 men and 2,679 women in 1945. The number who received treatment was not available. He added that the figures showed the position was not unsatisfactory.

Health Education.—Mr. HASTINGS, on Dec. 18, asked the Minister of Health whether in view of the important part that prevention must play in the new National Health Service, and the consequent need for guidance of officers of local authorities in health education matters, he would increase the support, financial and otherwise, given by his Ministry to the Central Council for Health Education. Mr. BEVAN answered that the nature and financing of the services to be provided by the Central Council after the appointed day were still under discussion between his officers and representatives of the Council and of local authorities.

Obstetric Analgesia.—The number of cases where analgesia was provided by domiciliary midwives increased from 7,262 in 1945 to 20,507 in 1946. The number of midwives trained to give it had doubled in the current year.

Milk.—The average weekly consumption of milk under the Milk in Schools Scheme during October, 1947, is estimated to have been 280,000 gallons, which represents a weekly average of approximately 1.6 pints (908 ml.) per child taking milk.

Mass Radiography.—There are 22 mass radiography outfits working in England and Wales. For the first six months of this year the number of persons examined averaged about 50,000 a month.

Penicillin.—Current production of penicillin in the United Kingdom averages 520,000 mega units a month and is increasing. It involves no charge on public funds.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

Geoffrey Wingfield Harris, M.D., has been appointed Lecturer in Physiology, with tenure to Dec. 31, 1949, and seniority from Jan. 1, 1947.

The following degrees were conferred on Dec. 13, 1947:

M.D.—J. H. Walters, T. C. N. Gibbens, V. H. Wilson.

The following candidates have been approved at the examination indicated:

FINAL M.B.—Part II (Principles and Practice of Physic, Pathology and Pharmacology).—M. S. Adams, P. S. Andrews, J. H. Angel, C. P. Atkin, J. R. Bennett, J. G. Bennette, H. C. H. Bird, M. D. M. Bowen, P. H. Bright, M. H. Clement, D. Cooper, J. D. Cox, J. H. Cule, J. M. Frew, R. G. Gibbs, M. T. Gillies, E. H. Griffiths, N. H. Harris, O. E. F. Hodgeson, C. B. Holmes, M. C. Hudson Bennett, D. A. P. Hunt, W. N. Ingham, J. H. Inskip, J. S. Jenkins, M. C. Johnson Bennett, R. C. Jones, R. V. Knight, F. R. Lambert, M. G. H. Lewis, W. Lewis, A. A. Macdonald, J. E. Maclean, I. K. R. McMillan, R. K. Mason, F. S. Mellows, D. J. B. C. Mitchell, D. S. Price, J. C. R. Payne, A. I. D. Prentice, J. Prest, L. C. Robson, R. C. Robertson, M. H. Russell, J. D. Scott, B. E. Shairp, F. H. A. Sneath, C. G. Taylor, J. P. D. Thomas, M. B. Thompson, F. G. Tomlins, J. D. G. Turner, D. H. H. W. Walker, G. G. Walker, B. M. Watney, J. O. M. Wedderburn, J. D. W. White, D. H. L. Williams, K. L. Williams, H. L. J. Wilson, G. E. W. Woodhouse, G. M. Woodhouse. **Women:** B. Jones, A. E. Perkins.

UNIVERSITY OF EDINBURGH

At a graduation ceremonial on Dec. 19, 1947, the following degrees were conferred:

M.D.—T. M. Abbas, 2A. W. Branwood, F. S. Fiddes, S. L. Forrest, J. A. L. Gilbert, 2J. W. Rae, S. A. Rahman (*in absentia*).
Ph.D.—In the Faculty of Medicine: M. L. Bayoumi, M.B., Ch.B.
M.B., Ch.B.—A. McD. Allan, H. W. Bisset, G. Brown, Margaret W. Brown, Jean Buchanan, F. G. Cumming, I. H. P. Doherty, T. H. Donaldson, L. A. Gray, R. R. Gillies, A. Girby, G. T. Graham, Janet Hazell, L. J. M. Jamieson, H. A. Jones, H. M. Kirkpatrick, F. E. Kohler, R. G. Krause, Marjorie V. Kyte, Anne M. McCartney, B. T. Mulligan, A. M. Nelson, W. H. Nisbet, Susan B. G. Ofori-Atta, J. G. Parish, A. G. B. Poole, A. D. Ross, Jean R. W. Ross, K. Salinas, D. A. Smith, B. J. Sproule, Diana Stewart, Leila M. Wojcikzak (*née Sural*), Lesley L. D. Wood.

¹ Highly commended for thesis.

² Commended for thesis.

UNIVERSITY OF DURHAM

In a congregation on Dec. 19, 1947, the following medical degrees and diploma were conferred:

M.B., B.S.—Anna Book, H. M. Brand, H. C. Brown, J. D. Brown, J. H. Grant, Brenda M. Hilton, A. R. Horler, A. A. Lawson, K. M. Martischke, W. H. Raine, A. Rounding, J. R. W. Sinton, R. Whitfield, P. E. I. Winburn, K. M. Wood.
B.D.S.—C. H. Tonge, M.B., B.S.

UNIVERSITY OF LEEDS

At a meeting of the council held on Dec. 17, 1947, George Norman Myers, M.D., F.R.C.P., was appointed to the newly instituted post of Director of Research in Rheumatism.

UNIVERSITY OF SHEFFIELD

At a meeting of the University Council on Dec. 19, 1947, Ronald O'Rahilly, M.Sc., M.B., B.Ch., was appointed Lecturer in Anatomy and John Lewis Emery, M.D., D.C.H., Honorary Lecturer in Pathology.

The Council received the resignation by Dr. T. Jones of the post of Demonstrator in Anatomy and thanked him for his services to the University.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH

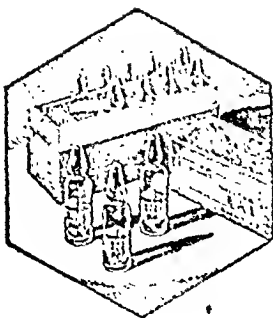
At a meeting of the Royal College of Surgeons of Edinburgh held on Dec. 17, 1947, with Mr. Frank E. Jardine, President, in the chair, the following candidates, having passed the requisite examinations, were admitted Fellows: M. G. Allen-Merish, N. Ameli, G. Anderson, Una Aranha, A. J. S. Burger, B. Z. Claman, T. R. Courtney, R. D. Cowan, T. T. Davies, A. L. Deacon, J. L. Douglas, W. Drummond, G. E. Dunkerley, J. R. Elder, C. D. Falconer, W. I. Giffen, J. S. Glennie, J. T. Gray, L. M. Greene, G. I. Henderson, N. G. C. Hendry, S. Henson, F. G. Hibbert, W. P. Hirsch, J. Hughes, T. B. Hutton, H. B. Jackson, I. Jacobson, J. Jankowicz, J. H. Jordan, P. F. King, R. G. R. Langford, M. D. Leitch, G. Lester, A. M. Loughran, A. Lurie, W. A. McAlpine, J. N. McCaggie, V. V. McCusker, A. McDougall, J. A. Macfarlane, J. C. McFetridge, K. MacI. MacKenzie, G. C. McKinlay, L. A. McShine, W. A. W. Maney, M. J. Maxwell, L. Mirkin, W. Murdie, D. S. Murray, J. F. Neil, M. W. Paterson, R. H. Purnell, I. Ramamurthy, J. I. Rossman, J. E. Rowlands, M. P. Shapiro, E. G. Shaw, R. H. Simpson, S. R. Sinclair, M. S. Sindhu, T. S. Stewart, C. R. Strother-Stewart, S. D. Stock, I. S. D. Thomson, J. I. Thomson, A. K. Toufeeq, W. A. L. Tucker, H. P. Watson, A. Webster, T. B. Whiston, G. W. Wigg, H. W. G. Williams, H. Williams, J. E. Wilson, H. C. Worrall, Margaret P. Yeoman, G. Young, I. S. Young, H. Zalin.

SOCIETY OF APOTHECARIES OF LONDON

Meetings of the Court of Assistants of the Society were held on Oct. 28 and Dec. 16, 1947, with the Master, Prof. E. C. Dodd, F.R.S., in the chair. Past Masters' Medals were conferred upon Dr. J. Prescott Hedley and Dr. Hugh Powell. The reports of the deaths of Dr. Russell E. Palmer, a retired Member of the Council and Group Captain Henry Cooper, late Clerk and Registrar of the Society, were received with great regret. The following were appointed representatives of the Society: on the General Medical Council, Dr. Hedley; on the Committee of Honour of the Fourth International Congress of Otolaryngology, Prof. Dodds; on the Central Council for District Nursing in London, Mr. George Wynn Williams. Dr. Archibald Gilpin was appointed Archivist to the Society in succession to the late Dr. Cecil Wall.

The diploma of M.M.S.A. was granted, upon examination, A. M. Michalewsky.

The diploma of L.M.S.S.A. was granted, upon examination, the following successful candidates: J. N. Phillips, H. R. Mohammed, F. A. R. Bateman, H. Burns-Preece, A. A. Collis, M. E. Cowan, J. J. Cowan, G. R. Davies, R. Worsley, R. J. Helyer, D. M. H. Bickman, D. G. Buchanan, J. C. Bradley, P. Benham, D. G. Walton, Furness, J. M. Scott, K. Y. Khong, D. M. Strange, E. Wales, C. Burrows, H. S. Baar.



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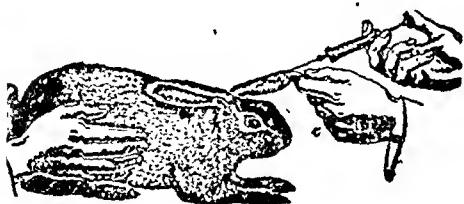
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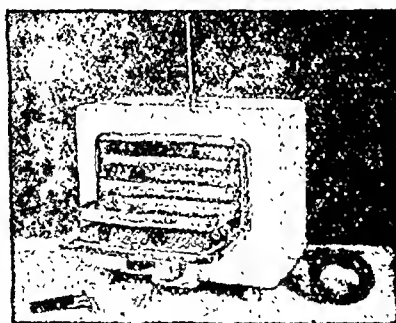
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INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Dec. 13.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included), (b) London (administrative county), (c) Scotland, (d) Eire, (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London), (b) London (administrative county), (c) The 16 principal towns in Scotland, (d) The 13 principal towns in Eire, (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1947					1946 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	64	6	18	1	—	31	3	25	—	1
Deaths	—	—	—	—	—	—	—	—	—	—
Diphtheria	233	19	67	14	10	328	16	87	33	14
Deaths	4	—	—	2	—	3	—	3	3	—
Dysentery	106	7	28	1	—	68	13	16	4	—
Deaths	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica, acute	1	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	29	14	2	—	—	51	9	3
Deaths	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years	62	7	19	22	2	63	7	14	36	1
Deaths	—	—	—	3	—	—	—	—	17	—
Measles*	3,379	156	410	192	20	6,957	243	318	50	219
Deaths	1	—	—	—	—	6	—	3	1	1
Phthalmia neonatorum	58	4	8	1	—	43	3	10	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever	3	1	—	—	—	5	1	1(B)	2(B)	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenza	723	29	8	3	5	693	62	12	6	6
Deaths (from influenza)†	23	2	5	2	—	22	2	2	—	—
Pneumonia, primary	—	53	319	22	14	—	35	335	29	7
Deaths	—	—	11	—	—	—	—	—	—	—
Polio-encephalitis, acute	7	3	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Polio-myelitis, acute	77	4	11	4	5	14	—	2	5	1
Deaths	—	—	—	—	—	—	—	—	—	—
Puerperal fever	—	2	10	—	—	—	3	7	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia‡	116	9	9	4	—	148	8	16	1	—
Deaths	—	1	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	1,939	131	296	32	44	1,392	101	332	35	41
Deaths	2	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid fever	10	—	4	4	—	7	1	—	5	1
Deaths	—	—	1	—	—	1	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough*	1,737	92	38	29	5	1,664	96	273	57	40
Deaths	4	—	—	—	—	7	1	1	—	—
Deaths (0-1 year)	389	41	79	19	25	495	61	69	53	13
Infant mortality rate (per 1,000 live births)	—	—	—	—	—	—	—	—	—	—
Deaths (excluding stillbirths)	5,493	817	804	200	159	5,297	887	649	249	127
Annual death rate (per 1,000 persons living)	—	—	16.7	12.6	—	—	—	14.3	—	—
Live births	8,044	1367	945	419	252	9,440	1464	1102	416	279
Annual rate per 1,000 persons living	—	—	19.0	26.4	—	—	—	22.2	—	—
Stillbirths	236	36	26	—	—	296	42	39	—	—
Rate per 1,000 total births (including stillbirths)	—	—	27	—	—	—	—	34	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

Polio-myelitis

For the first time since the peak figure of the week ended Sept. 6, notifications of poliomyelitis in England and Wales for the week ended Dec. 13, 77 (70), and of polio-encephalitis 7 (6), were slightly higher than in the preceding week. Figures for the week ended Dec. 6 are given in parentheses. The only county showing a definite rise was Somerset 5 (0), otherwise the increases were in ones and twos and were scattered throughout the country. A further fall was shown, however, in the figures for the week ended Dec. 20, when there were notified 55 cases of poliomyelitis and 5 cases of polio-encephalitis.

Discussion of Table

In England and Wales infectious diseases were more prevalent during the week. A rise in the number of notifications was recorded for every disease except scarlet fever, which declined by 88. There were increases in the incidence of measles 580, whooping-cough 249, acute pneumonia 193, diphtheria 28, cerebrospinal fever 18, dysentery 13, and typhoid 10.

The largest increases in the local incidence of measles were Yorkshire West Riding 88, Cornwall 46, Glamorgan 74, and Staffordshire 70; the only large decrease was Surrey 86. The incidence of whooping-cough increased in each region except in the south-western counties and Wales; the most notable rise was Lancashire 62.

The largest increases in the notifications of pneumonia were those of Yorkshire West Riding 42 and Lancashire 30. The only significant variation in the local trends of diphtheria was a rise of 14 in Essex. No changes of any size occurred in the local trends of scarlet fever.

Of the 10 cases of typhoid fever 6 were notified in Lancashire, Warrington R.D. An outbreak of dysentery involving 9 persons was reported from Sussex, Petworth R.D. A rise in the notifications of dysentery occurred in Yorkshire West Riding, from 3 to 27; the cases were scattered throughout the county.

The notifications of acute poliomyelitis after declining for thirteen consecutive weeks showed a rise of 7. The chief feature of the returns for poliomyelitis was a rise from 17 to 32 in the combined areas of London and the south-eastern and south-western counties.

In Scotland increases were recorded in the notifications of measles 39 and diphtheria 29, and decreases were reported for scarlet fever 41, acute primary pneumonia 21, and whooping-cough 15. A small increase in the incidence of diphtheria was recorded in most regions; the largest local rise was in Glasgow, where the cases rose from 16 to 30.

In Eire there were decreases in the incidence of scarlet fever 23, whooping-cough 19, diphtheria 14, and measles 12. In contrast to the general trend increases in the notifications of measles were recorded from Wicklow, Bray U.D. 15, Wexford, Enniscorthy 16, and Dublin C.B. 16.

In Northern Ireland the notifications of measles increased by 19 and those of scarlet fever fell by 15. The rise in the notifications of measles was mainly due to an outbreak in the urban district of Portrush with 15 cases.

Medical News

I.S.T.D.

A course of six lectures on "Delinquency and the Educator" will be given by Miss Barbara Low at the Institute for the Scientific Treatment of Delinquency, 8, Bourdon Street, London, W., on Jan. 27 and Feb. 3, 13, and 24, and March 2 and 9, 1948, at 6.30 p.m. The fee for the course is 15s. (single lecture, 3s.).

Ulster Medical Society

After a lapse of nine years the Ulster Medical Society held its Annual Dinner on Dec. 11, Mr. G. R. B. Purce, the president, being in the chair. The attendance of Fellows and guests was limited by Ministry of Food regulations, and many who would have welcomed the opportunity of resuming this happy annual occasion were unable to be present. The Honorary Fellowship of the Society was conferred upon Prof. F. J. Browne, Mr. James A. Craig, Mr. S. T. Irwin, Prof. C. G. Lowry, Mr. Howard Stevenson, M.P., and Sir Henry Tidy.

Tubercle

The Tuberculosis Association has adopted *Tubercle* as its official organ; the January issue of the journal carries notice of the change on its cover and includes Dr. Frederick Hcaf's Presidential Address to the Association.

H.S.A. Scholarships for Nurses

The Hospital Saving Association will award scholarships in 1948 for trained nurses as follows, the approximate values being shown: Nursing administrators, £196 each; nursing administrators (public health), £196 each; nurse dietitians, £340 each; sister tutors, £203 each; tutors to health visitors, £203 each; health visitors, £126 each; industrial nurses, £143 each; midwife teachers, £78 each. The H.S.A. will later determine the number of each kind of scholarship to be awarded and reserves the right to withhold any scholarship if there are too few suitable candidates. The scholarships will be available for the courses at any of the recognized training centres. They are open to nurses who (a) are registered on the general part of the State Register and (b) have graduated in a voluntary or local-authority hospital within the area of King Edward's Hospital Fund for London. Applications must be made before Jan. 31, 1948. Particulars may be obtained from: The Director in the Education Department, Royal College of Nursing, 1a, Henrietta Place, Cavendish Square, London, W.1.

Donations to Institute of Child Health

The province of Natal has recently given £106,888 to the Institute of Child Health of the University of London, and an anonymous donor has given £5,000 to establish a lectureship in memory of the late Mr. A. Simpson-Smith, formerly surgeon to the Hospital for Sick Children, Great Ormond Street. The Institute was established in 1946 and is accommodated at the Hospital for Sick Children. The demand for postgraduate teaching considerably exceeds the facilities available, but it has been met in part by clinical out-patient teaching at the Queen Elizabeth Hospital for Children, Hackney Road. Teaching on the new-born baby is given at the British Postgraduate Medical School, Hammersmith. The Institute also conducts research at the Great Ormond Street Hospital, and recently a genetics department has been established to study hereditary disorders. It is proposed to have a new building for the Institute as near as possible to the Great Ormond Street Hospital. These munificent gifts are especially timely, for plans are being made to expand the Institute.

COMING EVENTS

Socialist Medical Association

An inaugural meeting of the North-west Middlesex Branch of the Socialist Medical Association will be held at Wembley Town Hall on Jan. 8 at 7.30. Dr. Eileen Warren will speak on "The Socialist Medical Association and the New National Health Service."

St. George's Hospital Medical School

A series of neurological and psychiatric lecture-demonstrations, which began at St. George's Hospital Medical School, Hyde Park Corner, London, S.W., on Jan. 1, will be continued weekly on Thursdays, at 4.30 p.m., until March 18. The lecture-demonstrations are open to all medical practitioners and senior students, without fee.

National Congress on Cancer

The third National Congress on Cancer will be held in Havana from Feb. 23-28, 1948. Further information may be obtained from the Organizing Committee of the Anti-Cancer League, whose offices are at F.Y. 29, Vedado, Havana. Among other contributions papers will be read at the Congress on cancer of the lung, bladder, and uterus.

SOCIETIES AND LECTURES

Sunday

LONDON JEWISH HOSPITAL MEDICAL SOCIETY.—At Woburn House, Tavistock Square, London, W.C., Jan. 4, 3 p.m. "Some Chemical and Biological Properties of Antibiotics." E. Chain, M.A., Ph.D.

Tuesday

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, W.C.—Jan. 6, 5 p.m. *Pathological Demonstrations.* Dr. I. Muirhead.

Thursday

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, London, S.W.—Jan. 8, 4.30 p.m. *Neurological Lecture-demonstration.* Dr. A. Feilberg.

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, W.C.—Jan. 8, 5 p.m. "Cutaneous Tuberculosis." Dr. G. B. Dowling.

Friday

LONDON CLINICAL HOSPITAL, Victoria Park, E.—Jan. 9, 5 p.m. "Spongiotic Dermatitis." Dr. J. Smolár.

ROYAL MEDICAL SOCIETY, 7, Melbourn Place, Edinburgh.—Jan. 9, 8 p.m. "Some Physical Signs in Clinical Surgery." Address by Mr. Hamilton Bailey.

APPOINTMENTS

LONDON COUNTY COUNCIL.—The following appointments have been made at the hospitals indicated in parentheses: *Senior Physicists (Superintendents):* J. C. Evans, M.R.C.S., M.R.C.P. (St. Charles); W. Feldman, M.D., M.R.C.P. (St. Giles); W. G. Sears, M.D., M.R.C.P. (Mile End); B. A. Young, M.D., M.R.C.P. (St. Alfege's). *Physician Superintendents:* J. S. Anderson, M.D. (Grove); J. V. Armstrong, M.D. (Brook); H. S. Banks, M.D., F.R.C.P. (Pai); N. D. Begg, M.D. (North-Eastern); F. J. Bentley, M.D., F.R.C.P. (High Wood Hospital for Children); J. C. Blake, M.B., B.S. (South-Western); W. C. Fowler, M.D. (Pinewood Sanatorium); W. Gunna, M.B., Ch.B., F.R.C.P. (North-Western); W. H. Kelleher, M.D. (Western); M. H. Lugg, M.D. (Grove Park); G. W. Ronaldson, M.D. (Eastern); W. E. Snell, M.D., F.R.C.P. (Colindale); I. Watt, M.D. (King George V Sanatorium). *Surgeon Specialists (Superintendents):* W. P. Greenwood, M.D., F.R.C.S. (Bethnal Green); R. A. V. Lewys-Lloyd, F.R.C.S. (St. Olaves); J. McN. Milloy, F.R.C.S. (St. Mary Abbot); J. E. Piercy, F.R.C.S. (New End); J. R. M. Whigham, F.R.C.S. (St. Andrew's). *Senior Physicists (Deputy Superintendents):* H. C. Aston, M.B., Ch.B., M.R.C.P. (Bethnal Green); R. D. Green, M.D., M.R.C.P. (Paddington); T. St. M. Norris, M.B., B.Chir., M.R.C.P. (Archway Group of Hospitals, Highgate); D. W. G. Smith, M.B., Ch.B., M.R.C.P. (St. Andrew's); M. Toohy, M.D., M.R.C.P. (New End); C. E. W. Wheaton, M.D., M.R.C.P. (Lambeth). *Assistant Senior Physician (Deputy Physician Superintendents):* G. E. Breen, M.D. (Brook); J. W. Healy, M.D. (Eastern); L. J. M. Laurent, M.D., M.R.C.P. (Park); W. J. P. Lillis, L.R.C.P. and L.M. (Western); J. J. McCann, M.B., B.S., M.R.C.P. (Pinewood Sanatorium); J. C. J. McEntee, M.D., M.R.C.P. (Grove); D. Porter, B.M., Ch.B. (King George V Sanatorium); A. M. Ramsay, M.D. (North-Western); W. F. Richards, M.B., B.Ch., M.R.C.P. (High Wood); R. Swyer, M.R.C.S., L.R.C.P. (North-Eastern). *Surgeon Specialists (Deputy Superintendents):* H. L. Cochrane, F.R.C.S. (Fulham); G. S. Ferraby, M.S., F.R.C.S. (St. Charles); J. Gabe, F.R.C.S. (St. Alfege's); J. C. Gillies, F.R.C.S. (Hackney); S. W. Holmes, F.R.C.S. (Mile End); I. W. Matheson, F.R.C.S. (St. Giles); I. L. Price, F.R.C.S. (Archway Group of Hospitals, Highgate). *Senior Physicists (Deputy Superintendents):* M. B. S., M.R.C.P. (I); P. Harvey, M.D., M.R.C.P. (St. Olaves); H. E. S. Pearson, M.D., M.R.C.P. (Archway Group of Hospitals, Highgate). *Surgeon Specialists:* T. J. Ester, F.R.C.S. (Lambeth); A. N. McCrea, F.R.C.S. (Dulwich); H. K. Vernon, M.S., F.R.C.S. (St. James); R. H. Metcalfe, M.Chir., F.R.C.S. (St. James, and Queen Mary's Hospital for Children, Carshalton); R. C. F. Caterall, M.Chir., F.R.C.S. (St. Alfege's, and Queen Mary's, Sidcup). *Assistant Surgeon Specialists:* R. Glyn Thomas, F.R.C.S. (Queen Mary's Hospital for Children, Carshalton, and St. James (deputy at the former)).

JONES, T. B., M.R.C.S., L.R.C.P., D.P.M., Deputy Medical Superintendent, Royal Eastern Counties Institution, Ltd., Abbeygate House, Colchester.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Bintcliffe.—On Dec. 19, 1947, to the wife of Lieutenant-Colonel E. W. Bintcliffe, M.B.E., M.S., F.R.C.S., a son.
Holloway.—On Dec. 19, 1947, at Selly Oak Hospital, Birmingham, to Dulcie (née Callis), wife of Dr. H. J. Holloway, a daughter—Anne Michele.
Laurie.—On Dec. 17, 1947, at Gwyn Mor Nursing Home, Cardiff, to Sybil, wife of Lieutenant-Colonel W. Laurie, D.S.O., I.M.S., a son.
Peberdy.—On Dec. 25, 1947, at 5, Tankerville Place, Newcastle-upon-Tyne, to Mary (née Laws), wife of Dr. Geoffrey Peberdy, a sister for Karen—Nes Marion.

DEATHS

Bentley.—On Dec. 24, 1947, Robert Moorhead Bentley, M.B., B.Ch., of Westfield House, Heckmondwike, Yorks, aged 82.
Broughton-Alcock.—On Dec. 23, 1947, at Chiswick, William Broughton-Alcock, M.B.
Collins.—On Dec. 23, 1947, Henry Nathan Warner Collins, M.D., D.M.R.I. of 50, Putney Hill, London, S.W.
Davies.—On Dec. 16, 1947, at 176, Hamstead Road, Handsworth, Birmingham, Arthur James Davies, M.B., Ch.B., M.R.C.P., aged 50.
Golfein.—On Dec. 17, 1947, at 7a, Basing Hill, London, N.W., Bernard Golfein, L.S.A., aged 76.
Ingram.—On Dec. 20, 1947, at 42, Westby Road, Bournemouth, Arthur Charles Ingram, M.D.
Jobson.—On Dec. 19, 1947, at St. Thomas's Hospital, London, S.E., Dr. William Charles Jobson, M.B., Ch.B., Colonial Medical Service.
Johns.—On Dec. 23, 1947, at Netherleigh, Lansdown Road, Cheltenham, John Francis Johns, M.D.
Johnstone.—On Dec. 20, 1947, at King's College Hospital, London, S.E., Frederick John Carlyle Johnstone, M.D., late Colonial Medical Service.
Jones.—On Dec. 22, 1947, Herbert Saunders Wansborough Jones, M.B., C.M.
Masina.—On Dec. 17, 1947, at Masina Hospital, Bombay, Ardeshir Homay Masina, M.D., M.R.C.P., aged 36.
Mitchell.—On Dec. 18, 1947, John Malcolm Lamont Mitchell, M.B., Ch.B., of 10, Claremont Gardens, Upminster.
Pileher.—On Dec. 26, 1947, at Thirty Trees, Ashleat, Surrey, Edgar Montagu Pileher, C.B., C.B.E., D.S.O., F.R.C.S., Major-General, late R.A.M.C. aged 82.
Ramsden.—On Dec. 23, 1947, at Briarfield, Dobcross, Oldham, Herbert Ramsden, M.D., J.P.
Robson.—On Dec. 19, 1947, at Inverness, Briton Smallman Robson, M.B., B.S. Surgeon Captain, R.N., retired.
Sealy.—On Dec. 18, 1947, at Old Orchard, Chardstock, Humfrey Newthar Sealy, M.R.C.S., L.R.C.P., Colonel, late R.A.M.C., aged 60.
Sheldon.—On Dec. 25, 1947, Arthur Izod Sheldon, M.R.C.S., L.R.C.P. Surgeon Captain, R.N., of Landrail, 1, Cranewater Park, Southsea.
Siebling.—On Dec. 22, 1947, at 38, Telford Avenue, London, S.W., Gertrude French Siebling, F.R.C.S., F.F.R.
Stinger.—On Dec. 13, 1947, at Port-Alberni, B.C., Wilfred Isaac Stinger, M.D., M.C.P.S.
Wagner.—On Dec. 17, 1947, at 1, Albemarle Villas, Stoke, Robert E. Wagner, M.B., B.Ch.
Watson.—On Dec. 24, 1947, James Watson, M.B., C.M., of Hollybush Thimswall, Wirral.
Willoughby.—On Dec. 17, 1947, at 2, Church Street, Southwell, James Frederick Darby Willoughby, O.B.E., M.R.C.S., L.R.C.P., aged 91.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Chronic Mastitis

Q.—What treatment do you suggest for chronic mastitis, and what is your opinion of injections of testosterone propionate in these cases?

A.—The hormone treatment of chronic mastitis is based on the view that the condition is due to excessive stimulation by endogenous oestrogens. Testosterone propionate, if given in large doses, can prevent ovarian follicle development and ovulation by inhibition of the pituitary gonadotrophic hormone secretion. Such a dosage—in the neighbourhood of 200 mg. weekly—is likely to produce hirsutism and acne. On the favourable side it results, in many cases, in relief of pain, and sometimes in disappearance or diminution of painful nodules. Smaller doses than this—for example, 25 mg. injected twice weekly—may ameliorate the symptoms of chronic mastitis without producing amenorrhoea or virilism. It is noteworthy, however, that Spence (*Lancet*, 1939, 2, 820) found that pain was relieved in 13 of 24 patients by injection of sterile olive oil, indicating the importance of a psychological factor in some cases. Nevertheless, both he and Atkins (*ibid.*, 1940, 2, 412) found that benefit from androgens was probably real, although the effect was not permanent.

Tallqvist Method of Haemoglobin Estimation

Q.—As a matter of interest, I have made a rough Tallqvist estimation of haemoglobin on my panel patients. Of 200 estimations only one is over 60%; many are as low as 40%. Can this be due to rationing?

A.—The Tallqvist method of estimating haemoglobin is generally agreed to be grossly inaccurate, and incidentally to give low values. The method is so unreliable that it is impossible to interpret the information supplied. It seems most unlikely that anaemia is becoming widespread, since a committee of the Medical Research Council which carried out a large-scale investigation in 1943 found no apparent increase in anaemia despite rationing.

Vaginal Pruritus

Q.—Can there be any connexion between oestrogen treatment and vaginal pruritus? A woman aged 38, living in India, has for the past year suffered from pruritus limited to a small patch of erythema on the posterior vaginal wall just internal to the carunculae hymenales. The itching is sporadic, occurring once a month and lasting about ten days, but is unconnected with menstruation. During an attack the erythema does not spread to the surrounding tissues. Glycosuria and cervical erosion have been excluded. The patient has had courses of oestrogen by injection, repeated at intervals of two to three months, for sterility. These have now been discontinued with no change in the pruritic condition. What further treatment is recommended?

A.—Although allergic reactions to various oestrogens are described (see Zondek and Bromberg, *J. Obstet. Gynaec. Brit. Emp.*, 1947, 54, 1) the clinical features of this case do not suggest this as a likely explanation. The strictly limited nature of the lesion prompts a search for something different from the usual causes of diffuse pruritus vulvae—for example, trichomonas vaginitis, achlorhydria, anaemia, avitaminosis—although these should be excluded. Has the possibility of self-inflicted trauma been considered? In order to establish the diagnosis and to determine the appropriate treatment it will probably be necessary to excise a small portion of the affected area for histological examination: in particular Bowen's disease (intra-epidermal carcinoma) should be kept in mind. This is rare, but the description given, although not typical, is in keeping with this diagnosis.

Occupational Leucoderma

Q.—In March, 1941, it was reported from Washington that negro workers in tanneries noticed that the skin of their hands was turning white. This was said to be due to the presence of monobenzyl ether of hydroquinone, which was used to preserve the rubber gloves worn by the workers. I would be grateful for any concrete information about the above and any references to the literature.

A.—Monobenzyl ether of hydroquinone (quinol) is a powerful reducing agent, and as an anti-oxidant has been used in rubber compounding. It was the causative agent in an outbreak of occupational leucoderma among negroes working in a tannery in 1938; they wore a heavy gauntlet-type glove which had been treated with 0.2% of this anti-oxidant to preserve the rubber (Schwartz, Oliver, *et al.*, *Publ. Hlth. Rep., Wash.*, 1940, 55, 1111). White spots appeared on the areas of skin of the forearms and hands which were covered by the rubber gloves; there was itching with in some cases a mild dermatitis preceding the appearance of depigmentation, but there was no great discomfort or any disability. Hydroquinone monobenzyl ether is not a pigment bleach—that is, it does not decolorize melanin but simply prevents its formation. Repigmentation of the leucodermic areas followed cessation of the use of the anti-oxidant. The general health of the workers was not affected. Other references are: Schwartz, *Publ. Hlth. Bull., Wash.*, 1939, 249, 25; Schwartz, Tulipan, and Peck, *Occupational Diseases of the Skin*, 2nd ed., 1947, 153, 451.

Inheritance of Deaf-mutism

Q.—What are the chances of a second deaf-mute occurring in a family? The first child is a deaf-mute boy; the second is a normal boy. There is no history of deaf-mutism on the wife's side, but two cases are known on the husband's side—a male three generations back (a great-grand-uncle of the husband) and a female collateral (a direct descendant of the husband's great-grandmother). Can the chances be estimated with any degree of certainty?

A.—Hereditary deaf-mutism is due to a recessive gene. The absence (presumably) of any extraneous cause for the child's condition and the history of the defect in the father's family leave little doubt in this particular instance. The chance that any subsequent child will be similarly affected is 1 in 4. When the time comes for the children to marry there is no reason why the deaf-mute and the normal brother should not have children. Always provided that they do not marry blood relatives or women with a family history of deaf-mutism, the chance of the defect's appearing in the next generation is very small.

Sterilization of Rubber Gloves in Midwifery

Q.—Is it satisfactory bacteriologically to sterilize rubber gloves for use in midwifery by washing them on the hands in soap and water, drying, and then rubbing in "dettol" obstetric cream for five minutes? Will you discuss this in relation to intact gloves, patched gloves, or "holed" but unpatched gloves?

A.—The only really satisfactory procedure is to sterilize intact gloves by boiling or autoclaving and to apply them after the usual scrubbing of the hands. Except in emergency anything short of this is indefensible. If the wearing of damaged gloves is unavoidable they should be carefully patched, and if the patches are kept to the inside there is less risk of their becoming disturbed during operations. Procedures to be adopted in emergency will vary with the circumstances, but should be worked out with the ideal in mind, and with the knowledge that rinsing in antiseptic solutions or smearing with antiseptic cream, though better than nothing, is not very efficient. One of the difficulties in removing all bacteria by washing and scrubbing the bare hands is the surface irregularities. Provided care is taken where the gloves wrinkle at the wrist, this disadvantage is to some extent minimized by thorough washing of the gloved hands. If the gloves are patched, however, this advantage is lost and the procedure becomes less efficient. In any case the gloves should not be dried afterwards unless sterile towels are available. Punctured but unpatched gloves should not be used under any circumstances.

Undulant Fever

Q.—A veterinary surgeon working with S19 anti-abortion vaccine developed pustules on his forearm. Later he was clinically proved to have abortus fever. Shortly afterwards his wife developed the condition and aborted. (a) Is it reasonable to suppose that the husband's infection was caused by the vaccine? (b) Is it possible that he transmitted the condition to his wife? (c) Does it follow that her abortion was caused by the infection?

A.—(a) The S19 *Brucella abortus* vaccine is living but attenuated; whether the organisms contained in it could produce infection in man is not positively known. On the other hand, their reduced pathogenicity is likely to operate in man as well as in cattle, and a veterinary surgeon is in any case much more likely to have acquired the disease in the usual way from infected animals.

(b) Case-to-case transmission of undulant fever has not been observed; presumably it could occur, since the organism may be found in faeces and urine. Transmission by coitus is theoretically possible, but perhaps improbable, since coitus is unlikely in the acute stage, when the organism may be found in the urinary tract. The wife, of course, may also have acquired the disease from an infected animal or from milk. Further information about dates of onset and the existence of other possible sources of infection would be necessary in elucidating this interesting occurrence.

(c) *Br. abortus* can cause human abortion, but there can be no proof, short of demonstrating the organism in the uterus or placenta at the time, that it did so in any particular case.

Intractable Tinnitus

Q.—About seven months ago I developed tinnitus in my left ear; it is high-pitched and continuous, and is worse on waking. There is no pain, vertigo, or deafness, and no history of previous ear trouble. I am 50 years of age, highly strung, and a "worrier," but except for a mucoid nasal and post-nasal catarrh, particularly in the morning, I am healthy and free from any cardiovascular abnormality. Blood pressure 140/80 mm. Hg; red cell count 5.7 millions per c.mm.; haemoglobin 102%. Clinical examination of the ear shows no evidence of disease and the Eustachian tube is patent. X-ray films of the teeth and sinuses are negative, though there is an unerupted upper canine on the left side. The tinnitus is most distressing and I find it difficult to get to sleep. Bromides and phenobarbitone give me a disturbed rest and a depressing carry-over the next day. What is the cause of the condition and what is the immediate, and ultimate prognosis? Is there any treatment?

A.—Tinnitus is considered to be due to some irritation of the inner ear or auditory nerve, but in many cases the cause is not discovered, and in others the damage is irreversible, and so not amenable to treatment. All the usual causes seem to have been eliminated in this case. Lempert has described a small series of cases (*Arch. Otolaryng.*, Chicago, March, 1946) in which he divided the tympanic plexus of nerves. In most cases the tinnitus was alleviated, but the series was too small for any convincing conclusions to be drawn. Acid, hydrobrom. dil. or ammon. brom. are the most generally useful sedatives. In the present case the tinnitus will probably be permanent but become more bearable as time goes on.

NOTES AND COMMENTS

Food Allergy.—Mr. ERIC C. WOOD, Ph.D. (London, W.), writes: May I add one further comment on the subject of sensitivity to egg in a child (Nov. 29, 1947, p. 896)? It is far more likely if a child is genuinely sensitive to egg that the allergy is to egg white rather than egg yolk. Marriott, W. M., and Jeans, P. C., in their book *Infant Nutrition*, London (3rd edition, 1942, pp. 224 and 225), say: "A fear that formerly existed that the effect of egg in early infancy might lead to the development of sensitivity to egg protein seems unfounded in the light of extended clinical experience in instances in which only the yolk has been fed. It is desirable that the egg be cooked." While they suggest that egg yolk may be added to the diet of the infant at as early an age as three months, they state that whole egg may be given toward the end of the first year. The chief reason it is not commonly given earlier is the possibility

that sensitivity to protein of egg white may develop as a result of the feeding. . . . At whatever age the feeding of egg white is started, it should be given cautiously and in small amounts at first." The point is of importance, since egg yolk is a most important food providing valuable quantities of many essential nutrients, not the least important of which is iron. Moreover, most babies find egg yolk extremely palatable. It would be a great pity if babies were deprived of a toothsome delicacy which is also an excellent food because they are allergic to egg albumen.

Ringworm of Scalp.—Col. W. H. CRICHTON, C.I.E., I.M.S. (ret.), writes from Sittingbourne, Kent, with reference to Dr. J. T. Duncan's letter (Nov. 29, 1947, p. 896): The causative fungus in all the cases I had in North Devon was reported by the Devon County Laboratory to be the *Microsporum felinum*. I refer to cases which occurred between February and May, 1947.

Superfluous Hair.—J. M. writes: The problem of superfluous hair becomes of the utmost importance to some women. Personally, I greeted the original *B.M.J.* answer (Nov. 15, p. 805) with approval as giving sensible and practical advice. To my mind it is quite impractical to advise electrolysis as a routine measure and usually unnecessary, except in those cases where there are a small number of exceedingly stiff hairs. The commonest problem arises with a woman, say in the early thirties, who feels that she has become unsightly through a generalized growth of hair. Clearly the trouble will be progressive, and to embark on electrolysis would be endlessly tedious and costly. Her choice of methods is either depilatory wax or an occasional shave. The advantage that wax offers is that since the hair is pulled out from the follicle the new growth of hair, when after several days it comes through, is soft and quite unlike the cut-off, bristly quality of a shaved hair. Most women who begin with depilatory wax in the twenties or thirties do not ever require to use it more than once in several days; the process takes some five or ten minutes, and the results are frequently perfect. On the other hand, shaving may sometimes become a daily necessity for a fastidious woman; but even so it is always wise to assure her that her growth will never become that of the average masculine skin. To my mind it is the way in which advice is administered which is the important factor; many middle-aged women feel that they are the only sufferers, and experience intense humiliation. They are greatly relieved to have it pointed out that their friends with immaculate skin have probably been using wax for a decade and that it is high time that they themselves followed suit. The really difficult part of this procedure is relieving the patient of her humiliation and her masochistic impression that she must expect to endure and suffer!

Constipation in an Infant.—Dr. ANN MOWER WHITE (London, W.) writes: I have only just seen the question and answer (Nov. 29, 1947, p. 896) about "Constipation in an Infant," and I am rather surprised at the reply. In the first place the questioner does not state whether the 4-month-old male infant is breast- or artificially fed. In a breast-fed baby an interval of seven days between bowel actions is not at all uncommon, and may be called "false" constipation in contradistinction to "true" constipation, when the stools are infrequent and hard. For "false" constipation no treatment is required beyond reassuring the mother that her milk is suiting her baby so well that there is little rubbish to pass out. If more active advice is needed, she should be told to give the baby more free kicking exercise with napkin removed and to give more water to drink in the daily routine. In an artificially fed baby "true" constipation is a more likely occurrence. The psychological trauma likely to be incurred by the daily anal insertion of a soap stick or a vaselined glass rod (as advised in the answer to the question) is a remedy fraught with too grave a risk to allow any mother to use it. More sugar added to the feeds, more water during the day, and a mild laxative such as milk of magnesia would be the more harmless procedure.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Alitext*, *Westcott*, London. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* and unless the contrary be stated.

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SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY JANUARY 3 1948

SUPERANNUATION SCHEME FOR PRACTITIONERS

BY

HORACE KEAST, D.P.A.

Establishment Officer, Cornwall County Council

Under the provisions of the National Health Service Act, 1946, the Minister of Health is empowered to make regulations for the setting up of a comprehensive superannuation scheme for officers of the various bodies established under that Act, including medical practitioners providing general medical services. These regulations, which constitute an elaborate superannuation code, have recently been issued and are entitled the National Health Service (Superannuation) Regulations, 1947. The staffs of Regional Hospital Boards and Management Committees, as well as those of Executive Councils, are covered by these regulations, and there are special provisions for the granting of benefits on a contributory basis to practitioners rendering general medical services under the Act—i.e., medical practitioners on the lists of Executive Councils. The regulations consist of 88 pages of statutory phraseology, and a brief outline of the salient features affecting such practitioners may therefore be helpful.

The benefits provided for medical practitioners employed by Executive Councils include retirement pensions plus lump-sum capital retiring allowances, short-service gratuities in special cases, widows' pensions, and death gratuities. The granting of a pension to the widow of such a practitioner, irrespective of whether he dies before or after his own retirement, is a particularly valuable part of the scheme.

The superannuation allowance of a medical practitioner so far as his employment with an Executive Council is concerned will be based on the formula: "in respect of each year of contributing service as a practitioner, $1\frac{1}{2}\%$ of his remuneration for that year." That is to say, the pension will be calculated by taking $1\frac{1}{2}\%$ of the net remuneration of the practitioner payable by the Executive Council for each year of his contributing service, and the aggregate of these amounts will form an annual allowance, payable as from the first day of retirement. In addition to this annual pension there will also be a lump-sum capital payment, payable on retirement. In the case of a female practitioner or an unmarried male practitioner on the lists of an Executive Council, this capital sum will be based on the formula: "in respect of each year of contributing service as a practitioner, $4\frac{1}{2}\%$ of his remuneration for that year." The aggregate sum will be computed in the same manner as the annual pension rate.

In the case of a married practitioner on the lists of an Executive Council, in respect of whose service a widow's pension may become payable, however, the capital sum will be based on $1\frac{1}{2}\%$ of remuneration instead of $4\frac{1}{2}\%$. Generally, the amount of a widow's pension will be one-third of the amount earned by the service and remuneration of her husband in his Executive-Council employment up to the date of his death, subject, however, to an adjustment if the age of the widow is less than that of her husband. There will also be a death gratuity payable to the widow, calculated by reference to $1\frac{1}{2}\%$ of the remuneration for each year of contributing service of the practitioner up to the date of death. Widows' pensions and gratuities are not payable when the marriage takes place after the husband attains pensionable age, and a widow in receipt of a pension gives up that allowance on remarriage. In

the case of an unmarried practitioner a death gratuity, based on $4\frac{1}{2}\%$ of the remuneration of each year of contributing service, may be payable to his legal personal representatives. The regulations also contain provisions for injury allowances where the officer is permanently incapacitated by injury suffered in the course of duty, short-service gratuities for those who have completed more than five but less than ten years' service, and special provisions for grants to widows whose husbands cease their employment with an Executive Council after completing five years' service and die within twelve months after so ceasing.

Pensionable Age

The normal pensionable age of a medical practitioner to retire from the employment of an Executive Council shall be sixty-five years or such later age as the Minister of Health may allow in any particular case. In the event of such a practitioner having more than forty years' contributing service the pension shall be calculated by reference to "the last forty years' contributing service." The earliest age that a contributor can retire, however, is 60 years, provided that he has by that age completed ten years' service. If, however, a contributor has completed ten years' contributing service and is incapable of discharging efficiently the duties of his employment by reason of permanent ill-health or infirmity of mind or body, he thereupon becomes entitled to the benefits earned up to that date.

So far as medical practitioners on the lists of Executive Councils are concerned the word "remuneration" in these regulations has a prescribed meaning. The definition is "all payments made to the practitioners in respect of general medical services provided by him, and of pharmaceutical services provided by him, less such sum on account of practice expenses as may be appropriate in accordance with a formula laid down by the Minister for the purpose, and less the remuneration approved by the Minister of any assistant practitioner in his employment." In cases of partnerships the remuneration of the practitioners is calculated by reference to their respective shares in the partnership agreement. The regulations granting pension rights of all types apply, of course, to assistant practitioners in practices rendering general medical service under the Act, save that their remuneration may mean either their whole salary and emoluments or such part thereof as the Minister may approve.

Where a practitioner has also been employed in any of the public services, as, for example, part-time medical officer to a local authority, there are regulations dealing with such previous public service. So far as medical officers who have no such previous public service, and who are employed by no other bodies than executive councils, are concerned, however, service will generally be confined to contributing service.

The contributions which a practitioner employed by an Executive Council will have to pay to qualify for the foregoing range of benefits will be 6% of his remuneration, as calculated by the formula already quoted. In addition to this contribution the Executive Council, acting as the employing authority, must pay to the central funds an additional 8% of the remuneration of each practitioner. While the employing authority of practitioners on the lists of Executive Councils will be those Councils, the practitioner himself is regarded as the employing authority of any assistant practitioner in his employ. The contributions deducted from the assistant's salary, together with the employing practitioner's 8% contribution, must be sent to the Executive Council.

HEARD AT HEADQUARTERS

The National Insurance Act, 1946, the central statute in the social security legislation, will come into operation on July 5, 1948. Every person in the country between school-leaving age and pensionable age will be compulsory contributors under that scheme, save that wives will be insured by virtue of their husbands' contributions, and there will be differential contribution rates for males and females in the three categories of employed, self-employed, and non-employed persons. All medical practitioners, including those employed by Executive Councils, will be compulsory contributors to this State scheme, and the benefits will include a personal pension of 26s. a week at age 65 or £2 2s. a week for a married couple. There are also provisions for pensions for widows. There can be no exceptions to this State scheme; every person, irrespective of income levels, must be compulsorily insured.

It has been enacted, however, that contributors to such schemes as the Health Service Superannuation Scheme shall have a small reduction, generally £3 0s. 8d. a year, in their contributions to such schemes. This will result in an appropriate reduction in the eventual superannuation allowance payable under the Health Service Superannuation Scheme. The amount of this reduction depends on the age of the person concerned at the commencement of the scheme and the number of years' service before retirement, but in no case will it exceed 26s. a week, which is the minimum pension the person concerned will be receiving from the State scheme on retirement after attaining the pensionable age of 65. Certain classes of officers who are already subject to the superannuation enactments relating to local-authority or public-service employment and practitioners who enter Executive Council lists on the appointed day will be exempt from this modification, thus enabling them to pay full contributions to both pension schemes and hence receive both pensions in full, unless they individually elect to come under the modified scheme within a prescribed time limit. Medical practitioners to whom this right of option applies will be informed by the appropriate authority in due course.

It will be appreciated that the foregoing is only an outline of the main features of the National Health Service Superannuation Scheme; so far as it affects practitioners on the lists of Executive Councils. It is not possible within the limits of a single article to deal with all the complicated qualifications which affect special circumstances and eventualities, such as the preservation of rights during any period of national service or when a practitioner receives no remuneration in consequence of an extensive period of sick leave. There are a large number of special provisions dealing with particular conditions. It is anticipated that explanatory booklets and leaflets will eventually be issued by the Ministry, and these should be studied in detail by practitioners to whom they apply.

Finally, there is one regulation which may be of exceptional importance to certain practitioners on the lists of Executive Councils. It states that, "where any person holding a contract or policy of insurance with any of the life assurance companies becomes a practitioner on the appointed day, then, if he so requests the Executive Council in writing within three months after the appointed day, the Minister may agree that the practitioner shall not, so long as he continues to be a practitioner, become subject to any provisions of these regulations except this provision, and in that event the Minister shall, subject to such terms and conditions as the Minister may determine, pay to him as a contribution towards the maintenance of the contract or policy an amount equal to 8% of his remuneration as a practitioner as defined in paragraph (2) of this regulation." That definition of remuneration has already been explained earlier in this article. If this option is exercised, the Minister's contribution towards the premium of the policy or contract takes the place of any of the benefits provided by the Health Service Superannuation Scheme.

The Battle of the Documents

The Council has given careful consideration to the form of question to be used in the plebiscite and to the size of the majority that would justify action. These will come forward as recommendations to the Special Representative Meeting on Jan. 8, and forms in the plebiscite will be issued at the end of that month.

Unhappy Endings

Unhappy endings have attended the Four-Power talks at Lancaster House and equally the Negotiating Committee's talks with the Minister of Health in Whitehall, but there is one difference between the two breakdowns which is to the disadvantage of the doctors. In the case of the Four-Power talks the Press was present every day, and the public was able to judge the issue as the proceedings developed, so that not only, was it prepared for the final calamity but it was able to judge where the responsibility lay. The talks with the medical profession, on the other hand, were conducted in secrecy, and even when they ended—the Negotiating Committee well knowing that the Minister was not going to concede an inch—a further silence was imposed upon them for sixteen days until the Minister had his very clever last word. The public, perhaps unaware even that talks have been proceeding, and knowing nothing of the stone wall against which the Negotiating Committee have been beating their heads, may well feel bewildered and unable to say whether an obstinate Minister or a "reactionary" profession is the more to blame.

Months Ahead

The next three months bid fair to being the most strenuous time since the dawn of medical politics. Much planning and executive work are involved in the arrangements of a plebiscite, in the organization of meetings near and far, and in the guidance of inquirers, all in addition to the normal turning of Association machinery. Many Divisions of course have their own speakers, but a request from any Division for a speaker from Headquarters, whether an officer of the Association or a member of the Council, will be met wherever possible.

Roping in Volunteers

The L.C.C. seems to be genuinely anxious to ensure the continuance of the many voluntary health organizations in which the metropolis abounds. The chairman of the Hospital and Medical Services Committee told his Press conference the other day that all voluntary organizations at present doing useful work are being invited to continue that work under the new auspices, subject to the Council having the power to look at it from time to time and having also a small representation on the governing body. Mr. Stamp declared that a great measure of good will had already been shown on the part of these voluntary bodies, though a few of them have thrown in their hand and asked the Council to undertake the provision which hitherto they have been making. Home nursing is a field of service not undertaken up to now either by the L.C.C. or by the metropolitan boroughs whose health services are being taken over; it has been carried on solely by voluntary institutions, gathered under the general umbrella of the Central Council for District Nursing, and the L.C.C. intends to act through that excellent agency.

The Subacute Hospital Problem

In a document presented at the last meeting of the Hospital Committee by one of its members, Dr. W. S. Macdonald, of Leeds, with a supplementary note by Dr. H. Joules, Dr. Macdonald suggested that some form of central bureau may soon be essential in each hospital district. Not only must there be a limitation of admissions, especially in subacute cases, but methods will have to be thought out for expediting discharge to convalescent homes and hostels as well as to normal domestic surroundings. Such bureaux could play a very real part in ensuring the closest co-operation between the hospital, the practitioner, and the general public on behalf of the particular patient.

Dr. Walter Atten, of Bournemouth, who has been chairman of the health committee of the local county borough council for nearly 20 years, has been elected Vice-chairman of the Bournemouth Literary Council.

Social Medicine No New Thing

A very interesting description of the many activities of the Institute of Social Medicine at Oxford was given by Prof. I. A. Ryle, who is at its head, to the Medical Society of London the other evening, but in the subsequent discussion some feeling was expressed that social medicine might become too academic. One or two medical men said that during their student days or just after qualification they learned their social medicine—although it was not called by that name—on the district, perhaps in Bermondsey, in the neighbourhood of Guy's, or in Whitechapel, in the neighbourhood of the London, or in

Lisson Grove, in the neighbourhood of St. Mary's, where they had gone into the homes of the people and had learned things of great value to them in their subsequent career, whether in consultant or general practice. One of the early exponents of social medicine was Abercrombie, who set up his public dispensary in Edinburgh, where he and his students obtained an intimate knowledge of the moral and physical condition of the poor. There was also Lettsom, whose general dispensary in Aldersgate Street was the first of its kind in London. One general practitioner remarked at the meeting that he had been practising social medicine for a lifetime without being aware of it.

MEDICAL WAR RELIEF FUND: SEVENTH ANNUAL REPORT

1. This report covers the period of twelve months from Sept. 1, 1946, to Aug. 31, 1947. Appended to the report is the audited statement of accounts of the Fund for the same period.

2. The number of awards made during the year was 49. Ten of these were loans and the remainder gifts. In addition a loan awarded during a previous year was converted into a gift. The total amount of the awards made during the year is approximately £11,000, and the total of all awards since the inauguration of the Fund is nearly £62,000. The administrative expenses incurred since the Fund was established seven years ago amount only to £1,042.

3. As in the previous year, most of the applications came from ex-Service medical officers who needed temporary assistance on their return to civilian practice. Their difficulties were due in some cases to the bombing of their professional premises during the war, and in others to ill-health or disability resulting from military service.

4. The Fund has continued to make suitable provision for widows and children of doctors who lost their lives in the war. It gladly voted a substantial sum to defray the travelling expenses to and from Switzerland of three parties of children of doctors killed or incapacitated during war service. The children were thus enabled to benefit from a rehabilitation scheme generously promoted by the Swiss medical profession.

5. It is with deep regret that the Committee records the death

of one of its members, Sir Arnold Lawson, who held the office of Vice-Chairman of the Distribution Subcommittee. His whole-hearted interest in the work and unfailing sympathy and judgment were of the greatest value.

6. The Committee has accepted with regret the resignation of Dr. J. W. Bone from the office of Honorary Treasurer, in which he has rendered notable service to the Fund since its inauguration. The Committee records with gratitude its indebtedness to him. It has appointed Dr. C. L. Batteson to succeed him as Honorary Treasurer.

7. The Committee wishes to express thanks to those subscribers who have continued their generous support of the Fund during the past year. As has already been announced, it now considers that further contributions are unnecessary. Thanks are due also to the British Medical Association for its assistance in providing accommodation for meetings and in other ways; and once again the Committee records its deep appreciation of the indispensable co-operation received from the Royal Medical Benevolent Fund and the ever-ready help and interest of Mr. E. C. Pennecfather, whose experience in the work of the R.M.B.F. has been of the greatest service. Finally, the Committee acknowledges with gratitude its continued indebtedness to Messrs. Price, Waterhouse and Co., who have again generously given their services as Honorary Auditors.

H. GUY DAIN,
Chairman.

STATEMENT OF ACCOUNTS FOR THE TWELVE MONTHS ENDED AUG. 31, 1947

	£	s.	d.	£	s.	d.
To Balance Brought Forward:						
£7,000 3% Savings Bonds, 1955/65 ..	7,000	0	0			
£10,000 2½% Savings Bonds, 1964/67 ..	9,985	18	9			
£4,000 2½% National War Bonds, 1951/53 ..	4,000	0	0			
£1,000 3% Defence Bonds (P.O. Issue) ..	1,000	0	0			
500 National Savings Certificates ..	375	0	0			
Deposit with P.O. Savings Bank and Accrued Interest ..	186	1	9			
Cash at Bank on Current Account ..	11,265	5	6			
Cash in Hand ..	2	8	1			
	33,814	14	1			
Less Amount due to R.M.B.F. (Clerical Assistance) ..	18	0	0			
Amount earmarked for Books for Prisoners of War ..	67	3	11			
	85	3	11			
				33,729	10	2

Donations (including Transfer of Balance from Books for Prisoners of War) ..	2,281	11	4
Interest on Investments (Gross) ..	539	13	1
Interest on Deposit with Post Office Savings Bank (including Accrued Interest to Aug. 31, 1947) ..	4	10	3

NOTE.—Since the inception of the Fund loans to a total of £16,009 have been voted; of this sum £1,122 was repaid prior to Aug. 31, 1947, and £220 converted into a gift.

£36,555 4 10

	£	s.	d.	£	s.	d.	£	s.	d.
By Loans Advanced during Year ..									
Less Repayments during year ..	275	0	0						
Converted into Loan as per Minutes ..	220	0	0						
				495	0	0			
Gifts (including £840 to be administered by R.M.B.F. and £1,114 10s. 1d. to the Swiss Rehabilitation Scheme for Children of Doctors killed in the war) ..	8,744	10	1				1,805	0	0
Add: Transferred from Loans during year ..	220	0	0						
	8,964	10	1						
Less Amounts Refunded ..	25	0	0						
				8,939	10	1			
Petty Cash Expenses ..							6	17	2
Cheque Book ..							1	0	0
Clerical Assistance ..							104	0	0
Honorarium to Secretary of Distribution Sub-Committee ..							191	13	4
11, 1947:									
65 ..	7,000	0	0						
1/67 ..	9,985	18	9						
1951/53 ..	4,000	0	0						
Issue ..	1,000	0	0						
	375	0	0						
and Accrued Interest ..	190	12	0						
Cash at Bank—Current Account ..	3,025	2	7						
Cash in Hand ..	10	11							
	25,577	4	3						
Less Amount due to R.M.B.F. for Clerical Assistance ..	70	0	0				25,507	4	3
							£36,555	4	10

Examined with the books and vouchers and found correct.

PRICE, WATERHOUSE & CO., 3, Frederick's Place, Old Jewry, London, E.C.2.
Chartered Accountants,
Honorary Auditors.

Nov. 14, 1947.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

County Borough Councils.—Barnsley, Gateshead.
Metropolitan Borough Councils.—Fulham, Hackney, Poplar.
Non-County Borough Councils.—Dartford, Leyton, Radcliffe (limited to future appointments), Tottenham, WallSEND.
Urban District Councils.—Denton, Droylsden, Houghton-le-Spring, Huyton-with-Roby, Portslade, Redditch (restricted to new appointments), Stanley (Co. Durham), Tyldesley.
Scottish Burghs.—Motherwell and Wishaw.

RELEASE OF MEDICAL OFFICERS FROM
H.M. FORCES

The Central Medical War Committee has been notified of the following arrangements for the release in Class A of medical officers during the first quarter of 1948:

Royal Navy			
January	...	...	Group 66
February	...	...	Groups 67 and 68
March	...	...	Groups 69, 70, 71, 72, and 73
Royal Army Medical Corps			
General Duty Officers			
January	...	...	Group 64
February	...	...	Group 65
March	...	...	Group 66
Physicians, Surgeons, Gynaecologists			
January	...	...	Group 59
February	...	...	Group 60
March	...	...	Group 61
Other Specialists			
January	...	...	Group 57
February	...	...	Group 58
March	...	...	Group 59
Royal Air Force			
January	...	...	Groups 65, 66, and 67
February	...	...	No release
March	...	...	Group 68

Association Notices

NATIONAL ASSISTANCE BILL

As was reported in the *Supplement* of Dec. 20, 1947 (p. 164), the Special Committee which is considering the National Assistance Bill requested that the Minister of Health receive a deputation to hear the Committee's views on the question of compensation for Public Assistance District Medical Officers who will suffer loss of emoluments attributable to the passing of the Act. The Ministry has stated in reply that no useful purpose would be served by such a meeting on the grounds that the Government's views on the matter are quite clear—namely, that there should be no compensation in the case of part-time officers.

Arrangements are now in hand for discussions between members of the Committee and the Parliamentary Medical Group. It is expected that a meeting with the Group will take place at the House of Commons on Jan. 27.

SCHOLARSHIPS IN AID OF SCIENTIFIC RESEARCH

The Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows: An Ernest Hart Memorial Scholarship of the value of £200 per annum, a Walter Dixon Scholarship of the value of £200 per annum, and four Research Scholarships each of the value of £150 per annum. These scholarships are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including State medicine) relating to the causation, prevention, or treatment of disease. Preference

will be given, other things being equal, to members of the medical profession.

Each scholarship is tenable for one year starting on Oct. 1, 1948. The scholar may be reappointed for not more than two additional terms. A scholar is not necessarily required to devote the whole of his or her time to the work of research but may hold an appointment at a university, medical school, or hospital, provided the duties of such an appointment do not interfere with his or her work as a scholar.

In addition, applications are invited for the first award of the Insole Scholarship of the value of £250 for research into the causes and cure of venereal disease.

Conditions of Award: Applications

Applications for scholarships must be made not later than Friday, April 30, 1948, on the prescribed form, a copy of which will be supplied on application to the Secretary of the Association, B.M.A. House, Tavistock Square, London, W.C.1. Applicants will be required to furnish the names of three referees who are competent to speak of their capacity for the research contemplated.

Diary of Central Meetings

JANUARY

8 Thurs. Special Representative Meeting, 11 a.m.
 21 Wed. Council, 10 a.m.

Branch and Division Meetings to be Held

EAST HERTS DIVISION.—At County Hall, Hertford, Sunday, Jan. 4, 2.30 p.m. Dr. E. A. Gregg: The National Health Act. All medical practitioners in the area of the Division are invited.

LEEDS DIVISION.—At Philosophical Hall, City Museum, Park Row, Leeds, Sunday, Jan. 4, 2 p.m. Special general meeting. Discussion: (1) The Negotiating Committee's Statement to the Minister of Health. (2) The Minister of Health's Reply. All medical practitioners in the area of the Division are invited.

METROPOLITAN COUNTIES BRANCH.—At B.M.A. House, Tavistock Square, London, W.C., Tuesday, Jan. 6, 5 p.m. Lecture by Dr. C. Keith Simpson: Crime and the Doctor. All senior students and newly qualified practitioners in the London area are invited to attend.

SOUTHAMPTON DIVISION.—At Royal South Hants and Southampton Hospital, Monday, Jan. 5, 8.30 p.m. Dr. Charles Hill (Secretary, B.M.A.) will address an open meeting of the profession. All medical practitioners in the area of the Southern Branch are invited to attend.

STOCKTON DIVISION.—At Stockton and Thornaby Hospital, Bowesfield Lane, Stockton-on-Tees, Monday, Jan. 5, 8.30 p.m. Address by Mr. W. Grant Waugh.

WESTMINSTER AND HOLBORN DIVISION.—At City Hall, Charing Cross Road, W.C., Thursday, Jan. 8, 8 p.m. Special meeting 8.15 p.m. Meeting of all medical practitioners in the area of the Division to discuss present position of the negotiations concerning the National Health Service Regulations.

WINCHESTER DIVISION.—At Nurses' Home, Royal Hants County, Sunday, Jan. 4, 11 a.m. Discussion: The National Health Service Act, 1946. (i) The Minister of Health's Statement to the Minister of Health. (ii) The Minister of Health's Reply.

Meetings of Branches and Divisions

HASTINGS DIVISION

Addressing a meeting of the Hastings Division on Dec. 2 on "The Catarrhal Child," Dr. E. A. Wood read case notes to illustrate chronic or recurrent bronchitis, often punctuated by attacks of pulmonary consolidation or atelectasis—of which, with the sequelae bronchiectasis, emphysema, and chest deformities, he showed x-ray photographs. Prevention was by adequate convalescence from measles, whooping-cough, or pneumonia, and care of upper respiratory infection. Treatment was based on pathology. Loss of cilia and bronchial ulceration demanded thin sputum (achieved by iodine and alkali), which would flow with postural drainage. Atelectasis, emphysema, asthma, and chest deformities required breathing exercises. Correct posture for drainage of bronchiectasis was ensured by bronchography. Lobectomy might cure. Whooping-cough vaccine should be given to susceptibles; and contacts who had not had measles should be given convalescent serum.

SALISBURY DIVISION

The Salisbury Division held one of its most successful meetings on Nov. 26 at Salisbury. It had been decided to invite the members of the legal profession, and 71 members and visitors dined together including about 20 lawyers. Dr. A. D. H. Simpson was in the chair. After dinner Mr. W. Bentley Purchase delivered a B.M.A. lecture on "Some Medico-legal Experiences of a London Coroner." A vote of thanks was proposed by Mr. A. Duff and carried with acclamation.

Correction.—Dr. Thomas Scott was erroneously described as Mr. Thomas Scott in the list of members of the Scottish Regional Hospital Boards printed in the *Supplement* of Nov. 8 (p. 111).

BRITISH MEDICAL JOURNAL

LONDON SATURDAY JANUARY 10 1948

ANAEMIA ASSOCIATED WITH TRAUMA AND SEPSIS*

BY

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Department of Pharmacology, Oxford

Since the Goulstonian Lecturer in 1932 took as his subject the "pathology and treatment of anaemia" great advances have been made in our understanding of the aetiology and treatment of many blood diseases. There are, however, two extremely common anaemias the cause of which remains obscure and the treatment unsatisfactory—namely, the anaemia found in association with infection and the anaemia found in association with trauma.

My reasons for considering these two conditions together are: (1) The morphological character of the anaemia is the same and there are striking similarities in the metabolic findings. (2) There is no effective treatment of the anaemia beyond supplying already matured red cells in the form of transfusions while awaiting improvement in the underlying infection or healing of the injured tissues. (3) The available evidence suggests that in both conditions the synthesis of haemoglobin is in some way at fault and that this failure of haemoglobin synthesis is responsible for the anaemia.

In discussing the anaemia both of trauma and of infection it must be remembered that in recent years the picture has almost invariably been complicated by treatment with the sulphonamides, which may themselves affect haemopoiesis (Rimington, 1939). Further, trauma is likely to be complicated by infection, and in some instances the reverse may occur—for example, the presence of osteomyelitis or empyema may necessitate operative intervention. However, relatively simple cases of each have been recorded (Saifi and Vaughan, 1944; Howard, 1945) in which anaemia is still found.

Anaemia of Sepsis: Morphological Characteristics

In considering the morphological character of anaemia associated with sepsis it is probably important to differentiate between acute and severe infections and more chronic infections, though it is difficult to know how best to make the distinction. In a previous study (Saifi and Vaughan, 1944) the presence of an infection of longer than three months was regarded as chronic, while anything less than three months was regarded as acute. It might be wiser to make the distinction depend rather on the virulence and nature of the infectious process than on its duration.

Anaemia Associated with Virulent Infection

In certain fulminating infections, such as with *Clostridium welchii*, the anaemia is certainly haemolytic and often megalocytic. Other scattered examples of proved haemolytic anaemia associated with severe infection characterized

by a high colour index and sometimes increased red-cell fragility have been described (Brown *et al.*, 1944; Mollison, 1947). Such cases, however, occur as interesting rarities meriting special description. Mollison (1947) reported two unusual cases of hyperchromic anaemia and sepsis—one associated with advanced bilateral tuberculosis, the other with acute osteomyelitis. In both the anaemia was severe—in one there was increased red-cell fragility, in the other it was not recorded. A few similar cases associated with severe sepsis in burns have been described (Brown *et al.*, 1944). Rare cases of hyperchromic megalocytic anaemia unassociated with lesions of the gastro-intestinal tract have also been reported in tertiary syphilis (Tauber and Goldman, 1935).

Blackfan and Diamond (1944) observed 15 infants between the ages of 4 and 16 months in whom a severe megalocytic anaemia developed in association with acute infection and was corrected by the parenteral administration of liver extract. In only one was a prolonged course of liver therapy needed. The remaining children recovered completely after a single course of treatment. The anaemia was associated with a temporary complete achlorhydria. Unfortunately no details are given. Since the anaemia responded to treatment apparently in the presence of infection, it seems possible that it was primary in origin, though even in primary anaemias infection often has an inhibiting effect on the action of haemopoietic factors. Zuelzer and Ogden (1946) reported 26 presumably similar cases in infants 2 to 11 months old in which the bone marrow resembled that of pernicious anaemia—megaloblasts and giant metamyelocytes being present in large numbers. The anaemia was not always megalocytic, but was often associated with leucopenia, neutropenia, and thrombocytopenia. Such cases responded to folic acid or liver extract. It is, however, not altogether clear whether the anaemia followed the infection, or vice versa.

The anaemia associated with *Brucella* infections also merits special mention. It has been recorded by Calder *et al.* (1939) as being macrocytic and hyperchromic, and by Harris (1941) as being sometimes like pernicious anaemia. I have seen it on at least four occasions with a high colour index and young red and white cells in the peripheral blood—in fact, a leuco-erythroblastic type of anaemia, which caused considerable confusion in diagnosis. Characteristically it is of the normocytic hypochromic type (Cartwright *et al.*, 1946a).

Anaemia Associated with Chronic Infections

The anaemia associated with chronic or non-fulminating infections is normocytic and normochromic in the majority of cases, though it may become somewhat microcytic and

*The Bradshaw Lecture given at the Royal College of Physicians of London on Nov. 6, 1947.

hypochromic if the infection is of long standing. In 24 cases of infective endocarditis Pepper (1927) recorded a hypochromic type of anaemia associated with both a *Streptococcus viridans* and a haemolytic streptococcal infection. Horder (1926) alone claimed to have found a high colour index in infective endocarditis, but he gave no numerical data. In tertiary syphilis moderate hypochromic anaemia may occur, particularly in untreated cases. It is less pronounced than in the primary and secondary stages (Rosahn and Pearce, 1934; Tauber and Goldman, 1935).

In rheumatic fever the cell size, the mean corpuscular haemoglobin, and the mean corpuscular haemoglobin concentration in one large series varied from low to normal values (Hubbard and McKee, 1939). In chronic rheumatic conditions, especially in women, a hypochromic type of anaemia is common, and is often but not necessarily associated with achlorhydria (Collins, 1935). The severer grades are found in cases of atrophic rheumatoid or infective arthritis.

Josephs (1936) stated that in infants the anaemia tends to be hypochromic and that extreme hypochromia is rare. Blackfan and Diamond (1944) also described a microcytic hypochromic anaemia in infants and a mixed type showing microcytosis and macrocytosis, the latter responding to liver and to iron after recovery from the infectious process, suggesting that there is a deficiency of both.

Rasmussen (1936), reviewing the blood picture in 460 patients with pulmonary tuberculosis, noted a hypochromic type of anaemia in 12% of cases. In 34 non-febrile cases the anaemia responded to liver therapy. In 13 there was widespread tuberculosis involving the intestinal canal, presumably therefore interfering with intestinal absorption. In 10 cases other forms of infection, such as with haemolytic streptococci, were present. Braverman (1938, 1942), from a review both of his own cases and of the literature, concluded that the anaemia in tuberculosis, if present, is usually mild, most commonly hypochromic and microcytic, but sometimes normochromic and normocytic. He found such anaemias in 46% of a series of 509 patients.

Saifi and Vaughan (1944) in 34 cases and Cartwright *et al.* (1946a) in 16 cases of anaemia associated with such infections as osteomyelitis, empyema, infective endocarditis, chronic nephritis, and pneumonia failed to find a macrocytic type of anaemia. The anaemia was mild, normocytic, and normochromic, or slightly microcytic and hypochromic. In a series of 464 cases Wintrobe (1934) found no case of a megalocytic type of anaemia, and hypochromia was observed only in association with blood loss or nutritional deficiency. The anaemia was normocytic or slightly microcytic. Under experimental conditions in animals an anaemia with exactly the same morphological features is produced by the injection of bacteria or by the production of a sterile abscess by turpentine (Robschey-Robbins and Whipple, 1936; Cartwright *et al.*, 1946b). The injection of bacterial toxins alone does not cause anaemia, suggesting, as will be discussed later, that the essential factor in infections responsible for the anaemia is inflammatory tissue reaction.

Bone Marrow.—The accounts of bone-marrow findings in anaemia associated with sepsis are largely unsatisfactory, as only very partial examination of the skeleton is usually made. In both acute and chronic infections in which we examined the long bones from arm and leg and wedges from sternum, vertebral column, and pelvis we found active marrow often in excess of normal. All patients showed considerable erythroblastic activity though there was excessive leucopoiesis. In some instances there was myeloid activity of the spleen (Saifi and Vaughan, 1944).

Metabolic Characteristics of the Anaemia of Sepsis

In recent years there has been an increasing amount of data concerning what may be described as the metabolic characteristics of the common anaemia found in association with sepsis.

Serum bilirubin is within normal limits (Vaughan and Saifi, 1939; Saifi and Vaughan, 1944; Cartwright *et al.*, 1946a).

Plasma iron is low (Heilmeyer and Plötner, 1937; Schafer, 1940; Hirvonen, 1941; Bröchner-Mortensen and Stein, 1942; Cartwright *et al.*, 1946a). The fall in plasma iron immediately follows the infectious process even in those cases in which no anaemia develops. The normal range for humans is 120 ± 30 $\mu\text{g. per 100 ml.}$, while in 16 cases of anaemia associated with infections recorded by Cartwright *et al.* (1946a) the values ranged from 15 to 40 $\mu\text{g.}$ The hypoferracmia persists so long as the infection continues, and returns to normal more slowly than the haemoglobin or red cells.

Serum Copper.—On the other hand the serum copper is raised. The normal range determined by Cartwright *et al.* (1946a) was 116 ± 20 $\mu\text{g. per 100 ml.}$ The value in the 16 patients already mentioned was 200–262 $\mu\text{g.}$ with two exceptions.

Erythrocyte Protoporphyrin.—This porphyrin—protoporphyrin type III, from which haematin is formed by conjunction with iron—was with one exception increased in 11 cases studied by Cartwright *et al.* (1946a). The normal range is 20–50 $\mu\text{g. per 100 ml. of red cells.}$ In the patients studied it was increased two to fourteen times above normal, reaching a maximum in one instance of 634 $\mu\text{g. per 100 ml. of red cells.}$ This rise occurs slowly during the development of anaemia and returns slowly to normal after recovery.

Urinary and Faecal Coproporphyrin.—Vaughan and Saifi (1939) recorded an increase of both coproporphyrin I and III in the urine: an average of 427.1 $\mu\text{g. daily}$ was found in one patient; in another there was an increase of coproporphyrin I with only a trace of III; in a third there was an increase in urinary porphyrin but not enough for identification. The faecal porphyrin consisted of a chloroform-soluble fraction (protoporphyrin deuteroporphyrin) and an insoluble coproporphyrin fraction containing coproporphyrin III. Cartwright *et al.* (1946a) also reported an increase in urinary coproporphyrin but did not differentiate the type. A similar increase in coproporphyrin III excreted in infections in the urine has been noted by Rimington and Hemmings (1938), by Curphey and Solomon (1938), and by Watson and Larson (1947), particularly in acute poliomyelitis. The last-named workers recorded an increase of coproporphyrin I in certain infections, particularly infectious hepatitis.

Faecal Urobilinogen.—There are relatively few data available on urobilinogen excretion in anaemia associated with infection. Eppinger and Charnas (1913) noted a normal figure in a patient with anaemia and pulmonary tuberculosis. Bauman (1921), using a rather unsatisfactory method of estimating, recorded normal figures in two cases of infectious endocarditis. Weiss (1930) noted a patient with tuberculous glands who excreted 56 $\mu\text{g. of urobilinogen daily}$ and three cases of pulmonary tuberculosis with figures ranging from 54 to 132 $\mu\text{g. daily.}$ Paschkis (1933) recorded a case of infective endocarditis with a daily excretion of 228 $\mu\text{g.,}$ and Heilmeyer and Plötner (1937) quoted a case of rheumatic polyarthritis with an absolute excretion of 77 $\mu\text{g. daily.}$ Watson (1938) recorded a patient with chronic infectious arthritis in whom the excretion was 60 $\mu\text{g. daily.}$ Our own series of eight cases, the largest available, showed no increase above normal in seven patients and in the eighth an increase so slight as to be insignificant, the upper figure for normal in men being taken as 280 $\mu\text{g.}$ (Vaughan and Saifi, 1939). The same results were obtained when excretion was related to the total circulating mass of haemoglobin rather than expressed in absolute amounts.

Urobilinogen in Urine.—We (Vaughan and Saifi, 1939) observed no increase in urinary urobilinogen, but increases have been noted by other workers (Harris, 1927; Weiss, 1930; Watson, 1938; Curphey and Solomon, 1938; Hubbard and McKee, 1939).

Plasma Proteins.—In the series of cases investigated by Cartwright *et al.* (1946a) the plasma proteins were within the

normal range, varying from 5.9 to 7.4 g.% and in those patients examined the relative proportions of albumin and globulin were not disturbed. Peters and van Slyke (1931) reported, however, that in chronic infection the plasma albumin concentration may be low, and one or two instances of low total protein are recorded in association with rheumatic fever and tuberculosis by Bing (1946) in his study of hypoproteinaemia. Grossman *et al.* (1945) in a series of patients with known negative nitrogen balance found normal levels for both total protein and plasma albumin. Wintrobe *et al.* (1947b) also stated, without giving evidence, that the albumin may be low.

Nitrogen Excretion.—A negative nitrogen balance develops in the presence of infection (Peters, 1944; Grossman *et al.*, 1945). Nitrogen excretion is very greatly increased in acute infections and to a considerable but less extent in chronic infections (Grossman *et al.*, 1945). The increased nitrogen is excreted in the urine in the form of urea and ammonia. Excretion of creatinine is unchanged. This loss of nitrogen is not definitely related to the febrile reaction (Grossman *et al.*, 1945) in acute infections; it may continue after the patient has become afebrile, and in certain chronic infections it may not continue in spite of continued fever.

Similar changes in blood chemistry are found in experimental animals after the production of a sterile abscess by turpentine injections (Cartwright *et al.*, 1946b). The significance of these metabolic changes in explaining the aetiology of the anaemia is discussed later.

Anaemia of Trauma

During the war observers investigating the blood picture of air-raid and battle casualties were struck by the fall in haemoglobin level that occurred after injury. It was repeatedly discussed, though with the exception of cases of severe burns it received little comment in the literature (Freebody, 1943-4; Vaughan *et al.*, 1946). A similar anaemia may occur after operative intervention which is not preceded by injury (Seaman and Ponder, 1943) and which, as in the cases studied, is not complicated by sepsis or treatment with sulphonamides; the latter often disturbs the picture of trauma. The available data on which to base a description of the anaemia are scanty—in our own series there were only 14 cases, and in none were blood volumes estimated. The picture, however, was similar to that seen in sepsis: a normocytic normochromic anaemia which in some instances became hypochromic and microcytic. This anaemia occurred even with slight trauma—for instance, in a man with a simple fracture of the patella.

During the period of falling haemoglobin the reticulocyte count is not raised, but during the period of regeneration there is a rise, often only within normal limits. In the few observations made on red-cell fragility it was not increased. Increased red-cell fragility has been described in the anaemia following severe burns (Shen and Ham, 1943), but it is possible that this results from actual injury to the red cells at the time of burning (Shen and Ham, 1943; Brown *et al.*, 1944). In such cases typical spherocytosis is found in the stained films.

Bone Marrow.—No quantitative or qualitative studies have been made of the bone marrow in anaemia associated with trauma.

Metabolic Characteristics

With the exception of nitrogen metabolism little is known of the metabolic characteristics of anaemia associated with trauma.

Serum Bilirubin.—In the few patients we studied the plasma bilirubin was normal (Vaughan *et al.*, 1946), though directly after the injury it tended to be higher than it was during the period of a rising haemoglobin.

There is no information about the level of the plasma iron or copper, the erythrocyte content of coproporphyrin, or the excretion of coproporphyrin. Observations on faecal urobilinogen are unconvincing (MacLagan, 1945).

Urinary Urobilinogen.—Though in studying air-raid and other civilian casualties quantitative examinations were not made, we were struck with the frequency with which we found considerable quantities of urobilinogen in the urine.

Nitrogen Excretion.—The negative nitrogen balance found in association with trauma is a striking and constant feature emphasized by many observers (Cuthbertson, 1935-6, 1944; Howard, 1945; Stevenson and Bensley, 1947). It occurs after injury or in post-operative conditions. It cannot be entirely prevented by giving high-protein diets, though it can be decreased in severity (Stevenson and Bensley, 1947). During the first ten days after injury nitrogen corresponding to more than 8% of the total body protein may be excreted (Himsworth, 1946-7). On a good diet with approximately 120 g. of protein and 3,000 total calories the average loss of nitrogen in a series of fracture cases was 225 g., or in terms of total protein 1,400 g. This negative balance lasted for an average of 35 days, reaching its maximum at about the sixth day. The recovery was slow. In a group of operative cases the same occurred, but the average loss was only 45 g. and the duration averaged nine days (Howard, 1945). The great difference from patient to patient is noticeable. The excretion is much less in those ill-nourished.

Blood Urea.—Immediately following injury there is a rise in blood urea, which falls to normal levels within the next few days (Vaughan, 1943; Taylor *et al.*, 1943).

Plasma Protein.—After injury, burns, or operative intervention there is often a fall in total plasma protein, but even in those cases in which the total plasma protein remains normal there is a fall in albumin, compensated by a rise in globulin and a rise in fibrinogen (Chanutin *et al.*, 1938; Taylor *et al.*, 1943; Elman, 1944; Croft and Peters, 1945; Vaughan *et al.*, 1946). This finding occurs after slight injury and is associated with only mild degrees of anaemia.

There are thus many striking points of similarity in the morphological and biochemical characteristics in the anaemia associated with sepsis, with sterile inflammatory abscesses produced experimentally, and with trauma. For instance, the anaemia is usually normochromic and normocytic, though it may become hypochromic and microcytic; there is no significant reticulocytosis; red-cell fragility is normal; and in all points on which evidence is available the striking changes noted in metabolism are similar (see Table).

Haematologic and Metabolic Findings in the Anaemia Associated with Sepsis and Trauma

	Sepsis	Trauma
Type of anaemia	Normochromic and normocytic	Normochromic and normocytic
Reticulocytes	Tend to rise with increasing Hb	Tend to rise with increasing Hb
Red-cell fragility	Normal (except some burns)	Normal (except some burns)
Bone marrow	Active	Unknown
Plasma proteins	Serious data; low; albumin down?	Normal or low; albumin down; globulin up
Plasma bilirubin	Normal	Normal
Serum iron	Low	?
Serum copper	High	?
Erythrocyte coproporphyrin	?	?
Urinary and faecal coproporphyrin	?	?
Faecal urobilinogen	Normal	?
Urinary urobilinogen	May be high	?
Nitrogen excretion	Raised; negative balance	May be high
Blood urea	Not known	Raised; negative balance
Treatment	Transfusion; ? cobalt	Increased
Survival transfused cells	Normal	Transfusion Normal?

Treatment

Iron and liver are in general ineffective in the treatment of either condition. There are certain cases of megalocytic hyperchromic anaemia in infants associated with sepsis

which are reported to respond to treatment with liver extract or folic acid. There are cases of hypochromic anaemia associated with both tuberculosis and "rheumatism" which respond to iron, but such cases are exceptional. Recent experimental results on animals suggest that cobalt is worthy of trial (Wintrobe *et al.*, 1947b). Cobalt has long been recognized as a haemopoietic factor in certain anaemias of sheep (Underwood and Filmer, 1935), and it has proved possible to produce experimental polycythemia in many experimental animals by administration of this metal. Wintrobe and his colleagues (1947b) found that rats which became anaemic after the formation of turpentine abscesses—a condition which appears in its metabolic findings to be comparable to infection—responded well to treatment with cobalt. The anaemia was cured though plasma protein and iron remained low. If cobalt was given simultaneously with the turpentine no anaemia developed. The significance of this finding is discussed later.

There is some evidence that a high-calorie high-protein diet may be of value in treating certain aspects of the disturbed biochemistry of trauma (Taylor *et al.*, 1943; Croft and Peters, 1945; Stevenson and Bensley, 1947). Howard (1945) and Stevenson and Bensley (1947) have shown that a high-protein high-calorie diet exerts some sparing action upon protein breakdown, but however much protein is given a negative balance cannot be prevented.

Transfusion of compatible whole blood is at present the only means of restoring haemoglobin and red-cell levels in both types of anaemia.

Aetiology of the Anaemia

What is the cause of this anaemia which is found clinically in association with either sepsis or trauma and which can be produced experimentally by sepsis, by trauma, and by sterile abscesses? It might be claimed that the anaemia of trauma was due to blood loss at the time of injury, but this alone is not sufficient to account for the fall of haemoglobin, though possibly it may be a contributory factor. For instance, the anaemia occurs after a slight injury such as fracture of the patella when there is no obvious blood loss, and it is progressive. Seaman and Ponder (1943) in a study of anaemia following operative intervention estimated the amount of blood lost by measuring the haemoglobin content of all swabs used and found that the fall in haemoglobin was greater than that accounted for by operative loss.

These three conditions have in common the breakdown of body tissues. It is tempting, therefore, to consider the possibility that the anaemia and accompanying metabolic disturbances are in some way dependent upon this common factor. Tissue breakdown is known to liberate many foreign substances, and one or more of these might exert a disturbing effect upon the erythron, causing aplasia, haemolysis, or dyserythropoiesis. On the other hand, the increased demand for tissue-building materials might result in a conditioned deficiency of haemopoietic factors and of other disturbances in metabolism.

It is justifiable to conclude that the anaemia is not dependent upon aplasia of the marrow, since such aplasia is not found, or upon haemolysis, since except in rare instances no destruction of red cells can be demonstrated. In these exceptional cases (Brown *et al.*, 1944; Mollison, 1947) the patient destroys not only his own red cells but also the transfused red cells from a healthy donor unduly fast. In the majority of cases there is no evidence of increased haemolysis. The serum bilirubin level is normal; there is no increased excretion of faecal urobilinogen

(Vaughan and Saifi, 1939), which is present invariably in haemolytic anaemias; and there is no increased detectable destruction of transfused healthy red cells (Brown *et al.*, 1944; Mollison, 1947). The increased urinary excretion of coproporphyrin III already noted (Vaughan and Saifi, 1939) might on theoretical grounds be derived from red-cell breakdown, since only coproporphyrin III is incorporated in the haemoglobin molecule, coproporphyrin I being probably a side-product in the formation of coproporphyrin III. Coproporphyrin III, however, is believed not to be found under any circumstances as a breakdown product of haemoglobin (Watson and Larson, 1947). In known haemolytic anaemias coproporphyrin I is recorded in excess only in the urine (Watson, 1938). The amounts of coproporphyrin III found are also small and are not sufficient to account for the degree of anaemia. It would therefore appear more likely that a disturbance of synthesis at a later stage accounts for the increased excretion of coproporphyrin III (Dobriner *et al.*, 1937; Rimington, 1938).

Dyserythropoiesis, or faulty red-cell production, may be brought about by a variety of means, the commonest of which is a deficiency of haemopoietic factors. There clearly is no lack of the well-recognized haemopoietic factors, since they are ineffective in treatment. The response to cobalt of experimentally produced anaemia of sepsis in rats, mentioned above, suggests that a deficiency of cobalt may be of aetiological significance; further that there may be a conditioned deficiency of one or more amino-acids. Analysis of the facts concerning the metabolic disturbances present in this type of anaemia, details of which have already been given, points to a disturbance in the synthesis of haemoglobin which may prove to be due to such amino-acid deficiencies.

The stages in the synthesis of haemoglobin can be roughly shown as follows:

1. Precursor pyrrole substance $\begin{matrix} \nearrow \text{Coproporphyrin I} \\ \searrow \text{Coproporphyrin III} \end{matrix}$
2. Coproporphyrin III + iron \longrightarrow haematin.
3. Haematin + globin \longrightarrow haemoglobin.

Traces of both copper and cobalt may play a part in either stage 2 or 3.

In the anaemia under consideration there appears to be no failure in stage 1—the formation of coproporphyrin from a precursor—since there is an excess of coproporphyrin in the red cells (Cartwright *et al.*, 1946a). The evidence suggests rather that there is a failure in stage 2 (the junction of iron and coproporphyrin to form haematin) or in stage 3 (the junction of haematin and globulin).

What is known of stage 2? There is an excess of coproporphyrin III excreted in the urine, which may well be due to failure to complete the formation of haematin. There is a lack of iron in the circulating plasma, as shown by the persistent hypoferracemia which precedes the development of the anaemia (Cartwright *et al.*, 1946a). This hypoferracemia is *not* due to an actual lack of iron. Continuous infusion of iron sufficient to maintain a normal plasma iron is unable to bring about haemoglobin synthesis in the presence of infection (Greenberg *et al.*, 1947a). Wintrobe and his colleagues (1947a) by the use of radioactive iron found that iron administered intravenously to a pig with iron deficiency is readily taken up into the haemoglobin molecule, but in the presence of inflammation the uptake of iron to form haemoglobin is greatly decreased, though it returns rapidly to normal if the inflammatory process is checked. The iron is, however, taken up by the liver and spleen—the normal storage depots—in greatly increased quantities. No significant quantity is found in

the inflamed tissues (Greenberg *et al.*, 1947b). Iron is therefore not the limiting factor in the anaemia, though the diversion of iron from the plasma to the storage depots occurs. Wintrobe (1947b) suggested that this diversion is due to lack of cobalt, which they assume is essential to stage 2, the synthesis of haematin. In some way, therefore, not yet clear, the presence of infection necessitates the presence of abnormal amounts of cobalt for the synthesis of haematin. This is, however, extremely speculative. Cobalt might equally well be required in stage 3 of haemoglobin synthesis—namely, the junction of haematin and globin.

In dealing with the anaemia of trauma the hypothesis was advanced from a consideration of a different series of facts that possibly a failure of protein synthesis, presumably globulin, was responsible for this anaemia so affecting the third stage of haemoglobin synthesis (Vaughan *et al.*, 1946). We were impressed by the association of anaemia with a striking fall of albumin and rise of globulin in the plasma in patients without necessarily altering the total circulating protein. This change in relative protein levels is accompanied by greatly increased nitrogen excretion. How far it is related, if at all, to the remarkable changes in at least one proteolytic system of the blood—namely, that concerned with fibrinolysis—also occurring after injury is not yet clear (Macfarlane and Biggs, 1946; Biggs *et al.*, 1947). We must, however, include the anaemia of trauma and of sepsis among the many symptoms indicative of a wide disturbance of protein metabolism.

The cause of this disturbance is obscure. It may be due to disordered liver function following the action of tissue breakdown products—the presence of urobilinogen in the urine and the change in level of albumin and globulin so characteristic of this type of anaemia being also characteristic of liver disturbance. It may, however, be dependent upon a raiding of the protein stores of the body for some particular amino-acid required to restore injured tissues (Croft and Peters, 1945; Howard, 1945; Himsworth, 1946-7). In other words, after injury or infection the body suffers from a conditioned deficiency of some particular amino-acid. It is known, for instance, that both methionine (Glynn *et al.*, 1945) and lysine (Harris *et al.*, 1943) are essential for haemopoiesis. The effects on both the disturbed nitrogen balance and the anaemia of feeding these amino-acids (Croft and Peters, 1945) are at present conflicting.

Summary

It is suggested that the anaemia of trauma and sepsis is dependent upon a disturbance of haemoglobin synthesis affecting chiefly the globin element. This deficiency of globin is part of a wider disturbance of protein metabolism dependent upon the action of breakdown products liberated from the injured tissues or by the need of injured tissues for special amino-acids. Preliminary experimental observations suggest that possibly cobalt may be concerned at some point in this chain of events, but at present the importance of cobalt should not be exaggerated until its value in human cases has been confirmed.

From a practical point of view, apart from all theories as to the aetiology of the anaemia, it is important to treat patients with both trauma and sepsis on a high-protein diet, relieving the anaemia when severe with replacement therapy. It must be remembered, however, that it is not sufficient to provide a high-protein diet: the patient with sepsis or injury rarely feels hungry, and competent nursing care is essential in order to ensure that the necessary food is taken.

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The United Nations International Children's Emergency Fund held 14 meetings at Lake Success from Sept. 29 to Oct. 3, 1947. A survey has shown that at least 60 million children in Europe and the Far East need supplementary feeding and other help urgently. The organization now has sufficient funds to start some relief work, though more are still required. Shipments of dried milk, fats, and canned meats from the U.S.A. and Canada have already reached their European destinations.

THE EFFECT OF FOOD SUPPLEMENTS ON POORLY FED WORKERS IN BRUSSELS IN JANUARY, 1945

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In a previous paper (Bastenie, Macrae, Smart, and Yudkin, 1945) the diet of the families of a group of employees at a works in Brussels was described in detail. In order to determine whether the theoretical deficiencies which were found to exist had caused any marked deterioration the effects of the addition of a known supplement to the diet of these men have been investigated. This paper gives an account of the work.

Methods

Experimental Plan

The men, 18 in number, were divided into Groups A and B, containing 10 and 8 subjects respectively. During a preliminary control period of one week two 24-hour samples of urine were collected four and two days before the beginning of the experiment; throughout this period the men were given practice on the use of a dynamometer, and on the last day each man was weighed, the strength of his grip was measured, and an estimate was made of the degree of irritability of his biceps muscle to mechanical stimulation.

A highly nutritious food supplement (Table I) was given to Group A for ten days—designated the first experimental period. During this time Group B received no supplementary food and acted as a control. Four 24-hour samples of urine were collected from each member of both groups on the first, fourth, seventh, and tenth days, and at the end

of the period the weight, grip strength, and muscle irritability were again determined. At each examination care was taken that the subjects arrived in random order so that the observer did not know to which group they belonged.

For three weeks after the first experimental period none of the men in either group received any supplement. During this time, however, one man in Group B became ill and retired from the experiment, and two new men were allocated to this group. A second experimental period of ten days began at the end of the three-weeks interval. Measurements were made of weight, grip strength, and muscle irritability at the beginning and end of the second experimental period, but no samples of urine were collected. During these ten days the men in Group B received a supplement of food similar to but not identical with that given in the first experimental period (Table II), whereas those in Group A received no supplement and acted as controls. During both periods the supplement was consumed under supervision, and emphatic instructions were given to all the subjects that they must continue to eat the usual amount of food at home. Unfortunately supervision could not be exercised over their intake at home.

Measurement of Weight.—The men were weighed at approximately 10.30 a.m. on each occasion. Trousers, trunks, and stockings were worn, but the rest of the clothes were removed before weighing.

Estimation of Grip Strength.—The strength of the grip of the right hand (all subjects were right-handed) was determined on a grip dynamometer, with the right arm close to but not touching the side of the body, the elbow flexed to a right-angle, and the forearm fully supinated and parallel with the ground. Practice was allowed for several days, and when this appeared to be sufficient the estimations were made. Five readings were taken at intervals of 30 seconds. There was no evidence of tiring.

Estimation of Muscle Irritability.—In order to estimate the irritability of the biceps muscle to mechanical stimulation the elbow was flexed to approximately a right-angle, the forearm supported, and the subject told to relax his arm muscles as fully as possible. The centre of the biceps muscle belly was then gripped transversely and quickly nipped and rolled between the observer's thumb and forefinger, the operation being somewhat painful to the subject.

TABLE I.—Daily Intake of Nutrients by Subjects Receiving Food Supplement During Period 1

	Kilo-calories	Protein	Fat	Carbo-hydrate	Calcium	Iron	Vitamin A	Aneurin	Nicotinic Acid	Ribo-flavin
		(g.)	(g.)	(g.)	(mg.)	(mg.)	(i.u.)	(μg.)	(mg.)	(μg.)
Sweet egg block (58 g.)	334	17.1	22.3	15.5	203	3.5	1,055	37	0.4	627
Dehydrated cheese block (58 g.)	394	20.0	33.3	0	626	0.5	1,045	22	0.2	346
Milk block (25 g.)	136	4.9	8.0	11.0	180	0.1	298	48	0.2	250
Egg custard block (44 g.)	255	9.3	16.5	16.4	248	0.8	440	62	0.1	377
Cocoa block (25 g.)	129	5.0	7.0	11.5	3	0.8	205	39	0.2	196
Total from supplement	1,248	56.3	87.1	54.4	1,260	5.7	3,043	208	1.1	1,796
Estimated nutrition value of normal ration*	2,460	74.2	50.0	428.3	488	17.3	6,900	1,887	14.1	1,253
Estimated total intake	3,708	130.5	137.1	482.7	1,748	23.0	9,943	2,095	15.2	3,076

* Calculated from data given in previous publication (Bastenie *et al.*, 1945).

TABLE II.—Daily Intake of Nutrients by Subjects Receiving Food Supplement During Period 2

	Kilo-calories	Protein	Fat	Carbo-hydrate	Calcium	Iron	Vitamin A	Aneurin	Nicotinic Acid	Ribo-flavin
		(g.)	(g.)	(g.)	(mg.)	(mg.)	(i.u.)	(μg.)	(mg.)	(μg.)
Sweet egg block (58 g.)	334	17.1	22.3	15.5	203	3.5	1,055	37	0.4	627
Dehydrated cheese block (58 g.)	394	20.0	33.3	0	626	0.5	1,045	22	0.2	346
Milk block (25 g.)	272	9.8	16.0	22.0	360	0.2	596	96	0.3	401
Dehydrated beef (50 g.)	280	25.0	20.0	0	8	6.0	75	15	7.0	700
Total from supplement	1,280	71.9	91.6	37.5	1,197	10.2	2,771	170	7.9	2,174
Estimated nutrition value of normal ration*	2,460	74.2	50.0	428.3	488	17.3	6,900	1,887	14.1	1,253
Estimated total intake	3,740	146.1	141.6	465.8	1,685	27.5	9,671	2,057	22.0	3,427

* Calculated from data given in previous publication (Bastenie *et al.*, 1945).

In all subjects a raised ridge appeared in the region stimulated (see illustration). The time during which this ridge persisted was taken as an index of the irritability of the muscle. Five estimations, all on the right biceps muscle, were made on each occasion.



Photograph showing response of biceps muscle to mechanical stimulation.

Urinary Analysis.—The total volume of each of the 24-hour samples of urine was measured, and after acidification with 4 ml. of 2N. H₂SO₄ per 100 ml., was kept for analysis. The total nitrogen was estimated by the Kjeldahl method.

Food Supplements.—All subjects normally had a small midday meal at the works. During the periods of supplementation the experimental groups received highly nutritious dehydrated foods at midday in addition to their normal factory meal. The food supplements consisted almost entirely of milk, cheese, butter, and eggs; in the second experimental period beef was added. The nutritive value of the supplements given during the two periods is shown in Tables I and II, respectively. The dehydrated food, apart from the beef, was specially prepared by the Low Temperature Research Station, Cambridge. After dehydration the food was moulded into blocks each weighing about 50 g. and suitable for one helping (see de Rousset-Hall and Ingram, 1945). The advantages of this arrangement are many: there is no need to weigh the food before each meal, since it is only necessary to count a suitable number of blocks for reconstitution; there is an assured uniformity in the food given on different days, since the whole of the amount required for the experiment can be prepared in advance; the keeping qualities are excellent; the low weight and small bulk facilitate transport; and the uniformity of the experimental diet enables a great saving to be made in the analysis of foodstuffs.

Results

The average values of weight, grip, and muscle irritability of subjects are shown with the appropriate standard errors in Table III. It will be seen that, whereas there were no significant changes during the experimental periods in the control group, the group which received a supplement in

both experimental periods did change, there being an increase in weight and grip and a decrease in the length of time for which local contraction of the biceps muscle persisted after mechanical stimulation.

The results obtained from these measurements may be expressed in a different way. Seventeen of the subjects were on different occasions in both the experimental and the control group. The different changes in these individuals when they acted in each capacity may therefore be com-

TABLE IV.—Average Difference in Change in Weight, Grip, and Muscle Irritability of 17 Subjects When Acting as Control and When Receiving Supplementary Food

Observation	I. Average Change While Acting as Controls	II. Average Change While Receiving Food Supplement	Difference in Changes (II-I)	S.E.	t	P
Weight (kg.) ..	+0.159	+1.271	+1.112	0.30	3.71	0.001
Grip (kg.) ..	+0.71	+3.18	+2.47	0.72	2.91	0.01
Muscle irritability (secs.)	-0.43	-1.76	-1.33	0.46	2.84	0.012

pared. Table IV presents the results expressed in this way. It will be seen that the differences are not likely to be due to chance.

The average urinary nitrogen values for the first experimental period are shown in Table V. Two subjects have

TABLE V.—Average Urinary Nitrogen Excretion on Certain Days During the Preliminary Period and Period I

Group	No. of Subjects	Before Experimental Period		Experimental Period			
		4th Day	2nd Day	1st Day	4th Day	7th Day	10th Day
A (experimental) ..	8	(g.) 9.05	(g.) 7.98	(g.) 9.92	(g.) 12.67	(g.) 10.86	(g.) 10.15
B (control) ..	7	8.23	10.74	10.97	10.97	10.87	10.57

Significance of differences of changes in Groups A and B: $P = 0.053$

been excluded from Group A and one from Group B in calculating these averages, since the 24-hour specimens of urine presented by them were obviously false. Both the experimental and the control group showed a significant increase in urinary nitrogen excretion during the experimental period; although the increase was somewhat greater in the experimental group than in the control group, this might possibly have been due to chance.

Discussion

The workers under investigation obtained from their ordinary diet about 12 g. of nitrogen a day (Bastenie *et al.*, 1945). They excreted 9 g. in the urine, and, assuming the faecal excretion to be about 1.5 daily and that the same amount was lost in sweat (Cuthbertson, McCutcheon, and Munro, 1937), it would seem that they were in nitrogen equilibrium.

TABLE III.—Effect of Food Supplements on Weight, Grip, and Muscle Irritability

	Group	Period 1 (Group A: Food Supplement) (Group B: Control)				Period 2 (Group A: Control) (Group B: Food Supplement)			
		Mean at Beginning of Period	Mean at End of Period	Mean Change During Period	S.E. of Change	Mean at Beginning of Period	Mean at End of Period	Mean Change During Period	S.E. of Change
Weight (kg.) ..	A B	63.1 60.6	14.4 10.6	1.3 0.0	0.33 0.27	64.1 59.2*	64.3 60.5*	0.2 1.3	0.25 0.29
Grip (kg.) ..	A B	44.8 42.0	47.8 42.1	3.0 0.1	1.11 0.89	47.3 40.6*	48.1 44.0*	0.8 3.4	0.70 0.58
Muscle irritability (secs.)	A B	4.65 4.43	2.67 3.62	-1.98 -0.81	0.59 0.51	2.83 3.87*	2.75 1.97*	-0.08 -1.90	0.25 0.40

* One subject is not included in these figures, as he became ill during the second experimental period. Two new subjects are included in Group B for the same period.

While the men were acting as experimental subjects both the protein and the calorie intakes were increased to a theoretical level of about 130-145 g. of protein and 3,700 calories daily. It was of course impossible to guarantee that they ate as much at home as they did when not receiving the supplement, although they were asked to do so: the above values are maxima, and it is probable that the actual total intakes were somewhat lower.

Under the dietary conditions resulting from the consumption of the highly nutritious food supplement the daily urinary output of nitrogen rose from an average of 8.5 g. to 10.9 g., an increase of only 2.4 g.; the control Group B showed an increase from 9.5 g. to 10.8 g. In Group A, allowing for sweat and faecal loss, there must have been a total daily elimination of nitrogen per man of about 14 g. Since, provided the experimental subjects continued to eat the same foods at home when they were receiving the supplement, they had a daily nitrogen intake of about 21 g. per man, they must have retained about 7 g. of nitrogen per man daily. According to Rubner (1898), 1 g. of retained nitrogen gives 33 g. of tissue, mostly muscle. Thus in ten days the experimental subjects (Group A) should have gained 2.3 kg. In fact, they gained on the average 1.3 kg. This difference between the theoretical gain in weight and that which was actually found was not likely to be due to a loss in body fluids, since the 24-hour urinary volumes of subjects in Group A were never significantly different from those of the control subjects or from the volumes obtained during the preliminary period. It is improbable that either the experimental error or inaccuracies in Rubner's factor could account for all the discrepancy, and it seems most likely that the men did not in fact continue to eat the same amount as usual in their homes while receiving the experimental supplement. If we assume that Rubner's factor is reasonably accurate, they should have been receiving 100 g. of protein per man daily; in other words they must have consumed about 60% of the protein in their normal daily ration at home while receiving the food supplement. Cuthbertson *et al.* (1937) and Cuthbertson and Munro (1937) showed that subjects who were adequately fed retained over a period of eight days about 40% of the nitrogen of a milk or similarly constituted food supplement to their normal diet. In the present experiment the food supplement had a calorie-protein ratio similar to that of the supplement fed by Cuthbertson *et al.* The subjects in Group A excreted on the average an extra 2.4 g. of nitrogen per man daily while receiving the supplement and those in Group B (control) 1.3 g. during the same period. Thus it can be considered that the extra food received by Group A resulted in an increase in the daily urinary nitrogen excretion of about 1 g. per man, which on the basis of Cuthbertson's findings would have resulted from an extra intake of about 1.7 g. of nitrogen or about 10 g. of protein. They were, however, supposed to be receiving an extra 56 g. of protein per man daily, and, calculated theoretically on their gain in weight, using Rubner's factor, they received at least 25 g. extra per man daily. The nitrogen retention from the food supplement was thus more than twice as great as that found by Cuthbertson *et al.* (1937) and Cuthbertson and Munro (1937) for normally fed individuals. On these grounds it seems reasonable to conclude that the experimental subjects were in equilibrium on a plane of nitrogen metabolism lower than that encountered in subjects who are considered to be well fed.

There was a gain in grip strength and a decrease in muscle irritability to mechanical stimuli during the experimental period, and it is of interest to consider whether these factors can be related to the gain in weight or to the nitrogen retention. Consideration of the variations in weight, grip,

and muscular irritability of each of the subjects in the present investigation revealed no significant correlation between change in weight and change in muscle irritability or change in grip strength, between nitrogen retention and change in muscle irritability or change in grip strength, or between change in muscle irritability and change in grip strength.

The abnormal irritability of muscles to mechanical stimuli was first described by Schiff (1858-9) and later investigated in greater detail by Cursehmann (1905), Langley and Hashimoto (1918-19), and Denny-Brown and Pennybacker (1938). There is no very definite evidence that would indicate which biochemical lesion produces the hyperirritability; the most that can be said is that the phenomenon is increased by the conditions which interfere with normal muscle metabolism. There seems to be little doubt that the duration of the ridge in the Belgian workers (about 4.5 seconds) was abnormally long before they received the supplement (the mean duration in healthy R.A.F. subjects has been found to be 2.1 seconds), and that the supplementation did result in a decrease in the duration of the phenomenon. Initially also there was a strikingly significant inverse correlation between the strength of grip and the duration of the ridge of localized contraction following mechanical stimulation ($r = -0.77 \pm 0.092$).

The gain in grip strength which occurred during supplementation is also statistically significant, but unfortunately it is impossible to eliminate the psychological factor. There is likely to be a greater urge to try hard in a subject who is receiving extra food than in one who is living on short rations, and it is impossible to provide a "dummy" substitute for food in control subjects.

In conclusion it has been shown that the addition of supplementary foodstuffs to the defective diet of Belgian workers produced a considerable retention of nitrogen, a gain in weight, an increase in muscle strength, and a decrease in the irritability of muscle to mechanical stimuli. None of these changes, however, could be correlated when consideration was given to the changes occurring in each individual, nor was it possible to correlate any of the changes with the intake of any particular nutrient.

Summary

A group of workers in Brussels in 1945 who were receiving inadequate food were given a supplement to correct the deficiency, and the effects of this supplement on the weight, the grip, the urinary nitrogen excretion, and the irritability of muscle to nipping were measured; their values were compared with those given by a control group receiving no supplement.

The average weight increased significantly in the experimental groups during the ten days of supplementation, as did the strength of the grip; the duration of the local contraction of the biceps muscle which followed mechanical stimulation decreased significantly.

There was a marked retention of nitrogen during the period of supplementation; the large increase in protein nitrogen intake resulting from consumption of the supplement caused no pronounced increase in urinary nitrogen output.

The significance of myotatic irritability has been discussed and an inverse correlation was shown to exist between it and strength of grip.

No relationship could be demonstrated between individual changes in weight, nitrogen retention, grip, or muscle irritability.

We wish to thank Air Marshal Sir H. E. Whittingham, the Director-General of Medical Services, Royal Air Force, and Air Commodore T. McClurkin, Director of Hygiene, for their encouragement in this work; also the Director of the Electro-Gaz Works, Brussels, for permission to carry out the experiments, the social workers there for their invaluable help, and the subjects for

willingly submitting to the experimental procedures. The determinations of urinary nitrogen were carried out by Flight-Sergeant G. A. Childs under very great difficulties, and we accord him our thanks and appreciation.

An essential for the carrying out of this experiment was the provision of food blocks, and we thank Dr. F. Kidd, the then Director of the Low Temperature Research Station, Cambridge, and Dr. M. Ingram and Mr. O. de Roussel-Hall of his staff, who supervised the manufacture of the blocks.

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VIABILITY OF STRANGULATED BOWEL

INTERIM REPORT OF SURGICAL SUBCOMMITTEE OF THE CLINICAL RESEARCH COMMITTEE OF THE PUBLIC HEALTH DEPARTMENT OF THE LONDON COUNTY COUNCIL*

This committee is at present organizing a study of the condition and fate of strangulated bowel, with the object of determining the correct operative procedure to be undertaken when confronted with recently strangulated bowel of doubtful viability, and the following preliminary conclusions have been drawn from an initial series of 336 operations.

The main statistical tables form appendices to this report. Where statements in the report require more detailed statistical illustrations reference is given (by a letter in parentheses) to the appropriate paragraph of the notes which follow the main tables.

Causes of Strangulation

In the whole series of cases—68 (20.2%) of which were fatal—the percentage distribution of causes of strangulation, which excluded intussusception, was as follows:

Hernia	Inguinal ..	31.8	91.9
	Femoral ..	46.9	
	Umbilical ..	4.5	
	Incisional ..	4.8	
	Obturator ..	1.2	
	Internal ..	2.7	
By band or adhesions		6.0	2.1
By volvulus ..		2.1	

Ultimate Condition of Strangulated Bowel

The main object of the research—namely, the discovery of the features which give a clue to the ultimate fate of the strangulated bowel—may be approached in several ways. These may be briefly enumerated and commented on as follows:

1. If a patient dies of bowel gangrene after the strangulated bowel has merely been replaced in the abdomen when dealing

*The members of the surgical subcommittee are: Mr. J. E. Piercy, New End Hospital; the late Mr. G. F. Stebbing, Lambeth Hospital; Mr. N. C. Tanner, St. James Hospital; Mr. J. R. M. Whigham, St. Andrew's Hospital; Mr. C. R. Boland, Mile End Hospital; Mr. F. D. Murphy, Futham Hospital. The convener of the subcommittee was Mr. Tanner, who with Mr. Stebbing was mainly responsible for the report. The statistical analysis was made by the staff of the statistical section of the Public Health Department under the direction of Mr. B. Benjamin.

† Left the Council's service before the completion of the report.

with the strangulating agent, and this has been confirmed at necropsy, then the state of the bowel as noted at operation will give valuable information. The following three cases were reported in which this had occurred.

(i) Case A. B., aged 53. Necrotic purulent ulceration of the mucosa was noted at necropsy. Death occurred eight days after operative relief of strangulation. At the operation it was recorded that 400 cm. of the whole circumference of small bowel was involved, partly by strangulation, partly by secondary mesenteric thrombosis, and that it was plum-coloured with white constriction rings. After release of the strangulation it remained plum-coloured. The bowel was flabby but the surface was shiny, and muscular contractions of the wall were seen. Oxygenation of the patient caused no change in the colour of the bowel. Pulsation was present in the mesenteric vessels.

(ii) Case C. D., aged 34. Gangrene of bowel was discovered at necropsy. Death occurred seven days after operative release of the strangulation. At the operation 50 cm. of the whole circumference of small bowel was found to be plum-coloured but shiny, with normal tonus in the wall. Muscular contractions were seen. Pulsation was present in the mesenteric vessels.

(iii) Case E. F., aged 83. Gangrene of bowel was discovered at necropsy. Death occurred 13 days after operative release of the strangulation. At the operation 60 cm. of the whole circumference of small bowel was found to be plum-coloured but shiny, with oedema of the wall. Muscular contractions were seen. Pulsation was present in the mesenteric vessels.

In each of these cases 50 cm. or more of bowel was involved, but the state of the bowel as noted at operation was no worse than that in many cases which recovered. It seems a reasonable conclusion that risk of subsequent gangrene is greater where a long length of bowel is strangulated than where a short length is involved [Appendix II. (a)].

2. If a patient has a secondary operation for gangrene or damage of bowel after having had a simple "replacement," "untwist volvulus," or "divide constricting band," then the state of the bowel as noted at the original operation would give important data. No case was reported in which total gangrene of a segment of bowel occurred after replacing it in the peritoneal cavity, but in two cases stenosis of the bowel, with peritoneal adhesions, supervened, suggesting that some degree of mucosal and perhaps peritoneal damage had occurred and that the replaced bowel was on the borderline of viability:

(i) Case G. H., aged 51. Had replacement of bowel 30 hours after the onset of hernial strangulation. State at original operation: 12.5 cm. of small intestine was strangulated, black in colour, with grey constriction rings, improving in colour after release of strangulation. Surface of bowel was shiny, and wall flabby; muscular contractions in bowel wall were absent, and pulsation in mesenteric vessels was present. Thirty-six days later a second operation was necessary and 20 cm. of ileum was resected for adhesion and stenosis.

(ii) Case J. K., aged 44. Had replacement of 7 cm. of small intestine 9½ hours after onset of strangulation. At the operation the bowel was plum-coloured and oedematous, with a shiny surface which became mottled after release of strangulation. There were muscular contractions in the bowel wall and pulsation in the mesenteric vessels. Gripping abdominal pains followed after discharge from hospital, and 28 days after the first operation a second operation was necessary and the previously strangulated bowel was seen to be stenosed, with peritoneal adhesions.

3. An examination was made for cases where bowel, coloured before or after release of strangulation black, grey, green, or yellow, was replaced. There were 20 patients with bowel of one of these colours, of whom 14 survived, giving a mortality of 30%. Among 216 "replacement" cases in which the bowel colour was normal the mortality was only 9.7% ($\chi^2 = 7.42$; $P = 0.006$).

4. Twenty-one cases were recorded in which muscular contractions in the bowel wall were absent and the bowel was replaced. Fifteen of these survived, giving a mortality of 28.6%, as compared with a mortality of only 8.6% in 197 "replacement" cases with contractions present ($\chi^2=7.95$; $P=0.005$).

5. If pulsation in mesenteric vessels is absent in the strangulated segment of bowel in "replacement" cases the outcome is important. There were two such cases with pulsation absent and neither survived. In 214 "replacement" cases with pulsation present the mortality was 10.7%. The probability of such a difference in mortality occurring by chance is 0.013.

Other Findings

Other items of interest have emerged which are not directly connected with the main research.

Records of the duration of strangulation at time of operation show that inguinal herniae tend to come to operation earlier than femoral herniae (b). While there is no significant difference in average age (c), the more obvious nature of the lesion, the more insistent pain in the sac (d), and the earlier onset of vomiting (e) in inguinal cases make this not unexpected. This shorter duration of strangulation probably accounts for the lower mortality in strangulated inguinal herniae. Taking all strangulations together it is found that the case mortality increases with the duration of strangulation, though a larger series of cases will be required before one can expect to find any

significant difference between case mortality at 0-6 and 6-12 hours (f).

An analysis of the state of the bowel wall for all cases showed that 20.6% were normal, 52.8% were oedematous, 15.3% were flabby, 16.0% were clearly gangrenous, and 5.8% were perforated. The greater percentage of gangrenous and perforated bowel in the femoral herniae is associated with the increased delay before operation and probably also with the increased frequency of Richter herniae in femoral hernia (g):

Whole circumference involved	Inguinal Hernia	Femoral Hernia
Part of circumference involved	89.9%	77.2%
	10.1%	22.8%

Operative Procedure

The figures were investigated to see whether they would provide the surgeon with practical guidance to the best type of anastomosis to perform after resection. Of the cases having a resection, 20 were resections and lateral anastomosis, and 9 died—a mortality of 45%; 32 were resections and end-to-end anastomosis, and 18 died—a mortality of 56.3%.

The figures do not show any statistical difference between lateral anastomosis and end-to-end anastomosis ($\chi^2=0.62$, $P=0.43$), and we must await larger numbers before reliable conclusions can be drawn.

The subcommittee wishes to express its thanks to Sir Allen Daley, County Medical Officer of Health, for the encouragement of this research and to all those who have co-operated.

APPENDIX I

TABLE I.—Preliminary Survey of Strangulated Bowel Research Cards, 1945-6

	Hernia												No Hernia				Total					
	Inguinal			Femoral			Umbilical		Incisional		Obturator		Internal		Band		Volvulus		Rec.	D.	M.	
	Rec.	D.	M.	Rec.	D.	M.	Rec.	D.	Rec.	D.	Rec.	D.	Rec.	D.	Rec.	D.	Rec.	D.				
A. Total cases	95	12	11.2	124	34	21.5	9	6	12	4	2	2	6	3	18	2	2	5	268	68	20.2	
Necropsy held	—	2	—	—	12	—	—	1	—	1	—	—	—	3	—	1	—	3	—	23	—	
B. Duration of strangulation at time of operation:																						
0-6 hours	17	3	15.0	15	—	—	1	—	1	—	—	—	1	—	1	—	—	—	36	3	7.5	
6-12 "	26	1	3.7	25	3	10.7	1	—	1	—	1	—	1	—	3	—	—	—	58	5	7.9	
12-24 "	12	2	14.3	22	2	8.3	—	1	5	1	—	—	3	1	1	1	—	1	40	8	16.7	
24-48 "	23	2	8.0	23	5	17.9	—	—	3	2	—	—	—	—	—	—	—	—	56	10	15.2	
Over 48 "	13	4	23.5	29	22	43.1	2	4	3	2	—	2	—	1	7	1	—	4	55	39	41.5	
Not stated	4	—	—	10	2	—	1	1	—	—	1	—	—	—	6	—	—	—	23	3	—	
C. State of bowel wall—operation findings:																						
Normal	27	—	—	23	1	4.2	4	—	1	—	—	—	2	—	7	—	1	1	65	2	3.1	
Oedema	58	5	7.9	67	13	16.3	3	3	8	2	2	1	3	1	6	—	—	—	147	25	14.3	
Flabby	6	3	33.3	20	10	33.3	2	2	2	—	1	—	1	—	4	—	—	—	34	16	32.0	
Gangrenous	7	5	41.7	11	8	42.1	2	4	2	—	—	—	—	—	3	2	1	3	27	25	48.1	
Perforated	4	2	33.3	4	7	63.6	—	1	1	—	—	—	—	—	—	—	—	—	8	11	57.9	
Not stated	1	—	—	7	1	—	—	—	—	—	—	—	—	—	—	—	—	—	8	2	—	
D. Operative procedure:																						
Replacement	85	5	5.6	107	15	12.3	6	2	8	3	1	1	4	—	3	—	1	1	215	27	11.2	
Oversew doubtful area	6	1	14.3	10	5	33.3	—	—	—	—	—	—	—	—	2	—	—	—	18	7	25.0	
Oversew constriction ring	—	2	100.0	4	3	42.9	1	—	1	—	1	—	1	—	—	—	—	—	10	5	33.3	
Resection (e)	6	5	45.5	8	13	61.9	2	3	4	—	—	—	2	—	4	1	1	3	25	27	51.9	
Other operation	1	2	—	1	4	—	—	1	—	1	—	—	2	1	8	1	1	1	13	11	—	
E. Post-operative course:																						
Uninterrupted recovery	80	—	(a)	108	—	(a)	8	—	9	—	2	—	3	—	12	—	2	—	224	7	(a)	
Attacks of colic	—	—	74.8	—	2	68.4	—	—	—	—	—	—	2	—	3	—	—	—	7	2	66.7	
Paralytic obstruction	3	—	2.8	3	5	5.1	1	—	1	—	—	—	1	—	2	—	—	3	10	10	64.3	
Mechanical obstruction	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Peritonitis	1	—	0.9	1	2	1.3	—	1	—	—	—	—	—	—	—	—	—	—	1	3	15.4	
Secondary operation	2	—	1.9	1	2	1.9	—	1	—	—	—	—	—	—	—	—	—	—	4	2	17.1	
No remarks	3	—	2.8	3	1	1.9	—	1	—	—	—	—	1	—	—	—	—	—	3	4	26.3	
F. Cause of death:																						
Intestinal obstruction	—	6	(b)	—	20	(b)	—	3	—	2	—	—	1	—	—	2	—	2	—	37	54	(b)
Heart disease	—	2	50.0	—	2	58.9	—	—	—	—	—	—	—	—	—	—	—	—	—	8	11	(b)
Other circulatory disease	—	2	16.7	—	2	5.9	—	—	—	—	—	—	—	—	—	—	—	—	—	2	3	(b)
Diseases of respiratory system	—	1	16.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	(b)
Peritonitis	—	—	8.3	—	6	17.6	—	—	—	—	—	—	—	—	—	—	—	—	—	9	13	(b)
Shock	—	—	—	—	3	8.8	—	1	—	—	—	—	—	—	—	—	—	—	—	6	8	(b)
Other causes	—	1	8.3	—	2	5.9	—	—	—	—	—	—	—	—	—	—	—	—	—	3	4	(b)

(a) The percentages in the "died" column are those who experienced the conditions before death. Non-intestinal conditions (e.g., pneumonia) have been included. Percentages are based on total cases, thus giving rates of incidence. They add up to more than 100, since some cases had more than one condition.

(b) Percentage of deaths within the type of hernia considered.

(c) Includes resection with lateral anastomosis, end-to-end anastomosis, etc.

Rec. = Resected. D. = Died. M. = Mortality.

TABLE II

Duration of Strangulation at Time of Operation (Hours)	Operative Procedure									
	Replacement Only		Oversew Doubtful Area		Oversew Constriction Ring		Resection†		Other Operation‡	
	No.	%	No.	%	No.	%	No.	%	No.	%
0-6 ..	36	92.3	2	5.1	—	—	2	5.1	1	2.6
6-12 ..	57	90.5	4	6.3	—	—	3	4.8	1	1.6
12-24 ..	42	87.5	1	2.1	1	2.1	6	12.5	2	4.2
24-48 ..	46	69.7	8	12.1	3	4.5	12	18.2	3	4.5
Over 48 ..	44	46.8	8	8.5	7	7.4	29	30.9	11	11.7
Not stated ..	17	65.4	2	7.7	4	15.4	—	—	6	23.1
Total ..	242	71.6	25	7.4	15	4.4	52	15.4	24	7.1

* Percentages are based on total cases within each duration. They add to more than 100 because some cases had more than one operation.
† Includes resection with lateral anastomosis, end-to-end anastomosis, etc.
‡ Includes untwist volvulus, divide band, free adhesions, etc.

TABLE III

Duration of Strangulation at Time of Operation (Hours)	Operative Procedure								
	Replacement, etc.*			Oversew†			Resection‡		
	Cases§	Dths.	Mort. %	Cases§	Dths.	Mort. %	Cases§	Dths.	Mort. %
0-6 ..	35	3	8.6	2	—	—	2	—	—
6-12 ..	56	4	7.1	4	—	—	3	1	33.3
12-24 ..	39	4	10.3	2	1	50.0	6	2	33.3
24-48 ..	46	4	8.7	8	1	12.5	12	5	41.7
Over 48 ..	45	11	24.4	15	6	40.0	29	19	65.5

* Includes replacement, divide band, untwist volvulus, etc.
† Includes oversew doubtful area and oversew constriction ring.
‡ Includes resection with lateral anastomosis, end-to-end anastomosis, etc.
§ In which duration of strangulation was stated.

APPENDIX II

Statistical Notes

(a) Length of Bowel Strangulated (Replacement, etc.,* Cases Only)

Length of Bowel Strangulated	Cases†	Deaths	Mortality (%)
1-3 cm. ..	20	2	10.0
3-5 " ..	34	4	11.8
5-7 " ..	47	7	14.9
7-10 " ..	26	—	—
10-15 " ..	35	2	5.7
15-25 " ..	34	5	14.7
25-35 " ..	14	1	7.1
35-50 " ..	6	2	33.3
50-100 " ..	6	3	50.0
Over 100 cm. ..	1	1	100.0
Total ..	223	27	12.1

* Includes replacement, untwist volvulus, divide band, etc.
† In which length of bowel strangulated was stated.

None of the above differences in mortality is statistically significant individually. On grouping, however, the following comparison can be made :

Length of Bowel Strangulated	Cases	Deaths	Mortality (%)
Under 15 cm. ..	162	15	9.3
Over 15 " ..	61	12	19.7

This difference is statistically significant ($\chi^2 = 4.50$; $P = 0.034$).

(b) Duration of Strangulation

Duration (Hours)	Type of Hernia			
	Inguinal		Femoral	
	No.	%	No.	%
0-6 ..	20	19.4	15	10.3
6-12 ..	27	26.2	28	19.2
12-24 ..	14	13.6	24	16.6
24-48 ..	25	24.3	28	19.3
Over 48 ..	17	16.5	51	35.2
Total ..	103	100.0	146	100.0

Of strangulated inguinal herniae 59.2% came to operation within 24 hours, as compared with 46.1% of strangulated

femoral herniae. This difference is statistically significant ($\chi^2 = 4.30$; $P = 0.038$).

(c) Age of Patient

Type of Hernia	Mean Age	Standard Error
Inguinal ..	63.8 years	1.3
Femoral ..	63.2 "	1.0

The difference is clearly not statistically significant.

(d) Pain in Sac

Type of Hernia	Cases with Pain Recorded	Cases with Duration of Pain less than 48 Hours at Time of Operation	
		No.	%
Inguinal ..	71	57	80.3
Femoral ..	100	68	68.0

This difference is hardly statistically significant ($\chi^2 = 3.19$; $P = 0.074$) but does suggest that the duration of pain is strongly correlated with the duration of strangulation, and this is consistent with the hypothesis that the more insistent pain in inguinal cases is a factor in bringing them to operation earlier than the femoral cases.

(e) Duration of Vomiting

Much the same argument applies to the experience of onset of vomiting. The coefficient of correlation between duration of strangulation and duration of vomiting is +0.95 for both inguinal and femoral herniae. Alternatively we may approach the problem in this way: if vomiting occurs earlier after strangulation in inguinal herniae then we should expect to find fewer long-duration strangulations associated with short-duration vomiting. This is true, as the following figures show.

Type of Hernia	Cases*	Cases with Strangulation longer than 24 Hours but Duration of Vomiting less than 24 Hours	
		No.	%
Inguinal ..	73	6	8.2
Femoral ..	117	14	12.0

* In which both durations were recorded.

This difference is not by itself statistically significant ($\chi^2 = 0.67$; $P = 0.41$), but in view of the alternative evidence of correlation might be accepted.

(f) Case Mortality and Duration of Strangulation

It will be clear from Section B of Table I that there is a progressive rise in mortality as the duration of strangulation increases. The slight reduction after 24 hours (from 16.7 to 15.2) is probably only a sampling irregularity and is not statistically significant.

With regard to Table III, owing to the reduction in the number of cases involved in the classifications of this table the differences in mortality reach statistical significance only when a broad comparison is made between strangulation of less than 48 hours and strangulation of longer duration than 48 hours—viz. :

Duration of Strangulation (Hours)	Operative Procedure								
	Replacement, etc.*			Oversew†			Resection‡		
	Cases§	Dths.	Mort. %	Cases§	Dths.	Mort. %	Cases§	Dths.	Mort. %
Under 48 ..	176	15	8.5	16	2	12.5	23	8	34.8
Over 48 ..	45	11	24.4	15	6	40.0	29	19	65.5

* Includes replacement, untwist volvulus, divide band, etc.
† Includes oversew doubtful area and oversew constriction ring.
‡ Includes resection with lateral anastomosis, end-to-end anastomosis, etc.
§ In which duration of strangulation was stated.

The increase in mortality with longer duration of strangulation is significant for both replacements ($\chi^2 = 8.76$; $P = 0.003$) and for resections ($\chi^2 = 4.85$; $P = 0.028$). The difference in mortality for the small number of oversew cases is not by itself statistically significant, the exact probability being 0.09.

(g) Gangrene and Perforation in Femoral Herniae

Type of Hernia	Cases*	Gangrenous and/or Perforated Bowel Wall	
		No.	%
Inguinal	106	13	12.2
Femoral	150	24	16.0

*In which the state of the bowel wall was recorded.

This difference is not quite large enough to be statistically significant ($\chi^2=0.70$; $P=0.40$).

The higher incidence of Richter herniae in femoral hernia recorded in the text of the report (22.8% against 10.1% in inguinal hernia, a difference of 12.7 ± 4.6) is statistically significant.

EOSINOPENIA CAUSED BY ADRENALINE INFUSION AND BY INSULIN HYPOGLYCAEMIA

BY

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Insulin hypoglycaemia was found to have a beneficial effect in the treatment of all except one of a series of cases of allergic bronchial asthma (Godlowski, 1946). The cases which responded were characterized by a fall in the eosinophil count of the blood, whereas no such fall was observed in the remaining cases with early recurrence of symptoms. The return of the blood eosinophils to normal in these responding cases took place in an oscillating fashion. Such an oscillatory return of the blood eosinophils has also been observed by Spangler (1925) during non-specific desensitization of bronchial asthma cases.

The blood eosinophils in the present allergic cases were observed to vary considerably in the same subject during the 24 hours in which hypoglycaemia was induced, and regularly to such an extent as to exclude any error in calculation. The significance of this phenomenon is made clear by two sets of observations. First, Bertelli *et al.* (1910) produced a considerable eosinopenia in dogs by hypodermic or intravenous injections of adrenaline. Secondly, Cannon *et al.* (1924) experimentally, and Heilbrun and Libert (1939) clinically, found that insulin hypoglycaemia is characterized by a liberation of adrenaline in an amount sufficient to meet the emergency of the rapidly falling blood sugar. These observations suggest that the eosinopenia occurring during insulin hypoglycaemia is due to an outpouring of adrenaline. Such a theory was accordingly put to the test by studying 11 allergic and eosinophilic subjects (9 bronchial asthma, 1 urticaria, and 1 dermatitis) along the following lines.

Method

The preliminary examinations of the allergic cases consisted in x-ray examination of the chest and sinuses, exploration of the upper part of the respiratory tract, urine analysis, investigation of the sputum for eosinophilia and of stools for parasitic infestation and eosinophils, a test meal, the B.S.R., and white cell and differential counts.

The non-fasting blood eosinophils were estimated before starting the adrenaline infusion. The infusion consisted in the intravenous administration of 8 to 10 ml. of 0.1% adrenaline solution (i.e., 8 to 10 mg. of adrenaline) dissolved in 200 to 300 ml. of normal saline at the rate of 6 to 12 drops a minute over a period of 8 to 12 hours. Severe palpitation, headache, or other toxic symptoms of hyper-

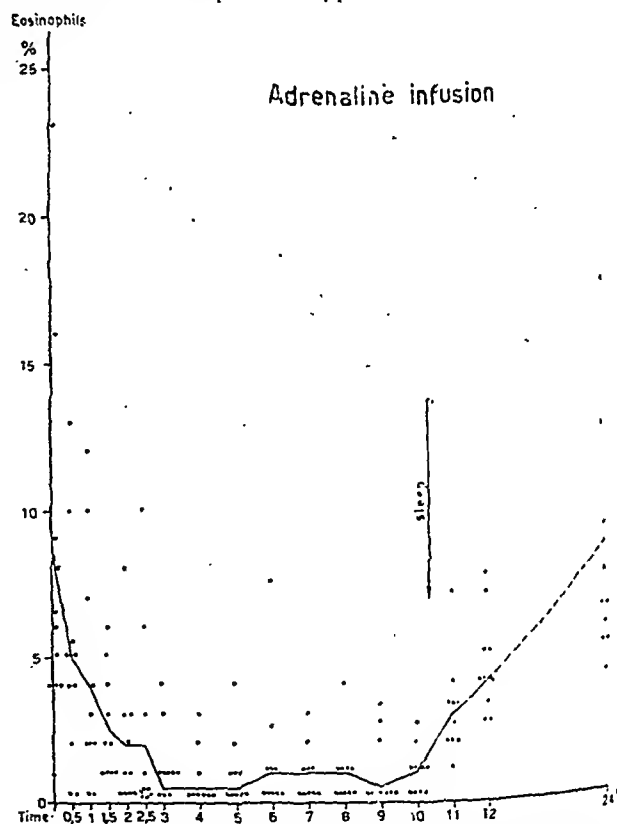
adrenalinaemia were relieved by slowing or stopping the drip for a short time and then gradually increasing up to the limit of tolerance. The blood pressure rose in the first hour and then fell slowly almost to its initial level during the second hour of the drip. A few minutes after the drip started a feeling of relief resulted in severe cases. The eosinophils were estimated half-hourly during the first three hours (by the method used during insulin hypoglycaemia), then hourly until the patient fell asleep; the eosinophil count during the next two hours was taken twice by squeezing the already pricked finger without waking him.

Two or three days later the insulin test was made (after 12 hours' fast) by injecting 100 units of soluble insulin subcutaneously, and the same examinations were carried out as during the adrenaline infusion. The patients were not kept in a state of hypoglycaemia longer than three hours, and hypoglycaemia was stopped by oral or intravenous introduction of glucose (Godlowski, 1946). Counting of the eosinophils and other white cells was done according to the method described by Randolph (1944) or by estimating the differential count of a blood film stained by the May-Grünwald-Giemsa technique.

The first six cases of bronchial asthma and one case of allergic dermatitis were subjected to sternal puncture before and during the eighth hour of adrenaline drip and insulin hypoglycaemia, and the bone marrow obtained thereby was examined for eosinophils in the same way as the peripheral blood.

Results and Discussion

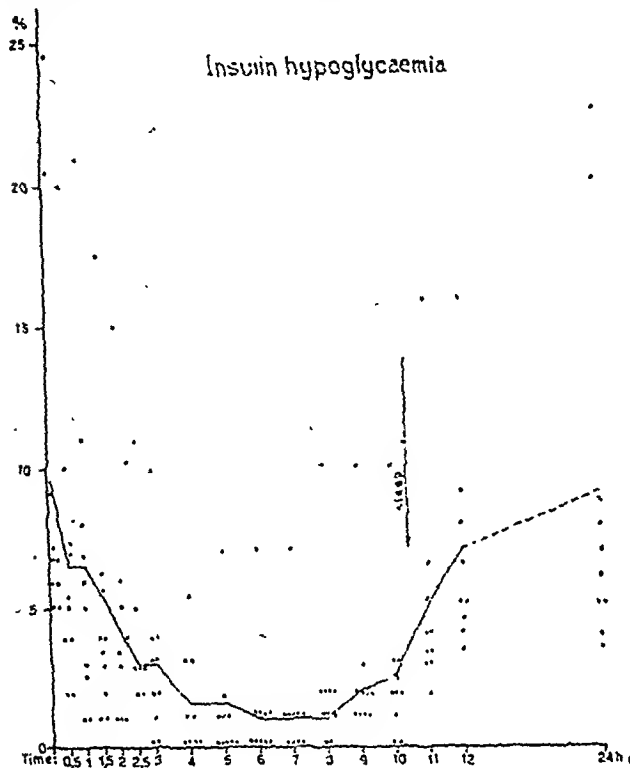
All the cases examined during adrenaline infusion (curve 1) showed a marked eosinopenia amounting in most instances to a complete disappearance of eosinophils from



the blood. Such a disappearance took place within half an hour in two cases, whereas the remainder required a period of several hours to reach the zero level or near it. The lowest level was in the more prolonged cases reached during the fourth hour of adrenaline infusion and oscillated around this for the next six hours. Thereafter the curve of mean values, although the adrenaline infusion was

discontinued, remained at the same level, and in the first hour of sleep climbed steeply, but not to its initial level. The pre-experimental value was attained next morning—that is, 24 hours after the start of adrenaline infusion.

Insulin hypoglycaemia (curve 2) was also accompanied by a disappearance of eosinophils from the peripheral blood. This diminution of cells, however, differed from the



eosinopenia of the adrenaline drip in that it began a little later, took place more slowly and steadily, and did not last so long. The curve of mean values then slowly climbed and became very steep in the first two hours of sleep before reaching its initial level next morning.

The quantitative and qualitative similarity of eosinopenia in adrenaline infusion and in insulin hypoglycaemia suggests a common cause for both, particularly in view of the proved fact of adrenaline production in insulin hypoglycaemia both in laboratory (Cannon *et al.*, 1924) and in clinical experiments (Heilbrun and Libert, 1939).

The sternal bone-marrow eosinophilia in seven cases at the time of lowest peripheral eosinophilia remained at its initial level during both adrenaline infusion and insulin hypoglycaemia. The conclusions from this are (a) that adrenaline in both cases did not exercise its depressive action on bone-marrow eosinophilia, and (b) that bone-marrow cannot be the site where eosinophils accumulate during adrenaline infusion and insulin hypoglycaemia.

The question of eosinopenia during adrenaline infusion and insulin hypoglycaemia necessitates a consideration of the following problems: (1) the mode of adrenaline action in the eosinopenia due to exogenous and endogenous hyperadrenalinaemia; (2) the site of eosinophilic retention during that time; and (3) the relation between artificial eosinopenia and sleep.

(1) Adrenaline injected intravenously performs its action almost immediately by stimulating the sympathetic nervous system; but this action is very quickly exhausted, since adrenaline itself is rapidly metabolized by the tissues. The effect of sympathetic stimulation, however, might persist for a prolonged period, as, for example, neutrocytosis (Naegeli, 1931). One of these prolonged sympathetic effects might be eosinopenia, whereas eosinophilia belongs to the so-called vagal symptoms (Eppinger and Hess, 1909a, 1909b). The mechanism of this action of adrenaline cannot itself be explained on the ground of the results of the present observations.

(2) The values obtained for bone-marrow eosinophilia definitely exclude the retention there of both young and mature eosinophils. Bertelli *et al.* (1910) showed that eosinophilia due to intravenous or subcutaneous injection of 5 mg. of adrenaline into a dog produced in three and a half hours a fall in eosinophils from 6.9% with a total white blood count of 12,050 to 3.5% with a total of 20,050, the other white cells being more or less in the same proportion as before injection. A histological search for local eosinophilia after death showed that the liver was the only organ with an abnormally high value for eosinophils. Those authors therefore believe that liver tissue absorbs the surplus adrenaline, and by destroying it rapidly liberates itself from its eosinopenic action, while the eosinopenic influence is still evident in the other organs.

(3) Sleep is accompanied by symptoms of vagal preponderance, and the eosinopenia resulting from transitory artificial sympathetic overactivity accordingly loses its causative stimulus. The return to initial "vagal blood," however, needs a longer vagal action of sleep than two hours.

Continuation of endogenous hyperadrenalinaemia produced by repeated insulin hypoglycaemia might in a certain number of allergic cases result in a more permanent depression of the high eosinophilic count, and this in turn could be regarded as an indication of a return towards the normal. Clinical improvement of bronchial asthma and other allergic conditions (Godlowski, 1946) following the application of insulin hypoglycaemia and accompanied by diminishing eosinophilic count might be due to the increased production of endogenous adrenaline. The eosinopenia occurring during preliminary insulin test, on the other hand, may be regarded as a proof of an ability of the organism to respond by transitory adrenalinaemia. This might be taken as suggesting that the organism is likely to respond to such a treatment.

Summary

A study is made of 11 allergic and eosinophilic subjects to test the suggestion that the eosinopenia occurring during insulin hypoglycaemia is due to the outpouring of adrenaline.

It was found that peripheral blood eosinophilia decreases markedly and to the same extent during prolonged intravenous adrenaline infusion as during insulin hypoglycaemia.

Sternal Bone-marrow Eosinophilia in Adrenaline Infusion and Insulin Hypoglycaemia

No.	Before Treatment				During 8th Hour of Adrenaline Infusion				During 8th Hour of Insulin Hypoglycaemia			
	Young Forms %	Mature Forms %	Total %	Periph. Eo-philia %	Young Forms %	Mature Forms %	Total %	Periph. Eo-philia %	Young Forms %	Mature Forms %	Total %	Periph. Eo-philia %
1	3	2	5	8.5	1.6	6	7.6	0	2.6	5.6	8.2	0
2	7.5	5	12.5	6	2	2.3	4.3	2	2.2	4	6.2	1
3	8.5	19	27.5	44	9.2	23	32.2	20	11.3	27	38.3	45
4	2.5	6	8.5	7	3	4.5	7.5	0	2.3	5.3	7.6	1
5	4.3	6.3	10.6	6	2.3	5.1	7.4	0	3	3	6	2
6	3.5	6	9.5	9	2.1	5	7.1	1	1.5	2	3.5	1
7	2	7	9	7	4.5	7	11.5	0	3.6	5	8.6	1
	Average:			11.8			11.0	3.3			11.2	7.3

* A case of allergic dermatitis not included in cases described in text.

The quantitative and qualitative similarity of this phenomenon in both conditions suggests a common cause for the eosinopenia.

Adrenaline does not affect the eosinophilic content of bone marrow, and the latter accordingly is not the site of eosinophilic retention.

Eosinopenia due to sufficiently high insulin dosage indicates an ability of the organism to meet the emergency of hypoglycaemia by secreting adrenaline, and this, if repeated several times, might explain the improvement reported as being effected in allergic conditions through treatment with insulin hypoglycaemia.

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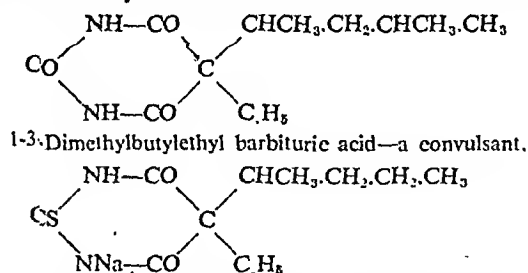
THE CONVULSIVE PROPERTIES OF THIOPENTONE

BY

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The case of frank convulsions under thiopentone anaesthesia recorded by Bodman and Farr (1947) is of interest inasmuch as such phenomena in slighter form must have been widely observed but hitherto seem to have excited little or no remark in the literature other than an occasional reference to "tremors."

Thiopentone is a drug not distantly related to others—e.g., 1-3-dimethylbutylethyl barbituric acid, and 2-1-methylcrotyl-2-methylallyl-, 1-methylbutyl-2-methylallyl-, and crotyl-*n*-butyl thiobarbituric acids—which have been



described by Swanson and Fry (cited by Adams, 1944) as convulsants having no sedative properties.

The "tremors," or minor convulsive manifestations, of thiopentone occur shortly after consciousness is lost, and consist of: (1) Pronatory spasm of the arm, either spontaneous or readily elicited by pricking, or even simply by withdrawal of the syringe needle. (2) This in some cases progresses to strong clonic contractions of the pectoral and neighbouring muscles, a sign which might perhaps be descriptively named the "shudder reflex." (3) Other muscles, especially those of the glottis and diaphragm, may be involved. The phenomena are in all cases most strongly grouped round the musculature associated with respiration, normal or forced. (4) In some cases the spasm is of tonic rather than clonic nature. These are harder to recognize, since the predominant sign is a cessation of respiration, which more often occurs as indicating a relaxation of the musculature consequent on a momentary overdose. The spastic type of respiratory arrest may, however, be differen-

tiated by its occurrence after a relatively small dose and almost invariably in the muscular type of patient, by observation of the rigidly held chest, and by the fact that it often disappears on rapidly administering a further small dose of the drug (though it is not recommended that this last feature be adopted as a routine test).

The following case is cited in illustration.

Case Report

A healthy gunner aged 33 was presented for anaesthesia following a fracture of both bones of the left leg, the date being Oct. 11. After "omnopon"—scopolamine he was given 1 g. of thiopentone intravenously, combined with gas-oxygen, for skeletal traction by a pin through the os calcis, and plaster. No untoward symptoms were noted. On Oct. 29 he was anaesthetized for replastering, again receiving omnopon-scopolamine and 1 g. of thiopentone. This time no inhalation was given, and a further injection of 0.5 g. of thiopentone was found necessary; otherwise there were no unusual features.

On Nov. 2 further manipulation was required and he was once more anaesthetized, on this occasion for some reason without any premedication. He was given 1.5 g. of thiopentone, and definite convulsive phenomena at once developed. Pronatory movements were followed by the "shudder reflex" described above, and this by convulsive inspiratory movements of the respiratory musculature. Respiration became shallow and rapid, the movements being about 60 a minute, and thus frequent enough to ensure adequate oxygenation. During the next five minutes the signs died away, and the patient thereafter progressed without further unusual signs.

On Nov. 5 another anaesthetic was required, and this time being forewarned, he was given omnopon-scopolamine, and 0.5 g. of thiopentone was injected to see what the response would be. As soon as he became unconscious the same strong convulsive movements were once more observed, and no time was lost in administering gas-oxygen with ether. The administration was rendered difficult by laryngeal spasm, and not until a tracheal tube was passed was the anaesthesia free from difficulty. The patient thereafter progressed normally, and was not seen again.

Comment

This case illustrates other features associated with the properties of thiopentone: (1) The untoward signs were not at first elicited, but developed and got worse after several administrations of the drug during a comparatively short period, presumably indicating a progressive intolerance which might possibly be seen in other cases were their apparent tolerance subjected to the same test. (2) Though premedication was not, in itself sufficient to prevent the signs, its absence on one occasion was associated with their appearance in fully developed form. (3) The condition was readily controlled by combination with other anaesthetic agents. (4) The condition each time occurred so early that it must be regarded as produced by the direct effect of the drug on the nervous system, and not by ketosis, carbon dioxide excess, or any of the other metabolic factors which have in the past been suspected as causative in other forms of convulsions.

My records contain several cases in which so similar a procession of events occurred that it seems needless to recount them in detail. Army experience taught me to regard the occurrence of any degree of spastic pronation during administration as a warning that the subject was unsuitable for uncombined thiopentone anaesthesia, and to add gas-oxygen inhalation in 25% mixture at the earliest opportunity. I always found that two to five minutes of this would ablate all convulsive phenomena and produce an even anaesthesia which could be managed by ordinary methods. Laryngeal spasm and the "total" respiratory spasm described above can usually be ablated by a further dose of thiopentone, but the "shudder reflex" is never thus amenable without the addition of other agents.

Cystoscopy or the passage of bougies under uncombined thiopentone anaesthesia has in my experience often produced difficulties resolved by the addition of gas-oxygen, and the inference seems to be that the sphincters may also be involved in a spastic process during such anaesthesia, which in these cases is also best combined with inhalation agents.

It is curious that these by no means rare signs should occur with a drug often used to combat convulsions; and in this connexion the hypothesis of Williams and Sweet (1944) seems to be pertinent. In considering anaesthetic convulsions in general, they adduce the probability of a constitutional factor, and suggest that in every case a convulsion is "primarily due to an inborn but latent epileptic liability . . . factors which arise during anaesthesia being merely precipitants of the convulsions." Encephalograms of patients known to have had convulsions during anaesthesia show irregularities supporting this hypothesis. Given the existence of such a type of patient, it should not be too much to suppose that the sudden addition of any potent drug to the blood stream might well act as a "precipitant."

Summary

The convulsant possibilities of thiopentone might be suspected, having regard to its near relationship to other strongly convulsant drugs.

The most common phenomena associated with these properties of the drug are: (a) pronatory movements of the arm, sometimes progressing to (b) strong shuddering movements, and even to (c) clonic spasm of other muscles, mostly those associated with respiration, either normal or forced. Tonic spasm of the glottis or of the entire thoracic musculature is not uncommon, and the sphincters also sometimes seem to be involved in the process.

The time factor suggests that no other exciting agent than the drug itself is responsible for their occurrence; but there is a possibility that an inborn convulsive tendency in the patient may predispose to their appearance.

The onset of convulsive phenomena is favoured by absence of premedication, uncombined thiopentone anaesthesia, and repeated thiopentone anaesthesia.

Convulsive signs are most likely to occur in muscular highly trained males leading an open-air life.

They are easily prevented or abated by omnipon-scopolamine premedication and early addition of gas-oxygen in 25% or other suitable mixture.

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GRANULOSA-CELL TUMOUR OF OVARY AS ACUTE ABDOMINAL EMERGENCY

BY

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Granulosa-cell tumours of the ovary are usually recognized as a result of their effect on the endometrium, but like other ovarian neoplasms they may give rise to acute surgical complications.

Case Report

A female patient aged 48 years was admitted to hospital complaining of acute abdominal pain of some twelve hours' duration. She had had no previous illnesses. For the last three months she said she had "not been feeling too well," and for the last twelve days she had had a diffuse lower-abdominal pain of a moderately severe nature. There had been no definite colic. During the past five days the pain had become localized in the right iliac fossa and had become more constant; it radiated into both loins. Lying in bed

gave some relief. There had been no nausea and no vomiting. The bowels were regular and micturition normal. The menopause had occurred at the age of 44, and since that date the patient had had no vaginal bleeding. She had two children aged 18 and 12 years, and there had been one miscarriage thirteen months before the birth of her eldest child.

On examination the tongue was moist and had a white fur. The abdomen moved freely on respiration. Tenderness and muscle-guarding were present in the right iliac fossa. Vaginal examination revealed tenderness in both fornices, more marked on the right side. Pain was complained of on moving the cervix. The uterus was slightly increased in size. The condition was diagnosed as subacute appendicitis and operation advised.

A split-muscle incision was made. On opening the peritoneal cavity a considerable quantity of blood was evacuated. The exposure was considered to be unsatisfactory, so a further midline incision was made. About 1 pint (568 ml.) of blood and clot was evacuated from the pelvis. An ovarian neoplasm of moderate size was delivered, with blood clot extruding from two places in its capsule. Salpingo-oophorectomy was performed. The uterus and left ovary appeared to be normal. The patient had an uneventful convalescence.

Comment

The specimen consisted of a tumour measuring 9 x 7 x 5 cm. and having a thick whitish capsule, which in places showed a yellowish colour owing to the tissue deep to it. It had ruptured at two points, and blood clot was protruding from these ruptures.

A portion of Fallopian tube was adherent to the tumour at one point. The cut surface showed a uniform whiteness, but with areas of haemorrhage. On section a dense fibrous capsule resembling ovarian stroma was seen. No follicular elements were present, the tumour consisting of sheets of oval cells lying in a loose stroma rich in blood vessels. In places the cells had an acinar arrangement, but nowhere was there follicular formation. In a few areas there were vacuolated cells resembling Call-Exner bodies. There was a considerable degree of necrosis and interstitial haemorrhage. The appearances were those of a granulosa-cell tumour of the diffuse type.

The granulosa-cell tumour is one of the solid gonadal tumours of the ovary in which the cell elements resemble the granulosa cells of the normal Graafian follicle and has the ability to secrete an oestrogenic hormone. The tumours are almost invariably unilateral, maintain the shape of the ovary within a firm fibrous capsule, and vary in weight from a few grammes to several kilograms. The cut surface is a soft whitish pink with yellow zones, sometimes partly cystic, and occasionally there are areas of haemorrhage. Histologically three main types are recognized according to the degree of glandular-tissue differentiation—follicular, trabecular, and diffuse—and as a general rule the least differentiated tumours show the least hormonal activity. In those tumours with oestrogenic properties the uterine endometrium is of the hyperplastic, non-secretory type with cystic dilatation of the gland tubules. Tumours showing evidence of malignancy are extremely rare. The pathology has been well summarized by Harvey, Dawson, and Innes (1939).

Although haemorrhage into a granulosa-cell tumour of the ovary is common, I cannot find any previous report of a case associated with so severe a degree of haemoperitoneum. The fact that the haemorrhage had been severe enough to burst through a capsule so thick as the one in this case shows the severity of the bleeding. There was no evidence of torsion, a complication that has been reported.

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Medical Memoranda

Primary Carcinoma of the External Auditory Meatus

Primary carcinoma of the external auditory meatus is usually considered a rare disease. It is probably not so rare as is generally thought, but can be diagnosed only by biopsy. The early symptoms are aural discomfort, intense and continuous earache, and aural discharge. Local extension is rapid and glandular metastasis rare. Treatment in the early stage is by excision with the diathermy knife, combined in the later stage with radium beam therapy.

ILLUSTRATIVE CASES

Case 1.—Madame Le S., aged 46, was first seen on May 23, 1944, complaining of rapidly increasing deafness in the right ear, together with a slight purulent aural discharge and mild intermittent pain. Her symptoms were of only one month's duration. There was no history of otitis media. Examination revealed a small papillomatous mass deep in the meatus on the postero-superior wall and hiding the drum. The rest of the meatus was the seat of a chronic eczema. A slight fetid purulent discharge was noted. There was a slight diminution in hearing (transmission deafness). Vestibular apparatus was normal. Radiography was negative. A first biopsy gave a doubtful result, but a second, a fortnight later, revealed the presence of a squamous-celled epithelioma. A radical mastoidectomy was performed at the end of June, the whole of the skin of the posterior wall of the meatus being removed. Some inflammatory granulations were found in the middle ear but no neoplastic tissue. A radium needle was applied to the meatus on July 20, being left in position for five days. The patient was discharged on Aug. 12, 1944. The wound healed slowly by granulation. A small papillomatous lesion appeared on the anterior wall of the meatus in January, 1945, and a wide resection of the area was performed with a diathermy knife on Jan. 25. Histologically, the lesion was a squamous-celled epithelioma. In November, 1945, re-examination revealed no recurrence. Epithelialization of the operation cavity was practically complete, but there was some radionecrosis of the tympanic bone, with the presence of a sequestrum (17 months after the radium application).

Case 2.—Madame C., aged 57, was admitted on Feb. 21, 1945, with a history that her left auditory meatus had become blocked by a white hard mass, which was removed by an otologist. She then developed meatal furuncles with intense pain in the ear. This pain had continued unremittingly until her admission. She had been examined as an out-patient in November, 1944, when a small ulcer of the meatus was seen. A fortnight later a sinus in the antero-superior wall was noted, from which pus exuded. Radiography was negative, as was the Wassermann reaction. In spite of local treatment no improvement took place in the symptoms, and some granulations appeared. A biopsy in February showed no signs of neoplasm, and local treatment with silver nitrate was continued. The patient was discharged on March 14, but suppuration and pain continued, and on June 13 a second biopsy revealed a squamous-celled epithelioma. The patient was readmitted on July 3, and a radical mastoidectomy was performed on the 6th. At operation the area of involvement was found to be much more extensive than otoscopy had suggested. The middle ear was filled by a neoplastic mass, and at the level of the roof of the attic the dura was laid bare and covered with very suspicious granulations. A few days later a course of 17 exposures to x rays was begun. A facial palsy appeared on the day after operation, but the pain had already disappeared. The patient still has some secretion from the operation cavity, but pain has not returned and the general condition is satisfactory.

Case 3.—Madame D., aged 49, was admitted for radical mastoidectomy on April 4, 1944. She had suffered from left aural discharge since childhood, without acute symptoms and without vertigo. Hearing on the left side had gradually diminished. She had recently noticed a vague discomfort in the ear. In February, 1944, a doctor had curetted some polyps in her left meatus. On examination she was found to have a left facial palsy and a meatus full of polyps. At operation on April 5, 1944, three large sequestra were removed from the antrum, laying bare the dura. There was osteitis of the wall of the facial canal, and a fungoid mass in the middle ear which could not be removed entirely. The patient was discharged on April 20. On May 15 she was admitted to the Hôpital Claude Bernard for erysipelas. She was transferred to the Hôpital Saint-Antoine on June 13, after having had a large abscess of a cervical gland. Her meatal cavity was discharging freely, and her temperature was 101.1° F. (38.4° C.). Towards the end of June, after sulphonamide and vitamin therapy, her neck condition settled down and her temperature became normal, although the aural discharge persisted. At a meeting of experts on July 4, a biopsy of granulations in

the meatus was performed and revealed a basal-celled epithelioma of the meatus. In spite of the introduction of radium needles and a subsequent course of x-ray therapy the patient had a relapse in March, 1945, with large, painful, fluctuant cervical and submaxillary glands and pyrexia, and she died of exhaustion on April 2, 1945.

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A Case of Reversible Papilloedema due to Heart Failure

The following case is sufficiently unusual to make it worthy of record.

CASE REPORT

On Feb. 11, 1947, a man aged 61 was admitted to the Middlesex Hospital under our care with a diagnosis of coal-gas poisoning of two days' duration.

Examination revealed some justification for this view, as he was in a stuporous condition, extremely dyspnoeic, and very cyanosed, the hands and face being a deep blue-plum colour. The blood pressure was 145/95 mm. Hg. Further examination showed that he had marked venous engorgement, a palpable liver, and rales at the base of both lungs. Spectroscopic examination of his blood for abnormal absorption bands was negative. The haemoglobin was 116% and red cells numbered 5,800,000 per c.mm. It was therefore thought that this was a case of left- and right-sided heart failure, probably secondary to long-standing emphysema, bronchitis, and asthma, confirmation of the latter diagnoses being found in a previous history case-sheet giving details of treatment. The blood Wassermann reaction was negative. X-ray examination of the chest suggested that there was some pulmonary arteriosclerosis, the report being as follows: "Bronchitic and emphysematous changes. Prominence of the pulmonary artery, and in the lateral film it appears as dense as the aorta." The electrocardiogram showed right axis deviation.

Dr. D. Evan Bedford reported: "This patient has pulmonary hypertension with dilatation of the pulmonary artery and its branches, but no dilatation of the right ventricle visible by radiology, though there is probably some hypertrophy. There is no evidence in the film of fibrosis of lung. I should regard this as a case of emphysema in which the dyspnoea and cyanosis are mainly pulmonary in origin, not cardiac."

On routine examination of his eyes by one of us (J. B. H.) he was found to have pronounced papilloedema of both disks, the engorged veins being buried at their point of entry into the oedematous disk margin. Mr. A. V. Cooper Stevens confirmed these findings.

The patient was treated by venesection, "cardophylin," and digitalis, and in seven days all signs of heart failure, with the exception of some residual cyanosis of the extremities of the ears and fingers, had disappeared. The papilloedema gradually cleared, and when Mr. A. J. B. Goldsmith examined the fundi on Feb. 18 he reported: "Lens and vitreous clear, right and left. Both fundi show normal disks. The veins are markedly dilated and there is a little arteriosclerosis. There is no papilloedema."

The patient was discharged when better, the blood pressure having now fallen to 100/75 mm. Hg, but he unfortunately relapsed two months later and died in a further attack of cardiac failure in which the bilateral papilloedema was again present. No post-mortem examination was obtained.

Fishberg (1946) states that retinal haemorrhages and papilloedema may occur in right-sided failure due to pulmonary endarteritis. He records that "in one case an excellent response of the symptoms of right ventricular failure to digitalization was accompanied by complete clearing-up of the retinal haemorrhages and papilloedema." The papilloedema is probably due to increased pressure in the venous cranial sinuses interfering with the filtration processes of the arachnoid villi, thus causing a rise in the pressure of the cerebro-spinal fluid.

G. E. BEAUMONT, D.M., F.R.C.P.
Physician to the Middlesex Hospital

J. B. HEARN, M.B.,
Late House-physician to the Middlesex Hospital

REFERENCE

Fishberg, A. M. (1946). *Heart Failure*, 2nd ed., p. 545. Kimpton, London

During the past six years over 500 tons of rose hips have been gathered in Scotland and manufactured into rose-hip syrup. Collectors in 1947 broke all previous records by gathering 144 tons of rose hips as against 113 tons in 1946 and 70 tons in 1945. Credit for this result is due to the Women's Voluntary Services, the Scottish Women's Rural Institutes, and the members of youth organizations and similar bodies.

Reviews

ENCEPHALOGRAPHY

Further Studies in Encephalography. By E. Graeme Robertson, M.D., F.R.C.P., F.R.A.C.P. (Pp. 104; 53 illustrations. £2 2s.) Melbourne and London: Macmillan and Co. 1946.

The author describes methods of ensuring—as far as it is possible—that adequate air replacement may be brought about in all the important channels traversed by the cerebrospinal fluid. Excellent radiographs with explanatory diagrams illustrate the text, and he interprets the pictures well. The theories that he propounds to account for the physical processes occurring in these investigations are interesting though unconvincing—as are the ingenious experiments that are supposed to confirm them. He records some noteworthy data, hitherto disregarded, among the observations on cerebrospinal-fluid pressures. Perhaps it will not be considered out of place here to warn the prospective encephalographer that the manometric pressure in the lumbar theca does not always correspond with the intracranial pressure. The author might have mentioned this, as well as the fact that in some cases even absence of papilloedema does not prove that the intracranial pressure is not raised.

On p. 49 is the comment: "It is reasonable to assume that the maintenance of a constant pressure will diminish the risk of investigation when a tumour is present." How justifiable the performance of encephalography may be in a case of suspected tumour is a matter for serious consideration. But the statement on p. 48 that, "when a patient is confused or drowsy and a cerebral tumour is suspected, the employment of an initial sedative is contraindicated," is not applicable, for few, if any, neurosurgeons would sanction this procedure in any patient in such a clinically deteriorated state. The author's work in encephalography is well known, and the present monograph reveals the high standard characteristic of it. The book should be studied by all who intend to employ this method of visualizing changes within the brain and in the associated cerebrospinal-fluid pathways.

HARVEY JACKSON.

INTRODUCTION TO SYPHILOLOGY

Essentials of Syphilology. By Rudolph H. Kampmeier, M.D. With chapters by Alvin E. Keller, M.D., and J. Cyril Peterson, M.D. Second edition. (Pp. 465; 87 illustrations. 25s.) Oxford: Blackwell Scientific Publications. 1946.

The second edition of Dr. Kampmeier's book differs from the first only in the addition of a short chapter on the intensive treatment of syphilis. The first edition was dated 1944, and the second 1946, but it is clear that the latter was actually compiled in 1944, and the author therefore does not discuss the more modern methods of penicillin therapy, the use of BAL in the treatment of toxic effects, the results of recent investigations into the causation of so-called post-arsphenamine jaundice, and other matters. However, such omissions call for no carping criticism, for the treatment of syphilis, in its early stages at any rate, is changing so constantly that any textbook is out of date as soon as it is published. These remarks should detract very little from a book which is exactly what it is meant to be—a short, concise account of the essentials of syphilology, intended not for the expert but for the student and the practitioner.

This account of syphilis presents it as a protean disease. The author stresses the necessity of careful anamnesis and clinical examination, emphasizes the value of dark-ground examination as the best guide to diagnosis in the early stages, warns against regarding a positive serum reaction as diagnostic in itself, and seeks to arouse practitioners' suspicion of the role syphilis may play in chronic disease. Moreover, he rightly points out that the practitioner has a duty beyond that of merely treating his patient. Syphilis control is even more important to the community than treatment of the individual patient, and every infected person must have contracted it from some other infected person, who should be sought and treated. Almost every chapter starts with a historical note which adds interest for the reader, as do the many summarized case reports which help to conjure up a

mental picture and so aid the memory. Most of the illustrations are excellent; the type is clear and the format above reproach. In addition to the clinical sections, there are chapters on the sociological and epidemiological aspects by two collaborators. Mistakes appear to be rare, but 1.2 g. of arsenoxide per pound of body weight (p. 441) would infallibly land the patient in the post-mortem room.

In spite of these criticisms we confidently recommend this book to the student.

T. E. OSMOND.

RECENT PSYCHO-ANALYSIS

The Yearbook of Psycho-analysis. Volume 2, 1946. Managing Editor, Sandor Lorand. (Pp. 280. 30s.) London: Imago Publishing Co. 1947.

The aim of this series of *Yearbooks*, as set forth by the publishers, is to keep readers acquainted with modern research in the theory and practice of psycho-analysis; but, to judge from the contents, the editors have on this occasion failed to attain that end. The papers collected here, although very readable and in some respects timely, contain little that is new; the volume might indeed have been more appropriately entitled a "Pot-pourri from a Psycho-analytical Garden."

The most useful and illuminating article for the general practitioner is from the pen of Otto Fenichel, whose recent untimely death was a severe blow to psycho-analysis. He classifies the various forms of psychosomatic disorder—a subject that has provoked interest in recent years but given rise to many misconceptions, particularly over treatment. Fenichel was concerned to correct these misconceptions. Helene Deutsch, who has made a close study of women's disorders, contributes a useful article on problems of conception. Kubie and Margolin give an interesting account of the therapeutic role of drugs in the process of repression, dissociation, and synthesis. Their view is that drugs facilitate the recovery of the repressed material and render the personality less vulnerable to disturbance by exposure to it. They do not, however, indicate the many drawbacks to the use of drugs as an adjunct to psycho-analysis.

English writers are well represented by articles from Berg on punishment, Ernest Jones on war conditions, and Flugel on problems of war, peace, and morals. Edward Glover contributes an essay in psycho-analytical biography, the subject being the late David Eder. The reprint of an essay by Freud on "Dostoevsky and Parricide" adds greatly to the attractions of the book.

EDWARD GLOVER.

METAL IN BONE

Metallschädigung bei Osteosynthesen. By R. Nicolé. (Pp. 74; illustrated. 8 francs.) Basle: Benno Schwabe and Co. 1947.

The clinical and experimental researches described in this monograph on metallic hazards in osteosynthesis have led the author to conclusions generally accepted by orthopaedic surgeons to-day. With modern metals, in particular with vitallium and tantalum, any metallosis or toxic effect on the tissues is negligible, but it is a mistake to conclude that no risks remain. If the open reduction and fixation of a fracture are done faultily, so that intermittent or constant bending and shearing strains continue to act across the fracture interval, these will at the same time cause delayed callus formation with poor ossification—even pseudarthrosis—in the bone, loosening of screws, and bending or breaking of the plate, nail, or other elements in the metallic agent used.

The author makes the attractive comparison between the yielding of a plate under such circumstances and the fatigue fracture of a long bone, and indeed the two are very similar apart from the healing reactions in the latter. He postulates that the changes at the sites of stress in the metal are due to "tension corrosion," which differs from ordinary corrosion in that it is precisely restricted to the zones of fatigue in plates and screws, and he cites convincing clinical evidence that this is the case. With his central thesis there must be general agreement. The chief problem in the treatment of fractures and in osteosynthesis (a term which, incidentally, might be more often used in English) is to ensure that the mechanical arrangement of the fragments and the fracture site are physiologically correct until union has occurred.

GYNAECOLOGY

A Textbook of Gynaecology. By James Young, D.S.O., M.D., F.R.C.S.Ed., F.R.C.O.G. Seventh edition. (Pp. 471; 277 illustrations. 30s.) London: A. and C. Black. 1947.

It reflects great credit on Prof. Young that his textbook has been so widely read, and the seventh edition is admirable. The outstanding features are the superb photographs and photomicrographs—indeed, Fig. 119 is as good as any photograph of a wet specimen that we have seen published. The most striking characters of the book are simplicity of expression, clear classification, and sufficient reference to advanced work to whet the appetite of the intelligent student. The chapter on tuberculosis of the generative organs is exceptionally good.

We can criticize only details—for example, Figs. 31 to 35 are repeated as Figs. 96 to 100. The legends are not all satisfactory; Dierk's layer, though beautifully shown in an illustration, is not described. The author emphasizes Hamblen's work, yet his views have been severely criticized, and few workers claim such good results as he. Prof. Young might have said more about the use of androgens in gynaecological therapeutics. In describing the treatment of dysmenorrhoea he does not mention the use of stilboestrol to inhibit ovulation by giving the drug in the early part of the cycle—a method at least as good as giving oestrogens in the few days before menstruation starts. His account of the endocrines in relation to amenorrhoea is perhaps not adequate to modern needs, and he might have described more fully the adrenogenital syndrome, Cushing's syndrome, and panhypopituitarism. Prof. Young will be congratulated by all gynaecologists on this edition, and we can confidently recommend it to both students and general practitioners.

WILFRED SHAW.

HEALTH SERVICES

Municipal Health Services. By Norman Wilson, M.A., Dipl.P.A. (Pp. 178. 7s. 6d.) The New Town and County Hall Series. London: George Allen and Unwin, Ltd.

This small book of 178 pages is the third volume in "The New Town and County Hall Series." The author's aim is to discuss what are often called personal health services, and in Part I he describes the usual practice of local authorities with regard to maternity and child welfare, the health of the school child, tuberculosis and its treatment, the control of communicable diseases, the care of the mentally afflicted, general hospitals, poor law, and other services. A section of the book is devoted to "The Administrative Machinery," and he gives an account here of the powers and duties of the Ministries of Health and of Education and of the various types of local authorities.

Part III is entitled "A National Health Service" and is most disappointing. In the foreword the author states that the Government's proposals for a national health service had not been made public when the book was going through the press, but he quotes the Government's White Paper on the subject on p. 165, though giving no guidance to the new scheme. Although Part III begins with a section on "National Health Insurance" the author does not refer to the very important White Papers on social insurance (1944) or to the National Insurance Act, 1946, which make such radical changes that discussion of them should not be omitted from a book of this kind. Most of the information contained in this book has been recorded previously, and it is a pity that a volume in such a series is not more up to date.

J. M. MACKINTOSH.

The late Sir Frederick Hobday (1869–1939) was a master of the craft of surgery and of the art of eliciting his patient's trust; an innate tenderness flowed through his fingers. By his qualities and his book, *Hobday's Surgical Diseases of the Dog and Cat*, of which the first edition was published in 1900, Hobday raised the scope and standard of operative surgery on the smaller animals. The book's merits are in its descriptions and illustrations of the operative and after-care techniques, which, for the fifth edition (Baillière, Tindall and Cox, 1947; 21s.), have been brought up to date by Hobday's able deputy, Prof. James McCune, of the Royal Veterinary College. The book's defect is its account of pathology, which needs a thorough revision.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

Brompton Hospital Reports. Vol. XV. 1946. (Pp. 192. 10s.) Aldershot: Research Department of the Hospital. 1946. Includes articles on various aspects of chest disease.

Tuberkulose-Probleme im Kanton Zürich. Compiled by P. Press and M. Brunner. (Pp. 125. 10.80 Swiss francs.) Basle: S. Karger. 1947.

A monograph on tuberculosis in Zurich.

Detoxication Mechanisms. By R. Tecwyn Williams, Ph.D., D.Sc. (Pp. 288. 25s.) London: Chapman and Hall, Ltd. 1947. An account of the metabolism of a number of organic substances used in medicine or industry.

La Psicosis Pelagrosa. By Dr. Bartolomé Llopi. (Pp. 206. No price.) Barcelona: Editorial Científico Médica. 1946.

An account of the mental changes that may occur in pellagra.

Chronic Structural Low Backache due to Low-back Structural Derangement. By R. A. Roberts, B.Sc., M.B., Ch.B., D.M.R.E. (Pp. 105. 45s.) London: H. K. Lewis. 1947.

Discusses structural vertebral defects causing backache, their diagnosis and treatment.

The Treasury of Human Inheritance. By Julia Bell, M.A., F.R.C.P. Vol. IV. Part V. Edited by L. S. Penrose, M.D. (Pp. 68. 21s.) Cambridge: University Press. 1947.

An analysis of pedigrees of cases of dystrophia myotonica and allied disorders.

Uncle Xavier. By D. H. Landels. (Pp. 192. 9s. 6d.) London: Hurst and Blackett.

A novel.

Pharmacology, Therapeutics, and Prescription Writing. By Walter Arthur Bastedo, Ph.G., M.D., F.A.C.P. 5th ed. (Pp. 840. 42s.) London and Philadelphia: W. B. Saunders Co. 1947.

This textbook for students and practitioners has been brought up to date and includes new material on BAL, folic acid, anticoagulants, and antibiotics.

Diseases of the Nose and Throat. By Charles J. Imperatori, M.D., F.A.C.S., and Herman J. Burman, M.D., F.A.C.S. 3rd ed. (Pp. 576. 72s.) London: J. B. Lippincott Co. 1947.

This edition includes new material on vitamin deficiencies, chemotherapy, and antibiotics.

Uterine Contractility in Pregnancy. By Douglas P. Murphy, M.D., F.A.C.S. (Pp. 134. 30s.) London: J. B. Lippincott Co. 1947.

A monograph based on uterine contractions in 1,200 pregnant women.

A Textbook of Clinical Neurology. By Israel S. Wechsler, M.D. 6th ed. (Pp. 829. 42s.) London and Philadelphia: W. B. Saunders Co. 1947.

A textbook for student and practitioner.

Selected Papers from the Royal Cancer Hospital (Free) and the Chester Beatty Research Institute. Vol. IV. (Pp. 331. 16s.) London: 1943–4.

Nicolans Pol Doktor 1494. By Max H. Fisch. (Pp. 235. \$7.50.) New York: Herbert Reichner. 1947.

Biographical and bibliographical details, with a translation of Pol's tract on guaiac.

Sir Frederick Banting. By Lloyd Stevenson, M.D. 2nd ed. (Pp. 446. 25s.) London: William Heinemann. 1947.

A biography, with many extracts from Banting's letters.

Bad Hofgastein. By O. E. Zimmermann. (Pp. 64. 4.50 Swiss francs.) Vienna: Springer-Verlag. 1947.

A guide to the spa for medical men. In German.

Terapia Endoarteriosa. By E. Malan and G. Enria. (Pp. 124. 900 lire.) Turin: Edizioni Minerva Medica S.A. 1947.

A monograph on treatment by intra-arterial injection of drugs.

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ARE WE CONVINCED?

The medical profession has lost little time in making an effective rejoinder to Mr. Bevan's reply to the Negotiating Committee. Our correspondence columns show that doctors are now fully alive to the implications of the National Health Service Act and becoming firm in their resolve to say "No" to a Minister whose method of negotiation is to alternate blandishments with threats in his successful attempt to avoid discussing those matters which the Negotiating Committee consider to be fundamental points of disagreement between the medical profession and the Ministry of Health. The Committee which met the Minister on Dec. 2 and 3 were certainly treated to a brilliant exhibition of dialectical skill. But this was not really the purpose of the meeting with the Minister. The purpose was negotiation, and Mr. Bevan once more proved that his interpretation of the meaning of this word differs from that which is usually accepted.

The expression of opinion in our correspondence columns against service under the Act in its present form received resounding support in two large and important meetings held last week in Wimbledon and B.M.A. House, addressed respectively by Dr. H. Guy Dain, the Chairman of Council, and Dr. Charles Hill, the Secretary of the B.M.A. Loud applause greeted Dr. Dain when he said, "We are not prepared to be in a salaried position in which the interference of a State department may come between us and the interests of our patients. With a salary even as small as £300 a year we shall begin to experience control." After a thorough and objective analysis of the Minister's reply Dr. Hill asked, "What does it all add up to?" And he went on:

"There is one criterion by which as a profession we can measure these matters. It is not, I hope, a financial criterion. It is whether these proposals do or do not bring us closer to a whole-time salaried service of the State. That is the crucial issue, and on that issue we can command the support of the overwhelming majority of our profession."

The meeting was the largest that had ever assembled in B.M.A. House, and it listened with close attention to Dr. Hill's reasoned exposition of the case for over an hour. The loud applause which greeted the statement quoted was, therefore, all the more impressive. The Act, Dr. Hill observed, was the first step to the fulfilment of the Socialist programme for a whole-time State Medical Service. The general practitioner in the proposed new Service will be unable to begin work without the permission of a Committee in Whitehall; he will be paid in part by salary, and at any time the Minister by regulation can decree that payment shall be wholly by salary; he will no longer own the goodwill of his practice and will, therefore, lose the

plot of ground which in a free society enables him to preserve his freedom as an individual. The consultant and the specialist will have to work in hospitals owned by the Minister of Health, who can under the terms and definitions of the Act at any time take over any institution in which sick persons are being treated. The sign-posts all point in one direction—control of the medical profession by the State. To make quite sure that the reins of control shall be firmly in one pair of hands the Minister insists upon the appointment by him of the Chairmen of various administrative committees down to the Local Executive Council. On Monday this week he sent a letter to the Secretary of the Negotiating Committee asking the B.M.A. to propose names for the members of the Medical Practices Committee. This letter is another indication that the Minister has banged the door in the face of the profession and is determined to go on with his Act in spite of the fact that he has failed to secure what he has stated to be indispensable—namely, the co-operation of the doctors of this country. And it is for the doctors of this country to decide whether a medical service begun in this way and initiated by a Minister who has shown himself contemptuously indifferent to reasoned arguments shall come into operation in July this year.

One thing is certain, and that is that the Act cannot come into operation if the large majority of medical men and women stand firmly outside the new Service on July 5. The size of this majority will depend upon the strength of the conviction held that a State Medical Service will be harmful to medicine and therefore to the public which the profession of medicine serves. If the profession is so convinced, then it should need but a modicum of courage to hold fast to that conviction. The medical profession is in a strong position and should be more conscious of that fact. Its services are indispensable to the welfare of the community and will, of course, never be withheld. But it can determine the conditions of its work and insist upon maintaining a framework of liberty and freedom which at the same time includes order. That framework of freedom and liberty is not present in the National Health Service Act of 1946, and the Minister has refused to modify its structure. Some medical men have argued that to oppose the Act is to oppose the will of the people as expressed through Parliament. But as Dr. Hill put it in his speech last week: "The Minister has told us of our right as individuals and our right collectively to determine our attitude to this Service. We are within our rights in saying 'No.'"

Mr. Bevan has refused the right of practitioners to appeal to the Courts against the decision of the Minister to remove him from the Public Service—a Public Service which is to include every man, woman, and child in the country. This right of appeal has been included in the Health Service Bill of Northern Ireland. This is "the new despotism"—the execution of justice by the head of an administrative department of State. He refuses to amend Section 35 in spite of the fact that no one knows exactly what it means. He calmly tells the profession that if it does not mean what he thinks it means he will, after the matter has been submitted to the Courts in the future by individual practitioners, amend it in order to make it mean what he thinks

it means. This attitude borders on the irresponsible. Until this Section is amended, as in due course it will have to be, no practitioner in partnership will know how he stands if he enters the Service on the appointed day. The Minister refuses to listen to the Negotiating Committee's objection to the basic salary. It should be clear that no objection has been raised to the use of a salary to attract men into difficult or undesirable areas or even to help the young man entering practice for the first time. During the debate on the third reading of the National Health Service Bill in the House of Lords,¹ the Government was defeated on the basic salary issue by an amendment proposed by Lord Llewellyn that remuneration should be by capitation. The real reason for basic salary was given away by the Lord Chancellor when he said: "No one could have been, as I have been, Minister of National Insurance, without realizing that the success or failure of all our schemes depends in a very large measure on our getting satisfactory certification." As we said then, the reason for the basic salary is to control certification. The reason for it is distrust of the doctor. Because some doctors have been lax in certification—and the Lord Chancellor admitted that he had only come across a few instances—all doctors are to be treated as if they were offenders. The Lord Chancellor gave another warning which it is well to take to heart: "If you had abolished this per capita payment altogether and made it a straight out-and-out salary, of course that temptation would have gone." Once the National Health Service Act in its present form is in operation the Lord Chancellor's "out-and-out salary" will be introduced to remove any temptation medical men may have to act as free and responsible individuals.

The analysis made by the Negotiating Committee and again by Dr. Hill last week shows how unsubstantial is the Minister's case for abolishing sale and purchase of practices, for the payment of a basic salary, and for the distribution of doctors through the machinery of the Local Executive Councils and the Medical Practices Committee. The Minister admits that there will be very few areas in which there will be difficulty in providing doctors. Why, therefore, does he set up this expensive and cumbersome machinery for distributing doctors? One reason he has given for abolishing sale and purchase of practices is to secure the even distribution of medical men throughout the country. But if there are so few areas which offer difficulty why again make such expensive and sweeping proposals to deal with such a small problem? On another occasion, it should be recalled, the Minister referred to the sale and purchase of practices as "an intrinsic evil." To Mr. Bevan, no doubt, all private ownership is an intrinsic evil; we believe monopoly State ownership to be a greater evil. There is even a hint in the Minister's reply that he may regard the ownership of the doctors' house as an intrinsic evil when he makes his curious proposal that the Local Executive Council may be able to buy a house for the incoming doctor. Or this may have been another attempt by the Minister to put a favourable gloss on the finances of the medical man in the proposed Health Service. Many men, it would seem, have been misled by

his statements into believing that general practitioners in the Public Service of the future will all be receiving an income of about £3,300. In fact, as Dr. Hill points out, the average gross remuneration per year for the general practitioner will be £1,816. The good general practitioner who by his efforts can to-day build up a successful practice will suffer financially under Mr. Bevan's proposals for remuneration. The practitioner whose practice is below the average may benefit financially under Mr. Bevan's proposals. These proposals in effect are part and parcel of the levelling-down process to which this country is being subjected by the present Government on the curiously unbiological thesis that all men are equal. One result of the National Health Service Act is already visible in the big increase in the numbers of those seeking to take special diplomas and in particular the M.R.C.P. The young medical man of to-day who believes that his ability may be above the average is doing all he can to avoid going into general practice under Mr. Bevan's Act. He is, therefore, trying his hardest to secure diplomas that will enable him to practise as a specialist or consultant. Although he will be as much a State servant in the Consultant Service as in the General Practice Service he does at least hope to escape the economic levelling down to which Mr. Bevan's proposals subject the general practitioner of the future.

The Representative Body is holding a special meeting whilst this *Journal* is in the press. We believe that this meeting will offer still another proof that Mr. Bevan has failed to secure the co-operation of the majority of the medical profession in the launching of his new Service. We believe, too, that the plebiscite to be taken on Jan. 31 will show that the majority of the medical men and women of this country will refuse to take service under the Act in its present form. Mr. Bevan still has time to amend the National Health Service Act so as to secure the willing co-operation of the medical profession in making it a success. If he does not seize his chance to act in a statesmanlike fashion then he will put the health services of this country into jeopardy, embitter the relationship between the doctor and the State, and sow among doctors themselves discords that will echo for years to come.

BRITISH TRANSPORT MEDICAL SERVICES

The fourth and largest experiment in nationalization by the present Government was formally launched on Jan. 1, when the British Transport Commission came into being.¹ Throughout the nineteenth century the Houses of Parliament based their railway policy on the need for keeping competition alive.² The 1914-18 war brought this policy to an end and led indeed to its complete reversal in the Railways Act of 1921, which forcibly amalgamated practically all the railways into the familiar group of four. The Transport Act of 1947 unifies these into one body with the London Passenger Transport Board. In 1825 when the Stockton and Darlington Railway began to carry passengers there were 26 miles of track. The British Transport Commission takes over 52,000 miles of railway with 20,000 locomotives and 45,000 passenger vehicles. It will employ some 700,000 people. Government spokesmen have

¹ *The Times*, Jan. 1, 1948, p. 2, col. 1.

referred to "a very poor bag of physical assets" with all equipment badly worn as the result of intensive wartime usage. The extent to which the railways are in need of new rolling stock is well known to the most infrequent passenger. Public transport whether by train, bus, or tube has a bearing on public health, and this may be the right time to urge upon the newly created British Transport Commission and its various Executives the need for bearing in mind the health as well as the safety of its customers.

Pulvertaft¹ pointed out recently that the maximum risk of air-borne infection, especially through droplets, is present when human beings are closely crowded together, as they are under modern transport conditions. At least twice a day every city worker is exposed to conditions "where no known method of air sterilization could possibly operate." This observation is "probably right,"² but that is not to say that modern railway coaches could not be so designed as to minimize these twice-daily hazards. One remedy has already been suggested.³ American railway coaches provide comfortable high-backed adjustable seats which all face the same way. This makes it difficult for even the most garrulous passengers to project their infected droplets at each other. American coaches are of the one-compartment variety, air-conditioned and warmed, perhaps over-warmed by our standards, and with double doors and small vestibules at each end so that arrivals and departures are not commemorated by blasts of cold air.⁴ An obvious question which it should be possible to answer is whether small herds in small box-compartments are less or more at risk than larger herds in larger coaches. It is the fact that some of our railway coaches were designed sixty or more years ago for a public not given to much travelling and in mortal dread of fresh air.⁵

In this country trains are trains and rarely undergo the kind of metamorphosis which became familiar during the war years, when there were few injured men who did not at some time experience the mixed blessings of a hospital train with its M.O. in charge, attached Q.A.I.M.N.S., and occasional V.A.D.s. Less romantic were the railway coaches which became large-scale disinfestors when the line at El Alamein had been held after the long retreat but typhus presented a problem almost as threatening as the Afrika Corps. Disinfestors are, of course, regularly used by all British railways, but these are not hurriedly modified coaches such as had to be used in Egypt. Long before the war the French had converted two coaches into a mobile radiological unit, and recently a new x-ray train was completed at Le Landy, just outside Paris.⁶ It is now in use in the Northern Region, and since it is equipped to deal with 600 people a day it should be possible to examine radiologically every member of the staff of the Northern Region of the French Railway, and their families, once a year. It should be recalled in this connexion that the French Railway Medical Service is responsible for treatment as well as for examination and diagnosis.

In this country mobile examination coaches are employed on a limited scale, but here railway medical officers, like

other industrial medical officers, have been little concerned with the treatment normally given by general practitioners. They co-operate closely with general practitioners but act as a rule in an advisory capacity and particularly on problems of rehabilitation. Each of the main-line railways has employed full-time medical officers for many years—in the case of the Great Western Railway for over 40 years. The London Passenger Transport Board, which was created only in 1933, appointed its first full-time medical officer in 1934. In the case of the main-line railways and of the London Transport, medical services were provided by full-time officers and a number of general practitioners with special railway experience giving part-time services. These services were designed to meet certain special and obvious needs. The over-riding considerations have always been and will continue to be the public safety and the well-being of the railway staff. Out of this there arises the question of fitness for entry into the service, with particular reference to tests of vision, including colour vision. Signalmen and engine drivers, for example, must have normal colour vision. The other work in which transport medical officers were soon involved was in connexion with Workmen's Compensation. It is expected that they will be relieved of much of their responsibility in this connexion when the National Insurance (Industrial Injuries) Act of 1946 comes into operation in July. The changes which will be brought about by this Act were commented on in these columns last year.⁷

Inevitably these medical officers, of whom there are now 30, soon became concerned with industrial medicine in its broader sense. So far as is known at present there are few occupational diseases peculiar to transport workers in anything like the way that there are well-defined occupational hazards in connexion with mining and other industries. There are, of course, some special injuries such as those in shunting accidents. It has also been alleged often enough that peptic ulcer is commoner in transport workers than in the general population, but no convincing evidence has yet been produced on this point.

The Transport Act will lead to a closer integration between what were the four main-line railways and London Transport. It should be recorded, however, that in the past few years there has been a close liaison between medical officers in these groups, discussing particularly such subjects as standards of vision, which previously varied to some extent. There will obviously be greater scope under the new arrangements, for instance, for standardizing records of sickness absence on a scale which may make it possible in future to answer the kind of questions that have been asked about the incidence of peptic ulcer and other conditions in special groups of transport workers.

For some years now the main-line railways and London Transport have had consultant medical advisers and have availed themselves of their specialized knowledge on different problems, but there has not so far been a formal medical research side of the transport medical services. Individual problems have been dealt with as they arose, with,

¹ *The Times*, Jan. 1, 1948.

² *Encyclopædia Britannica*, 1946, 18, 916.

³ *British Medical Journal*, 1947, 2, 517.

⁴ *Ibid.*, 1947, 2, 535.

⁵ *Lancet*, 1946, 1, 94.

⁶ *Ibid.*, 1946, 1, 104.

⁷ *Lancet*, 1946, 1, 179.

⁸ *British Medical Journal*, 1947, 2, 221.

⁹ *Ibid.*, 1947, 1, 685.

¹⁰ *Ibid.*, 1946, 1, 39.

¹¹ *Ibid.*, 1938, 1, 197.

¹² *Occupation and Health*, 1934, 2, 1078. I.L.O., Geneva.

where necessary, the assistance and guidance of specialist advisers. We understand that London Transport made an informal approach to Prof. Le Gros Clark and his colleagues at Oxford on the problem of fitting the bus to the bus driver. It will be recalled that Prof. Le Gros Clark was responsible for much of the wartime work on this subject, some of which was reviewed in our columns.¹⁰ This side of industrial health—what may be termed the physiological approach—is obviously one that will develop in the future.

Meanwhile the transport medical services can look back upon a useful record of service to the community and to railwaymen. The G.W.R. Medical Fund Hospital at Swindon, established in 1871, is well known, as are some of the railway convalescent homes. The L.M.S. Railway was early in the field of rehabilitation, establishing before the war a small centre at Crewe for what was then termed the "reconditioning" of injured workers.¹¹ The Transport Act of 1947 should allow of a closer integration of these medical services and a steady development in industrial health along the lines which are now becoming familiar and which involve job analysis, personnel selection, the provision of first-aid services, and the closer fitting of machines to men. It is unlikely that the present changes will have any immediate effect on railwaymen, on the travelling public, or on the transport medical services, but there are clearly opportunities for future development in which it is important that the health of the passenger should be regarded as second only to his safety in importance. Integrated records over a number of years may make it possible to answer some of the questions that have been asked in the past about particular conditions affecting transport workers. For example, is it true that railway officials in this country show lower mortality rates than the general population, except for diabetes and appendicitis,¹² and if so why? How many upper respiratory infections are contracted on the 8.10 every morning, and is there any reason why this number should not be diminished by investigation and more careful design of railway carriages? For many years it has been suggested that the railways should be nationalized. Now they are nationalized, and it remains to be seen what the future will hold for the travelling public, for transport workers, and for the medical services of British transport.

MYOCARDITIS

Owing largely to the exertions of McKenzie, Lewis, Parkinson, and others, abuse of the term myocarditis has been more or less corrected. Apart from rheumatic and diphtheritic carditis the condition is rarely recognized to-day. The reaction to misuse of the term may, however, have gone too far, as we are reminded by Ira Gore.¹ Auricular fibrillation or flutter, sudden death from ventricular fibrillation, partial heart-block, inverted T waves in the electrocardiogram, and congestive heart failure bear witness to the reality of carditis associated with lobar pneumonia.

Repeated reports on Fiedler's or isolated myoearditis have testified to the existence of a form of heart disease characterized by focal necrosis, focal cellular reaction, and late focal fibrosis. Gore points out that a similar pathological picture may be found subsequent to streptococcal sore throat or the common cold, and should not then be identified with rheumatic carditis. Focal hyaline or granular necrosis with round-cell infiltration² has been demonstrated in many fatal cases of scarlet fever. The occurrence of pulmonary oedema, rise of the venous pressure, and inversion of T waves in acute nephritis and in toxæmia of pregnancy³ is not satisfactorily explained by left ventricular failure secondary to acute hypertension; for in some of these cases the blood pressure is not nearly high enough to embarrass a healthy heart. The literature is studded with examples of carditis based on clinical, electrocardiographic, and post-mortem evidence in a host of infectious diseases, and it is time their significance was properly assessed. In this respect focal hyaline necrosis produced by digitalis,⁴ by acetylcholine, and by vagal stimulation⁵ should not be forgotten. Toxic carditis from other drugs may occur. Emetine, once regarded as particularly dangerous, was more or less exonerated in the last war, at all events in therapeutic doses. Sulphonamide hypersensitivity, however, provides an example.

Clinically, toxic carditis is not easy to recognize unless there are changes of rhythm or unless the condition is so advanced as to cause heart failure or sudden death. Other signs and symptoms, particularly tachycardia, are difficult to distinguish from those due to emotional disturbance. The electrocardiograph, however, provides a valuable diagnostic aid, and significant changes should be treated with respect.

CHLOROPHYLL AS A BIOGENIC AGENT

The word "biogenic" is employed by some American workers to describe substances which appear to accelerate the healing of wounds. In the past it has been claimed that extracts of heart muscle and of embryonic tissues increased the rate of healing of ulcers and wounds; but controlled experiment has been difficult, and where controls have been devised the effect of these extracts on epithelial growth has been shown to be inconsiderable or even inhibitory. It is now suggested that water-soluble derivatives of chlorophyll exercise a complex but beneficial influence upon the healing of wounds.

Numerous pharmacological effects have been attributed to chlorophyll. Gordonoff and Hosokawa¹ found that an exhausted muscle-nerve preparation will contract when chlorophyll is applied to it. Other authors²⁻⁶ have drawn attention to the chemical relationship between chlorophyll and haemoglobin and have suggested that chlorophyll stimulates erythrocyte formation and the elaboration of haemoglobin. Koenigsfeld⁹ and Rydin¹⁰ observed that chlorophyll increases the metabolic rate of tissues. Working in Burgi's laboratory, Rollet¹¹ reported that extracts of plant pigment stimulated tissue growth, and Gordonoff

¹ *Z. ges. exper. Med.*, 1925, 40, 454.

² Burgi, E., *Schweiz. med. Wschr.*, 1937, 67, 1173.

³ Fischer, H., and Schneller, K., *Z. physiol. Chem.*, 1924, 125, 263.

⁴ Gordonoff, T., *Z. ges. exper. Med.*, 1927, 54, 294.

⁵ Rentz, E., *Strand. Arch. Physiol.*, 1929, 67, 121.

⁶ Zih, A., *Arch. ges. Physiol.*, 1933, 231, 510.

⁷ Sagastume, C. A., and Pezzani, J. A., *Res. Fac. Cienc. Quin. (Univ. Nat. de la Plata)*, 1930, 7, 7.

⁸ Rothmund, P., Inman, O. L., and McNary, R. R., *J. Amer. chem. Soc.*, 1934, 56, 2400.

⁹ *Klin. Wschr.*, 1922, 1, 322.

¹⁰ C. r. Soc. Biol. Suède, 1928, 89, 1683.

¹¹ Quoted by Gahan, Kline, and Finkel (1943), *Arch. Derm. Syph.*, 1930, 47, 849.

¹² *J. Vitamin Forsch.*, 1935, 4, 213.

¹³ *J. Lab. clin. Med.*, 1944, 29, 241.

¹⁴ *Amer. J. Surg.*, 1945, 47, 30.

¹⁵ *Ibid.*, 1947, 73, 37.

¹ *Lancet*, 1947, 1, 292.

² B. G. H., and Smith, L. W., *Amer. J. Path.*, 1936, 12, 373.

³ N. K., and Smith, L. W., *Proc. Roy. Soc. Med.*, 1947, 9, 123.

⁴ H. G. L., *Arch. ges. Physiol.*, 1934, 175, 59.

⁵ H. G. L., *Arch. ges. Physiol.*, 1934, 175, 59.

⁶ H. G. L., *Arch. ges. Physiol.*, 1934, 175, 59.

⁷ H. G. L., *Arch. ges. Physiol.*, 1934, 175, 59.

and Ludwig¹² showed that such extracts increase the rate of growth of fibroblasts *in vitro*. Smith and Sano¹³ confirmed this finding and demonstrated that it was not due to the presence of vitamins B and C; Smith and Livingston¹⁴ claimed that the same effect could be obtained by applying chlorophyll to wounds in man.

Bowers¹⁵ now reports that after operations for pilonidal cyst, anal fistula, and empyema, and also in gunshot wounds, fungating tumours, burns, and certain ulcers, healing appeared to be accelerated after the application of water-soluble derivatives of chlorophyll. There was more rapid healing, prompt deodorization, and the growth of saprophytic secondary invaders was inhibited. The flow of pus was lessened when chlorophyll preparations were applied in cases with nasal suppuration and in certain inflammations of the eye. Bowers admits the difficulty of obtaining satisfactory controls in these conditions, but supports his own observations by the unanimous clinical impressions of more than thirty-five colleagues.

ALLERGY AND THE EYE

The part played by sensitization in diseases of the eye has been studied experimentally and clinically for many years. Many disorders of the eye are now attributed to bacterial sensitization and to allergic reactions to foods, inhalants, and contactants. Cooke¹ classifies allergic reactions of the eye into the following types: artificially induced, spontaneously occurring immediate weal, dermatitis, and bacterial sensitization. Walker² found that of 17,000 cases a year attending the Oxford Eye Hospital 340 (2%) had been satisfactorily proved to be allergic both by skin tests and by removing the offending allergens and then causing the symptoms to reappear on further contact. Of these 340 cases 55% suffered from conjunctivitis, 36% from migraine, 2.9% from keratitis, 3% from iritis and iridocyclitis, and 0.1% from cataract. However, ophthalmologists and allergists do not all agree on what they mean by allergy.

Duggan³ defines allergy to include all those aseptic or abacterial lesions in which the common element of the basic morbid process is either increased capillary permeability or excessive contraction of smooth muscle in the arterioles or both. He develops the thesis that an allergic disorder of the ocular tissues can be interpreted as a manifestation of localized vascular dysfunction. Acute congestive glaucoma, herpes zoster ophthalmicus, paralysis of ocular muscles, vascular disturbances of the retina, acute optic and retrobulbar neuritis, uveitis, sympathetic ophthalmia, serous retinopathy, and episcleritis are all discussed on this basis. Treatment is by vasodilators. Duggan has been treating many of these conditions with vasodilators for some ten years with beneficial results. In the article referred to he describes four illustrative cases of herpes zoster ophthalmicus and seven cases of paresis of ocular muscles treated by vasodilators. As he admits, controls are difficult to obtain, but the times taken to cure seem to be much shorter than by the more usual methods of treatment. A man of 47 with herpes zoster ophthalmicus, keratitis profunda, and cyclitis was clinically cured in thirteen days. A woman of 34 with herpes of the left side of the forehead and a vesicle and marked oedema of the left upper lid, who had severe pain unrelieved for five days, was clinically cured in five days. The other two cases of herpes were in a girl aged 9 and a man of 23, both of whom had mild herpetic iritis; both were clinically cured in four days. In previous cases, summaries of which he records, marked benefit was obtained in episcleritis and scleritis, serous retinopathy, acute exuda-

tive choroiditis, iritis and iridocyclitis, and acute retrobulbar neuritis. His vasodilator therapy consists in intravenous sodium nitrite, 0.1 g. daily, with erythrityl tetranitrate, 30 mg. once or twice a day. Nicotinic acid, 100 mg. t.d.s., with erythrityl tetranitrate was used in one case.

BRONCHIO-CONSTRICTION AND ANTI-HISTAMINE DRUGS

The ability of antihistamine substances, sympathetico-mimetic amines, and other drugs to counteract histamine broncho-constriction in animals has received widespread attention, but until recently such tests have not been applied to human subjects because of failure to demonstrate significant broncho-constriction after doses of histamine that could safely be administered. Curry⁴ has recently studied the effect of histamine on the respiratory tract in man. In 10 normal subjects and in 10 who had a history of severe allergic disturbances, including 5 with a history of asthma but free from symptoms at the time, no notable reduction of the vital capacity was observed following the administration of histamine intramuscularly or intravenously. In 8 out of 9 patients with active asthma and varying degrees of chronic bronchitis and emphysema, broncho-constriction, as shown by a reduction in the vital capacity, was noted after the administration of histamine. The vital capacity was reduced from 9% to 33% after an intramuscular injection of histamine, the maximum effect appearing 2 to 3 minutes after the injection with a return to normal in 20 to 30 minutes. After intravenous injection the vital capacity was reduced to between 27% and 71%, the maximum effect being observed usually 30 seconds after the injection with a return to normal in 5 to 10 minutes. The effective dose was between 0.08 mg. and 0.2 mg. of histamine base when given intramuscularly and between 0.02 and 0.03 mg. intravenously. Broncho-constriction in these patients could also be produced on administering histamine by nebulization or sublingually. The sensitivity to histamine varied from person to person, and in the same individual it varied with the severity of the asthmatic symptoms. However, during any one period of study the repeated injection of the same quantities of histamine by the same route brought about a similar degree of broncho-constriction.

In a further series of experiments on these histamine-sensitive patients Curry² investigated the antihistamine effects of various drugs. "Benadryl," 30 mg. in 50 ml. of normal saline, given intravenously before the injection of histamine, provided marked and rapid protection against the systemic and broncho-constrictive effects of parenteral histamine. Pyrabenzamine, 50 mg. orally, gave a slow and irregular protection, while its effect in different subjects varied, one showing no protection. Adrenaline intramuscularly and "aminophyllin" intravenously produced rapid and complete protection, while with ephedrine intramuscularly it was two hours before the protective action became complete. Atropine gave only partial protection. This "tracheo-bronchial reaction" to histamine in a sensitive subject provides a convenient means of assaying the effectiveness of antihistamine and allied drugs in man and is of special interest in view of the recent development of the antihistamine group of drugs.

Dr. C. M. Fletcher, F.R.C.P., will deliver the Goulstonian Lectures before the Royal College of Physicians of London (Pall Mall East, S.W.) on Tuesday and Thursday, Jan. 13 and 15, at 5 p.m. His subject is "Pneumoconiosis of Coal Miners."

¹ *Allergy in Theory and Practice*, 1947. Philadelphia: W. B. Saunders and Co.
² *Proc. roy. Soc. Med.*, 1947, 40, 582.
³ *Arch. Ophthalm.*, Chicago, 1946, 38, 551.

⁴ *J. clin. Invest.*, 1946, 25, 785.

² *Ibid.*, 1946, 25, 792.

THE TIME FOR ACTION

DR. DAIN'S ADDRESS TO SURREY PRACTITIONERS

Wimbledon Town Hall was crowded on Sunday afternoon, Jan. 4, for a meeting of members of the profession from all parts of the county of Surrey which was addressed by Dr. H. Guy Dain, Chairman of Council of the Association. The chair was taken by Wing Commander H. M. Stanley Turner, who was supported on the platform by members of the Branch Council. The success of the meeting was largely due to the excellent work put in by Dr. T. W. Morgan and Dr. J. W. Starkey, honorary secretary of the Branch.

The Chairman, in introducing Dr. Dain, said that this was a meeting of doctors called irrespective of membership of the B.M.A. or any other body. They welcomed the statement on the Minister's reply which the Council of the B.M.A. had published (Dec. 27, p. 1046). It confirmed the views which many of them had held from the beginning that what was intended by the Government was the subjection of the private medical practitioner to the will of the politicians on the pretext of improving the health of the community. This was to be achieved by the conversion of the profession into a class of Civil Servants controlled and supervised from above. Some of them had been present at a meeting at Guildford recently at which German doctors testified that Hitler at the very inception of the Nazi regime imposed almost the same conditions on the profession in Germany.

They had waited long and patiently for some directive from the B.M.A., and it seemed, for a time, in vain. But the result of the recent discussions now published showed that there was no longer any room for doubt or misgiving. The irresistible force was about to encounter the immovable obstacle. In Surrey they were solidly behind the B.M.A. A member of the Labour Party had told him that the Minister could rely on sufficient disunity in their ranks to be sure of getting what he needed, at any rate in the industrial areas, by the appointed day. The Minister might get a surprise. Control and regimentation were foreign to this country and to the profession. Only by conceding the fair and reasonable conditions asked for by the B.M.A. in the name of a free profession would the Minister get a helpful and co-operative service, and, what should appeal to him, a service without labour troubles.

Meetings with the Minister

Dr. H. Guy Dain, who was received with cheers, said: We have been talking for a long time and we are now faced with the prospect of action. The Minister has had it in his mind from the beginning that he would succeed in dividing us. I met him at various social functions and he never failed to tell me that the medical profession was divided. When he said it the first time I thought he was just being funny; the second time I attributed it to mere repetition; but when he said it the third time I decided that he was afraid we were not so divided as he liked to suggest.

We met the Minister in February, having forced his hand to the extent that he agreed to discussions with the possibility that amendment might follow. We determined not to enter into discussions on regulations but only on the Act as a whole, and he accepted that decision, though, as we think now, with no real intention of amendment. We set up committees and examined the Act from end to end according to the various types of work on which the profession is engaged. The more closely we studied the Act the more convinced we were of the rectitude of our principles and the necessity for their implementation before we could accept service. A close examination of the Act has made it more and more obvious to those who have taken part that it is essential to obtain amendment before service can be entered upon.

Something must be said about the interviews with the Minister himself at the end of the detailed discussions. His tone was very different from what might be inferred from his written reply. In discussing the general practitioner service he was just rude, blustering, and threatening. He left that meeting, no doubt, satisfied that he had given nothing away, and for my part I went away delighted because, not having conceded any principles, he had not offered us any small amendments

which would have made our position more difficult and the issue less clear-cut. But when next morning we discussed with him the position of the consultants he was smooth and amiable. He said that he realized that there must be a fourth class of hospital patients, that in addition to those who have hospital services free, those who paid for hospital amenities but not for medical service, and those who paid the full cost of maintenance and a professional fee the amount of which was to be determined by the Minister, there must be a fourth class consisting of those who paid full hospital maintenance and such fee as the consultant thought the patients could afford.

Quite obviously he had the intention of placating the consultant side of the profession while being extremely rude to the general practitioner side. For my part I hope that consultants and specialists as well as general practitioners will have nothing to do with the Service until the proper amendments have been put into the Act. (Hear, hear.) In the document before us he has asked those concerned to co-operate with him and see how it works, and if it is found that things require amendment they can be amended afterward. "Will you walk into my parlour," said the spider to the fly.

Remuneration

I want to take you through some parts of the Minister's statement. First, remuneration. It is said by some people to be a very attractive offer, by others to be not as attractive as it seems. Speaking as a general practitioner I had always supposed that if all my better-off patients were to be absorbed into the National Health Service I should have a much higher capitation fee than obtains in respect of people with limited incomes under National Health Insurance. Any capitation fee of less than £1 is likely to leave me worse off than at present.

This 18s. offer embodies two or three things against which we have set our face all along. One is the sliding capitation fee. As the result of the £300 basic salary, the greater number of doctors who come in, the smaller the fee. We must have a fixed capitation fee. We shall require also that wherever capitation fee is fixed the mileage fund must be outside. That is a separate consideration. Mileage does not apply to us all. It applies to certain doctors in certain areas, and it is not proper to allow it to affect the capitation fee applicable to the whole country. Incidentally I do not think the amount set aside from the pool will recompense rural doctors for the additional time their work takes as compared with the town doctor.

In a document which you will receive shortly you will find the capitation fee analysed carefully, and it will tell you exactly what you will be paid in different circumstances. The Minister states that with the maximum number on your list you would get £3,332 a year. This would apply only to very few people. Under N.H.I., which includes half the population, the average number on the list is 1,000; with the whole population included it may be taken at 2,000, so that instead of a gross income of £3,332 the practitioner would on average get a gross income of £1,816, or about £1,200 net. That makes the offer not nearly so attractive as it appears when it is stated that instead of the present 15s. 6d. for insured patients the practitioner will get 18s.

The Minister makes great play with the fact that practitioners will earn outside money. But when everybody is provided for there will not be so much from this source. The public assistance doctor will disappear, the police surgeon and the police office doctor will find their work contracted, and there will not be much opportunity in many areas to earn money outside the National Health Service.

To basic salary we have fundamental objections. (Applause) We are determined that we will not become directly paid salaried servants of the State, and that the control of a practitioner shall not come between ourselves and our patients. So long as the patient pays us, whether directly by fees or indirectly by coming on to our lists as in the N.H.I. arrangement, there is nobody who intervenes with a monetary consideration. We are not prepared to be in a salaried position in which the interference of a State department may come between us and the interests of our patients. Those interests must be paramount. With a salary even as small as £300 a year we shall begin

experience control, and there is nothing in the Act to prevent the Minister by regulation changing it into a full-time salary. Much of the Act will be worked by regulations which the Minister can issue at any time, and the only way of getting such a regulation annulled is by a prayer in the House of Commons, which is a very difficult and extremely unsatisfactory procedure.

Compensation and Goodwill

Two or three years ago, without prejudice, we discussed with the Government, when they said they proposed to do away with the sale of goodwill, the value of practices at that time, and, taking 17,900 general practitioners—principals—the figure of £66 millions was arrived at on the basis of 1938 values at two years' purchase and plus 16% betterment. The figure for betterment is ridiculous to-day, and therefore it is unlikely that £66 millions will go very far. I know doctors who are staying in their practices until the appointed day in order that they may then give up practice and take their compensation. Although you may get your compensation some day you will have to wait a long time for it, for the value of each practice in the country will have to be determined separately and added together before the individual share of the £66 millions can be ascertained. As I see it, that cannot be done in less than two or three years, and even if there is no difficulty over partnerships there will still be a long delay before anybody who retires will actually receive his compensation. Interest on the capital sum will be payable annually according to the Act, but our lawyers say it will be impossible to determine in the case of partnerships what proportion of interest should be paid to each partner until all the terms of the partnership have been completed. Those are quite technical difficulties, but they were made a good deal of in the discussions, though in view of the larger issues we do not want to spend too much time upon them.

We have said that we will not be paid by salary because it will interfere with our relationship with our patients, and for the sake of our patients as well as ourselves we want to retain the goodwill in our practices. I know that some people are apologetic about all this even among ourselves. We know, of course, the absurdity of the contention of Socialist spokesmen that it is a question of "selling" blocks of people. It is a question, not of selling people, but of selling or keeping the goodwill which by good work we have created in our practice, just as goodwill is created and recognized in any other profession. There is no reason why we should be ashamed of our possession of goodwill or want to give it up. Its retention is as much in the public interest as in the doctors'. It represents the capital value of doctors' good work, and the doctor should be able to dispose of it when he wants to go out of practice.

If we retain our goodwill we can retain our present method of distribution of doctors. Present methods have provided a very fair distribution, as is shown by the fact that only once in thirty-four years under N.H.I. has the Minister found it necessary to supplement payments to a doctor in order to persuade him to practise in an undesirable area. If that is so when the conditions of N.H.I. apply only to half the population, the forces of supply and demand with the whole population in the Service may be expected to suffice to fill in any gaps, and the problem should settle itself. If it does not, the Minister still could have power, such as he has to-day under N.H.I., to offer special terms to somebody for a special place.

If we surrender our right to dispose of our goodwill we have the position set out in the Act whereby the Minister retains the power to say that a man shall not practise in a particular area. Remember that with regard to the injunction against practising in a particular area it is not only the people who come in after the appointed day who are affected, but any doctor who wants to change to another district. To such a doctor the Medical Practices Committee could say that there was no room in the area to which he wanted to go. That is the effect of what is called negative direction in the Act. The amount of movement that takes place in the profession is astonishing and at first hardly to be believed. During the war the Association set up at Headquarters a register of all medical practitioners with their jobs and localities, and in order to keep track of the changes of address and the movements of doctors the Association keeps six whole-time clerks fully occupied. Imagine

the problem which would face a Medical Practices Committee set up with the object of deciding whether a doctor making an application should be allowed to go to a particular area. The Minister says it would become automatic. We say, well, if it is automatic it is unnecessary, and whichever way you have it we don't want it.

Permissions and Controls

Having dealt with some of the more personal problems, Dr. Dain touched briefly on the remaining matters. One of these was the point that although all in practice on the appointed day might go into the Service, after that day it was necessary to get permission to go in. In 1911 Mr. Lloyd George made no difficulty on this point, but the present Minister would not concede it. He had said that he must have the right to refuse if he wished, and he remained tight on that, and said that doctors were free to stay out. Of course they were, but if the Service was the only means of earning one's living there was not much freedom about that.

Again, he had specifically refused any right of appeal to the courts, arguing that if he was to be answerable to Parliament for the success of the Service he must not be put in a position where he had to answer for a doctor whom he was forced to retain. The profession held that there should be a right of appeal from any decision of a tribunal to remove a name from the lists or from an adverse decision of the Minister.

A word or two on the hospital position. How were the staffs going to be affected? Somebody had said that the consultant on the staff of a hospital would have a position of great security and would be very much better off. But he had attended a meeting the other night of the Marylebone Division at which one Harley Street man in a telling speech said that all this talk about security in the Service for consultants was just rubbish, and that his only security was in his own good work. The Minister would have the power to alter the consultant's remuneration and terms of service. He would be in a salaried service.

In general practice they were enabled to adjust fees to changing money values, but when their income or the bulk of it came from a Government department they would have no such freedom. Those who were in insurance practice had known how in a slump the capitation fee was immediately reduced and with what difficulty it was raised again to meet different conditions.

Finally, there was the question of the membership of health committees of local authorities. Under the Education Act there was co-option to education committees of people interested in education, including teachers, but when it was suggested that local authorities should be compelled to co-opt doctors to their health committees the Minister said that he could insist on nothing of the sort and that it was improper to ask for it. But it had been done in the parallel case of teachers, and he hoped that when it came to the amendment of the Act this point would be insisted upon.

The Plebiscite

Dr. Dain continued: On January 8 there will be a meeting of representatives to consider details of the plebiscite and the lead to be given to the profession. On January 31 the forms of plebiscite will be issued, returnable by February 14. We are having prepared a concise statement of the points in the Act to which we are opposed and the reason for which we oppose them. This will be sent to every practitioner on the Register.

The plebiscite is not the end but the beginning. We may get an enormous majority against service. The Minister is banking on the supposition that that majority will not be real and that it will dissolve away by July 5, by which time he thinks he will have enough people to enable him to start the Service. That is what I have in mind when I say that action begins when the plebiscite result is out.

I have in front of me the draft form which will be put next Thursday to the Representative Body. I was in favour of the putting of only one question: "Are you willing (unwilling) to enter the Service?" But there are people under contracts of various kinds—whole-time officers of the Ministry and of local authorities and other bodies, medical teachers, and so forth.

We had to reconsider the form of question in the light of that fact and of the distribution of doctors in various types of occupation.

Dr. Dain here read the instructions on the draft plebiscite form and the proposed questions. He explained that the estimate of 13,000 general practitioners as constituting the strength of the vote required to give the necessary majority to justify the Association asking the profession not to accept service was the result of very careful thought. It was estimated what minimum of general practitioners the Minister would require in order to start the Service. It was decided that without more than 8,000 he could not possibly do so. The total number of general practitioners who could be available, after allowing for certain alien practitioners who might by that time be permanently registered, was computed at 21,000. If there were at least 13,000 who said they would not take part it was quite certain that a service could not be started.

We have tried to frame the questions (Dr. Dain went on) in such a way as to avoid any possible ambiguity. I see no reason why we should not have practically 100% of disapprovals. (Applause.) Even the public health medical officers and other people in whole-time employment see the red light in this Act. I have been asked that the plebiscite form should contain a legally binding agreement not to enter the Service. But it is not possible to construct such an agreement applicable to everybody, nor to have it signed and at the same time say that the vote would not be disclosed. In addition we do not want people to give legally binding agreements in this plebiscite. If we have a satisfactory majority in the plebiscite I suggest that each area in its different groups, perhaps through its Panel Committee, should get down to the practising doctor, and that doctors in their own areas should agree with one another on a form which they can sign not with the B.M.A. but between themselves. (Applause.)

If the B.M.A. organization is as good as I think and hope it is we should be able to do that between now and July, and make certain that the Minister will have no ground whatever for supposing that he will have enough doctors to start his Service.

Reassurances

What are the things which make it difficult? Here we come to the horrible word "fear." What are we afraid of? The consultant says, "On July 4 my present appointment to my hospital ceases. The hospital belongs to the Government and I must enter into a new contract. If I do not I shall lose my hospital appointment and with it my consulting practice." Fortunately that fear has little foundation. The Government will not be in a position to offer a contract to any consultant by July 5. The Spens Specialist Committee has still to report. After it has done so, arguments have to take place with the Treasury and with consultants themselves as to how it is to be implemented, and it will certainly be the end of the year before any terms can be offered to consultants. Their fears about replying "No" can be dismissed, and there is no reason why consultants and specialists should not stand in with the whole profession. (Loud applause.)

What about the general practitioner? One of them may say, "I am very much opposed to this Act, but I cannot afford to stay out. I have got boys at public schools, expenses are heavy, I must not take the risk." If one points out to him that being a man in well-established practice, as presumably he is, he stands to lose financially rather than to gain by accepting the new service, he may say, "But what if the panel cheques do not come in so that I may meet pressing liabilities?" Well, the Act provides that National Health Insurance stops when the other Service begins, and if you prevent the other from starting then N.H.I. will not stop and so you need not be afraid.

The general practitioner is in this cleft stick, that if the Act starts and he has not come in, then he loses his right to compensation. But if the profession decides to stay out, then we retain our goodwill, Mr. Bevan can keep his £66 millions, and we shall lose nothing. If there be difficulty of any sort that we have not foreseen then in one form or another we have a reasonable sum of money by which men might be helped over a short period to maintain their income and pay their insurance premiums, but there will, of course, be a great many doctors who will not be affected in that way. We shall

go on attending our patients, private and other. Here I am rather inclined to quote a leader from the *Daily Express*, which asks where the public come in. The Service is going to cost £152 millions. But there will be no more doctors than before, no more nurses, no more hospital beds, nothing that anybody will get that he cannot get to-day, although the country will be spending £152 millions to get it.

Dr. Dain concluded: The profession wants a lead. I as Chairman of Council must be the spear-head of the Association in this matter. I say that the new Service as propounded in its present form is entirely unsuitable, entirely improper for us to accept, and we should endeavour to persuade our colleagues to vote against accepting any service under the Act in its present form. The B.M.A., so far as I have any influence, and the Representative Meeting will most certainly stand firm for that position. This is a demand for action—and the action is up to you. (Loud and prolonged cheers.)

QUESTIONS

At the conclusion of the address written questions were handed up to the platform from all parts of the hall, and were answered by Dr. Dain for half an hour or more until the Chairman asked the meeting to have some regard for the speaker's physical resources.

The first question was about partnerships. Dr. Dain said that they had been quite unable to obtain from the Minister's officers or the Minister himself a satisfactory statement on the position of two partners who were receiving by their agreement unequal shares. The wording of the Act seemed to make it impossible to arrive equitably and safely at any distribution of profits between partners except by each just taking what he actually earned himself. They had told the Minister that they considered that the Act would be certain to destroy partnership and to deal a serious blow to group practice in any form.

Asked what was being done to enlighten the general public on the position, Dr. Dain said that as soon as it was known what the answer of the profession was in the plebiscite the public would be approached and fully informed of the position. The most important thing to put to the public was the risk they ran of losing the undivided loyalty of the doctor as a result of the introduction of basic salary.

Another question was, "What percentage of doctors pledged themselves against the Act in 1913 and what proportion of that percentage adhered to their pledge?" Dr. Dain replied, "Somebody thinks we do not know what happened in 1911-12. We were then dealing with a more approachable Minister, who had given way to the profession on the principles they stood for, but did not give them enough money to start with, and as he raised the price from 4s. upwards, when he got to 7s. 3d. a large number thought that was enough and came over. The position does not arise to-day. Besides, we have better organization now, and we will jolly well see it does not happen this time." (Applause.)

Asked what steps would be taken to inform the public of the true implications, Dr. Dain said that they might take from him that very effective steps would be taken. In general the Association was now on excellent terms with the Press. The Association had a very efficient public relations staff.

In reply to another question he said that in fixing on the figure of 13,000 general-practitioner votes against entering the Service allowance had been made for men coming out of the Services and newly qualified men finishing their hospital jobs.

What was the position of the whole-time medical officer a local authority automatically transferred to a Hospital Board on the appointed day? Dr. Dain said that such a man was already in a salaried appointment and would continue to do his work. There was no reason to think that a large number of these men would not express themselves as against the Act.

Would not Mr. Bevan try to implement his scheme whether the doctors were there or not? Well, Mr. Bevan was very determined. He had declared to the dentists that he would start a service on July 5, dentists or no dentists. Were such expressions anything more than hot air?

In reply to one question Dr. Dain explained the position under the Act with regard to midwifery. The Minister had taken power to determine the qualifications of the doctors who

should undertake midwifery under the Act, and the profession had said that that must come out.

In the conversations Mr. Bevan had made it clear that no practitioner would be allowed to charge fees to persons on his list. Such persons could go to another practitioner, who would charge them a fee, but Mr. Bevan seemed to think that this should never be more than a single consultation fee, and that if a patient was dissatisfied with his doctor he should change to another list rather than seek treatment outside the Service. The profession did not assent to that.

When would Mr. Bevan want their answer? He had said that they would have six months to make up their minds. There would remain some months after the result of the plebiscite was known, and if the individual intended to accept service, or if the profession indicated its willingness to accept, this could be done any time up to July 5.

Some questions were asked and answered about the imminent accession of a number of alien doctors, displaced persons, on the permanent Register. Allowance had been made for these in the various computations. Incidentally Dr. Dain mentioned that as a member of the Council of the Royal College of Surgeons he was aware that a large number of young men evidently thought they would be better off in the new Service as specialists than as general practitioners and were seeking special diplomas, not always with success.

Might it not nullify the result of the plebiscite if the Minister afterwards made some alterations in the conditions? Well, the

Minister had shown no sign of weakness, and if the profession gave an emphatic "No" he would find it difficult to start offering one thing or another between now and July 5.

Why not adopt the policy of passive resistance? The answer was that passive resistance was difficult, and what was wanted was not passive but active resistance as soon as it was known that the vote in the plebiscite had gone in a certain way.

Concerning hours of work, these must depend on the kind of work doctors individually undertook. "We shall never, I hope, expect that doctors under any conditions of employment will do office hours. We must be at the disposal of our patients when they are ill."

What was to prevent the Government enforcing on the State doctor union rules—an eight-hour day, a forty-hour week? "We are the people who will prevent any Government from enforcing orders upon others."

In closing the questions Dr. Dain said that members of the profession in other countries were watching events here. He had been impressed by this when attending the World Medical Association at Paris in September. Representatives of medicine in other countries were most anxious to know whether British doctors could stand for their own freedom.

A hearty vote of thanks to Dr. Dain was proposed by Dr. E. L. K. Sargent (Wimbledon) and seconded by Dr. S. A. Forbes (Croydon) and enthusiastically carried. The proceedings closed with a vote of thanks to the Chairman, moved by Dr. N. E. Waterfield.

THE PROFESSION AND THE MINISTER

DR. HILL'S ADDRESS

What the chairman described as a historic meeting was held in the Great Hall of B.M.A. House, London, on the evening of New Year's Day. It was convened by the Metropolitan Counties Branch and was addressed by Dr. Charles Hill, Secretary of the Association. The gathering was probably the largest ever assembled in the hall, where large numbers had to stand or sit on the floor throughout the proceedings, and, even so, many could not gain entrance and the speech was relayed to other parts of the building.

Dr. Hill spoke for an hour and 25 minutes and answered questions for a further half-hour. He made a careful and dispassionate survey of the Minister's reply to the case which had been put forward by the Negotiating Committee for amendment of the Act. A reminder of the fights of former years was on the platform in the person of Dr. Alfred Cox, for more than twenty years Medical Secretary. The gathering included a relatively large proportion of consultants.

Dr. R. W. Cockshut, chairman of the Metropolitan Counties Branch Council, who presided, said that it was now a considerable time since the Representative Body committed the honour and future of the medical profession into the hands of the Negotiating Committee. During those long months the Committee had met the Minister and his officers, and now the trust was handed back untarnished. Nothing had been given away.

The present great meeting, Dr. Cockshut continued, was the first large meeting of doctors to be addressed by Dr. Hill since the Minister's reply. They had reached a stage when the future of medicine was at stake; but the future of medicine was not in the hands of the Government or of Mr. Bevan, it was in the hands of the doctors themselves, and they had it in their power to ensure that the traditions they inherited and the hopes they held for the future were secured.

The Minister's Reply Examined

Dr. Charles Hill, who was warmly received, said: It is my job to-night to survey the reply that the Minister has given to the Negotiating Committee. That reply is prefaced by a series of observations addressed to individual members of the profession. Those observations are couched in seductive terms, possibly with a faint air of prefabrication about them. But we must not allow personalities to confuse the issue, and equally we must not allow the sweetness of the terms which the Minister uses to obscure our understanding of the real character of his reply. We must be careful not to mistake the gloss, the varnish, the veneer for the substance which lies beneath.

We are told in the Minister's reply that any doctor will be free to enter or not to enter the Service, or partly so and partly not; there is no compulsion. In one sense true, but if this Service comes into being in its present form the vast majority of general practitioners will not find the position to be that of entering or not entering. If the State is paymaster in respect of the bulk of the population many practitioners will find themselves faced with the choice of coming inside or starving outside.

The Minister goes on to say that the word "service" is perhaps a misnomer; but it is the word he himself has used in the designation of the Act. He says we shall not be Civil Servants. True, in the accepted sense of the term, but general practitioners and consultants will be salaried officers of an agency of the State, and, what is more, they will be entering a service which is administered by Civil Servants.

He then tells us how the doctor will be paid, and with a delicacy all his own he begins that summary by quoting the maximum remuneration. With the maximum number of persons on the practitioner's list he gives that remuneration as £3,300 a year. It would have been fairer to have recalled that under National Health Insurance to-day, with a maximum list of 2,500, the average is 1,000 insured persons on the list, and it may be calculated from this that in the future, in a service available to and utilized by 95% of the population, the average list will be approximately 2,000, and the average annual remuneration gross from the Service will be £1,816.

The Minister says there is no rigidity about the figure 4,000. We may infer that there is no rigidity either way, that the number can be increased or reduced by regulation as time goes on. He also says in an attractive phrase that if the doctor who has entered the Service wants later on to stop practice for any reason he can draw his compensation at once. There may be some who have turned over the prospect of entrance into the Service and speedy resignation, collection of compensation, and thereafter concentration upon private practice. I have been at pains to inquire exactly what those words mean. They mean that if a general practitioner emigrates to another country, if he removes himself from general practice altogether and takes up another form of medical practice, or if, leaving his own area, he goes into another to engage in private practice, he will then be able to draw his compensation and continue in private practice in the area in which he resides. I mention this to show that the remarks with which the Minister prefaces his reply should be scrutinized with unusual care.

Direction and Distribution

Passing from this preamble to the more detailed reply of the Minister we notice his statement that he has examined the seven general principles of the profession and does not believe that anything in the new Service is really in conflict with them. I would remind you of our principle which states that anything tending to make the medical profession whole-time salaried officers of central or local government is contrary to the best interests of the public and of the profession itself. The main question which we have soon to answer is whether in fact the proposals do involve such a tendency and, if so, what we are going to do to arrest it.

The Minister goes on to deal with distribution. Existing general practitioners will be permitted to continue in their own areas, but any newcomer into an area will be required to obtain permission. We have said that general practitioners should be free, without the necessity of permission from anyone, to set up in public practice in the area of their choice. We have objected to a state of affairs in which governmental licence is necessary before such choice can be exercised, and we have gone on to argue that by the creation of a comprehensive service and the payment of a capitation fee such errors of distribution as exist to-day will rectify themselves in course of time. We admit that where under-doctoring can be substantially proved it will be the Minister's duty to correct it by appointing to that area a general practitioner who is willing to go there.

But study the Minister's reply on direction or distribution with particular care, because the Minister rests his case for the abolition of ownership of goodwill in general practice upon the necessity for controlling distribution, with resultant interference with sale of goodwill. The Minister's first argument in favour of his distribution proposals is that no doctor in the public service can be allowed to attract to himself public money without public or official permission. Implicit in that argument is the assumption that the doctor would increase the public expenditure by choosing an area where he was not needed. That is not the case. The medical pool of capitation fees will be related to the number of persons who use the Service, and would not involve an increase in public expenditure for doctors to choose the area in which they desired to establish themselves in public practice. At least that would be the case but for the basic salary proposal. Indeed, it is in the distribution paragraph that we begin to see the motive which lies behind basic salary.

The distribution of doctors, says the Minister, would be in the hands of a predominantly medical committee, not subject to his direction—a plausible argument until we study the document lower down, where he tells us that the Medical Practices Committee is only going to find a few areas which are under-doctored. He is doing their work in advance for them, while at the same time he claims that they are an independent professional body.

He states that the Minister intervenes only where a doctor, desiring to go to a particular area, is refused permission by the committee and appeals to the Minister. The most he can do, he says, is to reverse a decision in the doctor's favour. That is a piece of special pleading. The main work of the committee will be to select from among the competing applicants, and when a doctor appeals against a decision he will be in fact appealing against a decision in favour of another doctor.

He tells us that there will be few areas where there is no need for new public practice or replacement. If that be true he is proposing to establish a vast system for the licensing of general practitioners for the solution of what he himself submits will be the problem of a few areas. The whole of his case for the abolition of goodwill is built on the argument for better distribution, and yet he says that the problem, like the servant girl's baby, is only a small one and that this control will be exercised only in a limited field.

Cumbersome Machinery

We stated in our document that the whole machinery was cumbersome. The Minister denies it, but I challenge anyone to deny that the Act lays upon the Medical Practices Committee the obligation in every case in which a doctor seeks to

establish himself in public practice anywhere to satisfy itself that the doctor is needed in the area.

He says that the Medical Practices Committee, advised by the Local Executive Councils, will keep itself informed of the state of affairs in general practice throughout the country. This great meeting is a meeting of a proportion of the practitioners of London, and that one committee of wisacres has to be fully informed of the detailed conditions of the areas in which you practise so that should one of you, unfortunately, die it will be immediately possible for the committee to determine whether the circumstances demand your replacement or not.

The experience of the Central and Local Medical War Committees proved that the problem is an immense and laborious one. There will be placed on the committee a burden which it cannot sustain. You may think all this relatively unimportant, but it builds up the picture with which we shall finish, of the unwillingness of the Minister to make any change in this Act in principle or detail whatever the strength and validity of the arguments we advance.

The Ownership of Goodwill

Let me pass on—for I cannot pretend to be comprehensive—to the ownership of goodwill. The Minister declines to shift from his position. During the discussions there emerged the problem of partnership agreements. It is a technical problem, but the examination of it is an indication of the Minister's mind. As ownership of goodwill is abolished, with compensation, the authors of the Act thought it right and proper to define circumstances in which certain transactions would in fact constitute sale and purchase of goodwill. There is a penalty for such transactions—fine and/or imprisonment. For example it is defined as an offence when two partners working together divide the emoluments in proportions other than those in which the moneys were earned. To that section there is a proviso exempting, according to the Minister, all existing partnership agreements, which agreements remain in operation as if no service had been introduced.

We took legal advice on that, the best we could obtain from leaders of the Chancery Bar. Those of you who are interested in the legal argument will find intellectual entertainment in counsel's opinion (*Supplement*, Dec. 20, 1947 p. 151). They state that the Minister is wrong in his interpretation, and that only a proportion of partnership agreements, not the whole, are exempt from the disciplinary provisions, and they go on to say:

"If Sections 35 and 36 are allowed to become operative without amending the profession and the Ministry alike will labour under embarrassing uncertainty on matters of great importance until the debatable matters have been finally adjudicated upon, and in the meantime steps may have been taken on the footing of a construction which is ultimately found erroneous with unfortunate consequences to all concerned. In our opinion it would involve a real hardship to the practitioners concerned if they were required to submit to such uncertainty when it has been clearly foreseen and can be removed by an amending Act."

That is the opinion given, that the Minister's interpretation is wrong and that in any case such ambiguity exists that it is a matter of embarrassment and danger to members of partnerships to require them to decide whether or not to enter the Service without knowing whether the partnership deeds into which they have entered in different circumstances are still valid after the appointed day.

Counsel go a stage further. Taking the Minister's own interpretation of the Act, they go on to show that the Minister is incapable under the Act of putting his own interpretation into operation, that the Minister is incapable in law of paying the interest upon compensation moneys which the Act he promised shall be paid to individual practitioners. The Minister's reply in effect is this: "If in future I am proved in the courts to be wrong then I shall introduce legislation to put myself right." (Laughter.)

You see the position. It will be fought out in the courts by practitioners at their own expense, perhaps taken to the House of Lords at their own expense, and when that has been done the Minister or his successor, if he decides to observe the promise of the present Minister, will introduce legislation to put it right. But nothing can put right transactions which have

taken place after the appointed day and before such a decision by the House of Lords—transactions which have been undertaken in the mistaken view that the Minister's interpretation was correct.

The significance of this is in the Minister's real intention. Let me tell you what it means if the Minister's interpretation is right. It means that where two partners join the Service and one is required by the partnership agreement in certain circumstances to purchase the share of the other he may still do so, but he may be in the position of putting down £2,000 and registering for compensation £1,500 or less. True, the reverse may obtain. It is theoretically possible for the agreement to provide for a less generous payment than the payment from the compensation fund. But where one partner enters the Service and the other does not—and, mark you, the profession is free to join or not to join—and the one not in the Service dies or retires, the man in the Service may by the agreement be required to buy the practice of the man who had been outside, and having bought it there is nothing in the fund to compensate him for the loss of his capital value, despite the fact that, being a member of the Service, he is precluded from selling what he has bought.

If, on the other hand, circumstances should operate the other way, and the man inside the Service should die or retire, the man outside the Service is required to purchase the practice of the other. He can touch the income from what he buys only by himself entering the Service, and if he enters the Service he loses his power to sell his own practice and the share he has bought, without a penny of compensation. What does the Minister say? He says it is unfortunate that there is no compensation provided in the Act for the practitioner who, being in the Service, is required to buy the share of his partner who was outside the Service, but he has hit upon a way of making some money available to him. Money, after all, is saved in the compensation fund. If a man inside the Service sells the practice to a man outside the Service the Minister will use the money saved to compensate the man inside the Service who has bought the practice outside.

You know what that means. It means that for the man outside the Service who is required to buy a share of a practice inside the Service there will be expropriation, robbery, call it what you like. He is mulcted of a sum of money, he is prevented by law from obtaining it, and the Minister in effect says, "To the extent I have mulcted the man outside the Service I will use the money I have pinched to compensate the man inside the Service." Contributions to the church offertory are evidently welcome, even from the proceeds of picking pockets!

If the Minister is right, the situation I have described is the direct result of his interpretation. If he is wrong—and he waits for us to prove him wrong—he is going to introduce legislation to put himself right. The Minister has proved impervious to argument, legal or other. He is inviting members of partnerships to join the Service without his taking the trouble completely to clarify the position which will obtain if they do join the Service.

It is difficult to be dogmatic in one's estimate of the future but we have felt that this new Service in a number of ways renders it less likely that there will be partnership practice and assistantships with a view. You will realize the peril—safeguarded to some extent by the Medical Practices Committee—in which partners will be placed. For example, if an assistant is paid substantially less than he is held to be worth and is subsequently admitted to partnership it may be held that there has been a concealed sale and purchase of goodwill.

The Doctor's House

I must refer to the doctor's house. Should a doctor die and his widow sell the house to the incoming practitioner it will be an offence if the consideration for the sale is substantially in excess of the consideration which might reasonably have been expected if the premises had not previously been used for the purpose of medical practice. The widow, if successfully prosecuted, is liable to fine or imprisonment. The Minister's reply on this point is significant. He says that there is no risk of committing an offence if the house is put up to auction. The Act does not say anything about auction or method of sale. When the Minister does not like our interpretation of what the Act

says he declares that it must be left to the courts to decide, but when the straightforward reading of the Act is inconvenient to him he gives his interpretation and asks us to accept it despite the plain reading of the words.

The Remuneration Proposals

Now for remuneration. You know the general conception. Take 95% of the population of the country, multiply it by 18s., and that is the medical pool. Out of the pool come mileage, temporary resident payments, payments for anaesthetics, emergencies, and so on. Take mileage out, and the pool becomes comparable with the central pool under N.H.I. to-day. That pool will be divided among local executive councils in a proportion, taking as index figure the number of persons in the area who have signed on to doctors' lists, plus one-third of those who have not.

In his illustration the Minister puts the maximum remuneration first. I do want to point out that in a free service which covers the whole population the number of items of service per person will rise. Since the inception of N.H.I. the number of items of service has trebled for the same section of the community. The number is between 5 and 6. If we take 5, then for 4,000 public patients there will be 20,000 items of service a year, considerably more than 100 items a day in the winter months and 60 to 70 in the summer. I mention that in order that it may be appreciated that the maximum on the lists is not to be everybody's prerogative—indeed, it is not within everybody's physical capacity. By analogy with N.H.I. the average is likely to be 2,000.

The Minister says that over and above the payment for the 4,000 public patients there will be lots of other things—public and private fees, maternity payments, mileage payments. What he does not say is that all district medical officer appointments will go, incidentally without a penny of compensation for loss of office; the work of police surgeons and post-office medical officers will contract at first and afterwards go; and that to undertake midwifery in the public service will be inconsistent with a complete list, indeed will inevitably mean a list which is substantially less than the maximum. In many areas private practice will be virtually non-existent.

But take the average—2,000 patients, giving a gross income of £1,816. An issue which arises at once is: Does this conform to Spens? The Spens Committee examined the range of general practitioner remuneration, and the report has been accepted by both sides. The Spens Committee, speaking in terms of pre-war money and net remuneration after allowing for practice expenses, said that 75% of practitioners should obtain over £1,000, 50% over £1,300, 25% over £1,600, and 10% over £2,000. Taking the 50% figure of over £1,300, and adding 30%—a low computation—as the betterment factor to bring pre-war values up to post-war, we get £1,690. Adjust this for practice expenses of 33½%—again a rather low figure on the returns prepared for the Spens Committee—and we get for 50% of practitioners a gross income of £2,535 or over. Can this be compared with £1,816 as the Minister's figure for the gross income of the practitioner having the average number of persons on his list? That "average" man is not quite the same as the "middle man" in the Spens figures, but the difference is probably not great; the difference between £1,816 and £2,535, however, is considerable. Even allowing for the value of the Government's contribution to superannuation the Minister's proposals do not appear quite to tally with Spens in the middle ranges. In the upper ranges the gross post-war figures for the Spens 10% group would be £3,900, comparing with £3,332, the Minister's figure for the man who has 4,000 public patients.

The Basic Salary

There is nothing more to be said about remuneration except this: there will be a basic salary of £300 a year, providing there is sufficient speed in the increase of the list. The basic salary is paid on the understanding that you need not have it for long. The effect of it is this, that the capitation fee for the first 1,000 patients is 21s. 2d., and for every patient over 1,000, 15s. 2d. I am taking the assumptions that 95% of the population are on doctors' lists and that 17,900 practitioners join the Service. The curious thing is that the greater the number of practitioners who join the Service the smaller will be the

capitation fee, for a greater number of sums of £300 will have to be taken from the central pool before the rest is distributed. The tapering capitation fee of which we have heard so much comes back in a new form.

Appeal to the Courts

You know the Minister's answer about the right of appeal to the courts. It is "No." He asks how could he be answerable to Parliament for the conduct of a doctor whom the courts had restored? You see the implication. He finds himself unable to accept the position that his verdict or the verdict of the tribunal should be subject to challenge in the courts. We have argued that in a service of these dimensions it must not be possible for a practitioner to find himself unable to earn a living while he is still regarded by the General Medical Council—another arm of the Government—as a fit and proper member of the medical services of the country.

The Hospital Aspect

Having completed this rapid survey of the general practitioner position, Dr. Hill turned to the hospital aspect:

There is one point in our original position which has not been pressed—the ownership of hospitals by the State. It was inevitable from Beveridge onwards that the State should accept financial responsibility for the provision of hospital beds and medical care therein, and the Government took the decision that led inevitably to ownership of hospitals, local authority and voluntary, by the State.

Expressing a personal view, I regret that we have not taken a stronger line in relation to that issue. For too long we have been making the bland assumption that to transfer something to the State is inevitably to ensure that it will be properly, wisely, and soundly administered. But there was no uprising of public or professional opinion on that issue, and the very fact of the passage of the Act so damaged the finance of many voluntary hospitals as to make the change almost inevitable. Therefore our representations were on other issues, the most important being that the Act enables a hospital monopoly to be established, transferring automatically to the State all the non-profit hospitals and giving the Minister also power to acquire land on which he may cast a lustful eye and which may include any hospital buildings. The Minister has also power to take over nursing-homes, so making independent practice difficult if not impossible. The hospital beds will be of three kinds, public, private, and intermediate, in which last the patient makes a payment only in respect of the amenity of the accommodation. There would be grave peril to consultant private practice if it were decided to develop intermediate accommodation at the expense of private.

When we met the Minister—I think I had better draw a veil over his demeanour in the discussion on the general practitioner phase—a strange blandness and friendly accommodation came over him as he turned to the hospital and consultant aspects of his reply. I wonder if he hopes to divide the general practitioners and the consultants in the dispute that lies ahead. Mind you, there was more sweetness of manner than promise to amend. He did not promise to amend anything. He said, "Of course, I shall not take over nursing-homes, subject to what the Regional Board has to say." He said, "I recognize the case for removing the ceiling on fees on a proportion of private beds." He gave other assurances.

I am not casting doubt on the word of the Minister as a man. But I do want to remind you of the danger of regarding ministerial assurances as binding on other Ministers. In November, 1939, a letter from the three Presidents was published in the medical press, saying that there was suspicion amongst some doctors that the Ministry of Health might be proposing to use the E.M.S. as the thin end of the wedge for a post-war State medical service, and assuring the profession, on the highest authority, that nothing was further from the Minister's intention and that all such fears were groundless. "That the voluntary system will continue there is no reason to doubt." That was based on the word of one Minister, an assurance upon which the profession co-operated in the E.M.S. during the war, and it has been—quite naturally—completely ignored by another. Every hospital except those he does not want will be the property of the Minister; the Minister will determine by regula-

tion the remuneration of general practitioners and consultants, and can change them when he likes; the Minister can increase the basic salary element in general practitioners' remuneration, and do it by regulation; the Minister can convert the consultants into a whole-time salaried service by regulation; he can make private practice for consultants well-nigh impossible, so compelling them to seek whole-time salaried service, and he has the power to establish a hospital monopoly and to make impossible the development of private hospital services, or voluntary endeavours of one kind and another.

The Decision Ahead

After a brief examination of the superannuation proposals Dr. Hill drew to his conclusion. He had with some necessary labour gone over the main features of the Minister's reply, and he went on to ask:

What does it all add up to? There is one criterion by which as a profession we can measure these matters. It is not, I hope, a financial criterion. It is whether these proposals do or do not bring us closer to a whole-time salaried service of the State. That is the crucial issue, and on that issue we can command the support of the overwhelming majority of our profession.

These proposals taken together add up, if not to a whole-time salaried service, to a form of service which could easily be translated into such State service. The general practitioner will no longer own his goodwill, be unable to enter public practice without the permission of a Whitehall Committee, be compelled to take a proportion of his remuneration in the form of salary, it being left to the Minister to determine in future—by the process of regulation—what that proportion shall be; in the hospital field, there is a possibility of a hospital monopoly; with the future of independent practice in the hand of the Minister, the future of the consultant section of the profession is in the hands of the Minister. Does that add up to a salaried service under the State? Does it lead inevitably to a whole-time salaried service of our profession? What is the evidence?

We have the evidence of the previously announced policy of the party in power as stated from time to time, never more picturesquely than when the Minister said, "You do not pick fruit when it is green, you wait until it is ripe." We have the evidence that these proposals commend themselves to those who honestly believe in a whole-time salaried service. Some of you may have read of the leakage in the *Tribune*. How that leakage arose we do not know. But here is a paragraph which is significant:

"Politically the Minister's firmness has been most important. If he had been weak in face of this reactionary profession, which is being remarkably generously treated both with regard to compensation and income, it would have increased doubts as to the intention to carry out a Socialist programme."

This is part of the Socialist programme. This is a first step to that end. What are we doing? The Minister has told us of our right as individuals and our right collectively to determine our attitude to this Service. We are within our rights in saying "No." (Prolonged applause.)

The Plebiscite

There will be a plebiscite of the profession. The profession will have a clear opportunity of stating both its wishes and its intentions, and if a sufficient proportion of general practitioners give the necessary indication we shall tell the Minister—in the terms of the returns of the plebiscite—to think again. If we do not get a sufficient majority—a majority which itself will offer the necessary reassurance to those opposed to this Service—we shall have to advise you that resistance is impossible and we must make the best of the situation. There must be a sufficient majority of the individual members of the profession, and it will be known in advance what that majority must be. Therefore practitioners opposed to the Service will know that they will be called upon to decline to enter the Service only if a sufficient majority of the profession is similarly determined and will act with them.

There will be no question, if that majority is achieved, of asking doctors to discontinue their work. Consultants will be asked to go on with their hospital work, but not to sign at

contract with Regional Boards, no more and no less. They may be reassured that such is the time which the Specialist Spens Committee may take to report and for that report to be examined that it is extremely unlikely that any Government will be in a position to offer them any contract until well after the appointed day. Other members of the profession will also be asked to go on with their work. General practitioners will be asked to go on with their work for their patients, but on a non-contract basis.

If we get a sufficient majority the period of uncertainty will not be prolonged. The first stage is to express yourselves quite plainly in the plebiscite return. It has been said sometimes of the B.M.A. that it has not given a lead. Let there be no mistake on this occasion. The lead is plain. In the view of the Council of the Association this thing is wrong, and its advice is that our profession should stand firm in resisting it. (Loud applause.) There is no ambiguity of any kind there.

A Word to the Consultants

To our consultant colleagues, I would say it may be true that the battle ground is in the field of general practice. To some extent that is inevitable. But it is also true that the freedom of one section of the profession is of paramount importance to the freedom of the whole. We say to our consultant friends, "We need a united profession, a profession in which all its elements, whether consultant or general practitioner, whether directly affected or not, acknowledge their duty in this regard to the public and to the future of the profession to which they all belong." The members of the profession in other countries, especially in the Dominions, are watching events in this country with anxious interest. It is our duty and our opportunity by standing firm to secure that this thing does not come into operation in its present form. (Renewed applause.)

Speaking Personally

In conclusion Dr. Hill took his audience back to a similar meeting in that Great Hall in the summer of 1943:

We were then considering a document which had been produced by Mr. Ernest Brown for a whole-time salaried service under the State. Such was the reaction of that meeting that very soon afterwards Mr. Brown placed those proposals, in his own words, in the discard. At that meeting I necessarily expressed a personal view, because by the sequence of events it was not possible to express an official view.

In the years between it has been my job to try to interpret the different moods of the profession (and they have differed over the years). It is four years to-day since I was appointed to the secretaryship of the Association, and throughout those four years I have been in all the discussions which have taken place. From time to time I have had my doubts on one point or another; at times it has been difficult to see the wood for the trees. All of us in the last few years seem to have had some difficulty, possibly as a result of the war, in seeing big issues in their full clarity.

We were right to undertake discussions during this past year, for we had everything to gain and nothing to lose by frank and detailed criticism and comment. The events of recent months have made it absolutely clear that these proposals mean and are intended to mean a whole-time salaried service under the State. And I have no doubt in my mind that our profession would be right to reject this thing by an overwhelming negative vote in the plebiscite shortly to be taken.

This is the last chance to do so. If we do have to enter the Service in its present form, life will still go on, but medical practice will have changed its character. There will be lost to the profession and to the public a form of practice which by its emphasis on the individual, by its insistence on the doctor-patient relationship, by its human yet efficient character, has been a credit to this country. These will be lost and lost for ever unless the profession forgets its past differences, learns a new loyalty, and stands with firmness for its principles. It is now or never for the profession to which we belong.

QUESTIONS

The remaining time of the meeting was occupied with questions sent up from the audience. Among the questions was, "If partnership is fraught with difficulties will not group practice

have difficulties still greater?" Dr. Hill said that the fair answer was that if the Act came into operation in its present form there would be an entirely new kind of partnership difficult to envisage at the moment.

"If the B.M.A. considers that the new Service will mean so much extra work for the general practitioner, why is it opposed to regular hours and rota of duties?" Dr. Hill replied that in so far as mutual arrangements between practitioners were concerned it was a matter of common sense that they should be made. A whole-time salaried service might well mean a more ordered and leisurely life, but they could not have it both ways; they could not insist on the freedom of the individual doctor to conduct his practice in his own way and at the same time expect to have the conveniences of a whole-time service.

"What guarantee is there that the vote in the plebiscite will be adhered to by the individual?" In the first stage, none. They had to rely on the integrity of the profession. At the same time organizational steps would be taken to induce in the profession that warm feeling of fellowship which came from the knowledge that individuals were not standing alone. It was necessary to get away from the mentality which assumed that the profession was incapable of loyalty. This was an issue which affected the profession as a whole, and as a united profession they would deal with it.

"What will be the position of the man with specialist qualifications who wishes to continue in general practice?" Such an individual would be able, if he chose, to remain in general practice. There might be a movement to encourage those who were doing both general practice and specialist work to decide to go one way or the other, but there was no need for such a man to fear that he would be required to leave the general practice he preferred.

"What is going to happen with regard to 'displaced persons' on the temporary Register?" There would be added to the permanent Register within the next few months, as the result of an Act which had just received the Royal Assent, a considerable number of alien practitioners who had been on the temporary Register and others who had not. There might be between 3,000 and 4,000 altogether. They would be invited to express their views in the plebiscite, but account would be taken of this body of people in calculating the size of the necessary majority. It must not be assumed that alien practitioners would not stand in with the British profession.

"What is the significance of the Minister's comment that in two years' time the position will be reviewed?" The guess was made that 95% of the community would sooner or later use the new Service. That figure was subject to review in the light of experience after two years, which was right and proper.

Questions were asked about the wording of the question in the plebiscite. Dr. Hill said that this had been the subject of most careful consideration. The wording arrived at might not please some, but he asked that, having been thought out at great length, it should be accepted. "It may not be perfect, but it will give you an opportunity to say you will not touch this thing."

In reply to another question he said that private practices could still be bought and sold if no compensation had been paid in respect of them.

Asked why £300 was chosen as basic salary, he said that he had not the faintest idea. But the insistence on a basic salary furnished the justification for the Minister's distribution proposals. The salary element was a thing that could be increased as the years went by. It was the thin end of a big wedge.

Some questioners were evidently disturbed about the position with regard to N.H.I. if there was no acceptance of service on the appointed day. It was possible, said Dr. Hill, that there might be a period of conflict during which practitioners would provide a service for their patients on a fee-paying basis. It was a risk worth facing provided sufficient strength was shown in the plebiscite returns. "If you believe in a whole-time salaried service, you will express your approval of the Act on the plebiscite form, but if you do not believe in such a service and are willing to prevent its ever happening, then you will vote the other way, and you have the assurance that action will be taken only if a sufficient number of your colleagues think likewise, that number being sufficient to compel the Minister to think again."

MEDICAL NEW YEAR HONOURS

The names of the following members of the medical profession were included in a New Year Honours List published in the *London Gazette* on Jan. 1 :

G.B.E. (Civil Division)

Sir EDWARD MILLANBY, K.C.B., M.D., F.R.S., F.R.C.P. Secretary, Medical Research Council.

K.C.S.I.

Major-General (Local Lieutenant-General) TREFFRY OWEN THOMPSON, C.B., C.B.E., M.D., late R.A.M.C. Honorary Physician to the King. Director of Medical Services, India.

K.C.I.E.

Major-General ROBERT HAY, C.I.E., M.B., Ch.B.Ed., I.M.S. Director-General, Indian Medical Service

K.B.E. (Civil Division)

JOSEPH BERNARD DAWSON, M.D., F.R.C.S., F.R.A.C.S., F.R.C.O.G. Professor of Midwifery and Gynaecology in the University of Otago.

Knighthood

Colonel DAVID CLYDE, C.I.E., M.D., I.M.S. Honorary Surgeon to the Viceroy. Surgeon-General with the Government of Bengal.

His Honour TOM EASTHAM, K.C., M.B., Ch.B. Senior Official Referee, Supreme Court of Judicature.

JOHN PARKINSON, M.D., F.R.C.P. Physician in charge of the Cardiac Department, London Hospital.

HARRY PLATT, M.D., M.S., F.R.C.S. Professor of Orthopaedic Surgery in the University of Manchester.

Professor LUIGI PREZIOSI, M.D. President of the National Assembly, Malta.

C.B. (Military Division)

Major-General (temporary) (now Colonel) STANLEY ARNOTT, C.B.E., D.S.O., M.D., late R.A.M.C.

Air Commodore PHILIP CLERMONT LIVINGSTON, C.B.E., A.F.C., F.R.C.S., R.A.F.

Surgeon Rear-Admiral JOSEPH ALOYSIUS O'FLYNN, M.D., R.N. Honorary Physician to the King.

C.B. (Civil Division)

JOHN JARDINE, O.B.E., M.D., F.R.C.S.Ed. Chairman, General Board of Control for Scotland.

C.M.G.

ERNEST MUIR, C.I.E., M.D., F.R.C.S.Ed. Honorary Medical Adviser to the British Empire Leprosy Relief Association.

C.I.E.

Lieutenant-Colonel ALFRED INNES CON, O.B.E., M.R.C.S., L.R.C.P., I.M.S. District Medical Officer, The Nilgiris, and Superintendent, Government Headquarters Hospital, Ootacamund, Madras.

Colonel PAUL HERBERT SHELLEY SMITH, O.B.E., M.B., B.Ch., I.M.S. Inspector-General of Civil Hospitals and Prisons, North-West Frontier Province.

C.B.E. (Military Division)

Brigadier (temporary) RODERIC DUNCAN CAMERON, O.B.E., M.C., M.B., Ch.B., late R.A.M.C.

Surgeon Captain CLAUDE KEATING, M.S.M., L.R.C.P.&S.I., R.N.

C.B.E. (Civil Division)

JOHN BURKE, M.D., C.M. For devoted service as a medical practitioner and surgeon in the districts of Grand Bank and Fortune, Newfoundland.

Professor NORMAN McOMISH DOTT, M.B., F.R.C.S.Ed. For services as Director in Neurology and Neuro-Surgery, Brain Injuries Unit, Bangour Hospital, Edinburgh.

Lieutenant-Colonel ALBERT EDWARD EVANS, M.B., B.S. Medical Chancery Visitor, Supreme Court of Judicature.

WALTER ALLISON GILMOUR, M.D. Pathologist, Auckland Public Hospital, New Zealand.

Lady (Dorothy) ELSLIE HUTTON, M.D. Lately Director of Welfare, Indian Red Cross and St. John War Organization.

WILLIAM GORDON MASTFIELD, M.R.C.S., L.R.C.P. Lately Medical Superintendent, Brenwood Mental Hospital, Essex.

GEORGE FRENCH STERLING, M.B., F.R.C.S. Late member and Honorary Secretary of the Radium Commission (died Dec. 22, 1947).

O.B.E. (Military Division)

Surgeon Lieutenant Commander JOHN WARD WALKER, M.B., Ch.B., R.N.

Major (temporary Lieutenant-Colonel) FREDERICK WILLIAM WHITTON, M.B., Ch.B., I.M.S. (A.M.C.)

O.B.E. (Civil Division)

HARRIET ELIZABETH ACHESON, M.D. Women's Medical Service, India. Vice-Principal and Professor of Obstetrics and Gynaecology, Lady Hardinge Medical College, New Delhi.

VICTORIA MARY CROSSE, M.D. Deputy Senior Assistant Medical Officer of Health, City of Birmingham.

THOMAS FRANK DAVEY, M.D. Medical Officer, Leprosy Service, Owerri Area, Nigeria.

Major GEORGE KENNETH GRAHAM, M.B., B.Ch., I.M.S. Lately Civil Surgeon, Peshawar, North-West Frontier Province.

Major JAMES GUTHRIE, M.B., Ch.B., I.M.S. Civil Surgeon, Tibet and Bhutan.

Major CORNELIUS JEFFCOTT HASSETT, M.B.E., M.B., B.Ch., I.M.S. Civil Surgeon, New Delhi.

NICHOLAS KEATING, L.R.C.P.&S.I. Senior Member, South Wales Panel, Silicosis Medical Board, Ministry of National Insurance.

CHRISTIAN WILLIAM FRASER MACKAY, M.B., Ch.B., Colonial Medical Service. Assistant Director of Medical Services, The Gambia.

HOFEEZUDIN SIRAJUDIN MOONSHI, L.M.S. For public services in Singapore.

Mrs. MARGARET STEWART MUNDAY, M.B., Ch.B. Lately Professor of Physiology, Lady Hardinge Medical College, New Delhi.

Lieutenant-Colonel WALTER SCOTT, M.B., B.Ch., I.M.S. Civil Surgeon, Central Provinces and Berar.

Major ARTHUR MANUS SHERIDAN, F.R.C.S.Ed., I.M.S. Civil Surgeon, Lucknow, United Provinces.

Major SAMUEL SHONE, M.D., M.R.C.P. I.M.S. Superintendent, King George Hospital, and Professor of Medicine, Andhra Medical College, Vizagapatam, Madras.

Major HAROLD STANISLAUS SMITHWICK, M.B., B.Ch., I.M.S.

WILFRED STANLEY WALLIS, M.B., Ch.B., Rotorua, New Zealand For services to returned ex-Servicemen.

OSCAR REGINALD LEWIS WILSON, M.B., B.S. Principal Medical Officer, Ministry of Pensions.

Honorary O.B.E. (Civil Division)

SAMUEL LAYINKA AYODEJI MANUWA, M.D., F.R.C.S.Ed. Specialist in the Medical Department, Nigeria.

M.B.E. (Military Division)

Major (temporary) JOHN BISHOP BORTHWICK, M.B., F.R.C.P.Ed. R.A.M.C.

Major ROY THOMSON FLETCHER, M.D., R.A.M.C.

Flight Lieutenant THOMAS HARVEY, M.B., Ch.B., R.A.F.V.R.

Major (temporary) IAN ARCHIBALD JACKSON, M.B., B.Chir. R.A.M.C.

Captain CHEE JUAY POH, L.R.C.P.&S.Ed. Medical Officer, Singapore Volunteer Corps.

M.B.E. (Civil Division)

MARGARET KERR MENZIES ALEXANDER, M.B., Ch.B. Medical Superintendent, Christian Rainy Hospital, Todinart, Madras.

PUTHENVELIL MATHAI JOSEPH, M.B., B.S. Medical Officer, Seychelles Hospital, Seychelles.

JOHN ALAN BENNETT NICHOLSON, M.B., Ch.B., Colonial Medical Service. Medical Officer, Nigeria.

Mrs. MARGARET MARY SHEPHERD, M.B., Ch.B., late of Madras For medical services.

Captain MORTIMER LAWRENCE AXEN STEELE. First Class Military Assistant Surgeon, Indian Medical Department. Medical Officer, Victoria Memorial Hospital, and Quarantine Medical Officer, Bahrain and Officiating Residency Surgeon, Persian Gulf.

Bar to Kaisar-i-Hind Gold Medal

JEAN MURRAY ORKNEY, M.B., Ch.B. Chief Medical Officer, Women's Medical Service, India.

Kaisar-i-Hind Gold Medal

IVA NOEL GIBBINS, M.D. Medical Superintendent, Philadelphia American Hospital, Ambala City, Punjab.

JANE GRANT, M.B., Ch.B. Medical Officer, Church of Scotland Seoni, Central Provinces and Berar.

HERBERT KIRBY. Doctor-in-Charge, Jorhat Leper Colony, Jorhat P.O., Assam.

VICTOR CLOUGH RAMBO, M.D., F.A.C.S. Doctor-in-Charge, Mission Eye Hospital, Mungeli, Central Provinces and Berar.

BHAGWANT KISHORE SIKAND, M.B., B.S. Medical Superintendent, New Delhi Tuberculosis Clinic.

RONALD WILSON THOMAS, M.B., B.S. Medical Superintendent, Baptist Mission Hospital, Palwal, Gurgaon District, Punjab.

The Ministry of Transport points out that owners should in particular care to instruct doctors on Scale I ships to make arrangements for the drugs, sundries, and dressings to be replenished regularly, and for the proper maintenance of the surgical instruments and appliances. The medical cabinet of Scale II ships should be replenished by druggists according to the procedure explained Notice No. M.210, copies of which can be obtained at any mercantile marine office.

THE RED CROSS

WORK IN THE SECOND WORLD WAR

The Seventeenth International Red Cross Conference will be held at Stockholm in August, when a detailed report of war-time activities will be presented. As a preliminary a short account of the work of the International Committee has been published in Geneva under the title *Inter Arma Caritas*. On the day the war broke out the original four belligerents were informed that the International Committee had established the Central Information Agency contemplated under Article 79 of the Prisoners of War Convention signed in Geneva in 1929. During the war this Agency made out and filed 39 million record cards and forwarded 13 million letters. The longed-for parcel from home was received by prisoners on 36 million occasions. The workshop of the Agency was the Palais Electoral at Geneva, which was turned into a huge factory, with benches and business machines and crowds of workers, and there were 27 secondary workshops throughout Switzerland. One hint of the difficulty of tracing prisoners-of-war may be gathered from the statement that from a French village went a soldier named Jean Martin; to his mother there was only one Jean Martin in the world, but in the prisoner-of-war camps of Germany there were 15,000 Martins and 1,400 of them bore the Christian name of Jean.

The Red Cross Convention provides for the health of prisoners. Every prison camp must have its sick ward and every man the medical attention he requires. It is reported that in this respect the Convention was fairly generally observed. "Protected personnel"—persons engaged exclusively in attending wounded and sick—were picked out of the mass of prisoners and an endeavour made to secure their repatriation, but shortage of doctors and orderlies compelled their detention in camps to tend their compatriots, and the International Committee did its best to ensure that they were treated in accordance with the spirit of the Convention. The dispatch of medical relief had to be undertaken and there were frequent shortages of medicaments. Prostheses were in demand everywhere, but the greatest need was for dentures. With the help of instruments and appliances furnished by National Red Cross Societies, 64 dental surgeries were completely fitted out in the camps of Germany.

In the winter of 1941-2 thousands died every day in the Greek famine, and the health of the Greek people seemed to be threatened for a generation. The Turkish Red Crescent offered supplies, and supplies were also found in Switzerland and the Balkan countries. A chain of soup kitchens giving 800,000 helpings a day was improvised, and eventually a scheme was organized for monthly shipments from Canada to the Piraeus of 15,000 tons of wheat and 3,000 tons of other supplies, which were checked at every stage until their issue in the bakeries of the remotest Greek villages.

The difficulties behind this and much other work are not unduly stressed in the narrative. The achievement would have been on a much smaller scale but for the help of Switzerland. From the beginning to the end of the war the work of the International Committee cost 45 million Swiss francs, more than half of which was supplied by the Swiss Government and people. Even that immense sum, spent in six years, was equal only to the cost to all the belligerents of six hours of war. It is a fine record so far as Switzerland is concerned, and to Switzerland, too, fell the honour of providing at Geneva the one rent in the armoured curtain through which all this relief and succour passed. The greatest difficulty of all was the persistent reserve of the Soviet authorities with regard to the International Committee's offers of assistance. Letters sent to Moscow were unanswered, indirect negotiations led to no result, and millions of prisoners in Eastern Europe were deprived of the services which the Committee was anxious to render owing to the persistent silence—the unspoken "No"—of Russia.

A circular from the Ministry of Health requests hospital authorities to renew contracts for supplies and services due to expire before the "appointed day." They should be renewed on the basis and for the period which would have been adopted if no transfer under the Act was impending.

Reports of Societies

PLASMA PROTEIN FRACTIONS

At a meeting of the Section of Experimental Medicine of the Royal Society of Medicine on Dec. 9, 1947, Prof. H. P. HIMSWORTH presiding, the subject of plasma-protein fractions was introduced for discussion.

Dr. R. A. KERWICK, Director of the Biophysics Division, Lister Institute, said that during the last ten years considerable advances had been made in the knowledge of protein constitution of biological fluids and tissues. These advances had been due chiefly to the application of improved electrophoresis techniques introduced by Tiselius. The scale on which separation of proteins could be carried out by electrophoresis was still very limited, but in conjunction with classical methods for bulk fractionation of protein solutions the method had proved of great service.

By the electrophoretic examination of normal human plasma five components were originally distinguished—namely, albumin, alpha, beta, and gamma globulin, and fibrinogen, the globulins differing in charge but not markedly in molecular weight. Recent studies had indicated the existence of two alpha and two beta globulins. The amounts of the various proteins in normal human plasma were roughly as follows: albumin, 55%; the globulins, 38.5%; and fibrinogen, 6.5%.

After describing the system of fractionation of human plasma with ethanol at low temperature and of the ether fractionation system, Dr. Kerwick discussed the clinical application of plasma fractionation products. Perhaps the most versatile of the products of plasma fractionation were fibrinogen and thrombin. As the clotting time of fibrinogen-thrombin solutions could be accurately controlled, a liquid mixture could be applied locally which subsequently clotted. The tensile strength of fibrin clots increased with fibrinogen concentration, and solutions of fibrinogen up to ten times the corresponding concentration in plasma were readily attainable. The clots formed from such solutions had been used to suture severed nerves by a soldering type of process. Rather lower concentrations of fibrinogen provided, with thrombin, an excellent adhesive for the application and fixing of skin grafts, dispensing with the necessity for pressure dressings. Grafts fixed in this manner vascularized with extraordinary rapidity.

Fibrinogen preparations also contained a material which was effective in reducing the whole-blood clotting time in haemophilia from, say, 75 minutes to about 15 minutes. An injection of 10 ml. of a 2% solution would keep the clotting time at this level for about 48 hours. Fibrin films, resembling sheet cellophane in appearance, had been successfully used as a dural substitute with marked absence of adhesion. The film was eventually replaced by fresh dural growth.

Somewhat less purified fibrinogen solutions were utilized in the production of fibrin foam. By suitable devices these solutions were beaten to a finely dispersed foam which was set by adding thrombin and then dried from the frozen state. Such foams, if wetted again, tended to shrink rapidly, but this could be prevented by baking the dried foam at 130-170° C. The dried foam would absorb almost its own volume of thrombin solution, and was used in conjunction with this for local haemostasis in internal surgery. The foam was allowed to remain *in situ* following operative procedures, and eventually became organized into the tissue without scar formation.

It had been established that the antibodies in many infectious diseases were associated with the gamma globulin of normal adult plasma. Concentrates of this protein had been successfully utilized in the control of measles and might be useful in infective hepatitis. For measles intramuscular injections of up to 5 ml. were required. The use of similar concentrates prepared from convalescent-plasma pools from other infectious diseases—for example, mumps—had been examined. Purified albumin solutions containing 25 g./100 ml. had been satisfactory for transfusion in cases of shock and hypoproteinaemic oedema. Further research might indicate the usefulness clinically of other fractions derived from human plasma.

Electrophoretic Examination of Plasma

Dr. NICHOLAS H. MARTIN, of the Biochemical Laboratory at St. George's Hospital, also referred with appreciation to the electrophoretic technique elaborated by Tiselius, which had proved a convenient method of control in many fractionating processes. Electrophoresis might be defined as the phenomenon of migration of particles in a medium under the influence of a current applied through that medium. The protein mosaic of human plasma was analysable, as Dr. Kekwick had stated, into five main groups: albumins, the three globulins, and fibrinogen. The foetus and the newborn infant appeared to have a relative excess of gamma globulins. The electrophoretic patterns of human serum and plasma were not the patterns of pure protein but of the complexes of proteins with non-protein substances. The albumin fraction might contain carbohydrate and fatty acids; certain of the globulins might contain lipoids and steroids. In other words, electrophoretic homogeneity should never be considered to imply chemical homogeneity.

After discussing the comparison of electrophoretic with salting-out methods, Dr. Martin considered the protein pattern in disease processes. In diseases involving the liver parenchyma the pattern varied with the stage and extent of the disease. In the early stages of simple uncomplicated infective hepatitis there was a relative depression of the albumin, with increase in the gamma globulin. As the patient recovered, the albumin tended to revert to a normal level and the circulating gamma globulin level to drop. The gamma and beta globulins might show some change, notably between the 14th and 30th days, and it had been observed that their deviation from normal was greatest in those patients having a tendency to relapse. He showed an analysis of a simple uncomplicated case of infective hepatitis and pointed out the migration of the "bound" bilirubin in the serum with the alpha globulin. That the actual recovery of the circulating albumin might not be as rapid as superficial examination of the electrophoretic data would lead one to suppose was shown in a table in which the total circulating components had been calculated on two analyses in a moderately sick patient, the first towards the end of the first week, the second early in the fourth week, during the recovery phase. Whereas the level of the gamma globulin had fallen to normal limits, the total amount of circulating albumin was still 15% below normal in the fourth week. In established chronic liver damage analysis showed an absolute diminution in the circulating albumin with an increase in the gamma globulin, which might represent 30% of the total circulating protein.

It must not be imagined that the technique of electrophoresis as at present developed was to be used as a routine tool in diagnostic procedure—on a level with, for example, electroencephalography. Rather did its use lie in throwing light on the mechanism of existing procedure and in suggesting fresh approaches to the study of the fixed and circulating protein complexes in health and disease. It should not be used without an intelligent appreciation of its limitations. Electrophoretic homogeneity implied neither chemical homogeneity nor biological specificity; it was only one step—though a very important one—in the direction of the study of macromolecules.

ACUTE RHEUMATISM

At a meeting of the Devon and Exeter Medico-Chirurgical Society on Dec. 18 Prof. C. BRUCE PERRY gave an address on the aetiology and treatment of acute rheumatism.

Prof. Perry said that rheumatic heart disease accounted annually for 2% of all deaths and for 10% of all deaths under the age of 40. Haemolytic streptococci of no particular strain appeared to be the exciting cause, but the predisposing causes were at least as important. Scarletinal rheumatism, so-called, was identical with acute rheumatism. "Miniature relapses," only recognizable when the patient was under close observation and indicated perhaps merely by a rise in the sleeping pulse rate, were common. Epidemics of acute rheumatism followed epidemics of sore throat. The disease reached its peak in this country in December and January and was most prevalent in August and September. In New York it reached its peak in March. In the Arctic regions and in the Tropics it

was rare but not unknown. Children between the ages of 5 and 15 were most prone to the disease, and females were more commonly attacked than males, though carditis was often worse in the male and especially aortic endocarditis. There was a clear-cut social factor in the aetiology of acute rheumatism; it was commoner where there was poverty. The familial nature of the disease had often been noted, but it was difficult to balance the relative importance of heredity and environment. During the past 30 years there had been a decline in the incidence of this disease.

Treatment must be directed primarily against the carditis. Rest in bed, not flat but propped up on pillows, for at least six weeks was necessary. If there was any evidence, however slight, of continued infection the rest period must be prolonged for at least a month after all such evidence had disappeared. General hygienic measures must be adopted and local measures for the relief of joint pain. Salicylates in full doses, not necessarily combined with sodium bicarbonate, remained the best drug treatment. Penicillin and tonsillectomy were both valueless, and the results of the experimental prophylactic use of sulphonamides had not been impressive.

MEDICAL SOCIETY OF THE L.C.C. SERVICE CLINICAL MEETING

At a meeting of the Medical Society of the L.C.C. Service, at Lewisham Hospital on Dec. 4, 1947, Mr. J. GABE opened a discussion on the treatment of undescended testicle. He showed four cases illustrating the results of different methods of treatment. He considered that the operation should be done before the age of 16. Before operation was undertaken the diagnosis must be certain. Testicles often descended into the scrotum as late as the fourteenth year of life, and he thought that a course of "pregnyl" was of value in hastening the descent of a testicle round about puberty. In bilateral cases he had found the Bevin operation valuable, but in unilateral cases generally considered it better to do the Kectley-Torck operation. The chief difficulty in the operation was due to the shortness of the vessels, and great care was necessary to avoid dividing many vessels that atrophy of the testicle followed.

Thiouracil

Dr. GOTTLIEB read a short paper describing the results of treatment of 22 cases of thyrotoxicosis over the past three years by thiouracil and methyl thiouracil. Of these 22 cases four had eventually been treated by thyroidectomy owing to the occurrence of severe granulocytopenia. Of the remaining 18 patients, two died; one had had thyroidectomy performed three times, and the other had a severe aortic stenosis and, despite temporary improvement during treatment, died of congestive heart failure. All but three of the cases had been treated with methyl thiouracil. The dosage adopted was 200 mg. three times a day for three weeks while in hospital, then 200 mg. twice a day for two weeks as an out-patient, followed by a maintenance dose of 50 mg. once or twice a day for six months to one year. There had been an invariable improvement clinically, but all except two cases had relapsed within two to twelve months of stopping treatment. He had had two cases with no relapse for one year and fourteen months respectively, following cessation of treatment. During the treatment a weekly blood count was done, and eight patients in addition to the four already mentioned showed granulocytopenia; his criterion for granulocytopenia was 4,000 w.b.c. and 1,800 granulocytes. He considered that the only drug of any value for granulocytopenia or agranulocytosis was penicillin.

Congenital Intestinal Obstruction

Dr. SIMMONS, after referring to three cases of congenital intestinal obstruction which had been demonstrated, pointed out that this type of obstruction was said to occur in 1 case in 20,000, and was due to malrotation of the mid-gut, causing obstruction by pressure from without. The signs and symptoms were similar to cases of congenital hypertrophic pyloric stenosis, except that no tumour could be felt, the vomit was always bile-stained, and the vomiting started earlier in life.

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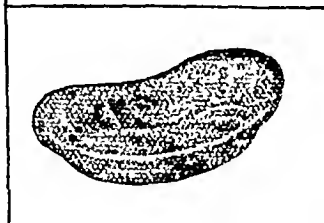
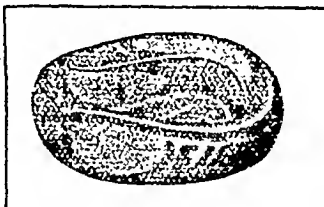
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Mr. JEMSON, who had operated on the three cases, pointed out that the faulty rotation of the mid-gut left adhesions attaching the transverse colon to the duodenum. Referring to the investigations of Ladd and others in America, he said that the best operation in these cases was to divide the adhesions between the colon and the right upper quadrant of the abdomen, and push the whole transverse colon and ascending colon over to the left. This resulted in a broader base being given to the mesentery of the small intestine, which in these cases was practically absent, and thus helped to prevent the later occurrence of the volvulus. Mr. TANNER said that this condition might persist into adult life; he had had two such cases. Simple division of the adhesions was not adequate for cure in adults; a short-circuiting anastomosis was needed.

Correspondence

Censorship

SIR.—Mr. J. Johnston Abraham (Dec. 27, 1947, p. 1053) calls attention to a matter of first-rate importance not merely to the medical profession but to the nation as a whole—namely, will the doctor be free to write and publish under the new Health Act or will he not? It seems extremely doubtful if he will. The following question was asked in the House by Mr. I. J. Pitman:

"What are the general principles under which State employees are allowed or forbidden for payment to write for publication on technical matter peculiar to their specialization; and what differences are there in the particular cases of the Royal Air Force and the Air Ministry, the National Coal Board and decentralized coal units, and the medical services and the Ministry of Health when the appointed day is past?"

Mr. W. Glenvil Hall, Financial Secretary to the Treasury, replied on Nov. 6:

"A Crown servant must obtain the consent of the head of his Department for the publication of any work the subject matter of which is connected with his official duties or those of other public servants. In cases where the work is considered to owe its value exclusively to the author's ability and research, no special financial arrangements are made. In other cases the Government may either arrange for official publication or stipulate that copies should be supplied for the public service at a special rate.

"These rules apply to the Royal Air Force, the Air Ministry, and the Ministry of Health. I have no information about the arrangements in the coal industry, which are a matter for the National Coal Board itself. I understand that no rules have yet been made for employees of the new bodies set up under the National Health Service Act."

From this reply the position of the doctor to be employed under the National Health Service Act is somewhat obscure. If he is classified as a Crown servant then he will apparently rarely, if ever, be entirely free to write, and there is considerable danger that regulations would in due course be laid down by the Treasury for doctors serving under the National Health Service Act, on lines similar to those applying to the Civil and other services. Were such regulations to be applied the present freedom of expression of medical opinion would cease. It therefore appears most urgent that the position should be clarified.—I am, etc.,

London W.C.1.

R. F. WEST,
Chairman, Medical Group of the
Publishers Association

National Health Service

SIR.—I append five subjects for G.P.s to consider.

Remuneration.—(a) Basic salary opens door to a full-time salaried service, disapproved by the Spens Committee. (b) Both salary and capitation rate have never been discussed nor agreed to. They can be altered by the Minister whenever he considers necessary and certainly in two years. (c) Capitation rate for 1,000 patients is 21s. 1d.; capitation rate for 4,000 patients is 16s. 8d. This must act as a discouragement to men working in an industrial district, where private practice is likely to be scarce.

Compensation.—(a) £66,000,000 computed in 1938 is probably not adequate in 1948. (b) It may prove impossible (anyway it will take years) to estimate what any one practice should receive, as all practices have to be investigated before any one can be valued. (c) The Minister's decision that a doctor not joining on the appointed day shall forfeit his claim to compensation savours of bribery and intimidation.

Midwifery.—In England and Wales all practitioners must satisfy a local committee that they are adequately qualified to practise midwifery within the Service.

Direction.—The Minister states that a doctor is free to practise where he chooses. This immediately becomes false once the Service is established. Local committees will decide whether an additional doctor may practise in their area and will have the disposal of all Service practices and houses.

Control.—The Minister retains power to appoint all chairmen of all committees for all time, and ultimately to approve all members lay and medical. Under these circumstances what hope is there of amending the Act (save favourably to the Ministry) once the Service is started?

Health Centres are in abeyance. Doctors and their unfortunate wives will be expected to make good the rash promises made by the Ministry. In my opinion G.P.s would be well advised to say "No" to working the unamended Act.—I am, etc.,

Birmingham.

WM. WATSON NEWTON.

SIR.—Surely the time for clear thinking has now arrived; we must face facts, and face them unflinchingly. It is obvious that the Minister intends, for political reasons, to have a full salaried service—and that within two years. If we sign on the dotted line to one set-up of regulations, it will be well within his power to alter our remuneration and/or our method of payment at any time he likes. Once we sign we are for ever in the clutches of the Minister, and the freedom of the doctor and patient will be gone for ever. Partnerships the Minister pretends to welcome but obviously intends to destroy, the present Act making all our old partnership deeds quite unworkable. Ministers dislike partnerships; groups tied together by many bonds are always stronger than the same people existing as separate entities.

There are numerous young men in the profession who see in State control some semblance of personal security. I would beg them to realize that their "Yea" for the questionable privilege of doubtful security may well remove from the people of their country almost the last shred of real freedom which still remains to them.

The B.M.A. has had a very difficult task and has lately done it with courage, but many think, as I do, that had their earlier attitude to the Government been firmer they would have received greater support from the profession and more respect from politicians. At all events, it is not too late for them to put the profession on its guard, and when the time for the plebiscite comes let us have no more ambiguity but rather a strong pointer in the direction of freedom, so that they may be blessed not only by the profession as a whole but by all thinking men and women as the champions of independence and liberty.—I am, etc.,

Wokingham, Berks.

RALPH ROSE.

SIR.—I entirely agree with Dr. A. F. Chalkley's appeal for plain speaking (*Supplement*, Dec. 13, 1947, p. 139) and for freedom. Let us have the courage of our convictions. Very few in our profession really want State medicine, but they are afraid to back their opinions with action or even to state them clearly. Why? I believe it is due to four things—viz.:

(1) Muddled thinking. One often hears it said, "Probably the Ministry knows what it is about." Yes, but what is it about? Certainly not the highest good of the greatest number. It is out, "by the deadly method of one by one," for State Socialism, which is State monopoly of all the professions, beginning with medicine. Ahead lies supreme political and economic bureaucracy, with slavery for everyone else.

(2) Fear of insecurity. Alas, this un-English craving for security has grown on us. Safety first is a very poor motto, and would never have won the war. Too many younger members of our profession are terribly afraid of insecurity and seem to prefer safety to freedom itself. As an older friend said

to me. "We had the same difficulties and chances when we came out of the Services in 1919. Why can't the modern young man do as we did?"

(3) The habit of obedience. The tragic result of our patriotic obedience during the war has made us all in danger of losing our sense of individual initiative and responsibility. And again it is our younger members who are far too ready to toe the line and become yes-men. Let them have the courage to say no.

(4) Plain disregard of facts. It is we who have the whip hand, not the Minister of Health. He can do nothing without us whatever he may say. It is we who are in the strong position now, but we are in the middle of a terrific battle, and if we fail we betray the side of freedom in every department of our life in England and the freedom of those who come after us. Let us realize this temporary Minister of Health is only like a very difficult patient determined to get his own way by any means. Let us be more determined ourselves not to be bullied, browbeaten, or fooled. The medical profession has with immense patience tried its best to get Mr. Bevan to co-operate. He has not moved an inch. He never had the slightest intention of co-operating. Mr. Bevan is an extremely ambitious politician. He has failed miserably over his vaunted 1945 housing schemes. Now he is trying desperately by very clever alternations of pay-packet promises, bluster, and pretended care for the health of the people to bolster up his own failing prestige. Let us call his gigantic bluff! Finally, let us remember this all-important fact. Within a fairly short time, possibly this year, this totalitarian Socialist Government will be superseded by a really progressive one. Then we shall get a Health Bill we can all support freely.

The leading article "Mr. Bevan's Gloss" (Dec. 27, 1947, p. 1037) puts the case very fairly and clearly. Now it is up to each one of us individually. Let us remember our tradition of courage, independence, and self-sacrifice. Let us accept our great responsibility to our nation, our patients, and our profession, and for their sakes as well as our own say in the coming plebiscite a categorical "No, we will not serve in any way under the present Act."—I am, etc.,

London, S.W.1

SYBIL TREMELLEN.

SIR,—May I try to answer a fear which I have heard expressed? "I do not want to join the Service, but I have no alternative. I must support my wife and family." This line would inevitably ensure only a small minority of opposition to the Minister. "It will be all right if we get a good majority." We shall get no majority if we cannot each decide alone to do what we think right. The hope for a good majority shifts the responsibility from ourself to our professional neighbours.

To answer the question, If the worst comes, and I find myself alone outside the Service, how can I earn my living?—First, my panel and contract patients will unwillingly and complainingly overcrowd the waiting-rooms of doctors they have not hitherto wanted to choose. Then some few of my "private", patients will continue to support me. Soon after this my neighbours' duchesses will refuse to wait in their crowded rooms and will transfer to me. Then there are all the regular "nuisances" who are never patient or amenable to the discipline of regular times for sending their "urgent" messages. They will soon find I have time to give them. Of course I shall have to make changes in my hours and find an entirely new and experimental scale of fees, but still, if the worst comes, it will be possible to make a living—perhaps a good one. And if the worst does not come, and we all stay outside together until the Minister learns that "sincere co-operation" entails give as well as take, then the best will have happened.—I am, etc.,

Greenham, Berks.

H. D. FORBES FRASER.

SIR,—At present we enjoy freedom and owe allegiance to none save our patients. The country has a good medical service, but it can be improved upon with the co-operation of the Government. In working for improvement we are not concerned with our own political beliefs or the particular form of government which happens to be in power. Governments will come and go, but medical progress must be directed towards a fixed ideal, undisturbed or hampered perhaps by government, but certainly not influenced by them.

Since the Socialist Government came into power the necessity of clinging stubbornly to our freedom has become more and more obvious. Socialist authorities have tried to force doctors into trade unions. Why should a professional man be required to associate himself with an organization originally intended for the protection of employees against employers, and legitimately concerned only with industrial matters? When one considers the way in which trade unions have become increasingly powerful, and increasingly preoccupied with political issues—a sphere incidentally in which they are quite undemocratic—then their danger is obvious. Since the inception of the present Government we must all have received communications urging us to join a certain medical union affiliated to the T.U.C. This union disclaims any political affinities and thus, in my opinion, denies the only logical reason for its existence.

The present Government has already given rise to doubts regarding its moral integrity; already we have been given instances where materialistic progress has been the excuse for violation of moral principles. I believe that in spite of the honeyed words of Mr. Bevan he seeks to use the National Health Service Act as a means to a political end—i.e., the confusion and gradual enslavement of a profession whose political views are predominantly anti-Socialist.

It would be well to take heed of Mr. Churchill's pre-election warning of the dangers of totalitarianism in a Socialist state. If we allow ourselves to be lured by Socialist bait into captivity, then we are unworthy of our great heritage and will be cursed by many generations of medical men to come. Politicians can play a clever and often underhand game to gain their own ends, and in dealing with them we must unite in rejecting any plan of any government which involves even the remotest danger of encroachment upon our liberty, and in addition avoid being lured into any suspicious "medical" organizations. "Necessity is the plea for every infringement of human freedom. It is the argument of tyrants; it is the creed of slaves."—I am, etc.,

Edinburgh.

W. B. LAING.

SIR.—Two years ago the B.M.A. first published what it chose to call the seven principles of the profession in its relation to the new National Health Service Act. The leading article in the issue of Dec. 20, 1947 (p. 1002), concludes with the following paragraph: "Preoccupation with financial and other details . . . must not obscure the main issue which the medical profession now has to face. This issue is summed up in the first of the principles enunciated by the Negotiating Committee exactly two years ago." In two years' time the seven principles, like the ten little nigger boys, have been reduced to one—"the main issue." What about the other six principles? Are they no longer important, or (as I suspect and believe) does the Negotiating Committee agree with the Minister that the Act does no longer conflict with these principles?

Let us examine the first principle, which reads: "The medical profession is, in the public interest, opposed to any form of service which leads directly or indirectly to the profession as a whole becoming full-time salaried servants of the State or local authorities." It is high time that we discarded such phrases as "in the public interest," "desiring to secure for the people the best possible health services," "grave hardship to the patients," as they are mere cant and humbug. Let us at least be honest and state that what we are really studying is our own interest first, last, and always.

Read the Negotiating Committee's case, and especially that part of the case which deals with general practice. This takes up some six pages of the document, and, of these, three pages are taken up with arguments about existing partnership agreements and partnerships after the appointed day. What is this to do with the public interest and how can this "secure for the people the best possible health service"? I repeat that this is mere cant and humbug, and that the first principle ought now to read, "The medical profession is in its own interest opposed, etc."

The main point at issue between the Negotiating Committee and the Minister at present is the question of buying and selling of practices and the mode of payment by salary or capitation fee. The leading article states that the Minister "refuses to meet the profession's strongly rooted objection to a basic salary." May I remind you of a document which has been discreetly pigeon-holed by the leaders of the B.M.A. since 1944. I refer to the questionnaire issued in March, 1944, by the B.M.A., the replies to which were published in the *Supplement* on Aug. 5, 1944 (p. 25). These replies give the only definite figures available on the question of payment

Question 18 (para. 29) asks, "If a doctor is not working in a Health Centre, but in 'separate' practice, how should he be remunerated in a National Health Service?" Reply:

Description of Group	Replies in Percentages		
	Salary	Small Basic Salary plus Capitation Fees	Capitation Fees
All General practitioners	15 12	35 28	44 55

I have not included all groups. It is fair to assume that those who voted for salary only, if given a second choice, would prefer a small basic salary plus capitation fee to payment by capitation fee alone. This gives us a figure in all groups of 50% who are not in favour of payment by capitation fee only. In the general-practitioner group the figure is 40% not in favour of payment by capitation fee alone, but the number of general practitioners who are in favour of payment by capitation fee alone is only 55%, therefore there must be 5% of general practitioners who do not care how they are paid and did not vote. From these figures I fail to see "the profession's strongly rooted objection to the basic salary."

The next point I wish to make concerns the statement in the leading article that the Minister refuses to give in on the question of "the retention of the custom of buying and selling practices, which general practitioners as a whole regard as essential to their freedom." Question 22 (para. 23) asks, "Do you think that the sale and purchase of publicly remunerated practices should continue or cease?" Reply:

Description of Group	Replies in Percentages		
	Continue	Cease	Don't Know
All General practitioners	33 44	52 44	13 10

Question 23 (para. 34) asks, "Should the principle that all general practices may be sold and purchased be maintained or abandoned, on the assumption that adequate compensation is paid to existing owners?" Reply:

Description of Group	Replies in Percentages		
	Maintained	Abandoned	Don't Know
All General practitioners	33 39	56 53	10 6

These figures definitely show that general practitioners as a whole do not regard the custom of buying and selling practices essential to their freedom.

It is interesting to note that the leading article in the current *Lancet* queries whether the ownership of goodwill is really a vital principle. The figures I have quoted cover "the main issue" as explained by the *B.M.J.* leading article. Will I enter the new Health Service in July, 1948? You bet I will!—I am, etc.,

Machynlleth, Mont.

DAN E. DAVIES.

SIR,—In reference to the late discussions with the Minister, it is quite evident that he will give way on nothing of fundamental importance unless he be forced to, and that if we are foolish enough to "walk into his parlour" when he asks us we shall become medical servants under a totalitarian central authority and be lost, body and soul, as far as freedom is concerned and be obliged to bow the knee to whatever that authority likes to order—or else!

The burning question now is, What are we to do? We are to have another plebiscite. May I suggest that the questionnaire be couched in the simplest and most unequivocal form possible, such as the following: "Do you wish to serve under the new Act as it is? If not, are you willing to refuse to do so if a percentage of doctors, sufficient to enable the B.M.A. to deliver an ultimatum of refusal to the Minister, also agrees to do so?"—for I am convinced that, unless the B.M.A. be armed with a sufficient percentage of Noes or, better, a sufficient number of names, and be authorized to present them to the Minister and so force him to amend the Act, we might as well cave in at once. If nothing effective like this can be done I think it almost certain that a large number of general practitioners, loath as they are to join the

Service, will, when presented individually by the Minister with a demand for decision and not knowing what the other fellows are going to do, not feel themselves able to refuse to join the Service, simply from fear of subsequent starvation.—I am, etc.,

Thame, Oxon.

C. H. BARBER.

SIR,—It is only natural that many practitioners, especially those younger men with heavy financial commitments, should feel anxious regarding their position did the profession decide against accepting service under the new health scheme. I am confident that the B.M.A. has not overlooked such a contingency, but a definite promise that they would be able to survive would help them materially in coming to a decision. They would also feel happier in refusing service could they be assured that the Englishman's word would still be his bond.—I am, etc.,

St. Columb, Cornwall.

G. MELCHOIR TORRANCE.

SIR,—After reading Sections 35 and 36 and the negotiations and counsel's comments thereon one comes to the conclusion that whoever drafted these Sections—and others in the Act—must have been suffering from a brain storm or similar kind of mental derangement. There is only one logical way of dealing with the purchase of practices by the State—buy all practices at the same time at similar terms and tell us when we are negotiating what price we get—for example, 1, 1½, or 2 years' purchase on the last 3 or 5 years' gross receipts. The 1939 values are useless owing to the advance in fees we have been forced to make to compensate for the increased costs of living and running a practice. So far as partnership agreements are concerned the Act should contain a clause rendering these void on day of purchase, and each partner would get a share of the price received for the partnership according to his share of the practice. In the case of one partner not joining the Service his share of the partnership would not be purchased and he would automatically become a private practitioner and be free from the partnership.

We were given to understand that the new Health Service was to be an advance step, but the Act as it now stands is in every way the reverse. Group practice is definitely discouraged when it ought to be encouraged. There is no provision for encouragement of post-graduate study or taking higher degrees. Holidays and reasonable hours of work are not in the picture, in spite of the fact that these would give practitioners a reasonable chance to keep fit so as to do better work. The only object of the whole Act is to place the medical profession under the thumb of the Minister of Health and finally to turn us into puppets to dance to any tune he cares to play.

The capitation fee proposed is far too small, and any figure under 25s. per head should be definitely refused. As the Act stands at the moment it will only encourage a mad rush to get as many patients on to each panel, by fair means or foul, and then to do as little work as possible for them.

There have been several schemes devised in the past for a service which would be a great advance on our present system. Let us cease trying to negotiate with the present Minister, who evidently does not understand what negotiating means, and turn down the Act completely. Then let the profession get down to the job of providing a really up-to-date and workable scheme and offer to put it into practice. We have the power to do this now. Let us at last show a united front.—I am, etc.,

Wetherby, Yorks.

S. T. PYBUS.

Payment of Hospital Staff

SIR,—At a meeting of the Marylebone Division of the B.M.A. held on Dec. 30 to consider the attitude of the profession to the National Health Service one of the speakers criticized the medical staffs of several of the London teaching hospitals for accepting payment for their hospital services. University College Hospital was one of those named, and the implication offered by the speaker seemed to be that the medical staff had as a body thereby declared their intention to accept service under the N.H.S. irrespective of the result of the plebiscite shortly to be held by the B.M.A.

This implication, if intended, has no substance. The facts are that the governing body of the hospital made an offer to the individual members of the part-time honorary medical staff of a payment for their hospital services during the year 1947.

Some accepted and some declined. Those who accepted doubtless had in mind the advice given in the joint letter from the B.H.A. and B.M.A. dated Aug. 9, 1947. This payment was offered entirely without prejudice to the future of the staff under the N.H.S., and neither the acceptance nor the refusal of that payment carried with it any obligation on the individual, declared or implied, either to accept or to refuse service under the N.H.S. in July next.—I am, etc.,

S. COCHRANE SHANKS,
Dean, University College Hospital Medical School.

The Coming Plebiscite

SIR.—The plebiscite form will soon be in our hands and our answer will determine the future of medicine. One point that is giving concern to those who have in mind to say "No" is the question of support if a sufficient majority of the profession should be of that mind. Could a clause be inserted in the plebiscite form asking if those who will vote "Yes" are prepared to give an undertaking that in the event of their being in the minority they will loyally support their "No" brethren, so that there will be no question should the vote go to the "Yes" side the others will conform.—I am, etc.,

Mumbles, Swansea.

J. BURGESS JAMES.

SIR.—Now that the results of negotiations with the Minister of Health are made known to us, we the doctors are to be asked again to vote "Yes" or "No" to the Health Act. Since the Minister has again refused point blank to amend this Act in any particular, there is nothing new to vote on. Why, then, are we asked to vote again? Is it because it is hoped that since the last plebiscite we have lowered our standards? Otherwise there is no point in having another plebiscite.—I am, etc.,

Leigh-on-Sea, Essex.

A. H. LEVERS.

Remuneration in N.H.S.

SIR.—It is probable that only a very small minority of general practitioners favour a salary, even a basic one, but there must be a considerable number who hesitate to refuse because of their own limited resources. Could not the B.M.A. publish a scheme, at least in outline, designed to meet their difficulties? That this would be worth while is illustrated by the experience of a young doctor who wrote to the B.M.A. for advice. He was referred to a commercial house, whose terms proved to be as follows: Interest should be at 4%; he should take out a life insurance, and he should repay the capital at 12% per annum—£30 per quarter on £1,000—in ten years. So for £1,000 he would have to pay £1,200 spread over only ten years, as well as 4% interest and a life insurance premium. Obviously such terms could not compete with the offer of the Minister.

It has been suggested that to a man of good character and sound health the B.M.A. might lend or guarantee a suitable sum of money free of interest for a limited period, repayment of capital to begin at the end of that period at a rate varying with individual circumstances.

With respect to the plebiscite, it seems probable that very useful information could be obtained by taking account of district voting. It is likely that a larger number of districts would be for or against acceptance than would appear from the mass voting. A significant difference, especially if generally the majorities in those districts were large, surely would be very important.—I am, etc.,

Beckenham, Kent.

W. MAXWELL PENNY.

General Practitioners and the Basic Salary

SIR.—May I be permitted to ask what percentage of general practitioners in active practice has "a strongly rooted objection to a basic salary"? Who gave the Negotiating Committee the authority to say this and is the statement true? If the profession has this strongly rooted objection, how can the payment of a capitation fee of 15s. 2d. to 18s. possibly recompense him for the loss of private fees? Is it reasonable to suppose that a private fee-paying patient who can retain the services of the same practitioner will continue to pay private fees and a State contribution as well?

It may seem fantastic, but no one is going to pay any more than is necessary if it can be avoided; and who will pay £1 1s.

if the same service can be obtained from the same source for 5s. or less, even if it can be well afforded? Therefore, so far as I can see, private patients will soon be converted to so-called "public patients." Neither a £300 basic salary nor a capitation fee of 18s. (or less) can possibly compensate for the loss, which is inevitable. The result, so far as I can see, will be that in the smaller and more especially rural practices, where I should say two-thirds of the annual income is derived from private fees, a financial catastrophe faces the practitioner. I could give figures to prove my statement and I expect many more could do so as well.—I am, etc.,

Callander, Perthshire.

F. C. M. McILWICK.

** In para. 34 of the Negotiating Committee's document (Supplement, Dec. 20, 1947, p. 146) the Committee advocate remuneration by capitation payment and states its opposition to payment by a salary, basic or other. This is in accordance with the first of the "Principles of the Profession" enunciated by the Negotiating Committee and published in the *Journal* of March 30, 1946 (p. 468). The members of the Negotiating Committee were elected by the B.M.A., the Royal Colleges, the Royal Scottish Medical Corporations, the Society of Medical Officers of Health, the Medical Women's Federation, and the Society of Apothecaries, and represent their views. At the Special Representative Meeting held on May 1 and 2, 1947 (Supplement, May 11, 1946, p. 126), the motion declaring for capitation fee and against salary or part salary was carried by 209 votes to 8.—ED., B.M.J.

Representation on the Negotiating Committee

SIR.—In your leading article (Dec. 20, 1947, p. 1002) you state that "the Negotiating Committee, it is well to point out is representative of all phases of professional life." May I point out that this is not quite correct, since a small but no insignificant group has not, to my knowledge, been represented on the Negotiating Committee. I refer to the medically qualified preclinical teachers, whose case appears not to have received consideration and is therefore likely to go by default. It is not too late to rectify the omission by adding to the Negotiating Committee a representative of this group.—I am, etc.,

Department of Anatomy, The University,
Bristol.

J. M. YORRIV.

Leakage

SIR.—I wonder if any member of Council or of our discussions committee has read an article on p. 5 of the *Tribune* of Dec. 12? It is headed "Bevan and the Doctors," and to say that I was shocked when it was brought to my notice by a colleague is to put it mildly. It viciously attacks the B.M.A. and the Negotiating Committee (*sic*), says that if they ever hoped to gain concessions or amendments to the Act or postponement of the appointed day they must now be bitterly disappointed, and then goes on to *enumerate nearly every point* in the Minister's reply to our case. It exults in his refusal to concede one iota, in his determination to bring in the Service on the appointed day with "the means at his disposal," and particularly in his absolute refusal to give in over direction of doctors or on the matter of the sale and purchase of practice. It says that the B.M.A. has become the instrument of Conservative policy, but that it will not succeed in preventing the establishment of a *Socialist* medical service. It then goes on to suggest that any hope that the B.M.A. has of persuading doctors to refuse to enter the Service will fall to the ground when the enticing financial terms—basic salary, plus a capitation fee of "not less than" 17s. 6d. and "generous" compensation—are circulated within a few days to every doctor in the country.

At the Panel Conference in October I had occasion to say that I felt that the seven months of "discussions" (what a irony!) had been a period of phoney peace during which our wily opponent had had leisure to perfect his plans for a blitzkrieg, and this unsavoury *Tribune* business has confirmed me in that opinion.

Surely, then, the time has now arrived for all medical members of executive councils, regional boards, *et hoc genus omne* to resign; and I should like to suggest that this be done nationally on a set day, and that at the same time it be arranged

for insurance practitioners to put in notices of resignation from the N.H.I. service and for members of National Service and Ministry of Pensions Medical Boards to do likewise. This would serve to show this dictator-minded Minister that we are by no means disposed to walk into his parlour or to succumb to his ruthless threat of force, and that we at last realize that we can place no trust whatever in his word. Having marked our disapproval in this unmistakable fashion, we could then settle down with quieter minds to hold our plebiscite, and to get ready for the inevitable conflict.—I am, etc.,

Wolverhampton.

A. VICTOR RUSSELL.

Sulphamerazine Treatment of Pneumonia in Adults

SIR,—The results obtained by Drs. H. Joules and S. D. V. Weller (*Journal*, Dec. 13, 1947, p. 947) are interesting, but we are told little about the type of pneumonia. Radiological details and detailed leucocyte counts are not given, and apparently the pneumococcus was isolated in only 53 cases—28% of the total series. There is no mention of blood cultures in the severe cases. The satisfactory response with such small doses of sulphamerazine would appear to be due in part to the mildness of many of the infections.

Sulphamerazine's easy absorption and slow excretion are noted, but no mention is made of the fact that in the blood 80% is bound to the globulin fraction of the plasma—i.e., only 20% of the blood sulphamerazine is available for antibacterial action (Heffner, 1945). Hence the importance of moderately large doses of the order of 30 g. over 4 to 5 days in order to maintain, as Genecin *et al.* (1945) have found, blood levels of 12 to 16 mg. per 100 ml. In a small personal series of 68 African patients suffering from lobar pneumonia treated with this drug (Johnston, 1947) the advisability of this latter dosage was confirmed. Sulphamerazine is a valuable drug in the treatment of pneumonia, but it should be given in adequate doses, bearing in mind also the recent warning limitations concerning penicillin.—I am, etc.,

Aberdeen.

R. N. JOHNSTON.

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SIR,—The article by Drs. Horace Joules and S. D. V. Weller on the sulphamerazine treatment of pneumonia in adults (Dec. 13, 1947, p. 947) attracted my particular interest this week, as we have under treatment at the present moment our second case of anuria in a male, due to obstruction of the lower end of both ureters by concretions of sulphamerazine crystals.

I had in mind to publish full clinical details of these two cases at a later date when full recovery has occurred. It seems timely enough, however, to bring to the notice of your readers that sulphamerazine is capable of producing anuria even when used in reasonable doses, for in both cases to be reported the patients had no more than 1 g. four-hourly for less than a week. This is more than advised by Drs. Joules and Weller, but nevertheless not excessive. Both patients were instructed to take large quantities of fluid, but were not given alkalis. Fortunately, the obstruction was quite easily overcome by ureteric catheterization and lavage with a 5% solution of sodium bicarbonate.

Sulphamerazine is used far less commonly than sulphamezathine, yet so far in our district we have no knowledge of calculus having occurred from sulphamezathine, and it would appear, therefore, that if the therapeutic effects of the latter compound are as good as those of sulphamerazine the British drug is the safer of the two.—I am, etc.,

Chelmsford, Essex.

M. D. SHEPPARD.

Penicillin in Scarlet Fever

SIR,—Your annotation on penicillin in scarlet fever (Dec. 6, 1947, p. 915) is based solely on the work of Meads *et al.* (1945) and Jennings and de Lamater (1947) and ignores every publication by British workers and many important American papers. The penicillin treatment of infections of the oral cavity and upper respiratory tract has followed a logical sequence since Garrod (1944) stressed the sensitivity of a wide range of mouth organisms. The role of penicillin applied locally to the mouth has been investigated by numerous workers. MacGregor and

Long (1944) indicated the probable value and limitations of penicillin pastilles in acute and chronic streptococcal tonsillitis. Mowlem (1944) drew attention to the extraneous organisms that invade the mouth during penicillin treatment.

Vollum and Wilson (1945) and MacGregor and Long (1945) discussed the method of spread of drugs in the oral cavity. Symons (1945, 1946), Archer (1945), Dodds (1946), Christie and Preston (1946), Long (1946a, b; 1947a) in this country, and Karelitz *et al.* (1947) in America, have discussed the role of penicillin in the treatment of diphtheria and have provided much information on the effect of the drug on secondary infection. Long (1946a, b; 1947a, b) has compared the effects of local and systemic penicillin on the flora of the mouth and upper respiratory tract and has suggested the need for a dosage of 1,000,000 units a day for three days. Rantz *et al.* (1947) noted that "post-streptococcal disorders were not observed in a small group of patients who received 500,000 to 1,000,000 units of penicillin in 80 hours."

I suggest that to exclude all reference to these publications is to detract from the value of your contribution. For instance, the statement that "the three risks of scarlet fever, then, are the primary toxæmia, the early endogenous invasion, and the late exogenous reinfection, and no one treatment is likely to combat all three" is not compatible with published information on the subject. It would seem to me that if the pathogens can be eliminated in a matter of hours in the early stages of the disease the toxæmia will be halted, local spread prevented, and the patient will be rendered non-infectious.

The work of Jennings and de Lamater from which your contributor obtains most of his information indicated quite clearly that, in spite of a dosage of 400,000 units daily, pathogens were not eliminated from the throat, and complications due to local spread of infection occurred. The obvious conclusion is that this dosage was too small. Since it would be insufficient to remove the highly penicillin-sensitive organisms from the gum pockets it could scarcely be expected to remove the more resistant streptococci from the tonsillar crypts, while the risk of rendering organisms penicillin-resistant by under-treatment cannot be ignored.

It would be unwise to predict the future of penicillin in the treatment of scarlet fever, diphtheria, acute haemolytic streptococcal tonsillitis, and the associated carrier states (for they are one problem, not many). It is probable that when we know what dosage of penicillin will eliminate all pathogens from the oral cavity and upper respiratory tract in the minimum time, and if we can show that in the case of infections associated with toxæmia the level of antitoxin reaches a lower titre in the blood of those treated with penicillin than in a control group receiving no penicillin, we will be on the way towards the solution of our problem.—I am, etc.,

London, W.C.1.

DAVID A. LONG.

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Diet and the Nation's Health

SIR,—It is surely time we had some hard facts about the nutritional position to-day, instead of the flood of opinion—usually pessimistic and more or less uninformed, misinformed, or merely malicious—which is obtaining headlines in the public press, and even finds a platform in your own columns.

The speakers for the motion at the recent Hunterian Society debate were doubtless convinced of the worth of their opinions, but, if your report (Nov. 29, 1947, p. 882) is substantially correct, Sir Jack Drummond spoke nothing less than the truth when he claimed that "no concrete facts had been brought forward to support the view that there had been deterioration

of health as a result of diet." Dr. F. M. R. Walshe's scathing retort (Dec. 13, 1947, p. 971) does nothing to persuade me otherwise; for even a "clinical opinion" should be based on relevant fact.

Dr. G. T. Mills's letter (Dec. 6, 1947, p. 926) has a spurious air of objectivity. Since anyone can calculate the food value of rationed foods and make a reasonable estimate for points foods, his figures for these items may be accepted at their face value. But on what basis was his list of unrationed foods compiled? Either he conjured up these foods and their quantities out of an unspecified "general experience"—always a hazardous, and in this case unjustifiable, procedure—or he based them on actual observation of definite "cases" by a definite method. If the latter I should like to know how he selected his cases and what his technique was. Without this information, I am entitled to assert that his figures prove absolutely nothing. Incidentally, Dr. Mills compares a presumptive total home diet for an adult consumer receiving no priority foods with the reputed consumption per head of the whole population—including women and children as well as the men, heavy workers as well as sedentary workers, invalids as well as the healthy, and so on. Where this peculiar comparison is meant to lead is by no means clear.

Dr. J. G. Bennett (Dec. 20, 1947, p. 1012) says that mothers nowadays "are unable to suckle their own progeny for more than a week or two" owing to underfeeding. If he means *some* mothers, then his statement has probably always been true. At the moment something like 40% of mothers in this part of the country completely breast-feed their babies, and I know of no evidence that this is a worse performance than obtained, say, three or ten years ago. There is no doubt, also, that many of the lactation failures are due to causes other than undernutrition. If Dr. Bennett means *all* mothers in his practice, or if he believes that there has been an appreciable deterioration in recent years, then it is most important that he should report his facts carefully and temperately, in accordance with scientific usage.

I have been at pains to search for factual reports of diets actually consumed during the past few years. The number of published diet surveys can be counted on the fingers of one hand. I know the Ministry of Food carries out surveys routinely, but its reports are not published, and hence official figures cannot be judged in their full context. Why the secrecy? On the clinical side, there is a similar scarcity of published research, except in respect of school-children. Whether or not the country has recently become seriously undernourished, there is certainly a great need for facts, publicly presented in a scientific manner. Does the M.R.C. not think so? One wonders what facts the new B.M.A. Nutrition Committee is going to deal with.

It may not be entirely incorrect to suppose that much of the publicity given to many wild and unsupported opinions of certain medical men and politicians is based on a sincere belief that the present Government is pursuing a misguided policy. Governments, after all, are fair game for critics. But surely the best medical policy would be to deal in facts which speak for themselves, and not to parade half-truths disguised as learning, or violent opinion in the guise of authority? Although medicine is not altogether an exact science, we are generally credited with being a scientific profession, and I am optimistic enough to believe that the scientific method pays, even in politics.—I am, etc.,

Foresterhill, Aberdeen.

ANGUS M. THOMSON.

Streptomycin and Tuberculous Meningitis

SIR,—It was interesting to read in the *Journal* of Dec. 6, 1947 (p. 897), the account of streptomycin in the treatment of tuberculous meningitis in children by physicians of the Hôpital des Enfants in Paris. Their experiences in technique and dosages will no doubt be of the greatest value to many who are now entrusted with the care of patients suffering from what has been one of the most fatal forms of tuberculous disease. It has recently been my good fortune to observe a series of over 100 cases of tuberculous meningitis and miliary tuberculosis treated with streptomycin, dextrose sodium sulphate, and vitamin A in the Hôpital Meyer in Florence by Prof. Cocchi and his associates, and one can confirm the excellent results which have been claimed by these workers. The technique used in Florence and in other centres, however, varies considerably from that described by Debré and his co-workers in Paris. Indeed, technique and dosages have still to be studied in much detail, and before final pronouncement can be made on the

It may be of interest to your readers, therefore, to know that the Interim Commission of the World Health Organization, realizing the importance of the subject, decided at its Fourth Session in Geneva in August, 1947, to call a meeting of a number of international experts who have had practical experience in the use of streptomycin with a view to correlating results so far obtained and, if possible, to make available the most recent data concerning methods of treatment. Evidence from a number of countries points to the need for such guidance as may be forthcoming from such a group of experts. It is anticipated that the Expert Committee of the World Health Organization Interim Commission, which meets in Geneva in February, 1948, will be able to complete the arrangements for this conference so that it may be held not later than April, 1948.—I am, etc.,

World Health Organization.

J. B. McDONALD.

Diet and Peptic Ulcer

SIR,—Alkalis and atropine relieve symptoms, but ulcer is a deficiency disease. This is indicated by its historical rise, and by its class distribution up to the war, when rationing put us all on a more just level. Ask any senior surgeon how many "perfs." he used to deal with in his West End practice. Experimentally it was proved long ago by McCarrison's rats, fed on Travancore coolie diet; the findings of Sommerville and others in India are in support; also the recent work of Illingworth in Glasgow, when the incidence in slump-fed workers rose to a peak as soon as war work imposed its added strain. Of course there are other factors, notably strain: we are dealing with men and women, not test-tubes.

Clinically, anyone may convince himself (and cut down his waiting-list) by forgetting all he once learnt about "bland" diet, which means unsupported starch for most people, and feeding his ulcer cases on milk (no matter what anybody says) and a robust whole-cereal diet. If his courage fails him, he should remember that hibernating animals swallow a chunk of wood or something similar to keep the stomach in good tone during the winter fast. In default of a reliable whole-meal bread, and especially in parts where oatmeal porridge is not popular, some preparation of whole wheat germ gives rapid results in healing and freedom from relapse. The coincident spasticity of the colon also disappears. Only the long-standing indurated cases should come to the operating table.—I am, etc.,

Edinburgh.

A. G. BADENOCH.

Antral Infection in Children

SIR,—Mr. F. M. Walker (Dec. 6, 1947, p. 908) draws attention to the frequency of antral infection in children with unhealthy tonsils and adenoids. He states that a considerable proportion of the cases which were referred for tonsillectomy had failed to benefit thereby. 1,779 children, from a child population of 70,000, were operated upon by him during the year 1946.

The school population of Cornwall is about 36,000, and in 1946 about 325 operations for removal of tonsils and adenoids were carried out under the county council scheme, of which number we were responsible for 226. We find that the parents of these children are nearly always delighted with their improvement following operation. All the children are seen by one of us on at least one occasion, in the presence of a parent, before operative treatment is advised. They are seen again three months after operation. In many instances their tonsils and adenoids are not removed until the child has been under observation at out-patient clinics for six to twelve months.

The absolute indications for operation are considered to be: (1) Recurring attacks of tonsillitis; (2) persistent enlargement of the tonsils and adenoids sufficient to cause mechanical obstruction. Among resulting symptoms are snoring, difficulty in eating, repeated attacks of earache or deafness, and inability to throw off head colds.

Children are often referred for advice because they catch frequent colds, which, on questioning, are found to clear in a few days. Others are referred because they have nasal obstruction or catarrh which is found to be due to chronic sinusitis or rhinitis, often with a history of allergy or a deflected nasal septum. Removal of these children's tonsils and adenoids will of course lead to disappointment. We also find signs of antral

infection in a number of children selected for operation. As Mr. Walker suggests in his final comments, this resolves in the vast majority of cases after removal of the diseased tonsils and adenoids. He considers that the unsatisfactory results following tonsillectomy and adenoidectomy are due to sinusitis; we consider that they are more likely to be due to an incorrect selection of children for operation.—We are, etc..

Turo, Cornwall.

M. R. SHERIDAN.
T. M. BANHAM.

Residual Prostatitis

SIR,—We have read with great interest Dr. F. C. Bourgault Du Coudray's excellent article on residual prostatitis (Oct. 25, 1947, p. 651). Such a condition has been observed by us in a large number of cases, and assuredly also by many others, after sulphonamide or penicillin treatment of the urethral-process gonorrhoea. Some cases were treated for months and even years with massage, diathermy, and high supplementary doses of antibiotics notwithstanding the fact that repeated cultures of prostatic fluid and of semen were sterile or showed some diptheroids or Gram-positive cocci or bacilli. Streptomycin was used without success in 2 cases.

The persistence of pus cells in the prostatic fluid indicated the existence of an infection whose true nature we have cleared up in quite a few cases after dark-field observation of the prostatic fluid. In a recent communication to the III Pan-American Congress of Urology (Rio de Janeiro, Sept. 14-20, 1947) we referred to 50 cases of such a type of prostatitis observed in V.D. clinic patients: in 6 (12%) we found spirilla, some morphologically similar to *Sp. dentium*. Latterly we have found in 7 other cases spirilla, in 3 *Tr. vaginalis*, and in 2 an association of both these micro-organisms. All cases were cured rapidly, with arsenical therapy—trivalent, pentavalent, or arsenoxide.

In 3 out of 10 cases in which we did not find spirochaetes or protozoa we obtained rapid and remarkable results with the arsenical therapy, based on the knowledge that the former micro-organisms may disappear, breaking up into coccoid or granular forms (Dutton, Leishman, Balfour, Nicolle, Coutts, Marchoux, Chorine, etc.).

As regards the negative action of penicillin in cases where spirochaetes have been found, it is of convenience to remark that this drug does not act equally on the different types and that even *Sp. pallida* sometimes requires very large doses in order to be destroyed.

When prostatic fluid contains numerous pus cells we dilute it with tepid normal saline and examine a drop of the dilution. An excess of pus cells impedes the free movements of spirochaetes and of the cilia of trichomonads, rendering their search almost impossible. Following this practice we have frequently been able to demonstrate the presence of these micro-organisms in fluids that had been declared sterile.—We are, etc..

WALDEMAR E. COUTTS.
EDNA SILVA-INZUNZA.

Santiago de Chile.

Cheaper Heparin

SIR,—Recent correspondence on heparin and dicoumarol prompts me to write on the subject of these anticoagulant drugs. Whatever may be the views held by physicians on the value of anticoagulants in the treatment of coronary thrombosis, surgeons should be in no doubt about the value of anticoagulant therapy, properly managed, in cases of post-operative venous thrombosis and embolism. In view of this fact, it is perhaps surprising that these drugs are not more widely used.

There would seem to be two reasons for the present state of affairs: on the one hand we have heparin, a highly effective, safe, and expensive drug, while on the other hand there is dicoumarol, a cheap, potentially dangerous, but more readily obtainable drug. Experience with dicoumarol seems to vary greatly, and, although one knows some who have used it without experiencing any trouble, there are many who report serious and even fatal complications following its use. While it is clear that the most careful laboratory control is essential in dicoumarol therapy, it is doubtful whether a substance which has been described by no less an authority than Jorpes as exerting "a kind of toxic narcosis of the liver cells, the depth of which it is difficult to control," is really the drug of choice in the treatment of thrombosis.

At the present time an average day's treatment with heparin costs more than five pounds, whereas that with dicoumarol may cost less than a shilling. Under these circumstances it is hardly surprising that dicoumarol is sometimes tried (often, it is true, under inadequate laboratory control), found wanting, and discarded, while heparin, being expensive and in short supply, is used far too little.

Since the great value of heparin should need no emphasis I would like, through your columns, to put in a strong plea for the manufacture of a plentiful, cheap, and reliable brand of heparin. Doubtless other readers will be ready to express their views and, if necessary, to encourage the commercial drug firms to satisfy our needs.—I am, etc..

Radlett, Herts

REGINALD S. MURLEY.

Drug Addiction

SIR,—I was interested in your annotation on drug addiction (Dec. 13, 1947, p. 965). The group of opium eaters who appear to be in an "arrested development" stage of addiction must be familiar to medical officers who served with Indian troops in the recent war. It was found that Indian troops, who were able to obtain supplies of opium in India quite easily, presented a problem when posted out of India to countries where opium was not so readily obtainable. At first opium eaters were posted back to India, but later policy was changed, and these men were supplied with a limited amount of crude opium up to a maximum of 300 gr. (20 g.) per month.

In my unit half a dozen men were kept efficient and healthy with such a maintenance dose. Some received 200 gr. (13 g.), the others the full 300 gr. monthly. I followed these men over a period of 2½ years and found that their work was satisfactory in every way; they did not make frequent appearances at sick parade nor did they seek increasing doses of opium to remain in such equilibrium. I made attempts to break them of the habit, but since they were men over 30 with a history of ten years or more of taking the drug success was neither anticipated nor achieved.

On the other hand, a dozen or more young soldiers posted to the unit direct from India were broken of the habit quite easily by immediate withdrawal of the drug. This group suffered virtually no withdrawal symptoms and emphasizes the point brought out by your annotation—that it is a mistake to apply the term "drug addiction" to all cases in which drugs are taken merely to produce euphoria.—I am etc..

Bristol

PHILIP JACOBS.

Child-bearing and Tuberculosis

SIR,—Dr. C. J. Stewart and Dr. F. A. H. Simmonds (Nov. 8, 1947, p. 726) have noted that the majority of physicians who have recent experience in the matter agree that pregnancy does not activate tuberculous disease; they have confirmed this themselves by a statistical analysis of a large series of patients, and they have drawn the conclusion that abortion is not a therapeutic agent in tuberculosis. Their comment in your issue of Dec. 27, 1947 (p. 1056), that effective advice concerning birth control had not been given to the patients in their series, and their suggestion that such advice is advisable especially for two years after the disease has become quiescent, is less logical, because they have already shown that in spite of lack of such advice, and also the lack of therapeutic abortion, the patients with active disease in their series who were pregnant compared not unfavourably in results with a control group with active disease who were not pregnant. Dr. R. C. Cohen found in his analysis of the Black Notley cases that a woman who became pregnant soon after quiescence of the disease would as likely do well as a woman who became pregnant later.

Admittedly, unlimited pregnancies should not be encouraged in tuberculous women. But the psychosomatic background of tuberculous disease is becoming increasingly perceptible. Conjugal felicity is important for a tuberculous woman, as for others, and if by effective birth control is meant artificial contraception it is interesting to speculate whether our generation, to whom advice in artificial contraception has not been wanting, is the more blessed in happy marriages. Might it not rather be better for the tuberculous woman and her husband to avoid a facile solution and by mutual co-operation and sacrifice to grow in that mutual respect on which happy marriages are built?

Another point is that I have followed up a number of patients who have suffered from non-pulmonary tuberculosis and who later married, and have found that pregnancies were unusual among them. This difference between patients with phthisis and patients with other forms of tuberculosis offers an interesting commentary on the pathogenesis of the disease.—I am, etc.,

Black Notley, Essex.

M. C. WILKINSON.

A Method of Abdominal Palpation

SIR.—The method of abdominal palpation described by Dr. E. W. Price (Nov. 1, 1947, p. 703) is, no doubt, almost the inevitable one when there is no table or chair available and when a number of patients are to be examined. But at a crowded out-patients of an Indian mofussil dispensary, where just a stool and a chair can be improvised, I have found a modification of the method more useful. The patient is seated on a stool on the examiner's right side, facing him and the light. The abdominal palpation is done in the same way as described by Dr. Price, with the patient bending forward. The sitting position of the patient is superior to the standing one for abdominal palpation, as it ensures a more complete relaxation of the abdominal muscles, because the thighs are flexed at right angles to the trunk.—I am, etc.,

Poona City, India.

P. L. DESHMUKH.

Prickly Heat: A Simple Remedy

SIR.—Recent references in the *Journal* to prickly heat (Nov. 15, 1947, p. 779; Dec. 20, 1947, p. 1012) make me wonder once again how many of those who interest themselves in this complaint have tried treating it with perchloride of mercury lotion. If a solution of perchloride of mercury in water, 1 in 500, is dabbed twice daily over the affected area and allowed to dry on the skin, the trouble is finished, in my experience, within two or three days, and further occasional applications prevent its return. This simple treatment was told me many years ago by a colleague in the Colonial Medical Service: I have never seen it mentioned in print, and have never known it fail in practice.—I am, etc.,

Nairobi, Kenya.

C. J. WILSON.

Relief from Pain in Obstetrics

SIR.—May I, as a woman practitioner, support Dr. John Elam's timely plea (Dec. 27, 1947, p. 1055) for the relief of pain in obstetrics? I have just returned from a most heartening visit to a maternity home in the South of England where "trilene" and air, and gas and air, are available and efficiently administered to all women in labour who desire anaesthesia. What impressed me, however, was not the number of women who made use of this opportunity, but the far greater number who enjoyed—literally enjoyed—bearing their babies without any anaesthetic, drug, or hypnosis.

If anaesthesia is the only way whereby the pain in labour can be relieved, by all means let us have adequate facilities for its effective administration. But if the pain of labour can not merely be relieved but virtually prevented by perfectly simple, straightforward physiological methods, why not employ these, rather than in ignorance allow a "normal" labour to progress in such a manner that anaesthesia, with its accompanying dangers (however small), becomes necessary?

Having read G. Dick Read's *Revelation of Childbirth*, and taken the opportunity of verifying with my own eyes the practical results of the application of his theories, I am convinced beyond any shadow of doubt that the answer to the 'scandal of the 'woman in pain' lies, not in the reduction of pain "to a minimum" by anaesthesia, as Dr. Elam unambiguously suggests, but in its prevention by education. That such a revolution in the conduct of labour is possible there can be no doubt in the minds of those of us who have been privileged to experience over and over again the peacefulness of a really normal labour, and witness the healthy joy of a mother when, after such a labour, she reaps her reward in full consciousness of her achievement.

Doctors and midwives in many parts of the country to-day are practising, or learning to practise, the methods whereby such results are made possible. But until the principles and

practice of Dr. Dick Read's great work become part of the curriculum in all medical schools and midwifery training centres instead of, as at present, in an isolated and enlightened few, there will be many who, with me, deplore the grave and tragic injustice that is now being done to the mothers of this country and to humanity in general. For what is callousness, or indifference, to extreme suffering but a natural protective reaction towards the acceptance of its inevitability?—I am, etc.,

York.

MAILO J. ELLIS

Asthma and the Inhaler

SIR.—Dr. James Kay (Dec. 20, 1947, p. 1011) describes the effectiveness of an inhaler in relieving an attack of bronchial asthma. It is true that the method is simple to use and rapid in its effect, and this makes it particularly important that the contraindications to its employment should be recognized. The fluids employed in asthma inhalers usually consist of solutions of vasoconstrictor and antispasmodic drugs such as adrenaline, pituitary extracts, atropine, and papaverine, and the effect of these vaporized solutions on the congested bronchial mucous membrane is to produce a rapid vasoconstriction and paralysis of the cilia. The asthma is relieved by the shrinking of the previously swollen bronchial mucosa, and provided the inhalation is not repeated day after day no harm results. But if an inhaler is used several times daily for weeks or perhaps months at a time the cilia of the bronchial tree become destroyed and the bronchial mucosa becomes thickened. The result of this is that expectoration becomes more difficult, shortness of breath on exertion more pronounced, and the attacks of dyspnoea recur more frequently. These symptoms do not occur as a result of repeated adrenaline injections.

In general the higher the adrenaline concentration in the inhalant solution the more rapid is the relief obtained and the quicker is the bronchial mucosa damaged. There is also a risk of adrenaline poisoning when a strength of 1 in 100 is repeatedly inhaled (*Journal*, 1946, 1, 671), and I reported such a case (*Journal*, 1946, 1, 864). Ephedrine is less harmful as an inhalant than is adrenaline, and the suggested prescription of 1% cocaine and 1% ephedrine in 4% glucose saline (*Journal*, 1946, 1, 671) is preferable to the inhalant solutions usually employed.

It may sometimes be necessary to prescribe an inhaler for patients whose attacks are so severe that relief is not obtained by the usual oral remedies, and when, in addition, adrenaline injections are not practicable; but these patients must be warned of the risks of continued use.

Rhinologists know that spraying the nose with adrenaline produces rapid temporary relief to nasal obstruction by shrinking the nasal mucosa, and that this relief is followed by increasing obstruction. No rhinologist therefore would prescribe an adrenaline nasal spray for constant use. The employment of an inhaler is equally undesirable in chronic asthma.—I am, etc.,

London, W.1.

CLEMENT FRANCIS.

Foreign Body in the Vagina

SIR.—Apropos the letter from Dr. G. J. Grainger (Dec. 20, 1947, p. 1011) I can quote a case which I think is worthy of a place alongside the one he describes. I had been attending an old lady of over 80 for a considerable time, when, in November, 1942, she began to complain of a feeling that her insides were falling out. When I came to examine her I found that the perineum simply did not exist. On making a vaginal examination my finger encountered a foreign body which on withdrawal proved to be a dried-up twisted old ring pessary. There were no ulceration and no bleeding. On going into the history more thoroughly the patient was very vague but maintained against all attempts to dissuade her that the ring must have been *in situ* for 41 years.

Perhaps the most interesting feature of this case lies in the subsequent history. I continued to see her at regular monthly intervals. Her only complaint was of dizziness due to a raised blood pressure. In February, 1946, she began to complain of abdominal discomfort accompanied by attacks of diarrhoea. On examination I found her belly to be distended. A rectal examination revealed a hard mass invading the lumen of the

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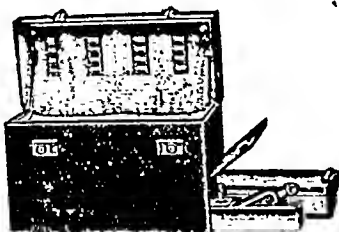
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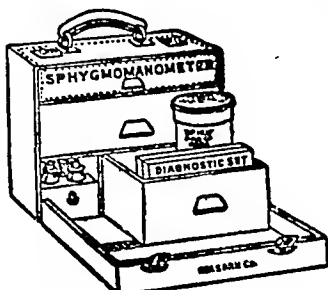
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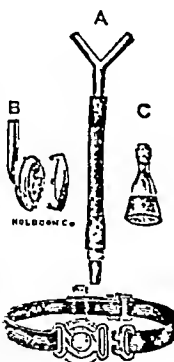
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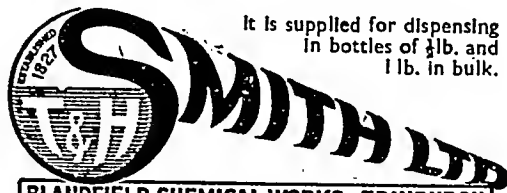
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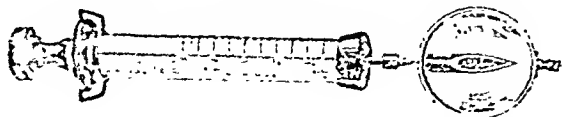
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rectum about 3 in. (7.6 cm.) from the anal orifice. This was producing almost complete obstruction. Operation was firmly refused and she died on March 17, 1946. It is tempting to relate the final condition to the ring episode. Unfortunately no post-mortem examination was allowed, so no pathological evidence exists. Certainly I had at the time no doubt that clinically the growth was a carcinoma.—I am, etc.,

Bridlington, Yorks.

C. J. GORDON TAYLOR.

SIR.—I was interested to read (Dec. 20, 1947, p. 1011) about Dr. G. J. Grainger's finding a bone nozzle in the vagina. While I agree that it was remarkable that it should be impacted in the pessary, I do not feel that it should be expected to cause any more symptoms than the pessary itself. Surely this is a case of straining at the enema and swallowing the pessary. Perhaps if it were given the chance the patient's cat would oblige by swallowing them both.—I am, etc.,

London, S.W.12.

W. P. M. DAVIDSON.

The Lazy Eye

SIR.—Your recent correspondence on "The Lazy Eye" has drawn attention to the significant number of adults who have subnormal visual acuity in one eye. The figures quoted by Dr. G. C. Dansey-Browning (Nov. 15, p. 796) and Dr. Alan Watson (Dec. 6, p. 933) emphasize the seriousness of the problem. Mr. T. Keith Lyle (Sept. 6, p. 398) stressed the need for treatment at an early age, and surely this is the pointer to the root of the trouble.

The present school ophthalmic service is essentially curative, and until it becomes preventive the incidence of visual defects at school-leaving age will continue to rise. A school child does not receive any ophthalmic treatment until the error becomes manifest to teacher or parent, or a drop in acuity is revealed by a medical examination. The Board of Education's 1931 report "On Problems Connected with Defective Vision in School Children" recognized the need for treatment of ocular defects at the earliest possible moment, before faulty visual habits become established in the children. The committee stated that a regular objective ophthalmic examination of every child was desirable in order that visual defects should receive early treatment, but it doubted if financial and administrative difficulties would permit. Now in 1947, sixteen years later, the position is not changed, and it is obvious that until yearly ophthalmic inspection of every school child is begun, coupled with adequate provision for the visual care of pre-school infants, the number of adults with "lazy eye" and other ocular troubles will continue to increase.—I am, etc.,

Henley-on-Thames.

S. BLACK.

Sterilization of Syringes

SIR.—The important question of sterilization of syringes, needles, and specula has been discussed recently in your columns, and we should like to make the following comments on the advice given. You state in "Any Questions?" (Oct. 25, 1947, p. 680) that, in the absence of an autoclave, the best method for sterilizing the above articles is to place them in a dry oven at 150° C. for one hour. This time is inadequate. The Medical Research Council War Memorandum No. 15 states: "Syringes and needles are placed in the oven while it is cold; the time of sterilization is not less than one hour after 160° C. has been reached. The oven should be allowed to cool before the syringes and needles are removed." The M.R.C. Memorandum also advises reliable thermostat and temperature control and control tests with infected material containing spores. These latter precautions are important because when, as is usual, syringes are sterilized in wrapped or plugged test tubes, there is a considerable time lag before the whole of the syringe is actually at the temperature of the oven, and this time lag must be allowed for in the time required for sterilization.

There is a comment by Messrs. John Foster and C. H. le May (Nov. 22, 1947, p. 854) on this question of hot-air sterilization. They quote Hanne¹ in support of their contention that sterilization by means of hot air is an unsatisfactory process. In fact, what Hanne's work emphasizes is the inefficiency of most of the hot-air sterilizing ovens which he tested and the inadequacy

of the so-called "sterilization" techniques which were being employed. Hanne's failure to kill *B. mesentericus* under the conditions of his experiments should not be quoted as a condemnation of hot-air sterilization in general. His work does, however, call attention to the necessity of ensuring that the temperature shown by the oven thermometer is being maintained equally throughout the oven.

Although many ovens fall short of this ideal, there is one made by a reputable British firm which is stated to have a maximum temperature variation throughout the oven of $\pm 1^\circ \text{C}$. The question of hot-air sterilization was discussed very fully in a letter on "The Sterilization of Sulphonamides" which appeared in the *Lancet* (Sept. 12, 1942) from Prof. Long of the Johns Hopkins University School of Medicine. To quote from this letter:

"We obtained the most heat-resistant spore-formers we could find—one strain of *Cl. novyi* which the suture manufacturers use as a control organism and a strain of *Cl. sporogenes* used by the canners as a control organism. Most of the information in textbooks concerning the heat resistance of spores in hot-air ovens was built up before the present accurate thermo-electric instruments were available. Since the temperature usually given for hot-air sterilization (160° C. for one hour) is so near the melting point of sulphanilamide (163° C.), we decided to restudy the resistance of some of the spores, making use of some of the more modern instruments with extended time as is practised by some canners. It has been found that the most resistant spores of *Cl. novyi* and *Cl. sporogenes* can be killed at a temperature far below the melting point of sulphanilamide if the time element is extended sufficiently: 130° C. kills these organisms in four hours but not in three; 140° C. kills in three hours but not in two; 150° C. kills in two hours. Various types of forced air ovens have been tried, both electric and gas. The above temperatures will not hold for static ovens or ovens improperly baffled so that one obtains cold spots.

Further suggestions on the sterilization technique for the preparation and administration of solutions for intra-spinal anaesthesia are given in a memorandum published recently by the Public Health Laboratory Service and the London Sector Pathologists Committee (*Pharmaceutical Journal*, 1947, 159, 428).

We think that it must be agreed that sterilization by dry heat is a satisfactory method provided that the following requirements are met: (1) An adequate temperature must be maintained for an adequate time. (2) The time of sterilization must begin from the time when the whole article is at the desired temperature. (3) The oven employed must not have "hot" or "cold" spots. (4) Attention must be given to the circulation of the air in the oven if big batches of items are being sterilized. (5) A careful check must be kept by means of thermostat thermometers, and contaminated controls to ensure that the process is efficient. The controls should be spaced throughout the batches.—We are, etc.,

Hertford.

CHARLOTTE RIESENFIELD.
JOHN C. H. HANSON.

REFERENCE

¹ Hanne, R., *Pharm. Ztr.*, Berlin, 1937, 82, 2.

Space for X-ray Departments

SIR.—I am much obliged to Dr. Douglas Gordon (Dec. 1, 1947, p. 977) for drawing my attention to the recommendation of the British X-ray and Radium Protection Committee. The plan which I put forward, as Dr. Gordon agrees, was stated not attempt perfection in detail, and there is therefore no need defend it. It is hoped, however, that the interest this plan may arouse may be on general principles rather than concerned with detail. Nevertheless, it is obviously important that attention should be drawn to these regulations, which were not only unknown to me but also to a distinguished architect. As I. Gordon has pointed out, even architects of the Ministry of Health are unaware of these regulations, and this emphasizes the need for some co-ordination and specialization in the designing of hospitals.

Many hospitals have been built by excellent architects who have been equally at home in designing a hospital, a house, hotel, a cinema, a school, or a town hall. Recently the need for some specialist in hospital construction has been brought to my attention in my efforts to improve the lighting,

operating theatres. The amount of contradictory advice I have received from persons of no experience is quite amazing, and I am now trying to find someone who can really give valuable advice on this most important subject.

In this age of planning one hesitates to suggest a further group of planners, but at present in hospital construction the blind are leading the blind, and much time, energy, and money is expended in attempting to remedy the consequences of faults of design that ought never to have occurred. It would appear to me that either the Ministry of Health or the British Institute of Architects should consider this matter with a view to seeing that recommendations of special bodies should not pass into oblivion, and that expert advice on the special problems of hospital construction may be readily available.

Many of our hospitals are now quite out of date, badly sited, and in a poor state of repair. It is obvious that as soon as circumstances permit a great building of hospitals must take place, both to replace worn-out and obsolete buildings, and to provide new beds so urgently needed both for present and future needs. It was with a view to suggesting the general principle of self-contained units as the basis of hospital construction that I submitted my article (*Journal*, Nov. 22, 1947, p. 832). The scheme is still embryonic, and therefore any criticism that may beneficially influence its development is most welcome.—I am, etc.,

Hove, Sussex.

H. J. McCURRICH.

B.C.G. Vaccination

SIR,—May I remind those of my fellow-countrymen who "still linger shivering on the brink and fear to launch away" that in December, 1947, the Norwegian *Storting*, inspired by the Norwegian health authorities, passed a law for compulsory vaccination against tuberculosis? The easy passage of this law through the national legislature was assured by the same public health authorities, whose mustering of the evidence in favour of so radical a step was masterly. May I now suggest that we act on John Hunter's famous advice to Jenner in this way that, instead of weaving out of second-hand material gossamer threads of speculative agnosticism, we visit, in no tip-and-run spirit, the Scandinavian B.C.G. centres and there seriously study the mass of evidence accumulated over a score of years and still in large part not yet published? Quite possibly we might thus retrieve part of the march the Scandinavians have stolen on us. Might not this be a wiser course than to assume that their observations and conclusions are all wrong, and that we must make a fresh start in England on truly intelligent and impenetrable lines?—I am, etc.,

Sunnfjord Norway

CLAUDE LILLINGSTON.

Future of Almoners

SIR,—May I try, however belatedly, to comment on the points raised by Dr. Trevor H. Howell's letter on "The Future of Almoners" (Nov. 22, p. 843)? His contention that almoners spend most, though certainly not all, of their time and energy in caring for patients suffering from short-term acute illness to the detriment of those generally termed the chronic sick is undoubtedly true. There are obvious reasons for this, such as the small number of almoners in most hospitals, which necessitates a limitation of cases dealt with, and the fact that the primary duty of almoners, as an ancillary service to medicine, is to carry out the requirements of the medical staff, which as a rule centre on constructive work for those cases where conditions of home and employment directly affect health.

None the less, few almoners would claim anything but profound dissatisfaction at the present situation. Probably the reason for any apparent lack of interest in these long-term cases is not, as Dr. Trevor Howell suggests, their absorption in administrative and financial duties, but rather a profound feeling of helplessness in the face of a problem so vast that it can only be tackled successfully by a campaign in which the medical and nursing professions, public authorities, social workers, and the community at large all play their part. At present there is a neglect of the chronic cases, and for those who seek their hospitality there is a dearth of rehabilitation. Small nursing-homes run for the chronic are extremely unsatisfactory in every way, while the

chronic wards of municipal and county hospitals, housed in many cases in buildings of prison-like grimness, are as a rule overcrowded and understaffed to a deplorable degree.

The long-term case, while awaiting admission to such wards, either remains at home with no nursing at all or else in a general hospital blocks the beds needed for acute cases. If and when they are admitted to these chronic wards they find only too often that in entering they give up all hope of any life which can be called life. There is no feeling of hopefulness, no encouragement to improve, no remedial treatment, no occupational therapy, and, moreover, no selection of cases, with the consequence that the young person with possibly many years to live lies cheek by jowl with the old and senile. If by a miracle they improve sufficiently to be discharged, there is no halfway house to which they can be moved where they can stay long enough to be fitted even for a moderately normal life.

Much-needed interest is now being shown for old people, and admirable plans are being made for them in the future, but one wonders who will raise the standard of care for the younger chronic and for the middle-aged person who is slipping into chronic illness just because of lack of the right accommodation and the right treatment. I would like to assure Dr. Trevor Howell that if any constructive plans can be made he will find almoners as a whole not only ready but eager to play their part.—I am, etc.,

London, W.C.1.

C. MORRIS.

Road Accidents

SIR,—In my comment (Nov. 22, p. 843) on Dr. Kenneth Soddy's paper (Oct. 18, p. 623) I conceded the importance of the psychological aspects of accidents but stressed the need for some short-term action. I suggested low speed and strict law enforcement. If Dr. Soddy does not agree, what is his short-term solution while research is going forward? May I remind him that in the latest month for which we have figures another 500 persons have been killed and 14,000 injured on the roads?

If Dr. Soddy considers our solution to be remote from reality, I would point out that its success has already been demonstrated in Providence, U.S.A. In that city, following a black period of accidents, a limit of 25 m.p.h. was introduced in 1938 and strictly enforced. Since then Providence has been the most accident-free city in the U.S.A.

In his research into the psychological causes of accidents perhaps Dr. Soddy will look into the effect on the mentality of many drivers of the propaganda that "speed is not the cause of accidents" and that motorists are "persecuted." Have not those who indulge in such propaganda in the face of the continued slaughter forgotten the debt which they owe to common humanity?—I am, etc.,

T. C. FOLEY.
Secretary.

The Pedestrians' Association.

British Medical Students' Association

SIR,—Much has been said of late in your columns (Dec. 1, 1947, p. 931, and Dec. 20, p. 1008) and elsewhere concerning the political colour of the British Medical Students' Association. At the last Executive Committee meeting of the Association on Dec. 20, 1947, this question was brought up by the secretary of the London Region. It was decided after discussion to publicize the following points:

(1) The Association does not concern itself with political activities. We do co-operate with the B.M.A. on such matters as curriculum reform, medical films, status of medical students and newly qualified practitioners, etc., and with the International Union of Students on the organization of the Student International Clinical Congress, to be held by us in July, 1948, but at the same time are in no way influenced by their policies.

(2) The files and correspondence of the Association are at all times open to inspection by students and qualified members of the profession at B.M.A. House, W.C.1, and copies of our Annual General Reports and Constitution will be sent to any interested party on application.

In conclusion, Sir, may I thank you for the use of your columns.—I am, etc.,

S. M. DRANZ.
President, B.M.S.A.

A Peck of Troubles

Messrs. J. FISHER and R. A. HINDE write: The British Trust for Ornithology is inquiring into the opening of milk bottles by tits and other species of birds. This habit is not universal and may have spread in an orderly way through the tit populations. If so, problems of the greatest interest to students of animal behaviour are involved. In reaching the closing stages of our inquiry, we have reviewed the collected information and are anxious to consult a group of educated observers distributed evenly over the country. Such a group is formed by the medical practitioners of Great Britain. While we fully realize how very busy your readers must be, we would be extremely grateful for postcards, addressed to R. A. Hinde, 31, Mount Pleasant, Norwich, giving the following information: (1) Species of birds; (2) civil parish or county; (3) year in which observer could first have noted the habit (i.e., year since which observer has lived in the district); (4) year since which milk has been available in bottles to tits in the district; (5) year in which opening of milk bottles was first actually observed; (6) type of bottle closer; (7) any other information, method of opening, etc.; (8) name and address of observer.

A Method of Abdominal Palpation

MEDICUS writes: The method described by Dr. E. W. Price (Nov. 1, 1947, p. 703) is not a new one. It can be found in the 3rd edition (1947) of the textbook on *Percussion, Auscultation, and Palpation* by L. Dunner and R. Neumann. The book, written in German, is, it is true, not easily obtainable in this country. I have been using the method for many years and was always very satisfied with the results.

Fluted Vials

Dr. E. SUTHERLAND-RAWLINGS (London, W.2) writes: Frequently there have occurred tragedies from the inadvertent use of poisonous solutions which have been mistaken for therapeutic substances of a less dangerous nature. These mistakes arise chiefly on account of: (1) Ampoules or rubber-capped vials of same manufacture which bear no distinguishable marking whereby the busy practitioner's attention can be drawn immediately to the knowledge that he is using a dangerous drug. (2) In some cases the print is small and liable to become indecipherable through damp, age, or wear. . . . To obviate this I would suggest that all vials and ampoules containing dangerous solutions or tablets be grooved or fluted on the outside so that they are immediately distinguishable to the touch, and that the glass be appropriately marked in vivid colour to arrest the attention. If such a recommendation could be enforced under the D.D.A., I feel sure further tragedies of this kind would be averted.

Penile Carcinoma

Dr. I. GOTTLIEB (Sheffield) writes: With all due respect to Mr. W. Sampson Handley, I wish to point out a gross inaccuracy in his letter (Dec. 20, 1947, p. 1010). Zipporah, who circumcised her son (Exodus iv. 25), was the wife of Moses (Exodus ii. 21) and not the wife of Abraham, though her father, Jethro, was a Midianite and thus a descendant of Keturah, second wife of Abraham (Genesis xxv. 1). Therefore Zipporah could obviously not have taught Abraham the rite of circumcision. Abraham and Ishmael were the first people in the Bible to be circumcised (Genesis xvii. 26), and the Midianites, being descended from Abraham, must also have practised circumcision. My reason for writing is that I cannot allow such a misconception to appear in print above a name as distinguished as that of Mr. W. Sampson Handley.

Early Inoculation

Dr. ROMANA G. BARTELOT (Tisbury, Bath) writes: I found the following extract when turning out my father's old deeds and manuscripts and family papers. Thomas Bartlett, of Holwell, Dorset, was a direct ancestor, and his diaries extend from 1735 to 1750. In the diary for 1743 is this entry, "Memorandum the 17th of January this year, my son and Miss Molly Tregonwell were both inoculated by Mr. Goldwyer, Surgeon of Blandford, whose pay for the said inoculation was 20 guineas." (This when a year's schooling was only 15 guineas and one gallon of brandy 7s.) "The aforesaid operation was performed on Monday, the aforesaid 17th of January, about 3 o'clock in the afternoon at Holwell. The smallpox came out on my son the ninth and tenth days after he was inoculated, but on Miss Molly not until the eleventh and twelfth days after. They both bred it very easy and had it very light and but a five days sore. My son's arms threw off the discharge and got well where they were inoculated in about 3 weeks after the smallpox was turned, but Miss Molly's arms continued the discharge for six weeks."

* Lady Mary Wortley Montagu introduced inoculation against smallpox into England in 1717.—Ed., B.M.J.

T. W. LIPSCOMB, M.B., M.Ch., F.R.A.C.S.

We announce with regret the death on Nov. 19, 1947, at the age of 72, of Dr. Thomas Walter Lipscomb, chairman of the Australasian Medical Publishing Company, Limited, and former president of the New South Wales Branch Council of the B.M.A.

Thomas Walter Lipscomb was born in 1875, the son of William Griffin Lipscomb, of Maitland, New South Wales, Australia. He qualified M.B., M.Ch. at Sydney, and went into general practice at Leichhardt in Sydney in 1902. He was a foundation Fellow of the Royal Australasian College of Surgeons. Lipscomb's interests were largely surgical, and in 1903 he was appointed to the surgical staff of Lewisham Hospital, Sydney, where he was for many years the senior surgeon. In 1920 he retired from general practice and gave up his time entirely to consultant surgical work. Lipscomb was a man who took a warm interest in all professional matters and gave sterling service to the many causes he had at heart. He was a member of the New South Wales Branch Council from 1913 to 1931, and its President in 1922-3. He took a prominent part in 1913 in negotiations with the friendly societies of New South Wales, and represented the New South Wales Branch at the Annual Representative Meetings. He was one of the joint honorary secretaries of the third session of the Australasian Medical Congress (B.M.A.) held in Sydney in 1929. Lipscomb took a leading part in the organization of postgraduate education and was chairman of the New South Wales Post-Graduate Committee in Medicine from 1939 to 1944; for many years he was a member of the Board of the Prince Henry Hospital while it was functioning as a post-graduate teaching hospital; he was also a member of the Federal Council of the B.M.A. in Australia.

For over 25 years Lipscomb was closely associated with the Australasian Medical Publishing Company, responsible among many other things for the publication of the *Medical Journal of Australia*. He was also chairman of the Board of Directors of *The Maitland Mercury*, a daily paper owned by his family. Lipscomb was rightly very proud of the activities of the Australasian Medical Publishing Company, which has always maintained the highest standard. He was a man of the greatest probity and always spoke his mind simply and clearly yet without aggression. As recently as September last year he was present at the meeting of the World Medical Association in Paris. Lipscomb had a warm affection for England, and he will be missed by the many friends he had here. Of his family of seven, three sons qualified in medicine at the University of Sydney, and two of them are now practising in England.

HERBERT THOMAS HERRING died at his home in Harley Street on Nov. 22. Educated at University College Hospital, he took the M.B., B.S. Durham in 1887, and the M.R.C.S. in the same year. He acted for many years as assistant to Sir Henry Thompson, who was not only the leading genito-urinary surgeon of his day but also a fervent advocate of cremation and founder in 1874 of the Cremation Society. This work was eagerly taken up by Herring, who was active in the development of the Golders Green Crematorium, founded in 1902, of which he became managing director. At Woking he held the same position, and was for many years honorary secretary of the Cremation Society. Beyond doubt the steady expansion of the practice of cremation was due largely to his incessant propaganda. If in the second half of his life he was mainly a man of one idea, at least it was a sound idea and a progressively successful one. After qualifying, he was house-surgeon at University College Hospital. There, and later, when he joined Sir Henry Thompson, the cystoscope and x rays were unknown. A large part of a urinary surgeon's work consisted in catheterizing sufferers from enlarged prostate and in combating vesical infections due to faulty catheterization by other people—often the patients themselves. Herring devoted a lot of thought to perfecting a technique which should prevent bladder infection, and forty years ago he published his observation

in a volume entitled *The Sterilization of Urethral Instruments*. The aim of his teaching was self-catheterization by patients sufficiently educated to comprehend the meaning of asepsis and the way to avoid cystitis. At that time the day was just dawning when a vast reduction in the number of catheter cases was to take place, so that eventually the usefulness of his technique was diminished. His long career of public service in connexion with the Cremation Society was recognized in 1920 by the award of the O.B.E. Few men have pursued an ideal as steadily as he did for an equally long period.—H. R.

Dr. ARDESHIR HORMASJI MASINA died suddenly after a short illness on Dec. 17, at the age of 36, at the Masina Hospital, Bombay. He was the youngest son of Dr. Hormasji Masina, the well-known Parsi surgeon who had been the founder and principal managing trustee of the Masina Hospital since 1907, the year in which the institution began its life as one of the first voluntary hospitals in India. Ardeshir, like his brothers and his sister, was educated in this country and later entered the medical profession. He went from the Leys School, Cambridge, to Emmanuel College, and completed his training at St. Bartholomew's Hospital. He qualified in 1936, and took his M.B., B.Chir. at Cambridge in 1938. He became house-physician to the medical professorial unit at St. Bartholomew's for a year and later was house-physician to the London Chest Hospital. He also held the post of R.M.O. at Bradford Royal Infirmary. He took the M.R.C.P. in 1940, and proceeded M.D. in 1943, taking bronchiectasis as the subject of his thesis. It had always been his intention to carry on the hospital work which had rested for so many years on the shoulders of his distinguished father. Arriving in Bombay in 1942, he worked there until his death. When his father, who was more than 80 years of age, died in 1946 additional responsibilities fell to him in connexion with the management of the hospital. He became a leading consulting physician, and though his interests were wide he had special experience in diseases of the chest. He brought to Indian medicine a wealth of medical knowledge and culture from the West which combined with his experience of tropical medicine to give him an exceptional breadth of outlook. His scientific attitude to disease would have been of outstanding value to Bombay and the Parsi community in particular. Like his father, who in the earlier years of this century travelled frequently to European centres of surgical culture, and who many times visited this country, Ardeshir had a great respect for and an exceptional grasp of medical progress in Great Britain. Gifted as he was with an acute and alert mind, he was quickly able to grasp the essentials of any problem and to solve it with tact, wise judgment, and precision. Gentle and approachable in manner, he was kindness itself not only to his patients and his colleagues but to those visitors who were fortunate enough to be invited to visit the Masina Hospital. The writer, who was privileged to be his friend since his days at Cambridge, will always remember with gratitude the generous hospitality extended to him during a fortnight's stay at his hospital in 1943. The Masina family always welcomed to their hospital visitors from this country, and their hospitality was genuine and sincere, as only those who know India will understand. By his passing the Masina Hospital has suffered a crippling blow and the medical profession in India has lost one of its outstanding members. We who had the privilege of knowing him will always remember him with sadness and affection, and to his brothers and his sister our deepest sympathy is extended.—P. H. W.

Dr. JAMES FRIDERICK DIGNY WILLOUGHBY died at his home in Southwell on Dec. 17 at the age of 91. Dr. Willoughby was a student at St. George's Hospital, and qualified in 1879. He had lived in Southwell for over 62 years and was in active practice until 1927. In his early days he acted as medical officer to the South Notts Hussars, and during the first world war he was in charge of the V.A.D. hospitals at Burgage Manor and Brackenhurst Hall. For his services in this connexion he was awarded the O.B.E. He had been a J.P. since 1907 and had served on the governing body of the Minster Grammar School for many years. He had always taken the greatest interest in the religious and educational life of the town. He was a member of the British Medical Association for over fifty years, and was chairman of the Nottingham Division in 1926-7. He leaves two sons and one daughter.

Dr. HENRY NATHAN WARNER COLLINS died on Dec. 23, 1947, at St. Dent of University College and King's College, London. He was a student at B.M.S. in 1915 and qualified in 1919, taking the D.M.B. in the following year. He then went on to study at the University of Paris and Lausanne, and in 1927 took the M.D. of Lausanne University. Recently he had been

called to the Bar, and he was well known as a radiologist on the consultant staff of the Weir Hospital and St. James Hospital, Batham; he was consultant physician to the Royal Society of Musicians and to the Children's Rest at Roehampton. He had also been associated with the Chiswick General Hospital and with the Bolingbroke Hospital.

C. A. H. F. writes: By the early decease of Henry N. Warner Collins the Lausanne Medical Graduates' Association loses one of its most distinguished and outstanding members. He was a man of exceptional ability and enterprise. He held many consulting appointments, and his tall and impressive figure will not easily fade from our memories, nor his clear and businesslike script. In his own sphere he will be greatly missed and his place will be difficult to fill. He leaves a widow and one daughter, Cynthia, to whom we extend our sympathy.

A memorial service for Mr. G. F. Stebbing will be held at St. Philip's Church, Kennington, at 12 noon on Monday, Jan. 12.

The Services

In a dispatch submitted to the Secretary of State for War by General Sir Frederick A. Pile, Bt., G.C.B., D.S.O., M.C., General Officer Commanding-in-Chief, Anti-Aircraft Command, and published in a Supplement to the *London Gazette* dated Dec. 18, 1947 Major-General P. H. Mitchiner, C.B., C.B.E., T.D., is mentioned as having given outstanding service.

The relevant paragraph reads: "Major-General P. H. Mitchiner, C.B., C.B.E., T.D., organized the medical services in the Command. He was an administrator of a very high order as well as a first-class medical officer. He rendered great services to the State."

The Efficiency Decoration of the Territorial Army has been conferred upon Lieutenant-Colonel T. C. Williams, R.A.M.C.

DEATHS IN THE SERVICES

The death of Group-Captain HENRY COOPER came as a shock to many friends in the Services and in civilian circles. It is not often that an opportunity occurs for the formation of an entirely new arm of the fighting services. Cooper was one of the little band, which included, among others, Hardy Wells, Nelson Roche, Stanford, Martin Flack, Treadgold, Stanley Turner, and the late T. S. Rippon, who were concerned with Air-Commodore (now Lieut.-General) M. H. G. Fell, in starting the Royal Air Force Medical Branch. The story of those early days cannot yet be told in full. But it was then that Cooper's infinite capacity for taking pains, organizing ability, tireless tact, and kindness had full play. It was generally hoped and expected that he would occupy the director's chair, but the term of office of the then director was extended, and Cooper had to retire on reaching the age limit. After his period of service at the Air Ministry in the early days of the R.A.F., Cooper served as P.M.O. India, from whence he went to Iraq as P.M.O. On returning to the United Kingdom he was appointed P.M.O., Air Defences of Great Britain, in 1927, which appointment he held until he retired. After his retirement in 1932 he became Clerk and Registrar of the Society of Apothecaries. On the outbreak of war in 1939 Cooper was past the age at which he would be liable to recall. Nevertheless, he volunteered for service, and was appointed P.M.O. Balloon Command. In the 1914-18 war he received the D.S.O. for his services at Dunkirk. He was also made an officer of the Order of St. John of Jerusalem and officer of the Order of the Crown of Belgium. In 1930 he was appointed Honorary Surgeon to His Majesty the King. After leaving Cambridge, Cooper went to the London Hospital and qualified M.R.C.S., L.R.C.P. in 1904, and entered the Royal Navy, from which he transferred to the newly formed R.A.F. He leaves a widow and one daughter, who is herself the widow of a naval officer killed in the last war.

Sir George Henderson, Secretary of the Department of Health for Scotland, opened the new out-patient department at the Dumfries and Galloway Royal Infirmary on Oct. 31, 1947. He recalled that it was almost 200 years since the hospital had been founded, and that it was there in 1846 that the first major operation under a general anaesthetic had been performed in Europe. He reassured his audience that the hospital would not be lost in a huge bureaucratic machine, trying to administer it from far away, but that the local people would have as much say as possible in its running.

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Dec. 20.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included), (b) London (administrative county), (c) Scotland, (d) Eire, (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London), (b) London (administrative county), (c) The 16 principal towns in Scotland, (d) The 13 principal towns in Eire, (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1947					1946 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	33	1	24	—	1	29	4	211	—	—
Deaths	—	1	1	—	—	—	—	3	—	—
Diphtheria	209	19	57	11	13	243	20	69	16	—
Deaths	3	—	—	—	1	3	1	1	—	—
Dysentery	83	16	34	—	—	62	7	31	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica, acute	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	1	—	—	—
Erysipelas	—	—	45	12	5	—	—	46	—	4
Deaths	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years	78	7	11	30	3	91	5	11	—	6
Deaths	—	—	—	10	—	—	—	—	—	—
Measles*	3,209	133	501	139	19	7,769	239	240	349	—
Deaths	2	—	—	1	—	4	—	2	—	—
Ophthalmia neonatorum	53	2	5	—	—	79	4	15	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever	6	11	(B)	—	—	6	—	2(B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenza	841	61	6	6	23	699	50	12	—	9
Deaths (from influenza)	15	2	3	2	4	26	5	4	—	—
Pneumonia, primary	—	—	404	24	—	—	—	365	—	18
Deaths	—	50	14	16	—	—	57	—	—	—
Polio-encephalitis, acute	5	—	—	—	—	2	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Poliomyelitis, acute	55	4	13	4	1	13	—	—	—	—
Deaths	—	—	—	—	—	—	1	—	—	—
Puerperal fever	—	2	13	—	—	—	3	9	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia†	135	16	10	—	—	133	22	6	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	2,063	159	299	44	56	1,201	73	330	42	—
Deaths	1	—	2	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid fever	4	—	2	5	—	4	—	2	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough*	1,699	122	32	27	9	1,586	103	231	38	2
Deaths	10	1	1	1	—	18	1	4	—	—
Deaths (0-1 year)	445	48	68	37	19	539	73	96	34	30
Infant mortality rate (per 1,000 live births)	—	—	—	—	—	—	—	—	—	—
Deaths (excluding stillbirths)	5,298	779	704	217	138	5,682	945	721	184	171
Annual death rate (per 1,000 persons living)	—	—	15.6	13.7	—	—	—	15.9	—	—
Live births	7,858	1186	953	290	229	9,158	1403	1137	389	259
Annual rate per 1,000 persons living	—	—	19.2	18.3	—	—	—	22.9	—	—
Stillbirths	201	24	28	—	—	269	29	35	—	—
Rate per 1,000 total births (including stillborn)	—	—	29	—	—	—	—	30	—	—

Poliomyelitis

Notifications of poliomyelitis in the week ended Dec. 27, 1947, were 44 (55) and of polio-encephalitis 4 (5). Figures for the previous week are in parentheses. The following counties have had no notifications in December: Cambridge, Cumberland, Huntingdon, Lines (Holland), the Soke of Peterborough, Rutland, Yorks (N. Riding), Anglesey, Brecknock, Caernarvon, Cardigan, Merioneth, Pembroke, Radnor.

Discussion of Table

In England and Wales there was an increased incidence of scarlet fever 124 and acute pneumonia 118, while a decrease was recorded for measles 170, whooping-cough 38, cerebrospinal fever 31, diphtheria 24, dysentery 23, and acute poliomyelitis 22.

There were only small fluctuations in the local trends of scarlet fever except for increases in Staffordshire 40 and Glamorganshire 35. The only appreciable variation in the returns of diphtheria was an increase of 8 in Lancashire.

Every area except the northern counties recorded an increase in cases of pneumonia, and the largest was that of London 32. The only change of any size in the local returns of whooping-cough was an increase of 30 in London.

The decrease in the incidence of measles was mainly contributed by two counties, Northamptonshire and Yorkshire West Riding with decreases of 168 and 106 respectively. Surrey with an increase of 73 in the notifications of measles was the only area with a large change in the trend of this disease.

Half of the total notifications of paratyphoid and typhoid fever were reported from Lancashire. The chief centres of dysentery were Lancashire 29, London 16, and Yorkshire West Riding 13.

After the slight interruption of last week the downward trend of acute poliomyelitis was continued. The only administrative areas with more than one case of poliomyelitis were Lancashire, Manchester C.B. 3; Warwickshire, Birmingham C.B. 3; Yorkshire West Riding, Sheffield C.B. 2; Oxfordshire, Oxford C.B. 2; Norfolk, Norwich C.B. 2; London, St. Pancras 2; and Devonshire, Dawlish M.B. 2.

An outbreak of paratyphoid B has been reported from Ipswich and the surrounding district, and 22 cases had been admitted to Ipswich isolation hospital up to Dec. 30. A suspected carrier who worked in a bakery has been admitted to hospital.

In Scotland increases were recorded in the notifications of measles 91 and acute primary pneumonia 85; a decrease of 10 was reported in the returns for diphtheria. The rise in the incidence of pneumonia was general throughout the country.

In Eire the chief features of the returns were a decrease of 53 in the incidence of measles and an increase of 12 in the notifications of scarlet fever.

In Northern Ireland the only variation of any size in the returns of infectious diseases was an increase of 12 in the notifications of scarlet fever.

Quarterly Returns for England and Wales

The birth rate during the September quarter was 20.0 per 1,000, compared with 19.7 for the third quarter of 1946 and an average of 15.7 for the corresponding quarters of 1941-5. The number of births registered was the highest recorded for any third quarter since 1920. The infant mortality was 32 per 1,000 live births; this was 9 below the average rate for the third quarters of the ten preceding years 1937-46. Stillbirths represented 22.7 per 1,000 of the total births, and this rate was the lowest recorded in this country in any quarter. The general death rate was 9.0 per 1,000, compared with 9.3 for the corresponding quarter of 1946 and an average death rate of 9.4 for the third quarters of the five years 1941-5. For the first time an estimate of the population by sex and age is given in this quarterly return.

A survey of sickness in the June quarter of 1947 is tabulated in detail according to the number of illnesses, days of incapacity, and medical consultations for age, sex, occupation, and income groups. No critical analysis of the tables is included in the report. It provides a valuable source of information for the research worker, but in its present form of absolute figures it does not give the general reader an immediate picture of the sickness experience of the nation.

Week Ending December 27

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,469, whooping-cough 1,141, diphtheria 157, measles 2,583, acute pneumonia 690, cerebrospinal fever 26, acute poliomyelitis 44, dysentery 53, paratyphoid 22, and typhoid 2.

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

Universities and Colleges

UNIVERSITY OF GLASGOW

Stanley Alstead, M.D., F.R.C.P., F.R.F.P.S., has been appointed Regius Professor of Materia Medica and Therapeutics in the University in succession to the late Prof. Noah Morris, M.D., F.R.C.P., F.R.F.P.S.

UNIVERSITY OF DURHAM

John Bright Duguid, M.D., professor of pathology and bacteriology in the University of Wales, has been appointed to the Chair of Pathology, King's College, Newcastle-upon-Tyne, and to the Department of Pathology in the Royal Victoria Infirmary.

UNIVERSITY OF LONDON

The title of Professor of Bacteriology in the University has been conferred on the Rt. Hon. Lord Stamp, M.B., B.Ch., in respect of the post held by him at the British Postgraduate Medical School.

UNIVERSITY OF LIVERPOOL

The Council of the University has appointed John Tertius Morrison, O.B.E., M.B., F.R.C.S., as full-time Dean of the Medical Faculty, in succession to Prof. T. B. Davie, M.D., F.R.C.P.

The following candidates have been approved at the examinations indicated:

M.D.—S. Bender, D. M. I. Freeman, J. D. King, Teresa Lightbound, M. G. McEntegart, R. C. Nairn.

M.Ch.Orth.—H. G. A. Almond, G. S. Colvin, J. J. Commerell, M. D. Desai, J. Dickie, W. H. Fahmi, C. J. Kaplan, J. G. Kerr, H. K. Lucas, T. B. McMurray, B. F. Miller, N. H. Morgan, A. G. O'Malley, G. V. Osborne, W. Parke, B. Polonsky, T. Price, G. I. Roberts, V. R. Thayumanaswami.

FINAL M.B., Ch.B.—Part III: A. J. Borkin, H. C. Endbinder, W. P. Wilson. Passed in separate subjects: G. D. Currie (Medicine, Surgery), G. Frew (Medicine, Obstetrics, and Gynaecology), J. C. Humber (Surgery, Obstetrics, and Gynaecology).

D.P.H.—Part I: H. O. M. Bryant, A. T. Burn, R. L. J. S. Derham, Jean M. Frazer, E. N. Hugh-Jones, D. E. Jayatunge, D. B. Kennedy, J. D. Munroe, Joan E. M. Potts, R. V. L. Rudolph, R. G. Thomas.

CERTIFICATE IN PUBLIC HEALTH.—A. Griffith.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

The Royal College of Physicians of London is giving a course of postgraduate lectures in medicine from Feb. 2 until March 25. There will be approximately 26 lectures. The full programme is not yet complete but preliminary details can be obtained from the College. The inclusive fee for the course is £7 7s. and the total entry will be limited to 200. Fees are payable in advance and must be received at the College (Pall Mall East, S.W.) by Jan. 26.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

A course of lectures on anatomy, applied physiology, and pathology in their application to dental surgery will be held at the College (Lincoln's Inn Fields, London, W.C.) daily from Jan. 12 to Feb. 6 (Saturdays and Sundays excepted), and a course of lectures on general, oral, and dental surgery will be held at the College daily from Feb. 9 to March 5 (Saturdays and Sundays excepted).

The admission fee for each course is £12 12s.; Fellows and Members of the College and Fellows and Licentiates in Dental Surgery will be admitted for £10 10s. Admission cards may be obtained from the secretary of the Faculty of Dental Surgery at the College.

An Order in Council entitled the Dangerous Drugs Act (Application) Order, 1947, came into force on Jan. 1. Its effect is to bring under the control of the Dangerous Drugs Acts and Regulations the following drugs and preparations, which have not hitherto been so controlled: Amidone, its salts, and any preparation, admixture, extract, or other substance containing any proportion of amidone; and methyldihydromorphinone (commonly known as meponon), its salts, and any preparation, admixture, extract, or other substance containing any proportion of methyldihydromorphinone. It is therefore now unlawful for any person who is not authorized either under the Dangerous Drugs Regulations, 1937, or by licence, to manufacture, supply, procure, or possess any of these drugs. Persons who enjoy a general authorization under those Regulations—for example, doctors and retail chemists—must comply with the Regulations regarding the issue of prescriptions and the keeping of registers in respect of these drugs. Any persons or firms (other than those authorized under the Regulations) concerned in the manufacture, sale, and distribution of any of these drugs and preparations must make application to the Under-Secretary of State, Home Office, 1, Horse Office, St. Stephen's House, Victoria Embankment, London, S.W.1, for consideration to be given to the grant of a licence to permit them to carry out their activities.

Medical News

Rowley Bristow Orthopaedic Hospital

The Church of England Children's Society (formerly the Committee of the Waifs and Strays) has decided to rename the St. Nicholas' and St. Martin's Orthopaedic Hospital (Pyrford, Surrey), which the Society founded, "The Rowley Bristow Orthopaedic Hospital" as an appreciation of his long and brilliant services to the institution.

Oliver Memorial Fund

The committee of the Oliver Memorial Fund offers an award to the value of £50 to a British subject whose original work is considered to have made the most notable contribution to the subject of blood transfusion during the past five years. The committee welcomes applications as well as communications drawing their attention to suitable candidates. Correspondence, accompanied by a brief résumé of such work, should be sent to Mr. F. W. Mills, National Provincial Bank, Ltd., Holborn Circus Branch, London, E.C.1, on or before Feb. 29, 1948.

Gift for Research

Lord Nuffield has given £50,000 to Lincoln College, Oxford, to found three research fellowships to be known as the Nuffield (Penicillin) Research Fellowships. The gift commemorates the discovery of penicillin's therapeutic properties in the Sir William Dunn School of Pathology, of which Sir Howard Florey, who is a Fellow of Lincoln College, is the head.

Surrey Benevolent Medical Society

The Surrey Benevolent Medical Society, which was founded in 1812, has in its gift four perpetual scholarships to Epsom College as well as several other scholarships for boys or girls at any school approved by the society. It also gives pensions to deserving relatives of deceased members. For many years the late Dr. S. Morton Mackenzie was the honorary treasurer, and in memory of him and of his untiring energy in so successfully managing the financial affairs of the society it was unanimously agreed at the last annual meeting to name one of the scholarships after him. This scholarship will henceforth be called "The Mackenzie Scholarship." Membership of the society is open to medical men in private practice in the county of Surrey. Particulars can be obtained from the honorary secretary, Dr. L. J. Barford, Heather Lodge, Redhill, Surrey.

Joint Tuberculosis Council

At the last meeting of the Joint Tuberculosis Council a new committee was set up to consider and report on the problem of tuberculous patients whose duties bring them into close touch with children. The convener of the committee is Dr. Wilfrid Sheldon. The Council discussed the recent cuts in priority milk for tuberculous persons, and the Secretary was asked to inform the Minister of Health and Food that the cuts were regarded with grave misgivings. In the Council's opinion the amounts of food available to tuberculous persons at home and in sanatoria are at dangerously low levels. Another matter considered was the eligibility of tuberculous persons for supplementary financial assistance under the National Assistance Bill. The Council endorsed the opinion of the Tuberculosis Group of the Society of Medical Officers of Health that eligibility for such aid should be based strictly on need and not necessarily on the fact that employment had been given up.

Court of Common Council of the Corporation of London

Major-General R. J. Blackham, C.B., C.M.G., C.I.E., D.S.O. M.D., has been re-elected a member of the Court of Common Council of the Corporation of London for the twenty-third year in succession. For many years General Blackham was the only medical member on the Court, but he was joined in 1941 by Dr. Arthur Westerman, the medical officer of The Charterhouse, who has also been re-elected.

Parkinson's Disease

The Ministry of Health issued the following statement on Dec. 30. "Some weeks ago a report appeared in certain of the lay newspapers concerning a German doctor who was alleged to have discovered a new and effective treatment for Parkinson's disease. As a result of this report a number of inquiries have been made of Government departments regarding the possibility of having the practitioner in question brought to this country to undertake the treatment of selected cases. The matter has been followed up through official channels and it is regretfully announced that the claims made in favour of this particular treatment are without foundation."

University of Athens

The title and status of Emeritus Professor of Medicine in the University of Athens has been conferred on Dr. A. P. Cawadias, O.B.E., F.R.C.P., by Royal Hellenic decree.

Honoured by Chinese Government

The Chinese Government has bestowed the Order of the Brilliant Star upon W. Percival Yetts, C.B.E., D.Lit., M.R.C.S., L.R.C.P., Professor Emeritus of Chinese Art and Archaeology in the University of London.

Export Licensing Control

Under a new order made by the Board of Trade preparations of penicillin have been released from export licensing control. Items that have been added to the export licensing list and for which licences are therefore necessary include: gonadotrophic hormones, testosterone, oestrogens, and bile salts.

Tuberculosis Allowances Scheme

The Minister of Health has authorized an increase in the winter's fuel allowance, under the Tuberculosis Allowances Scheme referred to in paragraph 42 of Memorandum 266/T, from 3s. 6d. to 4s. 6d. a week. This allowance is available from Jan. 4 to May 1.

Health Centres Proposals

The Minister of Health had previously asked local authorities to submit proposals about health centres by Dec. 31. He now cancels this date and will shortly be sending local authorities another circular on health centres.

Wills

Dr. John Crosthwaite Bridge, formerly H.M. Senior Medical Inspector of Factories, left £2,832. Dr. Wilfrid Fawcett, of Worthing, left £6,789, and Dr. Cyril Claude Lavington, of Stoke Bishop, Bristol, left £27,948.

COMING EVENTS

Conference on Mental Health

The National Association for Mental Health (39, Queen Anne Street, London, W.1) has arranged a conference on mental health to be held at Seymour Hall, Seymour Place, London, W., on Thursday and Friday, Jan. 15 and 16, at 10.30 a.m. each day. The subjects for discussion are "Re-adaptation to Life and Work of Persons who have suffered from Nervous or Mental Disorder" (speakers, Drs. G. R. Hargreaves and Donald Stewart); "Methods of Handling Difficult Children in Primary and Post-primary Schools, and Selection and Training of Staffs for Boarding Homes for Difficult Children" (speakers, E. M. Bartlett, Ph.D., and Miss Clare Britton); "Responsibilities of Local Authorities in Relation to Mental Health and the N.H.S. Act, 1946" (speakers, Drs. K. Soddy and Doris M. Odum); and "Education for Mental Health as a National and International Responsibility" (speakers, Brigadier A. Torrie, M.B., Ch.B., and Dr. J. R. Rees). Particulars of conference fees may be obtained from the conference secretary of the association at the address above.

Course on Medical Treatment

The University of Leeds Postgraduate Committee has arranged a clinical week-end course devoted to the subject of medical treatment, and open to general practitioners and others interested, to be held at the General Infirmary at Leeds on Feb. 21 and 22. The fee for the course is £1 1s. Further information and application forms may be obtained from the Senior Administrative Officer, School of Medicine, Leeds, 2.

Edinburgh Refresher Course

A fortnight's refresher course at Edinburgh University begins on Monday, May 3, at 9 a.m. It is intended primarily for demobilized medical officers (Class II) and for insurance practitioners. Fee for graduates not claiming expenses from Government sources, 10 gns.

International Leprosy Congress

The International Leprosy Congress will be held in Cuba from April 3-11, 1948. The last congress was held in Cairo in 1938, and the next should have been held in Paris five years later; the war, of course, prevented this. Dr. H. W. Wade, the president of the International Leprosy Association, and for many years in charge of the Culion Leper Settlement in the Philippines, with 6,500 patients under his care, arrived recently in this country to consult with Dr. Ernest Muir and Dr. Gordon Ryrie, of the British Empire Leprosy Relief Association, about the arrangements for next year's congress.

Postgraduate Course in Uruguay

A postgraduate course in tuberculosis will be held on March 1-13, 1948, at the Instituto de Tisiologia, Montevideo, Uruguay.

Summer School in Health Education

The Central Council for Health Education will hold a residential summer school in health education at "High Leigh," Hoddesdon, Herts, from Aug. 11 to 25, under the direction of Dr. Robert Sutherland. The object of the school is to present the general principles and practice of health education to a wide variety of students, including educational and medical administrators, doctors, and nurses. Lectures are planned to cover the basic knowledge needed by health educators and will include lectures in physiology (by Prof. Samson Wright), psychology (by Prof. James Drever), the biology of infection (by Dr. Robert Cruickshank), and social factors affecting health (by Prof. J. M. Mackintosh). There will be opportunity for attendance at exhibitions of health education material and for nature study expeditions, sports, and hallroom and folk dancing. The inclusive cost of the course per person will be £16 16s. Applications should be sent in before March 31. Those wishing for further details should write to the Medical Adviser and Secretary, Central Council for Health Education, Tavistock House, Tavistock Square, London, W.C.1.

Mental Deficiency

The 72nd Annual Meeting of the American Association of Mental Deficiency and the First International Congress on Mental Deficiency will be held at the Copley Plaza Hotel, Boston, U.S.A., the former on May 18-22, the latter on May 17-22, 1948.

SOCIETIES AND LECTURES

Monday

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—Jan. 12, 8 p.m. "More Worthies in Medley's Picture of the Founders of the Medical Society of London." Presidential Address by Mr. W. E. Tanner.

Tuesday

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Jan. 13, 5 p.m. "Pneumoconiosis of Coal Miners." Goulstonian Lecture by Dr. C. M. Fletcher.

CHELSEA CLINICAL SOCIETY.—At South Kensington Hotel, 47, Queens Gate Terrace, London, S.W., Jan. 13, 7 p.m. for 7.30 p.m. "Industrial Medicine." Discussion to be opened by Dr. N. Langdon Lloyd.

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—Jan. 13, 5 p.m. "Cutaneous Syphilis." Dr. A. C. Roeburgh.

Wednesday

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—Jan. 14, 5 p.m. "X-ray Technique." Dr. C. W. McKenny.

INSTITUTE OF SOCIAL PSYCHIATRY.—At Seymour Hall, Seymour Place, London, W., Jan. 14, 2 p.m. "Therapeutic Social Clubs." Conference and discussion.

Thursday

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Jan. 15, 5 p.m. "Pneumoconiosis of Coal Miners." Goulstonian Lecture by Dr. C. M. Fletcher.

EDINBURGH CLINICAL CLUB.—At B.M.A. Scottish House, 7, Drumshugh Gardens, Edinburgh, Jan. 15, 8 p.m. "Endocrines in Gynaecology." Dr. E. C. Fahmy.

BRITISH INSTITUTE OF RADIOLOGY, 32 Welbeck Street, London, W.—Jan. 15, 8 p.m. "The Role of Radiology in the Teaching of Anatomy." Prof. A. B. Appleton and Dr. J. W. McLaren.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, 17, Bloomsbury Square, London, W.C.—Jan. 15, 7.30 p.m. "The Place of Pharmaceutical Research in Medicine." A. G. Fishburn, Ph.C., F.R.I.C., D.P.A.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—At 26, Portland Place, London, W., Jan. 15, 7.30 p.m. "Symposium on Leprosy." Opening paper to be read by Dr. E. Muir and followed by Lieutenant-Colonel E. W. O'G. Kirwan, I.M.S.(ret), and Dr. A. R. D. Adams.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, S.W.—Jan. 15, 4.30 p.m. "Psychiatric lecture-demonstration." Dr. D. Curran.

Friday

FACULTY OF RADIOLOGISTS.—At Royal College of Surgeons, Lincoln's Inn Fields, London, W.C., Jan. 16, 2.30 p.m. "Diagnosis Section Meeting." "Some Surgical Findings in Intrathoracic Disease." Paper by Dr. J. V. Sparks. Followed by discussion.

LONDON CHEST HOSPITAL, Victoria Park, E.—Jan. 16, 5 p.m. "Surgery of the Oesophagus." Mr. D. S. M. Barlow.

ROYAL MEDICAL SOCIETY, 7, Melbourn Place, Edinburgh.—Jan. 16, 8 p.m. "Aetiology and Treatment of Asthma." Dissertation by Mr. D. M. McNab.

Saturday

LONDON ASSOCIATION OF THE MEDICAL WOMEN'S FEDERATION.—At Queen Elizabeth Hospital for Children, Hackney Road, London, E.—Jan. 17, 3 p.m. Clinical meeting.

APPOINTMENTS

Group Captain J. Hutchieson, M.B., B.Ch., D.P.H., has been seconded from the Air Ministry to the Ministry of Civil Aviation as Chief Medical Officer. He will review the Ministry of Civil Aviation's medical requirements and submit proposals.

After qualifying at Queen's University, Belfast, Group Captain Hutchieson joined the R.A.F. in 1936 and has been a senior medical officer on the staff of the Director General Medical Services, Air Ministry, since 1938.

Dr. E. C. Allibone has been appointed Honorary Physician to the Children's Department of the General Infirmary at Leeds from Jan. 1.

Christian William Fraser MacKay, M.B., Ch.B., has been appointed a member of the Executive Council of the Gambia.

The Minister of Health has appointed Miss Elizabeth Cockayne, S.R.N., S.C.M., to be Chief Nursing Officer Designate. Miss Cockayne is matron at the Royal Free Hospital, London.

MILLER, A. A., M.D., D.P.H., D.T.M., Director, Department of Pathology, Preston and County of Lancaster Royal Infirmary.

WARN, J. F., M.D., D.P.H., Medical Officer of Health and School Medical Officer, City of Oxford.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Baldwin.—On Dec. 25, 1947, at Bromhead Nursing Home, Lincoln, to Mabel, wife of Dr. R. B. T. Baldwin, a daughter—Janet Rae.

Edwards.—On Dec. 3, 1947, to Ivan (née Carson), wife of Dr. M. D. Edwards, "St. Margaret," Crawfordsburn, Co. Down, a son—Robert Carson.

Hamilton.—On Dec. 26, 1947, at Lynfield Nursing Home, Altrincham, to Geraldine (née Grind), wife of Dr. R. S. B. Hamilton, a son.

Harders.—On Dec. 15, 1947, at 12, The Drive, Bounds Green Road, N., to Calharine, wife of Dr. Jacob Harders, a daughter—Carolyn Ann.

Ross.—On Dec. 18, 1947, to Betty, wife of Dr. Kenneth M. Ross of Southsea, a son.

Sutton.—On Dec. 28, 1947, at Sidecup, Kent, to Catherine (née Howard), wife of Dr. P. H. Sutton, a son.

Templeman.—On Dec. 25, 1947, at Buckingham Nursing Home, Leeds, to Anne (née Thompson), wife of Dr. G. H. Templeman, M.B.E., 5, Wynford Grove, Leeds, a daughter.

MARRIAGE

Grace—Cope.—On Jan. 3, 1948, at the King's Chapel of the Savoy, Michael Anthony Grace to Philippa Agnes Loks Cope, only daughter of Mr. V. Zachary Cope and the late Mrs. Cope.

DEATHS

Alexander.—On Jan. 4, 1948, William Alexander, M.B., Ch.B., Priestfield, Keirley Road, Colne, Lanes.

Chisholm.—On Dec. 20, 1947, Donald Chisholm, M.B., Ch.B., aged 46.

Courtauld.—On Dec. 26, 1947, at Perces, Greenstead Green, Essex, Elizabeth Courtauld, M.D.

Cowie.—On Jan. 5, 1948, at Blackbrook House, Bickley, Kent, William Cowie, M.B., Ch.B., aged 76.

Davar.—On Sept. 25, 1947, Framji Edalji Davar, L.M.S., aged 57.

Day.—On Dec. 31, 1947, Frank Herbert Day, M.B., Ch.B., "Inchbrook," Kenilworth.

Fellows.—On Jan. 3, 1948, at The Old Rectory, Church Stretton, Frederick MacFarlane Fellows, F.R.C.S.Ed.

Ferguson.—On Jan. 4, 1948, at 162 Eccles Old Road, Salford, 6, Egerton Allen Ferguson, M.C.P.S.

Fitzgerald.—At Cork, Professor Denis Patrick Fitzgerald, M.D., aged 76.

Greeves.—On Dec. 31, 1947, at The Bosh, Broadstone Dorset, Thomas Neville Greeves, M.R.C.S., L.R.C.P., aged 84.

Hedley.—On Jan. 3, 1948, Edward Williams Hedley, M.B.E., M.D., The Cottage, Thursley, Godalming, aged 74.

Jones.—At The Hollies, Merthyr, William Watkin Jones, M.D., J.P., aged 82.

Katham.—On Dec. 28, 1947, at 52, Penn Road, London, N., Harold William Katham, M.R.C.S., L.R.C.P.

Lefevre.—On Dec. 21, 1947, at Studley House, Longton, Stoke-on-Trent, George Louis Lefevre, M.B., Ch.B., beloved husband of Elizabeth H. Lefevre.

Leighman.—On Jan. 3, 1948, at Bearhill, Brechin, Angus, Thomas Arthur Leighman, M.D., J.P., aged 87.

McLinden.—On Jan. 3, 1948, at Marcroft, Ripponden Road, Oldham, William Richard McLinden, M.B., Ch.B., aged 53.

Nathan.—On Dec. 30, 1947, at 122, Sussex Way, London, N., Albert Nathan, M.R.C.S., L.R.C.P., aged 46.

Parsons.—On Dec. 18, 1947, at Fairfield, 2, Rockleaze, Bristol, Henry Frank Parsons, M.R.C.S., L.R.C.P.

Robb.—On Jan. 2, 1948, at 1 Windsor Terrace, Dundee, John James Robb, M.B., F.R.C.S.Ed.

Rutherford.—On Dec. 31, 1947, at 27, Browning Road, Worthing, George Louis Rutherford, M.R.C.S., L.R.C.P., aged 78.

Saunders.—On Dec. 31, 1947, at Bickington, Cecil Sealife, M.D., Lieutenant-Colonel, P.A.M.C., retired.

Seaham.—On Dec. 22, 1947, at Fribourg, Switzerland, Frederick Seaham, M.D., aged 77.

Seymour.—On Dec. 22, 1947, at 2, Belton Avenue, London, N.W., Robert George Seymour, M.B., M.S., aged 74.

Waller.—On Dec. 22, 1947, at Hospital of St. John and St. Elizabeth, London, N.W., Frank Henry Waller, M.R.C.S., L.R.C.P., aged 74.

Waller.—On Dec. 22, 1947, at 10, St. John's Road, Kent, John Hewson Waller, M.B., Ch.B., aged 74.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of these questions and answers which seem to be of general interest.

Prevention of Ophthalmia Neonatorum

Q.—What is the best routine to adopt in order to prevent ophthalmia neonatorum?

A.—The fundamental fact in the prophylaxis of ophthalmia neonatorum is that a healthy mother cannot infect her baby, while an affected mother exposes the baby to that danger. The prophylaxis of ophthalmia neonatorum therefore centres, in the first place, on the mother rather than on the baby. In days gone by gonorrhoea was regarded as almost exclusively the cause of ophthalmia neonatorum. Present-day statistics show that gonococcal ophthalmia neonatorum accounts for not more than about 20 to 25% of the cases—compared with staphylococcal ophthalmia neonatorum and the form of the affection due to a virus which account for about 35 and 30%, respectively. The prophylaxis of ophthalmia neonatorum is therefore a matter of eliminating maternal infection and not merely maternal gonorrhoea. The best routine measure to be adopted involves intensive antenatal care, and the elimination of leucorrhoea in the expectant mother. For the baby Credé's method is a useful but not a totally adequate measure. The older statistics summarized in Sydney Stephenson's *Ophthalmia Neonatorum*, 1907, are conclusive evidence that the introduction of the Credé procedure greatly reduced the incidence of this disease. But it is also clear that it was no foolproof measure entirely eliminating the affection. Sorsby has shown (*Ophthalmia Neonatorum*, 1945, Hamish Hamilton) that in spite of the rigorous use of the procedure some 0.1% of a babies develop gonococcal ophthalmia neonatorum.

The traditional Credé procedure consists of two distinct parts. Swabbing of the eyelids as soon as the head is born and before the eyes are opened, and rigid avoidance of contaminating the face or eyes with the bath water in which the baby has been washed, are measures that may be regarded as asepsis. The instillation of silver nitrate or other agents is an attempt at antiseptics. There is some evidence that the omission of the antiseptic component tends to raise the incidence of ophthalmia neonatorum. The evidence is, however, not conclusive, and would appear that other agents than silver nitrate are at least as efficacious. In the series reported by Sorsby the incidence of ophthalmia neonatorum when argyrol or protargol was used was lower than that in births where silver nitrate was the agent. Whether the difference is statistically significant it is impossible to decide, as so many other factors have to be taken into account. On the other hand, there was a rather higher incidence when mercury perchloride and acriflavine in castor oil were used. It would appear that there is no conclusive evidence that the antiseptic component has any definite value, and it is still less certain whether any particular antiseptic is better than another. The recent suggestion that sodium sulphacetamide might replace the traditional antiseptics is ill founded. In the first place, there is no conclusive evidence that the sulphacetamides locally are of value. Secondly, the momentary action obtained by the instillation of one or two drops that are rapidly washed out from the eye can hardly be expected to achieve much; sulphonamides locally certainly do not sterilize the infected conjunctival sac as a pre-operative measure. Penicillin, though of undoubted value locally, is again unlikely to achieve disinfection of an infected conjunctival sac by momentary contact.

In view of these observations it would appear that the aseptic component rather than antiseptics is the essential aspect of the Credé procedure. Reliance must therefore be placed on swabbing the lids as soon as the head is born and before the eyes are open, and avoidance of any possible sepsis being carried to the face or eyes. It is safe to assume that the conjunctival sac of the newborn baby is sterile so long as the lids are closed and that the baby will not contract ophthalmia neonatorum if the conjunctival sac is protected from septic material on the face, in the bath water, and on the linen.

Treatment of Ascariasis

Q.—How would you treat ascari infestation in children?

A.—Probably the most satisfactory method of treating ascari infestation in children at the present time is with hexylresorcinol crystals. The dose recommended is 0.1 g. for each year up to be age of 10. A saline purge is required the night before treatment, which should be given on an empty stomach, and a further purge two hours after treatment. No food should be taken for five hours. The treatment can be repeated in five days. If the drug is given in capsules, these should not be chewed, as they are liable to cause erosion of the buccal mucous membrane. Apart from this the treatment is non-toxic, though the drug occasionally acts as a gastro-intestinal irritant.

Alternatives to Cod-liver Oil

Q.—In the case of a child who tolerates calciferol but will not take cod-liver oil how can vitamin A be supplemented other than by carotene tablets, which are expensive? What is the vitamin-A content of freshly extracted raw carrot juice?

A.—Alternatives to cod-liver oil are: (a) Vitaminized oil, B.P.C., containing 1,000 units of vitamin A and 100 units of vitamin D per gramme. Dose: 3 to 6 ml., or approximately 1 to 2 small teaspoonfuls, daily. (b) Emulsion of vitaminized oil, B.P.C., containing 50% of prescription a. Dose is twice that of a. (c) Extract of malt with vitaminized oil, B.P. Contains 15% of prescription a by volume. Dose: 20 to 40 ml., or approximately 5 teaspoonfuls to 5 dessertspoonfuls, daily. (d) Ministry of Food cod-liver-oil compound with added vitamin D, which contains 1,000 units of vitamin A and 200 units of vitamin D per gramme. Dose: 1/2 teaspoonful up to 6 months; over 6 months, 1 teaspoonful. (e) Concentrated solutions of vitamins A and D, B.P. Dose: 2 minims (0.12 ml.) daily.

These quantities will provide the optimum daily requirements of vitamins A and D. If proprietary preparations are used, care should be taken that a dose is given providing approximately 3,000 to 6,000 units of vitamin A and 600 units of vitamin D daily. The vitamin-A content of carrot juice is approximately 540 units per ounce (28.4 ml.)

Transplantation of Ureters

Q.—What treatment should be advised for complete epispadias in a boy where the symphysis pubis is normal and there is no sphincteric control of the bladder? At what age would it be advisable to consider transplantation of the ureters? Can anything be done to keep these patients dry (portable urinals have proved unsatisfactory), and are there any special schools where they could be educated?

A.—The majority of surgeons would advocate transplantation of the ureters for such a case. The usual age for operation is about 3 or 4 years. The earlier the age the greater are the technical difficulties, owing to the smallness of the structures involved. Even at the age of 4 years difficulties are encountered, and it would be preferable that the operation should be done by a surgeon with experience of abdominal work in children. There seems to be no satisfactory method of keeping these patients dry, and no special schools where they can be educated.

Treatment of Parkinsonism

Q.—(a) Have there been any further new developments in the treatment of Parkinson's disease? (b) What is the new treatment of Parkinsonism recently reported by Sigwald, Bovet, and Dumont?

A.—(a) Belladonna, hyoscine, hyoscyamine, atropine, etc., remain the most useful palliative measures in the treatment of Parkinson's disease.

(b) In the *Revue Neurologique* (1946, '78, 581) these authors state that they have had good results in the treatment of Parkinsonism with 2987 R.P., which is the chlorhydrate of diethylaminoethyl-N-thiodiphenylamine. So far as the writer knows this is the first published report on the clinical action of this drug, which is not yet available in this country.

Enlarged Labia Minora

Q.—It is often said that large labia minora in women are caused by masturbation. Is there any adequate support for this statement?

A.—Repeated manipulation or stretching of the labia minora can result in their permanent enlargement. It is customary among the women of some primitive tribes to produce gross hypertrophy of the nymphae by such means. Masturbation, therefore, and indeed any source of chronic irritation, can in theory result in hypertrophied labia, but it is probable that the importance of such causes is frequently exaggerated. It is impossible to prove, if only because a patient's denial of masturbation is not usually to be accepted, but it would appear that the condition is most often a developmental anomaly. This view is supported by the following observations: (a) the hypertrophy not infrequently affects one side only; (b) it is found in women in whom there is no other reason to suspect masturbation; (c) it is often not seen in cases where masturbation is admitted. It should be added that when hypertrophied labia and masturbation are associated it may be difficult to say which is the cause and which the effect.

Absent Palatal and Corneal Reflexes

Q.—What is the significance of absence of palatal and corneal reflexes—together or separately? I have seen these signs in hospital in cases of hysteria and also in apparently normal patients.

A.—Both the palatal and the corneal reflexes may be unobtainable—either separately or together—in cases of hysteria. No serious significance is necessarily to be attached to a failure to elicit these reflexes. Nevertheless a unilateral absence of the corneal response may be an important sign, indicating some interference with the trigeminal nerve or the fillet. Loss of the palatal reflex on one side or both may, of course, be an indication of loss of function of the 9th or 10th cranial nerve.

Piercing the Ears

Q.—May I have particulars of the technique of piercing the ears?

A.—Under local analgesia the lobe is transfixed with a wide-bore hypodermic needle. Through this hole a gold ring (hinged and with a sharp point) is introduced. In three months the wound will be epithelialized. (The rings can be obtained from a good firm of instrument-makers.) See also an earlier reply (1944, 2, 615 and 806).

Testosterone Propionate

Q.—(a) Is there an oral preparation of testosterone propionate? (b) Is local application of an ointment containing testosterone propionate to undeveloped genitalia in an adult female likely to promote normal development, and is such a preparation available?

A.—(a) Testosterone does not act by mouth, but methyl testosterone does. It is available in 5-mg. tablets, and from three to six may be given daily. (b) The answer is in the negative. It would also be in the negative if the question involved testosterone given by injection. There is available a preparation of testosterone in the form of an ointment, but it is not satisfactory for most purposes.

Fitness for Work in Compressed Air

Q.—What outstanding factors would determine a man's unfitness to work in a compressed-air atmosphere?

A.—The hazards of work in compressed air vary primarily with the pressure, but the general view is that the following conditions would prejudice a candidate for such employment: age exceeding 40 (for first employment) or below 20; obesity; disease of the heart, lungs, or kidneys; otitis; rhinitis or sinusitis; the common cold; alcoholism. Apart from care in the selection of men for work in compressed air, re-examination at frequent intervals is advisable.

NOTES AND COMMENTS

Expression of Placenta.—Dr. W. KEVERALL MCINTYRE (Launceston, Tasmania) writes: May I be allowed to comment on the answers given in your "Any Questions?" column (Aug. 2, 1947, p. 195, and Oct. 25, 1947, p. 679) on the removal of placenta by injection of the umbilical vein and on expression of placenta? The replies stated that injecting the cord is a "time-consuming" method and is applicable only when the condition is not complicated by haemorrhage and that "this appears to be effective in only a few cases."

For many years I have given 0.5 ml. of "pituitrin" intramuscularly as the head is being delivered, and I consider this useful; but the more recent practice of intravenous injection of ergometrine seems to give better results. Even so, I still find the cord injection has a very definite use in third-stage difficulties.

During the last eight years I have proved many times that in a large percentage of cases of retained placenta, particularly those due to uterine inertia, a rapid injection of hot saline into the umbilical vein not only controls haemorrhage but also stimulates its spontaneous expulsion unless complicated by hour-glass or other contraction ring. If the injection is begun 12 in. (30 cm.) from the vulva, the temperature falls about 10° F. (5.5° C.) in the placental tissues, so that I usually have the saline at about 125° F. (51.7° C.), increasing or decreasing this according to the length of the cord. It is not a "time-consuming" method if the simple apparatus is ready, autoclaved for immediate use. As advocated by Currie, a "sterilendum" enema syringe is much more efficient and expeditious than a "large-sized syringe."

In any properly equipped maternity hospital a two-pint (1.14-litre) jug of hot saline can be prepared in two or three minutes, and the large-bore nozzle or needle of the syringe can be inserted into the vein and the solution injected rapidly—actually it takes me less than two minutes to inject two pints if that amount is required. Frequently uterine response to the hot uterine douche and to the rapid increase in the bulk of the placenta is sufficient to control haemorrhage and expel the placenta before the injection of the two pints has been completed. It is of particular value in cases of atonic uterus in which there is a tendency to steady haemorrhage (even though the amount of blood lost may not be immediately alarming) and the placenta cannot be expressed because of the inertia. If the retention is due to a contraction ring or to a partial (or complete) placenta accreta, one does not expect the injection to expel the placenta, but it will, as I and other of my colleagues have demonstrated over and over again, control the haemorrhage and allow its natural removal later when the ring relaxes. If this has to be done manually, the firm engorged placenta is much more easily handled and removed.

I would suggest that your correspondent, if he sees this rather belated comment, should read the articles¹⁻⁴ for details of this simple technique.

In my private practice I have carried out this procedure for various reasons 182 times in my last 3,000 deliveries. I frequently inject the cord if there has been intrauterine interference in the second stage (manual rotation, high forceps, etc.) or third-stage inertia following prolonged labour, or in certain cases who have had post-partum haemorrhage or manual removals in previous deliveries. Of these 182 cord injections, 154 were successful (81%)—in 50 the placenta was spontaneously expelled during the injection, and in 104 immediately or a few minutes afterwards—28 cases were classed as failures, though in many of these the haemorrhage was controlled and the placenta expressed later. Ten (0.33%) had to be completed by manual removal—two of these had a partial placenta accreta and four had definite contraction rings confining part or all of the placenta. In 1,350 previous cases I had done 18 manual removals (1.3%).

If the value of the technique is understood—and correctly practised—and the simple apparatus is always ready for immediate use, it is not as "time-consuming" as changing gloves and other precautions which should be taken before a manual removal is carried out. It is a safe and easily performed hot intrauterine douche, which reduces the amount of blood loss, lessens the chance of infection, and stimulates uterine contractions, so that the placenta is frequently spontaneously expelled. If not, it can usually be expressed soon afterwards.

REFERENCES

- ¹ Currie, D., *British Medical Journal*, 1917, 2, 57.
- ² McIntyre, W. K., *Med. J. Austral.*, 1939, 2, 62.
- ³ —, *Ibid.*, 1942, 2, 517.
- ⁴ —, *Ibid.*, 1944, 2, 113.

Ringworm of Scalp.—Dr. R. T. BRAIN (London, W.) writes: While agreeing with the letter of Dr. I. M. Scott (Dec. 27, 1947, p. 1066) I have little doubt that others, like myself, have given much thought to the therapy of tinea capitis. Many new fungicides have been produced, and some were credited with more effective fungicidal action than the older remedies in general use. However, as Dr. Scott pointed out, the effectiveness of the fungicide is of less importance than the penetrability of the substance into the hair shaft and down to

the bottom of the infected follicle. It seemed probable that some of the new wetting and emulsifying agents might overcome this difficulty, and the problem has been studied since June, 1946, in the laboratory of St. John's Hospital for Diseases of the Skin. Dr. Kenneth Crow began experimental therapy based upon the above-mentioned factors in June, 1946, and this work has been continued by Dr. H. Haber and by Mr. Hadgraft, chief pharmacist of the Royal Free Hospital, but one has been delayed publishing results lest it should be thought that the older techniques involving epilation by x rays or thorium X were already obsolete.

Several fungicides were tried, but the most favourable series of reactions occurred with the use of a preparation of phenyl mercuric nitrate. In this series 22 cases have been treated—8 due to *M. audouinii*, 9 due to *M. felineum*, 4 in which the fungus was not cultured, and one endothrix case. Out of the 22 cases 17 (77%) were cured, the average treatment period being two months, and the criteria of cure a period of repeated observation over two to three months.

A new series of cases has now been started using salicylanilide and so far the results are encouraging. The penetrating base consists of a mixture of carbo-wax with Crill No. 6 containing phenyl mercuric nitrate. It should be pointed out that much work on similar lines has been done in America, particularly in New York, by McKee, Hermann, and Karp and other co-workers. Details of the researches at St. John's Hospital will be published shortly, but it was thought desirable to make this comment and the cautious observation that it is hoped that from this and similar researches it may be possible eventually, but not yet, to avoid the troublesome techniques of preliminary epilation in the treatment of ringworm of the scalp.

Thoraco-Lumbar Splanchnicectomy.—Mr. FRANCIS E. STOKES (Liverpool) writes: You have condensed my short note on a "New Incision for Splanchnicectomy" read before the Liverpool Medical Institution into three lines (Dec. 27, 1947, p. 1052). The result is somewhat misleading, and lest I should be accused of plagiarism I hasten to correct a false impression. The incision described is not new but is an extension of Fey's thoraco-abdominal incision for the approach to the upper pole of the kidney. As far as I am aware however, the use of this incision has never been advocated for thoraco-lumbar splanchnicectomy, all the standard incisions for this operation being placed more posteriorly.

Windows in Plasters.—Dr. DAVID A. HERD (Leeds) writes: The following is a simple method which I have used for several months and one which may be of interest to your readers. All that is required is an ointment box large enough to completely encircle the ulcerated area. Remove the lid and base and reduce the side depth to about 1/2 in. (1.25 cm.), at the same time shaping one of the edges to the skin part. Place the collar round the ulcer and apply the plaster-of-Paris bandage. Before the last one is applied I cut down and remove the collar, using the last bandage to smooth off the ragged edges. In this way you are left with a clean, correctly placed window whose edges are slightly elevated from the surrounding skin.

William Russ Pugh: a Pioneer Anaesthetist.—Dr. GEORGE KAYE (Melbourne) writes: The first administration of an anaesthetic in the Australian colonies was performed by William Russ Pugh, of Launceston, in June, 1847. The ultimate history of this pioneer worker is unknown and the Australian medical historians are anxious to elucidate it. The following biographical facts are recorded: William Russ Pugh graduated L.F.P.S. (Glasgow), 1835; M.D. and Ch.D. (Giessen), 1844; F.R.C.S. (Edin.), 1860. He migrated to Van Dieman's Land about 1838. In about 1854 he moved to Melbourne and his name appears on the *Medical Register of Victoria* for the years 1862-73. It is absent in the year 1874, the presumption being one of death or retirement. The Register of Deaths for the years 1872-7, inclusive, does not contain the name of Dr. Pugh; it is therefore possible that he returned to spend his last years in Britain. Should any reader have information as to the fate of Dr. Pugh or of his family, he is invited to communicate with the Curator of the Museum, Australian Society of Anaesthetists, Physiology School, The University, Melbourne, Australia.

Correction.—*Radiology for Medical Students*, by F. J. Hodges, I. Lampe, and J. F. Holt, was named incorrectly in our review columns on Jan. 3 (p. 15).

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SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY JANUARY 10 1948

LONDON COUNTY HEALTH SERVICES UNDER THE ACT

All the personal health functions hitherto performed by the 28 metropolitan boroughs and the City of London will, on the "appointed day," be transferred to the London County Council. The county for this purpose will consist of nine divisions, identical with the educational divisions, each comprising from two to five boroughs. In each division there will be a health committee, with L.C.C. and borough representatives and with six co-opted members out of a total membership varying from 18 to 29. Mr. R. A. Stamp, chairman of the Hospital and Medical Services Committee of the L.C.C., told a Press conference that effective links would be established between these health committees and the hospitals and also the executive council for London so far as general-practitioner services are concerned ("assuming," Mr. Stamp added, "that Mr. Bevan brings off a deal with the B.M.A."). There will also be a link with the health authorities in adjoining county areas.

A Measure of Rationalization

This new arrangement is expected to make possible a good deal of rationalization. At present, for example, the ante- and post-natal clinics and child-welfare centres are unevenly distributed over the county, both geographically and from the point of view of population density, and it will be possible to make good the deficiencies and to have more uniform provision. Hitherto there have been no arrangements between borough councils and general practitioners for the care of expectant and nursing mothers.

A medical officer of high standing will be put in charge of each of the divisions. He will be responsible under the county medical officer for co-ordinating all the personal health services, including the school service. To each division will be allocated from the medical staff eligible for transfer from the borough councils such staff as are necessary to ensure a high standard of service, and new staff will be recruited. A greater degree of specialization will be encouraged, so that medical officers will be given the work for which they are most suited, whether in the maternity clinics or the child-welfare centres or the school service. Reciprocal arrangements will be sought under which medical staff employed by the Council may obtain experience in maternity or obstetrical departments of teaching hospitals. Whole-time or part-time obstetric or paediatric consultants will be appointed.

Health Centres

Ultimately the point of contact between those engaged in the services for the care of mothers and children, and indeed in all the personal health services, will be the health centre, but in view of conditions in war-damaged London and the scarcity of building materials and labour it is recognized that some time must elapse before permanent health centres can be available. The idea is to form sub-areas of about 20,000 population, conveniently demarcated by main roads, railways, or open spaces, and to provide for each such area a comprehensive health centre or group of centres so situated that no one would have to travel more than a mile to get treatment or advice, and at which facilities would be available for all these services and also for general practitioners. The short-term programme (three years) includes the putting up of temporary structures. A list of 15 maternity and child welfare centres having first priority and of 14 having second priority is given.

One proposal which is being explored is to have joint appointments of medical specialists, employed both by the hospital

and by the local health authority, in connexion with the care and after-care of persons suffering from tuberculosis. A scheme is being worked out for an improved voluntary care organization, with the provision of workshops and settlements for patients, and possibly night sanatoria.

Midwifery Service

The number of domiciliary confinements in London in 1946 attended by midwives was 22,145, about one-third of the total births, and of these rather more than half were undertaken by L.C.C. midwives. Council midwives are at present attending an average of 88 confinements a year, and a similar pressure is being experienced by the midwives employed by district nursing associations and hospitals. The shortage of midwives is likely to persist, and some time must elapse before the number of domiciliary confinements undertaken by each midwife can be reduced to the 66 recommended by the Rushcliffe Committee. An intensive recruiting campaign is to be instituted with a view to increasing the existing staff of midwives, whole or part-time, and of district nurses and health visitors.

For the care of premature infants complete sets of equipment, in accordance with a standard list to be devised, will be lent to mothers free of charge for use at home. The establishment of breast-milk banks at convenient points in the county is proposed.

All the existing health-visiting services will be continued by the Council, subject to such rationalization as may be practicable, and expanded and developed as circumstances permit. About 300 health visitors are at present employed directly by borough councils. It is proposed to consult the metropolitan regional hospital boards and the executive council on the co-ordination of arrangements for health visiting with the hospital and specialist services and the general medical services respectively. Preliminary consultations have taken place with the University of London for the establishment of a school for health visitors. Home nursing is provided at present by voluntary organizations, and the Council intends from the "appointed day" to carry out its duties in this respect through the agency of the 32 voluntary district nursing associations working under the Central Council for District Nursing.

All these services—the L.C.C. hospitals, of course, are left out of account, since they will be handed over to the regional boards—are expected in the first year, after allowing for the Government grant, to entail an additional rate of fourpence in the £. From this, however, must be deducted the present cost, whatever it may be, of the borough and other services taken over.

TUBERCULOSIS ALLOWANCES AND THE NATIONAL ASSISTANCE BILL

MEMORANDUM FROM THE JOINT TUBERCULOSIS COUNCIL

Section 5 (3) of the National Assistance Bill provides that "Regulations under this section . . . shall make special provision for blind persons and persons who have suffered a loss of income in order to undergo treatment for pulmonary tuberculosis." Under Memorandum 266/T allowances are payable to certain categories of patients suffering from pulmonary tuberculosis who give up work to undergo treatment. Many other categories of tuberculous patients, not covered by the provisions of Memorandum 266/T, are receiving public assistance under the existing Poor Law. This assistance is given on a basis

of need without reference to the question whether they have "suffered a loss of income to undergo treatment."

In November, 1946, a deputation from the Joint Tuberculosis Council and other organizations concerned with tuberculosis was assured, according to a report of the discussions approved by the Ministry, that the Ministry "fully accepts the view that tuberculosis calls for special provision in the interests both of the patient and of public health"; and also that "the Assistance Board would, it was hoped, be empowered in the new Bill to make payments to *needful* persons under treatment for pulmonary tuberculosis on a scale higher than the normal scale of assistance applicable to the community as a whole."

The wording of Section 5 (3) of the Bill, while differing slightly from that of Memo 266/T, appears to carry over to the new scheme one of its restrictions, and apparently excludes those at present in receipt of public assistance who have *not* "suffered a loss of income" from undergoing treatment. Yet the need of the patient and his family for adequate care and maintenance on a higher level because of the disease is just the same; and a Bill which seeks to abolish the Poor Law should presumably make provision for the tuberculous on a basis of *need*. It may be argued that these cases could be covered by Section 5 (1), which gives power to the Assistance Board to determine the nature and extent of any assistance to a person in need; but, as tuberculous persons are specifically mentioned in Section 5 (3) and conditions there laid down, it would probably be held in a court that the Board was precluded from using subsection (1) to cover cases not eligible under subsection (3).

It is the intention of the Ministry that the higher rate of assistance should be conditional upon the patient's undergoing treatment. This intention is welcomed by most tuberculosis administrators and there is much to be said for it. It should not be agreed to, however, without full consideration of the fact that it subjects the recipient to what might be quite arbitrary decisions as to treatment ordered by one medical officer, and it might be wise to include some right of appeal.

The Ministry is also anxious to restrict the special scale of allowances to cases of *pulmonary* tuberculosis. Tuberculosis medical officers are almost unanimous in condemning this restriction and consider that the need of the tuberculous patient and his family for a relatively good standard of living is as great whether the condition is pulmonary or non-pulmonary. When Memo 266/T was introduced there was a nation-wide outcry against the exclusion from benefit of the so-called "chronics" and of the non-pulmonary cases. The restriction on "chronics" has been removed: it is to be hoped that the restriction on the non-pulmonaries may also be removed. The number of adult non-pulmonary cases is relatively small; the cost of their inclusion would not be a heavy extra burden and would be outweighed by the benefit of the extra safeguard to the health of the susceptible family.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

County Borough Council.—Gateshead.

Metropolitan Borough Councils.—Fulham, Hackney, Poplar.

Non-County Borough Councils.—Dartford, Leyton, Radcliffe (limited to future appointments), Tottenham, Wallsend.

Urban District Councils.—Denton, Droylsden, Houghton-le-Spring, Hutton-with-Roby, Portslade, Redditch (restricted to new appointments), Stanley (Co. Durham), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

MEDICAL ASSOCIATION OF IRE

Dr. James Francis Fitzsimond, owing to advancing years, has declined it necessary to resign as from Jan. 1 his position as Medical Secretary to the Medical Association of IRE. His successor has not yet been appointed.

HEARD AT HEADQUARTERS

Staggered Remuneration

The experience of a doctor in Germany as recounted to a colleague in America and published in a journal on the other side makes interesting reading for those who are concerned about developments in State medicine. Recently in Germany there has been introduced into panel practice a system of "staggered" remuneration in favour of doctors with smaller practices, so that for the first 500 on their list they receive for each person 4 marks a quarter. (According to the rate of exchange in Germany a mark is now worth sixpence.) For the sixth, seventh, eighth, and ninth hundreds they receive a progressively decreasing amount, ranging from 3.60 to 0.90 marks, and for anything over 1,000 they receive 0.60 marks. This doctor, who has over 1,900 panel patients on his list, has been receiving about 8,000 marks a quarter, but the effect of staggering is to reduce the amount to 3,000. Expenses of practice do not diminish in the same drastic ratio, but it would be to this doctor's interest to reduce his panel practice from 1,900 to 500, in which case he would earn the full 2,000 marks and be able to dispense with a secretary, and his net income would be relatively higher than if he was responsible for three or four times that number of patients. He is not allowed, however, to curtail his panel practice. In this doctor's case his panel remuneration meets his practice expenses and a little over, and he subsists on private practice.

Air Ambulance

Among the usual batch of miscellaneous queries which reached Headquarters the other morning was one from a firm of aircraft constructors who are proposing to fit a De Havilland Rapide as an air ambulance, and inquired what likelihood there is of air-ambulance traffic. In wartime, of course, the air ambulance plays a great role; in peacetime such a service is useful in countries with vast spaces such as Australia, but in a small island like ours its use is more limited. Local authorities at the moment are concerning themselves with normal ambulance services in association with the hospitals under the Regional Boards, but except possibly in such areas as the Highlands and Islands and perhaps the Yorkshire moors the need for air ambulances does not seem very urgent.

A Resolute Council

An observer at the "crisis" meeting of the Association's Council commented on the rapid changes in its personnel which a few years can make. Out of its sixty or more members only eight were members ten years ago, the eight including the present Chairman, the Chairman of the Representative Body, the Treasurer, the chairmen of three Standing Committees, and two other members. It is natural at such a time to think of some of the doughty figures of the past, and of the words they would have uttered and the action they would have taken in the present situation—of J. A. Macdonald and Jenner Verrall, who had to face another Welshman, and of Henry Brackenbury and Kaye Le Fleming at a later time.

Postman's Knock

One would not have been surprised if the staff of the Association had made wry faces when some members of the Council urged that, in addition to publication in the *Journal* of articles analysing the Minister's document, the articles should be sent by post individually to every member of the profession in the kingdom. In an all-in fight, of course, an expenditure of £200 every time on postage alone, assuming that it is only penny postage, does not count, but a more practical difficulty is the obtaining of paper for this vast circularization. A visit to the Great Hall of B.M.A. House, transformed into something like the dispatching department of a large factory, suggested what it means to dispatch even one set of documents to every practitioner. It means addressing one person in every thousand of the population—not a task to be undertaken lightheartedly.

The Home Office announces that Dr. Brian Arthur McCubbin is no longer authorized under the Dangerous Drugs Acts to be in possession of or to supply dangerous drugs.

Correspondence

National Health Service

SIR.—From the word "go" there will be an avalanche of work which will throw a tremendous strain on the profession and is likely to lead to a breakdown unless there is a corresponding increase of man-power (especially in the under-doctored areas) and expansion in every branch of the profession and ancillary services. The Health Service will require a complete administrative machine analogous to that of the fighting Services and with a large number of doctors doing work which is exclusively administrative. The good will of the profession is assured, but if there is a medical breakdown owing to the Service being forced on us before we are ready, then it must be made quite clear that the Government must accept full responsibility.—I am, etc.,

St. Mary Bourne, Andover, Hants.

W. D. KEYWORTH.

Working Hours in the N.H.S.

SIR.—From perusal of recent correspondence in the *B.M.J.* it appears obvious that very many G.P.s are under no illusions about working hours under the N.H.S. It is indeed patent that our work must be materially increased—the mere extension of free (so-called) doctoring to all women and children, apart from any other class of patient, will ensure this. Not only will our clinical work, our visits, and our surgeries be increased but also, no doubt, will the additional paper work which must inevitably descend upon us. To cope with this increased work we will have at the outset less G.P.s than are in practice to-day. For it is an unfortunate fault of any bureaucratic service (such as the N.H.S.) that it must essentially remove many "producers"—i.e., G.P.s—from their active clinical work into non-productive office jobs. To this depletion in our numbers may be added all those elderly G.P.s who are plodding along keeping their practices alive until the "appointed day."

Thus with reduced numbers we shall be left to face a marked increase of work. Now how long will it take to produce sufficient G.P.s to give the required full service?—ten, fifteen, twenty years? At the best we can settle ourselves down to ten or fifteen years of much harder work until such time as some wonderful State-operated doctor-producing sausage-machine has churned out sufficient medical types to fill the gaps. And, to us G.P.s in practice to-day who will have to bear the brunt and hold the fort until this Utopian state is achieved, what is offered?—(a) A remuneration as yet undefined; (b) a pension on which the large majority of G.P.s who are in practice to-day, being between the ages of 35 and 55, will find it impossible to live, as they will have been unable, through no fault of their own, to put in enough years of service; (c) compensation to our widows for the loss of our practices. I say "widows" expressly, for, under pressure of the increased work which one can visualize, few of us will live long enough to see the Minister's cheque. (We might also suggest to the Minister that he should arrange to employ collectors on our behalf who will continue to go and collect the great mass of book debts which will be owing to us on the "day.")

There is little doubt that we who are in general practice to-day are in for a pretty tough time if the N.H.S. is allowed to come along unchallenged. And, alas, apart from "belly-aching" like this in letters to the *B.M.J.*, there appears to be little that we as individuals can do about it. But we can at least attempt to impress upon the B.M.A. that we have a very definite axe to grind and that that axe should be well and truly ground through the medium of the Negotiating Committee.

It is easy to criticize light-heartedly; it is foolish to criticize destructively. May I, therefore, make one respectful suggestion about working conditions which I believe to be constructive and important to the future well-being of G.P.s under any form of service? The evening surgery is to my mind a most evil institution which has become, for some odd reason, accepted as a necessity in the average practice. It has made the G.P. a man apart from his fellows: it removes him from social functions; it debars him from active participation in local affairs whether it be amateur theatricals, chess club, or even attendance in the

local council chamber; most foul of all, it cuts deeply into his domestic life. In these days of earlier entertainments how many G.P.s can ever accompany their wives or families to the theatre or cinema in the evening? In short, this stupid evening ritual precludes the G.P. from all the normal relaxations to which a man may reasonably look forward at the end of a day's work. Here then is my suggestion in improving the G.P.'s lot: let us, whether under N.H.S. or any other service, have an end of evening surgeries; this demand I would like to see incorporated in the B.M.A.'s suggested terms of service in the N.H.S.—I am, etc.,

Glossop, Derbyshire.

H. M. R. WADDELL.

* The remuneration has since been defined and was published in the *Supplement* of Dec. 20 (p. 158).—Ed., *B.M.J.*

Dispensing in N.H.S.

SIR.—A point about a future national health service which appears to have escaped notice, especially with regard to children: at present we all carry stocks of drugs and dispense at any hour. In the N.H.S. we shall presumably not need these, as a prescription will be issued. It is hoped that adequate pharmaceutical arrangements will be made for late calls: at present chemists in this area close at 6.30 p.m. With all our child patients "on the panel" many late bottles of medicine will be required.—I am, etc.,

Cardiff

DAVID SAUNDERS.

Married Doctors in the Services

SIR.—Your answer to my letter on married doctors in the Services (Dec. 6, 1947, p. 133) provokes me to further utterance. The answer of the Service Departments to the B.M.A. Armed Forces Committee is a red herring in the best complacent tradition. I contend that to all intents and purposes "the comparable officer holding a permanent commission" does not exist. To be "comparable" he must be a doctor, married, have one child (or more), and be less than 25 years of age. What man in these circumstances would take a permanent commission knowing that he must keep his family so frugally on half allowances? Thus, the feelings of such an abstract officer are likewise abstract, and this herring is particularly odorous.

To add insult, the Service Departments recognize that financial difficulties may ensue as a result of this unfair pay system and loftily suggest charity in the form of a war-service grant—the Services means test. And then Mr. Alexander's reply to Sir Ernest Graham-Little is on a different theme—not a comparison with the remuneration of the regular officer but with that of "civilians of similar age and qualifications." I would merely say, "O to be one of them again!" But—an afterthought—Mr. Alexander was no doubt referring to the remuneration of the civilian State-doctor, or should I say the State-civilian doctor. Heaven forbid!—I am, etc.,

CONSCRIPTED, R.A.F.V.R.

Petrol Restrictions

SIR.—So, cap in hand, we go to the Minister of Fuel and meekly ask to be allowed to take our cars to the cinema with us so that we may have the privilege of being called out in the middle of the performance. The Minister (thinking, no doubt, "what a lot of fools") has given us what we asked for, and we have written (Dec. 6, 1947, p. 916) a humble address thanking him for his magnanimity. I submit, Sir, that this is not enough. Your correspondents have asked for recreation, and have simply been given the opportunity to do more work. The doctor's leisure is limited to an extent far greater than other workers', and it is essential if he is to be able to make any use of it that he should have a reasonably convenient method of travel at his disposal. The town practitioner may want to go into the country, miles from the nearest telephone; the country practitioner probably wants to go to a town, but he does not necessarily want to spend his time while there eagerly awaiting the bell that will recall him to work. Other workers can do these things: either they make use of their ample week-ends (often starting at 4.30 p.m. on Friday) or they take a day or two off during the week, a procedure probably only too well known to the Minister of Fuel and Power under the name "voluntary absenteeism."

You state that "medical men naturally expect to share with the rest of the community the various hardships to which we are these days all exposed." Why, may I ask? The rest of the community does not share with us the hardship of being on call at any time of any day or night, nor does it share our relatively enormous occupational morbidity and mortality from coronary thrombosis. In fact, by its 40-hour week and its repeated strikes it must be regarded as very largely responsible for its own hardships.

It has been suggested that we should not ask for privileges denied to others. But our special position is already recognized by the law for some purposes—e.g., exemption from jury service (although one day our self-effacing representatives will probably ask for this exemption to be cancelled). I must ask the B.M.A. to abandon its usual pusillanimous methods and to give an ultimatum to the Government that unless more consideration is given to the medical profession in this matter doctors will cease to be available 24 hours a day.—I am, etc.,

Silver End, Essex.

J. W. NICHOLAS.

COMPULSORY RECRUITMENT TO H.M. FORCES OF MEDICAL PRACTITIONERS

The Central Medical War Committee has been notified by the Ministry of Health of the following changes in the arrangements for calling up medical practitioners with effect from Jan. 1.

The compulsory recruitment of medical practitioners for service with H.M. Forces as general duty medical officers shall be confined to those who have not reached the age of 26 years, unless the Central Medical War Committee agrees (or has already agreed) to postpone a practitioner's call-up beyond his 26th birthday on the ground that he is undergoing or about to undergo training for the purpose of acquiring further qualifications or special experience. In such cases the practitioner shall be liable for compulsory recruitment as a general duty officer until he has reached the age of 30 years.

The compulsory recruitment of practitioners for service with H.M. Forces as specialists or graded specialists shall be confined to those who have not reached the age of 35 years.

B.M.A. LIBRARY

The following books have been added to the Library:

- Bancroft, T. W., and Humphreys, G. H. (Editors): *Surgical Treatment of Soft Tissues*. 1946.
 Barclay, J.: *Why No Nurses*. 1946.
 Buxton, P. A.: *The Louse*. Second edition. 1947.
 Caporale, L.: *L'Urologia nella Donna*. Second edition. 1946.
 Chesser, E.: *Unwanted Child*. 1947.
 Clark-Kennedy, A. E.: *Medicine*. Vol. 1. 1947.
 Cochrane, R. G.: *A Practical Textbook of Leprosy*. 1947.
 Collis, E.: *A Way of Life for the Handicapped Child*. 1947.
 Corwin, E. H. L.: *The American Hospital*. 1946.
 De Lacerda, H.: *A Tiróide*. 1946.
 Eysenck, H. J.: *Dimensions of Personality*. 1947.
 Feer, E.: *Diagnostik der Kinderkrankheiten*. Fünfte Aufl. 1947.
 Harvey, W. C., and Hill, H.: *Insect Pests*. Second edition. 1947.
 Holmes, G. W., and Robbins, L. L.: *Roentgen Interpretation*. Seventh edition. 1947.
 Howell, E.: *Escape to Live*. 1947.
 Jameson and Parkinson's *Synopsis of Hygiene*. Ninth edition by G. S. Parkinson. 1947.
 Loeper, M.: *Hépatites Rares*. 1946.
 Millin, T.: *Retropubic Urinary Surgery*. 1947.
 Monrad-Krohn, G. H.: *Clinical Examination of the Nervous System*. Eighth edition. 1947.
 Nicole, J. E.: *Psychopathology*. Fourth edition. 1946.
 Rees, J. R. (Editor): *The Case of Rudolf Hess*. 1947.
 Refsum, S.: *Hereditaria Atactica Polynuritisformis*. 1946.
 Rhodes, H. T. F.: *Forensic Chemistry*. Second edition. 1946.
 Saint, C. F. M.: *Surgical Note-taking*. Fourth edition. 1947.
 Schäfer, L.: *A Kábitoszerek és a nemzetközi bűntetőjog feladatai*. 1946.
 Schaeffer, G. C.: *Pediatric Gynecology*. Second edition. 1947.
 Seawall, E.: *Rattmædning*. 1946.
 Stauder, P. G.: *A Touch of Glory*. 1947.
 Steinmann, B.: *Das Herz beim Scharlach*. 1945.
 Stiles, W. C.: *The Gloom*. 1947.
 Turner, I. J.: *Atlas of Cardiovascular Diseases*. 1947.
 Vassier, G.: *Parado sobre las Eickentras y las Fiebres Exantemáticas*. 1944.
 Walker and Parry's *Introduction to Dermatology*. Eleventh edition. G. H. Parry. 1947.
 Widdowson, D., and Lillie, W. W.: *Textbook of Physiology*. Second edition. 1947.

Association Notices

PHYSICAL MEDICINE GROUP

Dr. F. S. Cooksey (London) and Dr. D. Wilson (Bath) have been elected members of the Physical Medicine Group Committee as a result of a postal ballot held to fill two casual vacancies on the Committee.

FULL-TIME NON-PROFESSORIAL MEDICAL TEACHERS, LABORATORY OR RESEARCH WORKERS GROUP

As a result of a ballot held to fill casual vacancies, the following have been elected members of the Group Committee:

Dr. J. A. Aitken (London)	} London Region
Dr. J. A. Fraser Roberts (London)	
Dr. J. C. Brundret (Liverpool)	
	Manchester and Liverpool Region
Dr. G. W. Harris (Cambridge)	Oxford and Cambridge Region
Dr. W. R. M. Morton (Belfast)	Scotland and N. Ireland Region

AREAS OF BELFAST AND NORTH-EAST ULSTER DIVISIONS

Notice is hereby given by the Council to all concerned:

(1) That the area of the Belfast Division be redefined as follows: The City of Belfast; that part of County Antrim south of, but excluding, Toomebridge, Ballymena, Carnlough; eastern part of County Down.

(2) That the area of the North-east Ulster Division be redefined as follows: That part of County Antrim north of, but including, Toomebridge, Ballymena, Carnlough; the eastern part of County Londonderry.

The above alterations to take effect as from the date of this notice.

CHARLES HILL.
Secretary.

Branch and Division Meetings to be Held

DERRY DIVISION.—At Derbyshire Royal Infirmary, Tuesday, Jan. 13, 8.15 p.m. Mr. W. G. Rose: Breast Cancer; Mr. N. L. Edwards: Uterine Cancer.

KINGSTON DIVISION.—At Atkinson-Morley Emergency Hospital, Copse Hill, London, S.W., Tuesday, Jan. 13, 8 p.m. Clinical evening. Mr. Wylie McKissock, M.S., F.R.C.S., and the staff of the Hospital have arranged to present a series of cases to demonstrate the modern methods of investigation and treatment in neurological surgery.

SOUTH BEDFORDSHIRE DIVISION.—At Luton and Dunstable Hospital, Friday, Jan. 16, 9 p.m. Speaker: Dr. Charles Hill. All medical practitioners in the area are invited to attend.

SUNDERLAND DIVISION.—At Sunderland and Durham County Eye Infirmary, Friday, Jan. 16, 7.45 p.m. Clinical demonstration by members of the staff of the Eye Infirmary. Address by Mr. B. W. Rycroft: Modern Trends in Ophthalmic Surgery.

Meetings of Branches and Divisions

EAST YORKSHIRE BRANCH

The annual dinner was held on Dec. 11, and was attended by some 60 members and guests. Prof. Espinasse, Dean of the Faculty of Science and Deputy Principal of the University College, Hull, proposing the toast of the Association, commented upon the inability of existing medical schools to provide the number of doctors required by a full health service. In disagreement with the Goodenough Report, and feeling that additional medical schools would be required, he hoped that such a school might be developed in association with the institution he represented.

The President of the Branch, Dr. Stenhouse Stewart, in his reply thanked Prof. Espinasse for the continued favour of the College, which from its inauguration had the support of the Branch, and announced that the B.M.A. Prize for 1946-7 had been awarded to Mr. Jack Cherry, now pursuing his further studies at the London Hospital.

The Home Office announces that the Authorities granted by the Regulations made under the Dangerous Drugs Act, 1920, have been restored to Dr. Henry Joseph Constantine Churchill.

STREPTOMYCIN: A VALUABLE ANTI-TUBERCULOSIS AGENT

BY

WILLIAM H. FELDMAN, D.V.M., M.Sc., D.Sc.
Division of Experimental Medicine, Mayo Foundation

AND

H. CORWIN HINSHAW, M.D., Ph.D., D.Sc.
Division of Medicine, Mayo Clinic, Rochester, Minnesota

To find a specific therapeutic substance that will arrest or impede the progress of tuberculosis and permit the intrinsic factors of healing to operate successfully has been the goal of countless investigators since the beginning of the modern era of chemotherapy. Certainly the need for a specific drug treatment to assist in combating human tuberculosis has been and continues to be a compelling one.

During the past decade many infectious diseases have proved to be highly vulnerable to therapeutic attack by a variety of chemotherapeutic agents. Tuberculosis, however, has until recently resisted specific drug treatment successfully. In the quest for an effective substance in the treatment of tuberculosis little, if any, real basis for encouragement was evident until the advent of the sulphonamide compounds.* The observations that sulphanilamide had exerted a slight but definite deterrent action on the pathogenesis of tuberculosis in guinea-pigs prompted additional work with a large number of other sulphonamides in experimental tuberculosis. The results indicated that none of these drugs met the requirements of a therapeutic weapon sufficiently to justify their use in clinical tuberculosis.

Eventually drugs remotely related to sulphanilamide but chemically definitely dissimilar in certain important aspects were found to be greatly superior to any of the sulphonamide compounds in combating experimental tuberculosis. These latter drugs—known commonly as sulphone compounds—were derivatives of 4,4'-diaminodiphenyl sulphone. Among the better-known sulphone drugs that have figured in the recent revival of chemotherapy of tuberculosis are "promin" (known as "promanide" in Britain), "diasone," and "promizole."

Historical Résumé

Since the ability of certain of the sulphone compounds to suppress tuberculosis almost completely in the highly susceptible guinea-pig was so unprecedented, and since the significance of this phase of the recent development of tuberculo-chemotherapy to the present status of the drug treatment of leprosy is seldom recounted, a brief résumé of the development of the more recent antibacterial attack on tuberculosis seems appropriate.

As mentioned previously, the observations concerning the effects of sulphanilamide on the progress of tuberculosis in guinea-pigs suggested that the sulphonamide drugs and related compounds were worthy of further exploration. In October, 1940, Feldman, Hinshaw, and Moses reported the first experimental study of the use of promin in experimental tuberculosis induced by human tubercle bacilli.† The results when confirmed provided sound evidence that the drugs had exerted marked deterrent effects on the progress of a potentially lethal infection. With the recognition of this fact tuberculosis could properly be removed from the

list of infections previously considered resistant to the suppressive action of chemotherapeutic agents.

After this initial observation with promin the effectiveness of several other sulphone compounds as anti-tuberculosis agents was demonstrated (Feldman, 1946b). This phase of the work served to establish firmly the ability of a number of complex synthetic organic compounds to exert a measurable therapeutic effect on infections induced experimentally by human tubercle bacilli.

Parenthetically it is of interest to note that the work with the sulphone compounds, especially promin, in experimental tuberculous infections stimulated an important development in the chemotherapeutic attack on leprosy. Several reports now available indicate definitely that promin and subsequently promizole and diasone have ushered in an important new era in the specific drug treatment of this disease. An objective appraisal of the results up to the present time indicates that this newer therapy in leprosy is definitely encouraging (Faget *et al.*, 1946).

The advent of specific therapy with antibiotics which followed the development of penicillin again focused attention on the possibility of successful chemotherapy of tuberculosis with antibiotic substances. This was not a new approach to the problem of specific drug therapy in tuberculosis by the use of antagonistic substances of bacterial origin. As a matter of fact a report on this form of therapy had been published by Cantani in 1885. A review of the many subsequent reports of different investigators who have explored this approach to the treatment of tuberculosis discloses many antibiotic agents capable of antagonistic action against tubercle bacilli (Feldman, 1946a, 1946b, 1946c; Hart, 1946; Waksman, 1947). However, observations on the range of activity of the substances studied were, with few exceptions, limited to *in-vitro* tests. A notable exception is streptomycin, which, in addition to demonstrating its antagonism to tubercle bacilli in the test-tube, has demonstrated its effectiveness against tuberculous infections (Feldman and Hinshaw, 1944; Feldman, Hinshaw, and Mann, 1945; Youmans and McCarter, 1945). As the search continues, the possibility exists of eventually obtaining not one but perhaps several additional antibiotic agents that will be equal if not superior in potency to streptomycin.

As a result of the information that has accumulated since the first report on the use of sulphanilamide in experimental tuberculosis was published, a chemotherapy of tuberculosis

* For a review of the development of the chemotherapy of tuberculosis the lectures by Feldman (1946a, 1946b, 1946c), by Hart (1946), and by Waksman (1947) may be consulted.

† A few months previously Rist, Bloch, and Hamon (1940) had reported independently a definite antagonistic effect of 4,4'-diaminodiphenylsulphone on tuberculosis of rabbits and guinea-pigs infected with avian tubercle bacilli.

of practical significance has been evolved. At last, after countless disappointments, the practical therapeutics of tuberculous infections has been advanced by a drug of considerable specificity and usefulness. By the use of streptomycin it is now possible for the first time to arrest by specific chemotherapy the progress of several different clinical types of potentially fatal tuberculosis.

Streptomycin in Experimental Tuberculosis

Therapeutic Efficacy.—The effect of streptomycin on the course of experimental tuberculosis in guinea-pigs and in mice is striking. Under prescribed conditions the potency of this antibiotic is sufficient to alter to a marked degree the usual pathogenesis of infections established by fully virulent tubercle bacilli of the human and of the bovine types. It is of much significance that guinea-pigs inoculated subcutaneously with an effective dose of tubercle bacilli will respond to treatment usually in a dramatic manner. Compared with untreated controls, such animals have an extended longevity, and the residual signs of infection either are not demonstrable grossly or microscopically or, if present, are usually inactive lesions characterized by fibrosis, calcification, or other signs of quiescence. In the experimentally infected animals the tempo of the therapeutic effects is relatively rapid. Evidence of deterrent action may be observed 'after three weeks' treatment.

The specificity of streptomycin for tubercle bacilli and its ability to alter the course of otherwise irreversibly fatal infections are convincing as shown by experiments wherein guinea-pigs are inoculated intravenously with large doses (1 mg.) of virulent tubercle bacilli. Tuberculosis established by this procedure usually becomes a rapidly fulminating process within a short time. However, if treatment with streptomycin is started within three to four days after the animals have been inoculated the treated animals will live many months longer than those not treated (Feldman, Karlson, and Hinshaw, 1947). The same therapeutic restraints can also be observed in white mice inoculated intravenously with virulent tubercle bacilli and treated with streptomycin (Youmans and McCarter, 1945).

Considering the exceedingly formidable character of the widely disseminated infection that follows the introduction of tubercle bacilli direct into the venous circulation, one cannot avoid the conclusion that streptomycin is an anti-tuberculosis agent of considerable potentiality (Feldman, Karlson, and Hinshaw, 1947). It is suggested that in the future new substances antagonistic to tubercle bacilli be subjected to trial in tuberculous infections induced intravenously. Such a procedure should provide valuable data for comparison with the effectiveness of streptomycin.

Dosage.—The therapeutic range of streptomycin in the treatment of tuberculous guinea-pigs appears to vary within rather wide limits. In our experience a daily dose of 4 to 6 mg. administered subcutaneously is therapeutically effective for animals weighing 500 to 800 g. Much larger doses do not seem to be more effective. We have found daily doses of 2 mg. inadequate. However, in many infected animals this smaller dose does exert a definite deterrent influence, but the results are, generally speaking, inferior to those produced by doses of greater magnitude. In the treatment of tuberculous mice with streptomycin a daily dose of 5 mg. divided into four injections has proved effective (Youmans and McCarter, 1945).

Frequency of Medication.—In our earlier studies on streptomycin in experimental tuberculosis we administered a daily dose of the drug in four equally divided injections twelve hours apart. Later, as a result of experimental observations (Feldman, Hinshaw, and Karlson, 1947), we found that the frequent administration of streptomycin was not

essential to a satisfactory therapeutic effect. It was observed that daily doses of 6 mg. divided into two equal injections twelve hours apart were adequate. Furthermore, we observed that animals treated every alternate week appeared to receive essentially the same therapeutic benefit as those on a daily schedule of treatment.

We now prefer to administer the drug every twelve hours. However, it is our impression that streptomycin can be given to tuberculous guinea-pigs, with satisfactory results, once daily or perhaps once every second or third day. There is no evidence indicating that its therapeutic effectiveness in experimental tuberculosis is dependent on frequent administration of the drug. Certainly it is not necessary to administer streptomycin every two to three hours to obtain the desired effects.

Toxicity for Animals.—Although the administration of streptomycin to tuberculous human beings usually provokes certain objective signs of toxicity of varying severity, this drug is well tolerated by guinea-pigs and by mice in doses within the therapeutic level. Guinea-pigs treated daily for five to six months have shown a normal increase of weight and size and have at the end of the experiment the appearance of normal healthy animals. What the maximal tolerated dose for guinea-pigs may be is uncertain. So far as we know, doses of streptomycin even in excess of the therapeutic effective dose do not induce demonstrable damage in the liver or kidneys of guinea-pigs or mice.

In some animals, particularly monkeys and dogs, signs of toxicity have been reported (Molitor *et al.*, 1946). In these animals toxicity was indicated by transient anaemia, mild to severe proteinuria, and casts and blood cells in the urine. Dogs receiving streptomycin have been noted to manifest signs of vestibular dysfunction. Disturbance of metabolism of fat in the liver and kidneys of monkeys and dogs has been reported (Molitor, 1947).

Summary of Evidence in Support of Clinical Trials

In reviewing the evidence to justify the use of streptomycin in the treatment of tuberculous patients several facts of considerable significance may be recounted:

- (1) The experimental animal used was the highly susceptible guinea-pig, which has a minimum of intrinsic resistance to infection by virulent mammalian tubercle bacilli.
- (2) The beginning of treatment was delayed usually from two to seven weeks after the animals had been inoculated with tubercle bacilli. Thus the conditions of the experiments were severe.
- Furthermore, the conditions were those of therapy and not of prophylaxis.
- (3) Treatment extended the lives of the infected animals indefinitely.
- (4) In many treated animals there was a reversal of a previously positive to a negative reaction to tuberculin.
- (5) As a consequence of treatment the usual course of the disease was dramatically modified even though the animals had been infected by intravenous inoculation.
- (6) There was a marked tendency for infected tissues to mobilize factors of repair and resistance, and as a result lesions resolved, fibrosed, hyalinized, or calcified. In a word, under the influence of treatment with streptomycin the tuberculous lesions in an infected animal were converted from an advancing destructive process to one of regression and arrest.

The evidence obtained from the experimental studies amply justifies the conclusion that streptomycin is a highly potent antagonistic agent against tuberculous infections in animals.

The favourable therapeutic index of streptomycin in tuberculous guinea-pigs and the further fact that the drug was well tolerated by these animals provided acceptable reasons for extending the investigation to tuberculous patients.

Residual Infectivity after Treatment.—It is our impression that in tuberculous guinea-pigs streptomycin in most

instances exerts its beneficial effects by suppressing the normal growth-progression of the tubercle bacilli rather than by acting in a bactericidal capacity. We have, however, observed infected guinea-pigs, treated for a prolonged period with streptomycin, in which no residual infection could be demonstrated in the spleen by *in-vivo* tests. In addition the same animals failed to react to tuberculin, although at the beginning of treatment sensitivity to tuberculin had been noted (Feldman, Hinshaw, and Mann, 1945).

Although the question is difficult to decide with finality, it seems likely that at least in some infected animals most if not all of the infective bacteria are eventually eliminated as a direct or an indirect consequence of treatment. However, in our experience this is not true in the majority of instances. Even after treatment for many months and in the absence of recognizable alteration of tissue the presence of fully virulent tubercle bacilli can be demonstrated in the guinea-pigs by suitable procedures. For this reason it must be concluded that the major effect of streptomycin on tubercle bacilli is that of a bacteriostatic agent.* It appears that the concentrations of streptomycin which are attained in the blood and tissues of animals and man are too low to have a direct bactericidal effect.

Streptomycin in Clinical Tuberculosis

The bacillus of tuberculosis produces a number of different diseases in human beings. With this fact recognized, it should not be anticipated that any one form of treatment should be equally applicable to all these diseases. However, these several diseases are all caused by the same micro-organism, *Mycobacterium tuberculosis*, and if the organism is so situated as to be exposed to the antagonistic action of streptomycin the suppressive action of the drug should have a certain degree of effectiveness. Studies have shown that streptomycin is not distributed through all tissues of the body in equal concentration (Baggenstoss, Feldman, and Hinshaw, 1947). Furthermore, the mechanical defects which are produced in different structures by the destructive action of tuberculosis will create special clinical and surgical problems which cannot be met completely with any antibacterial agent, regardless of its efficacy (Hinshaw, 1947a).

Miliary and Meningeal Tuberculosis

Generalized haematogenous tuberculosis of human beings most closely resembles the form of tuberculosis which is produced in guinea-pigs and mice experimentally. Such haematogenous forms of tuberculosis as miliary tuberculosis and tuberculous meningitis have in the past been totally refractory to all therapeutic efforts and have had a mortality rate approaching 100%. Until the advent of streptomycin there was no method of treatment which produced even temporary suppression of these diseases or amelioration of the distressing symptoms caused by them.

It is now well established that streptomycin treatment may be effective in bringing about a clinical remission in a considerable percentage of cases of miliary tuberculosis and of tuberculous meningitis (Hinshaw, Feldman, and Pfuete, 1946; Council on Pharmacy and Chemistry, 1947). It remains to be seen how often these remissions may be prolonged and extended to the point at which one is justified in regarding the disease as cured. We have observed remissions which have lasted for more than two years, and we have patients now under observation who apparently remain well and who eventually can be pronounced essentially cured if this favourable progress continues. When miliary tuberculosis and tuberculous meningitis have been diagnosed at an early stage of the disease and have been treated promptly and adequately, more than 50% of these patients may enjoy a complete remission of all symptoms and of all radiographic and bacteriological evidence

of the infection. Unfortunately, some of these patients will suffer from recurrence of the disease process. In those instances in which the recurrent disease is due to a streptomycin-resistant strain of tubercle bacilli no hope of recovery from the second attack should be entertained. It will probably be at least five years before it can be known to what degree streptomycin treatment will reduce the formerly almost universal mortality rate from these diseases. In the meantime, we would emphasize the importance of starting treatment with streptomycin at the earliest possible moment after the diagnosis of miliary tuberculosis or of tuberculous meningitis has been made.

Pulmonary Tuberculosis

This constitutes the cause of more than 90% of all the deaths from tuberculous infection. The wide variability of tuberculous lesions produced in the lungs and the frequency with which spontaneous recovery from pulmonary tuberculosis is realized make the evaluation of any remedy in this form of disease most difficult (Hinshaw and Feldman, 1944).

Several hundred patients with varying forms of pulmonary tuberculosis have received treatment with streptomycin during the past three years in various American hospitals, and certain conclusions are now tenable (Council on Pharmacy and Chemistry, 1947; Hinshaw, 1947b). All physicians who have employed streptomycin extensively in the treatment of pulmonary tuberculosis have agreed that patients with progressive disease whose symptoms have been marked often enjoy relatively prompt improvement of symptoms, with reduction in the amount of expectoration. There are also a decrease of fever and an improvement of the systemic manifestations of pulmonary tuberculosis. Previously progressive disease becomes at least temporarily quiescent under the influence of streptomycin therapy, and this suppression of the acute disease process is quite uniform during the first few weeks of treatment.

The clinical trend after the first few weeks of treatment depends on whether or not the tubercle bacilli are resistant to the effects of streptomycin and whether or not the destructive nature of the disease is such as to prevent its arrest and the disappearance of bacilli during this period of effective action. Some patients continue to improve for many weeks or months, whether or not streptomycin treatment is continued. The physician is occasionally disappointed to observe a reactivation of the disease within a short time after streptomycin treatment has been discontinued. This tendency to reactivation of previously progressive tuberculosis constitutes strong evidence in favour of the thesis that the drug *in vivo* is a truly effective suppressive agent. There is increasing evidence that streptomycin combined with collapse therapy and other forms of treatment may be effective when either one alone would probably fail.

Tuberculous Laryngitis and Endobronchitis

Tuberculous Laryngitis.—Streptomycin has also been found to be useful in some of the most distressing complications of pulmonary tuberculosis which had previously been refractory to nearly all therapeutic efforts. Tuberculous laryngitis has responded to streptomycin treatment (Figs and Hinshaw, 1946) in a very large percentage of cases, and it is now widely believed that use of the drug is clearly indicated in the more severe and acute phases of this tuberculous disease, even when such treatment is likely to achieve only palliative results. Other ulcerating lesions about the oropharynx and tongue respond to streptomycin in a similar manner. In our experience the most spectacular results with streptomycin treatment of lesions in the larynx have been in those patients with maximal laryngeal involvement and with acute forms of pulmonary tuberculosis without extensive cavitation, and in those patients who have tuberculous laryngitis with minimal evidence of pulmonary tuberculosis.

Endobronchial Tuberculosis.—Active ulcerating lesions of the tracheo-bronchial tree, which are being observed with increasing frequency in the United States, have also responded in a uniform manner to streptomycin treatment (Hinshaw, Feldman, and Pfuete, 1946; Council on Pharmacy and Chemistry, 1947). The serious potentialities of this type of tuberculosis would justify streptomycin treatment under many circumstances. The end-result of tracheo-bronchial tuberculosis is often a bronchial

* The question of the action of streptomycin on tubercle bacilli *in vitro* was the subject of a recent report by Smith and Waksman (1947).

stricture as a result of peribronchial fibrosis. It is immediately obvious that bronchial strictures of this type cannot be precluded and will not yield to any type of antibacterial treatment, and if the degree of obstruction is considerable, pulmonary resection is likely to be required if the stricture is so situated as to make such operation feasible.

Tuberculous Sinuses, Lymph Nodes, Bones, and Joints

Tuberculosis of lymph nodes, of bones and joints, and other types of tuberculosis that produce draining cutaneous sinuses have been treated with streptomycin in a sufficient number of cases to indicate that clinical results are satisfactory in a very high percentage of cases (Hinshaw, Feldman, and Pfuetze, 1946; Council on Pharmacy and Chemistry, 1947; Hinshaw, 1947b). Within a few days to a few weeks after starting treatment the drainage of pus ceases and a scab forms over the sinus, and within a few more weeks, when this scab is dislodged, the sinus appears to be healed. If the sinus tract leads to some large accumulation of pus, such as a cold abscess or an empyema cavity, healing is much less likely to occur, and if it does occur there is much greater danger of a recurrence of drainage of pus. It begins to seem probable that large accumulations of tuberculous pus should be drained by wide-open incision as soon as possible after streptomycin treatment has been instituted. This is in contrast to previously accepted surgical practices. It is probable that tuberculous suppuration may be treated in much the same way as suppurative diseases due to pyogenic bacteria have been treated in the past, provided streptomycin treatment is combined with such surgical intervention.

Cutaneous tuberculosis has not been studied sufficiently to warrant the formation of conclusions, except in the case of serofuloderma which is associated with tuberculous draining sinuses (O'Leary *et al.*, 1947). This has been discussed in the preceding paragraph. A few patients with lupus vulgaris have been treated, and have appeared to respond sufficiently well to indicate the need for further studies.

Tuberculosis of bones and joints involves a series of problems almost as complicated as those afforded by pulmonary tuberculosis. It is immediately evident that no antibacterial drug can promote the regeneration of destroyed structures, and a comparison with chronic osteomyelitis appears logical. Experience gained thus far has indicated that the principal uses of streptomycin for treatment of tuberculosis of bones and joints are to prevent progression of the disease and to afford protection during and after surgical procedures on the tuberculous joints. In early forms of tuberculosis of joints involving the synovial membrane alone, streptomycin treatment in itself may be adequate to arrest the tuberculous process and hence to avoid subsequent destructive changes, crippling deformities, and the need for surgical treatment.

Tuberculous Enteritis and Peritonitis

Tuberculous enteritis is another most distressing complication of pulmonary tuberculosis. It now seems that streptomycin treatment of this disease yields a gratifying degree of symptomatic relief very promptly in a large percentage of patients. It remains to be determined how permanent these effects may be, but, even if the results prove to be merely palliative, treatment is well worth while, and in some other instance may be the crucial factor in permitting the eventual recovery of the patient.

Tuberculous peritonitis has appeared to respond to streptomycin treatment in the small number of cases in which this treatment has been applied thus far. Judgment of therapeutic results in this disease is more difficult than in other forms of tuberculosis because of the fact that the diagnosis has usually been arrived at as a result of surgical exploration and because of the fact that surgical exploration in itself is thought frequently to exert a beneficial effect on tuberculous peritonitis.

Use of Streptomycin Before and After Surgical Procedures

The prophylactic use of streptomycin in conjunction with radical types of thoracic surgical treatment is being put to test in a number of institutions in the United States (Council on Pharmacy and Chemistry, 1947; Glover, Clagett, and Hinshaw, 1947). It has already been determined that streptomycin is of little value in the treatment of advanced and chronic tubercu-

lous empyema (Hinshaw, Feldman, and Pfuetze, 1946). Whether better results will be achieved by surgical treatment of tuberculous empyema in combination with streptomycin remains to be ascertained. There is reason to hope that streptomycin treatment may prevent the development of tuberculous empyema; our surgical colleagues have not witnessed tuberculous empyema following intrathoracic operations for tuberculosis when operation was performed in combination with streptomycin treatment, except in a few instances in which operation was carried out after the tubercle bacilli had become resistant to the effects of streptomycin.

Clinical Toxicity.—Streptomycin is a drug of moderate toxicity when compared with such drugs as the sulphonamide compounds, but it is definitely more toxic than penicillin. The toxicity of streptomycin is negligible when the drug is used for brief periods in the treatment of non-tuberculous infections. However, when tuberculosis is treated with streptomycin it probably is necessary to utilize the drug for many weeks, and this results in neurotoxic manifestations which are described later. Our colleague Dr. Karl Pfuetze (Medical Director, Mineral Springs Sanatorium, Cannon Falls, Minnesota) has been interested especially in toxicity of streptomycin and the efficacy of the drug when given in small doses. His studies, which have now been in progress for at least two years, have shown clearly that streptomycin is effective in doses as small as 1 g. a day, and perhaps the dose may be still further reduced in many clinical circumstances. When the total daily dose is 1 g., fewer than 50% of patients experience any toxic manifestations whatsoever, and only a few of these complain to any considerable degree. Even these usually recover when treatment is discontinued (Pfuetze, personal communication).

Dosage

The minimal effective dose of streptomycin has not been determined for the various clinical types of disease, but we would suggest that in tuberculosis the average daily dose be approximately 1 g. for a patient of average weight. McDermott (personal communication) has suggested a dose of 20 mg. per kilogram of body weight, which appears to be a reasonable and effective dose and one which will yield minimal toxic results. In previous communications we have recommended that streptomycin be injected at frequent intervals so as to maintain a constantly elevated blood level of the drug. However, as a result of experiments carried out on guinea-pigs (Feldman, Hinshaw, and Karlson, 1947), mentioned above, we have modified this conclusion, and in recent months we have been treating patients by giving the daily dose in a single injection or by dividing the total dose into two injections administered at intervals of twelve hours. The results seem to be equally satisfactory, and this has greatly simplified the clinical use of streptomycin. It remains to be determined whether these infrequent injections and lower doses will be adequate to produce and maintain remissions in such malignant forms of tuberculosis as tuberculous meningitis and miliary tuberculosis.

In previous publications we recommended that in treatment of tuberculous meningitis streptomycin be administered intrathecally as well as intramuscularly (Hinshaw, Feldman, and Pfuetze, 1946). Studies have not been completed to ascertain whether intrathecal injection alone or intramuscular injection alone may possibly suffice. In view of the severe reactions which have occasionally followed the intrathecal administration of streptomycin in doses of 100 to 200 mg., which we recommended previously, we have recently reduced the amount of streptomycin injected intrathecally to 25 to 50 mg. a day. It seems probable that such intrathecal injections every alternate day may suffice.

In the treatment of lesions of the larynx and tracheo-bronchial tree streptomycin administered by either aerosol or atomizer has often been employed in addition to intramuscular treatment. Recent observations make it seem possible that intramuscular administration of streptomycin alone is adequate for the treatment of these forms of the disease. In the treatment of tuberculous enteritis intramuscular administration of streptomycin is recommended, and it is doubtful if any advantage is gained by the addition of orally administered streptomycin. However, this phase of streptomycin therapy is worthy of further investigation.

Therapeutic Limitations of Streptomycin

Streptomycin, like all other substances of value in chemotherapy, has certain definite shortcomings or limitations.

Antibacterial Potency

Compared with other antagonistic agents effective against tubercle bacilli the antibacterial efficacy of streptomycin against tubercle bacilli is amazingly high. Yet, as was mentioned previously, the major influence of streptomycin on tubercle bacilli in tuberculous infections appears to be that of suppression of the normal pathogenic activities of the organisms. Sterilization of the infective process, even when observed, cannot be attributed to the direct antibacterial action of streptomycin alone. In many instances in clinical tuberculosis during the treatment with streptomycin a marked diminution and eventual disappearance of tubercle bacilli in sputum or other discharges may occur. However, the final elimination of tubercle bacilli from the infected tissues may be dependent only indirectly on the specific action of streptomycin. Most human beings are intrinsically capable of mobilizing mechanisms of resistance and repair which are effective in disposing of tubercle bacilli or inhibiting their aggressive action.

While it would be desirable in the treatment of tuberculosis to have a chemotherapeutic substance of such potency and safety that all tubercle bacilli could be eliminated from the infected host immediately or soon after the administration of a single dose of the drug, the probable results would still be inadequate. In other words, we should distinguish the specific antagonistic effect of the therapeutic substance on the bacterial parasites from the anatomical and purely mechanical factors that were created as a result of the infection. It is illogical to assume that a chemotherapeutic substance, no matter how potent and effective its antibacterial properties may be, can cause in some incredible manner the immediate and complete restoration of tissues that have been irreversibly damaged or destroyed as a consequence of the pathogenicity of the infective agents.

Toxicity*

Toxicity must also be considered as another of the limitations of streptomycin as a specific agent in tuberculosis. Like all other agents used in chemotherapy, streptomycin has certain toxic potentialities. However, compared with most other chemotherapeutic agents streptomycin has a reasonable margin of safety when the treatment of severe types of tuberculous diseases is considered. The most important toxic manifestation associated with streptomycin therapy in clinical tuberculosis is the unusual neurological reaction giving rise to dysfunction of the vestibular apparatus. Rarely, auditory function is impaired when large doses are given for prolonged periods or when impaired renal function interferes with the excretion of the drug. Other toxic reactions that have been noted include erythematous rash, fever, eosinophilia, and abnormal urinary sediments.

The toxic reaction to streptomycin referable to the eighth cranial nerve or its end-organs which results in a reduction of the vestibular function is the most serious and was one of the first evidences of toxicity described (Hinshaw and Feldman, 1945; Brown and Hinshaw, 1946; Fowler and Seligman, 1947). The incidence of occurrence of this untoward effect is rather high. At least 90% of patients receiving a daily dose of 2 g. of streptomycin for more than one month will exhibit symptoms of vestibular dysfunction. If the dose is reduced to 1 g. a day fewer than 30% of patients will experience any subjective symptoms or exhibit any objective signs of vestibular dysfunction. Fortunately in most cases the symptoms largely disappear within sixty to ninety days or longer after treatment has been stopped. The most severe symptoms of decreased vestibular function occur in patients receiving doses of 3 g. or more of streptomycin daily. Restoration of vestibular function or compensation phenomena occur more rapidly and more completely in children and young adults than in persons beyond the age of 50 (Hinshaw, Feldman, and Pfuertze, 1946).

While the possible toxic effects of streptomycin should be recognized and carefully considered, extensive clinical trials indicate that in cases of tuberculosis in which the prognosis is

unfavourable or uncertain the possible toxic effects of streptomycin do not constitute a valid contraindication to its use (Hinshaw, 1947b). In cases of tuberculosis in which the prognosis is favourable under conventional forms of treatment streptomycin therapy should be used only in exceptional circumstances, if at all.

Streptomycin Resistance

One of the most serious obstacles to the achievement of maximal therapeutic benefits from streptomycin in clinical tuberculosis is the problem of streptomycin-resistant tubercle bacilli. Although the problem of drug-resistant microorganisms is not entirely understood there is evidence that this phenomenon represents a selective process dependent on the capacity of bacteria to undergo spontaneous variation or mutation (Demerec, quoted by Selbie, 1946).

In clinical tuberculosis, while the largest proportion of the bacterial population is sensitive to streptomycin before treatment is started, a few variants are present that are drug-resistant in varying degrees (Pyle, 1947). During treatment with a sufficiently potent antibacterial substance such as streptomycin the more sensitive bacterial cells are gradually inhibited and eventually eliminated, while the more resistant cells continue to be propagated. Eventually, if treatment is long continued, there frequently occurs a gradual replacement of the population of tubercle bacilli from one that was predominantly sensitive to streptomycin when treatment began to one that is predominantly streptomycin-resistant. The degree of resistance may be several thousandfold greater than is true of tubercle bacilli sensitive to streptomycin.

In clinical tuberculosis the exact significance of the appearance of varying percentages of streptomycin-resistant tubercle bacilli is somewhat uncertain at the present time. Evidence obtained by animal experimentation shows definitely that infections induced in guinea-pigs by apparently pure cultures of highly streptomycin-resistant strains of tubercle bacilli are not amenable to the therapeutic action of streptomycin (Feldman, Karlson, and Hinshaw—unpublished data; Youmans and Williston, 1946). However, clinically the occurrence after weeks of therapy of some tubercle bacilli highly resistant to streptomycin does not necessarily indicate that the preponderant bacterial population is resistant, and must not be accepted as an indication that treatment may be of no benefit if the need for treatment continues to exist. The fact that patients may continue to improve spontaneously after administration of streptomycin has been discontinued and eventually may become bacteriologically negative (by guinea-pig tests) for tubercle bacilli indicates that treatment may not be required for extended periods.

The time required for the appearance of streptomycin-resistant tubercle bacilli after the beginning of treatment with this substance is variable. Ordinarily, however, the drug-resistant bacteria cannot be demonstrated in appreciable numbers until treatment has been in effect sixty to ninety days. While it is desirable to obtain cultures for the purpose of bacteriological assays for the determination of streptomycin sensitivity* at regular intervals after treatment has been started, there is no adequate practical quantitative method of determining when resistant organisms have gained ascendancy. All available tests are only qualitative, and merely indicate that at least a few resistant bacilli are present. This must not be accepted as convincing proof that the end-point of practical treatment has been reached.

Whether or not the administration of streptomycin should be continued after the bacterial population has become predominantly drug-resistant is at the present time a controversial question. It is our opinion, however, that when the vast majority of bacterial cells are no longer susceptible to the antibacterial action of streptomycin further administration of the drug is unwarranted and may even be deleterious. If at a later time streptomycin-sensitive tubercle bacilli again predominate, and other indications are favourable, treatment with streptomycin may be resumed.

How best to meet the problem of streptomycin-resistant tubercle bacilli is at present one of the most important of

*A report on the toxicity of streptomycin in human beings has been given by McDermott (1947).

*A method for the determination of sensitivity of tubercle bacilli to streptomycin *in vitro* has been described by Karlson and his associates (1947).

the many unsolved problems that confront the experimentalist and the clinician. A logical approach would seem to be to use as the therapeutic regimen a combination of two or more drugs each having a high antagonistic efficacy for tubercle bacilli. Streptomycin utilized simultaneously with some other (as yet unknown) antibiotic might prove effective. Streptomycin combined with sulphone compounds or with other synthetic anti-tuberculosis drugs offers possibilities that are now being explored.

Final Comment

During recent years studies in the antibacterial attack on tuberculosis have yielded results sufficient to change to a considerable degree many of the previously held therapeutic concepts of tuberculosis. Most important, it has been adequately demonstrated that this disease is no longer beyond the range of specific drug therapy. Instead, the vulnerability of tuberculous infections to a chemotherapeutic attack has been established experimentally and clinically. While to date the completely ideal anti-tuberculosis drug has not been reported it seems probable that substances equal or superior in effectiveness to known agents may be found. These possibilities warrant expenditure of great effort, and this search may become one of the most important and exciting adventures in medical research.

In the meantime streptomycin seems likely to become generally accepted as a useful drug in certain types of clinical tuberculosis. It must, however, be used intelligently, with full recognition of its shortcomings and limitations. It should frequently be used in combination with other effective methods of treatment, rather than as a substitute for such proved therapeutic procedures as care in a sanatorium, collapse therapy, and surgery.

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CANCER OF THE STOMACH IN ADDISON'S ANAEMIA

BY

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Among some clinicians there is a feeling that patients suffering from pernicious anaemia are more liable to gastric carcinoma than normal individuals of the same age groups. Kaplan and Rigler (1945) suggested that this feeling had statistical backing, and reported (Kaplan and Rigler, 1947) 18 cases of cancer and 17 simple tumours in 259 cases of pernicious anaemia. During the past two years 15 of my own cases have been observed by radiograph and gastroscopy in the hope of detecting carcinoma of the stomach at an early stage. Occasional estimations of the blood sedimentation rate have also been made, since Whitby and Britton (1946) state that the test is of great value in suggesting the onset of carcinoma. Cases were not selected, and there can be no pretence that they form a series. These observations have resulted in the discovery of three cases of carcinoma in patients free from symptoms and clinical signs: one was certainly operable and one probably operable when first detected. One further case has been found to have a leiomyoma. Two others are under particular observation because of a persistently high blood sedimentation rate; one of these has a nodule of uncertain nature in the pyloric antrum.

The cases observed are here tabulated. The total is made up of 11 females and 4 males. Radiological examination consisted of a barium swallow, fluoroscopy, and, usually, film. Gastroscopy was performed with the Hermon Taylor

Case No.	Sex	Age	Duration of Anaemia	X-ray Film	Gastroscopy	E.S.R.	Conclusion
1	F	41	3	Normal	—	—	—
2	F	41	7	"	—	20	—
3	F	47	2	"	—	1	—
4	F	49	4	"	Normal	40	—
5	F	50	11	"	—	—	—
6	M	52	1	"	—	—	—
7	F	55	11	"	—	26	—
8	F	60	4	"	Polyp	—	Leiomyoma
9	M	65	10	Abnormal antrum	Abnormal antrum	—	Carcinoma
10	F	70	13	Normal	—	—	—
11	M	70	13	Abnormal antrum	Carcinoma	—	Carcinoma
12	F	73	6	Normal	—	—	—
13	F	75	2	"	—	—	—
14	F	75	12	Abnormal antrum	Abnormal angulus	—	Carcinoma
15	M	77	1	Normal	Nodule in antrum	30	Solitary polyp

or Schindler instrument if the radiological report was doubtful, if there was failure to improve clinically, and once when there was a persistently high sedimentation rate in the absence of abnormal radiological findings. The sedimentation rate was determined by Wintrobe's method corrected for anaemia, and was asked for quite at random. It must be emphasized that no patient had dyspepsia when examined.

Case 9

A retired jockey aged 65 was diagnosed as suffering from pernicious anaemia in Berlin in 1937, and had been on liver treatment with satisfactory results thereafter. Though asymptomatic he was x-rayed on Sept. 18, 1945, and the report stated: "There is some rigidity in the prepyloric region which is somewhat suggestive of early scirrhus carcinoma, but it may be due only to fibrosis. If other signs are equivocal, a repeat examination in a few weeks' time would be advisable for comparison." Gastroscopy on Oct. 31 showed that the lower third of the stomach was fixed and pale, with no peristalsis. Laparotomy was performed on Feb. 27, 1946. At this time he

was feeling fit, was putting on weight, had a good appetite with no abnormal symptoms, and nothing abnormal was found on clinical examination. A blood count showed: Hb, 98%; red cells, 5,050,000; colour index, 0.97; white cells, 6,500 (polymorphs 84%, lymphocytes 14%, monocytes 1%, eosinophils 1%); red cells normal.

At operation there was no evidence of neoplasm, though the stomach was not opened. He continued on liver therapy as before until, in March, 1947, he gave a four-weeks history of constant abdominal pain, worse after meals, and relieved by immediate vomiting of undigested food. During this four weeks his appetite had failed, he had lost 10 lb. (4.5 kg.) in weight, and the bowels were opened regularly. There was no paraesthesia. Clinically he was wasted, with a smooth tongue and flat nails. There was no abdominal tumour or lymph-node enlargement. The blood count showed: Hb, 64%; red cells, 3,400,000; white cells, 9,700; colour index, 0.94; the red cells showed a little anisocytosis and no evident macrocytosis. A test of occult blood in stools was positive. An alcohol test meal showed no free HCl, no blood or bile, and no lactic acid. X-ray report stated: "There are huge irregular filling defects in the pyloric portion of the stomach, indicating the presence of a large tumour mass encroaching on the lumen of the stomach." Laparotomy on April 9 revealed a large carcinoma of the pyloric end of the stomach; glands in pyloric region, portal region, and fissure much enlarged. Post-colic jejunostomy was performed. The patient died on April 22.

Comment.—It seems very probable that when first operated on this patient, with radiological and gastroscopic abnormality in the lower third of the stomach, had early carcinomatous change, not detectable surgically. This did not show itself clinically for eighteen months, when, after only a month's symptoms, the diagnosis was certain. Achlorhydria and length of history render the diagnosis of pernicious anaemia probable. Surgical evidence confirms the radiological and gastroscopic impression that the original lesion was in the pyloric region.

Case 14

A housewife aged 75 had been treated for pernicious anaemia for twelve years with monthly liver injections. In May, 1947, she was admitted to hospital with a three-months history of vomiting three or four times daily at no special time, but occasionally after meals. Nausea and retching were frequent, with production of green bile. There was a non-localized gnawing feeling in the abdomen, but no true abdominal pain. One recent diarrhoeic attack occurred lasting 24 hours. She gave a long-standing history of piles with occasional bleeding, and of a productive cough with dyspnoea. She had recently lost some weight and had tended to constipation. There was no family history of anaemia. Clinically, the tongue was smooth, cracked, and shiny, the conjunctivae pale. Nothing significant was found except transient hypertension and crepitations at both lung bases. The abdomen appeared normal and there were no enlarged lymph nodes. Urinary culture was sterile, and the stools were negative for occult blood. A blood count on May 3 showed: red cells, 2,710,000; Hb, 60%; colour index, 1.1; red cells showed marked anisocytosis with macrocytes, microcytes, poikilocytes, an occasional diffuse polychromatic cell, and an occasional cell showing punctate basophilia; white cells, 3,400 (polymorphs 60%, lymphocytes 38%, monocytes 2%).

Intensive liver therapy was started on May 9, when the blood count showed: red cells, 2,550,000; Hb, 60%; colour index, 1.2; white cells, 5,400; reticulocytes, 1.5%. On May 15 the blood count was: red cells, 3,670,000; Hb, 70%; colour index, 0.97; white cells, 9,800; reticulocytes, 9.5%. On May 22 it was: red cells, 4,600,000; Hb, 90%; colour index, 0.98; white cells, 7,700; reticulocytes, 2.5%. A histamine test meal revealed complete achlorhydria; the blood Wassermann reaction was negative.

X-ray reports were as follows:—May 9: "There is some increased opacity at the right lung base"; May 15 (opaque meal): "Stomach is rather small, shows normal tone; peristalsis somewhat diminished; mucosal pattern normal. Pyloric antrum appears to be narrowed, but peristaltic waves pass

through this portion and it is distensible. No evidence of gastric ulcer. Duodenal cap is large, fills out readily, has a normal contour, and is neither tender nor spastic. No evidence of duodenal ulcer."

Gastroscopy revealed small reddish nodular protuberances at the angulus; antral peristalsis and pyloric closure active. Impression, neoplasm.

At laparotomy on May 27 the surgeon was induced to perform a not very extensive resection of the lower third of the stomach. On opening this a nodular area was seen on the mucosa of the stomach on the lesser curve near to the pylorus, not adherent to the outer coats.

Pathological report by Dr. L. R. Janes.—"The suspicious plaque in the stomach wall shows an adenomatoid appearance of the mucosa with increase in the number of the glands and hyperchromatism of the cells. The cellular arrangement in the gland acini is everywhere regular save at one point where, in a single acinus, there is a de-differentiation of epithelium, the cells of which cannot be identified as gastric epithelium. ? Earliest possible malignant change. The muscularis mucosae is prominent and intact."

The patient was discharged on June 27, and is progressing well.

Comment.—The radiological appearances resembled those in Case 9. Gastroscopically, the angulus was clearly abnormal. Histologically, the thin mucosa, with definite superficial intestinal heterotopia, thickens, Prof. Stewart comments, to about five times its depth, with hyperchromatic vegetative epithelium, no doubt proliferating actively. This appearance is probably pre-cancerous, and in a single acinus Dr. Janes now recognizes genuine early carcinomatous de-differentiation. The general picture much resembles appearances described by Waldeyer (1867) at the site of origin of gastric cancers, when, by serial sections, he first clearly showed their origin in the mucosa and not in connective tissues; and is similar to the areas of malignant degeneration in intestinal polyps (Saint, 1927) and to the non-invasive carcinoma *in situ* of the pars pylorica described by Mallory (1940). I feel strongly that it would have been most dangerous to leave the stomach unoperated and that the history of Case 9 would have been repeated. The case must be regarded as one of cancer, and if there is retrospective criticism it is, as Prof. Hardy has said, that the excision was not wide enough.

Case 11

A violinist and violin maker aged 70 was diagnosed as suffering from pernicious anaemia at Middlesex Hospital in 1934 and has been treated continuously since. On May 30, 1947, he was in good health. An opaque meal showed a pyloric antrum somewhat narrowed, but peristaltic waves passed through this region, which is against the presence of malignant neoplasm. Otherwise, nothing abnormal was discovered in stomach or duodenum, though the stomach is small and empties rapidly.

Gastroscopy on June 25 revealed some difficulty in passing the cardia, but nothing abnormal seen in this area. The angulus appeared irregularly nodular and the pylorus indurated and closing irregularly. On Aug. 24 he was admitted for laparotomy, symptom-free. A blood count showed: red cells, 4,970,000; Hb, 94%; colour index, 0.95; Wassermann reaction negative. On the night before operation he developed right-sided pneumonia. A radiograph on Oct. 7 showed lung fields clear except for thickened interlobar septum. Laparotomy on Oct. 8 revealed a large hard malignant ulcer of the antrum invading the peritoneum, with secondary growths in liver, glands of portal fissure, and pelvic peritoneum.

Comment.—This case was an advanced but asymptomatic carcinoma, which might have been detected if x-ray examination had been carried out earlier. The diagnosis of pernicious anaemia made at the Middlesex Hospital is accepted, and appears to be confirmed by the length of history. Radiologically, antral change was more advanced

than in the two earlier cases, but of the same type; and surgically only the lower third of the stomach was involved. Gastroscopy left little doubt of the diagnosis, but, as in some of these cases, infiltration at the angulus probably imitated the pylorus closely.

Other Cases

Case 8 was that of a woman of 60 with a four-year history of anaemia needing continued intensive liver therapy. She was found at operation to have a small stomach, only 2 to 3 in. (5 to 7.5 cm.) in diameter, with a dumbbell-shaped tumour in the fundus; this was removed with difficulty, and consisted of a benign leiomyoma. Case 15 is that of a man of 77 with a one-year history who has a sedimentation rate, repeated at several months' interval, of 30 mm.: normal for the method, 0-10 mm. only. X-ray examination showed a normal stomach, but gastroscopy revealed a reddish nodule on the greater curve of an otherwise (gastroscopically) normal pyloric antrum. This patient is still under observation, though unsuitable for operation without stronger reason.

These cases illustrate the recognized liability of patients with pernicious anaemia to gastric abnormality, and the desirability of watching them from this point of view.

Discussion

The limitations of this investigation are recognized. Swayed by the weight of others' experience (Wilkinson, 1945) and by the apparently negative result of the first case, observations have been more casual than now seems desirable. The results justify further observation. Investigation in these cases is not difficult: the patients are generally placid and co-operative, their stomachs are easy to examine radiologically (Rigler, Kaplan, and Fink, 1945) and gastroscopically, and they tolerate operation well even in the eighth decade.

Of 15 patients examined for gastric lesions while free from dyspepsia, carcinoma has been found in three. In these cases the carcinomatous area was in the lower third, where radiology demonstrated narrowing even in the two cases which were at a very early stage. There seems to be no pathological reason for this general contraction of the pyloric area, though it may be the first indication of carcinomatous change. On the other hand, it may be a permanent characteristic of these stomachs. It was not productive of delay, and is not mentioned by Jacobson and Palmer (1943) in a radiological study of gastric emptying in pernicious anaemia. The lower stomach is not usually abnormal in pernicious anaemia (Magnus and Ungley, 1938), and gastroscopy confirms this. An abnormal antral mucosa, especially when associated with a narrow antral canal, may predispose to malignancy. It is well recognized that the prepyloric area is particularly liable to develop cancer. Cases of pernicious anaemia showing an abnormal mucosa there should be viewed with as much suspicion as hyperchlorhydric cases with prepyloric ulcers. There is reason to believe, also, that simple neoplasms of the stomach are unduly frequent in pernicious anaemia. Carcinoma originating in these may appear in any gastric area, and is characteristically a bulky polypoid tumour. No such case has been found in the small number now reported, though I have records of other casual ones.

Conceivably, therefore, in pernicious anaemia carcinoma may arise in two ways. It is suggested as a basis for further full observation that the commoner prepyloric carcinoma does not arise in localized polyposis but is associated with rather diffuse mucosal changes detectable by gastroscopy at an early stage, and with narrowing of the prepyloric area demonstrable radiologically.

The patients developing carcinoma were all over the age of 60, and had been treated for ten years or more. With

increasing age abnormal stomachs would be expected to become more liable to malignant change; and liver treatment, by keeping patients alive, may predispose to this form of cancer—if liver extract is not a carcinogen (Kaplan and Rigler, 1947).

The cases observed indicate once again how late in the course of gastric cancer symptoms appear. If, however, these cases are operated on early, then, as Mallory (1947) remarks of early gastrectomy for other prepyloric lesions, histological appearances are not infrequently doubtful. To cure more cancers we must alter our pathological, radiological, and gastroscopic criteria so as to present our histologists with precisely this problem. Kaplan and Rigler (1947) urge that watching cases of pernicious anaemia is the main method of achieving this object obvious at the moment, few as such cases are.

Summary

Examination of 15 symptom-free pernicious-anaemia patients revealed cancer in three. Periodical x-ray and gastroscopic studies are strongly indicated in all cases of Addison's anaemia in remission or relapse.

I am grateful to my hospital colleagues, especially to Dr. L. P. Jones, for much help and restraining criticism. I am indebted to Prof. T. L. Hardy for encouragement and advice, and to Prof. M. Stewart for comments on the histology of Case 2.

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THE COMPLICATIONS OF MUMPS

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In 1946 a few cases of mumps occurred in a military camp in New Zealand just before the departure of a contingent of about 2,000 soldiers for Japan. A number of cases occurred on the ship during the journey, and after arrival of the force in Japan the disease spread rapidly giving rise to a sharp epidemic of 235 cases in seven months. It has since been possible to follow up 208 of these cases and to examine and to interrogate them. This paper is the result of the investigation, which was of particular interest so far as the complications of the disease and their permanent after-effects are concerned. Of the patients 189 were white men, 14 were Maoris, and 5 were white women. There was no difference in the course of disease in the Maoris except that they did not report it until much later in the illness. Except where specially mentioned the figures refer to the 203 men, whose average age was 22 years, the women being considered separately.

We believe the value of this investigation lies largely in the fact that such a complete follow-up was possible so

after the illness, and that any residual disabilities may be considered unlikely to improve further. The average time of follow-up was seven months after the onset, but in individual cases it varied from four to eleven months. Each patient was interviewed, and so far as possible his notes were studied simultaneously.

The commonest mode of onset of the illness was the appearance of parotid enlargement. However, in 54 cases the onset was with general symptoms (tiredness, malaise, headache, etc.), which were present for up to two days before any glandular enlargement. Enlargement of the submandibular glands alone occurred in 13 cases. Orchitis was the only manifestation of mumps in five cases.

Nervous Complications

At the follow-up each patient in the series was directly interrogated for these symptoms: headache, neck stiffness, drowsiness, facial weakness, disturbances of hearing, and acroparaesthesiae. The statements were noted and compared with the case records written at the time of illness.

There had been symptoms or signs of meningeal involvement in 60 cases: 18 patients complained of moderate headache only, and this single symptom is of rather doubtful significance as no lumbar punctures were performed; 36 complained of severe headache and, in addition to marked pain, were drowsy and had a positive Kernig sign or neck rigidity; and six showed a definite meningo-encephalitis, these being recorded below. One man complained of deafness and vertigo, and two men had vague aural symptoms on one side during the early stages of the illness.

Unfortunately, owing to the size of the epidemic and the limited facilities available at the time, lumbar puncture was not performed in some cases in which the results would have been interesting and probably abnormal. Where performed the findings are recorded with the individual cases.

Case Histories

Case 1.—A. J. S., aged 21, noticed the onset of throbbing retro-orbital headache with slight sore throat and swelling below the right ear on Aug. 19, 1946. The swelling increased until the 21st, when he was admitted to 6 N.Z.G.H. He was found to have tender swelling of both parotid glands, more marked on the right, and a small non-tender swelling of the left submandibular gland. By Aug. 25 both submandibular glands had become grossly swollen and tender. Next morning he complained of swelling and pain in the left testicle, and was found to have a well-developed epididymo-orchitis. At 7 p.m. on the same day he complained of frontal headache, drowsiness, nausea, and photophobia. His temperature, which had varied between 98.4 and 100° F. (36.9 and 37.8° C.) rose to 105° F. (40.6° C.) at 10 p.m. Flexion of the neck caused pain in the lumbar region, but no other abnormality was found. On Aug. 27 he felt better but was still drowsy, and he vomited all food and drink. Neck rigidity was still present and Kernig's sign was positive. The enlarged salivary glands were subsiding. The same evening he became more drowsy and disorientated. On examination marked weakness was found in both legs, right more than left, absent knee- and ankle-jerks, and extensor plantar responses. Cerebrospinal fluid examined on the 28th contained 30 mg./l. of protein per 100 ml. and 4 lymphocytes per c.mm. By Sept. 3 he felt quite well and was symptom-free, although examination of his nervous system revealed a marked right-upper-motor-neurone facial weakness, weakness and incoordination of right arm and leg, with normal tendon reflexes and an extensor plantar response on the right. Appreciation of light touch, pain, and temperature was impaired on the right side of the face and body. Position sense was impaired in the right hand. After convalescing for a further two weeks he returned to his unit, where he began to suffer from "dizzy attacks and blackouts." These at first occurred at any time of day when up and about, but by

the end of the year they occurred only if he stood at attention for any length of time. His symptoms were immediately relieved by sitting or by lying down. When examined at this time he still had obvious facial weakness, with slight weakness of grip in the right hand and of dorsiflexion of the right wrist. There was slight sensory impairment to light touch, pain, and temperature over the right face, chest, and arm. The right leg was normal, with a flexor plantar response. The left testicle was slightly smaller than the right. After a month's physical training at a convalescent camp his fainting attacks ceased. Eight months later the patient was completely normal apart from a still apparent facial weakness.

Case 2.—G. H. M., aged 22, was admitted to 6 N.Z.G.H. on July 5, 1946, complaining of a sore throat and swelling under the right jaw for 18 hours. Frontal headache and flitting limb pains had been present for eight hours. Examination revealed a swollen right submandibular gland, marked neck rigidity, and a positive Kernig sign. There was slight weakness of the right arm and leg, with normal tendon reflexes and an extensor plantar response on the right. Temperature was 103° F. (39.4° C.). That evening he became very restless and complained of aching pains all over his body; his headache was worse. The weakness of his right arm and leg became more marked and a left facial paresis developed. Lumbar puncture gave a slightly turbid fluid containing 680 cells per c.mm. (97% lymphocytes, 3% polymorphs); total protein, 100 mg. per 100 ml.; Pandey's reaction positive; chlorides, 659 mg. per 100 ml.; 13,700 white cells per c.mm. (79% polymorphs, 9% lymphocytes, 12% monocytes). On July 8 the patient felt much better, but still had slight neck rigidity. The right hemiparesis and left facial weakness had not improved. On the 10th the left parotid gland became swollen, but his general and neurological condition had improved. He made a rapid recovery and was discharged to his unit, with no abnormal physical signs after four weeks in hospital. When seen 11 months later he had no complaints, and his nervous system was normal except for a mild left facial weakness.

Case 3.—F. B. C., aged 20, developed a frontal headache and bilateral parotid and submandibular enlargement on Aug. 22, 1946. On Sept. 3 he developed bilateral orchitis. Two days later he complained of frontal and occipital headache and his temperature rose to 103° F. (39.4° C.). Kernig's sign was positive. Next day the headache was more severe, with photophobia and neck rigidity, and he had diplopia on looking upwards. No definite ocular muscle paresis could be detected clinically. White blood cells numbered 6,600 cells per c.mm. (60% polymorphs, 36% lymphocytes, 4% monocytes). The diplopia lasted seven days. On Sept. 17 he went to a convalescent camp, where he continued to complain of dull frontal headaches. These continued intermittently for five months, although they may have been partly due to an infected maxillary sinus for which he was being treated.

Case 4.—R. H., aged 22, was admitted to 6 N.Z.G.H. on Aug. 29, 1946, with an enlarged right parotid gland. Next day he complained of malaise, severe frontal headache, and nausea, and he vomited several times. The temperature was 102° F. (38.9° C.). On Sept. 3 he was still vomiting; the temperature was 103° F., Kernig's sign was positive, and the knee-jerks were absent. Marked neck stiffness developed during the course of the day. Lumbar puncture gave a slightly turbid fluid containing 700 cells per c.mm. (95% polymorphs, 5% lymphocytes); total protein, 60 mg. per 100 ml. On the 5th he felt better (temperature 102° F.), and there was slight weakness of flexion of the right hip, knee, and ankle. Knee-jerks were still absent. White blood cells numbered 5,200 per c.mm. (42% polymorphs, 52% lymphocytes, 4% monocytes, 2% eosinophils). His pulse rate fell below 50 on the 14th and 18th days of illness. By Sept. 24 he was quite well and there were no abnormal signs in his nervous system.

Case 5.—A. J. M., age 22, was admitted to 6 N.Z.G.H. on Feb. 18, 1947, complaining of headache and shivering, with pain in the right hypochondrium and nausea for eight hours. Examination revealed tenderness and rigidity in the right hypochondrium and tenderness in the right loin. The psoas sign was positive on the right. Next day he was drowsy

and developed photophobia, slight neck rigidity, and tenderness in the right iliac fossa. On Feb. 20 the left parotid gland became swollen. Lumbar puncture showed: C.S.F. pressure of 160 mm.; 545 cells per c.mm. (99% lymphocytes, 1% polymorphs); total protein, 70 mg. per 100 ml. Pandy's test was positive and urinary diastase normal. There were no abnormal physical signs in the nervous system except a positive Kernig sign and neck rigidity. His headaches ceased gradually over a period of about a month. On Feb. 27 the C.S.F. contained 220 cells per c.mm. (99% lymphocytes, 1% polymorphs); total protein, 50 mg. per 100 ml. Pandy's test was negative. On March 7 he complained of epigastric discomfort after food, and on the 10th the C.S.F. contained 62 cells per c.mm. (all lymphocytes); total protein, 40 mg. per 100 ml. On March 25 a small area of pulmonary collapse developed at the left base, with hilar gland enlargement. This cleared up completely after two weeks, and he was symptomless throughout. The indigestion persisted for several weeks in spite of treatment; it was considered to be largely psychological in origin. Several examinations for urinary diastase gave normal figures. When last seen ten weeks after leaving hospital the patient was quite fit.

Case 6.—J. A. G., aged 21, was admitted to 6 N.Z.G.H. on Sept. 9, 1946, complaining of malaise. The following day both parotid glands became slightly enlarged. On Sept. 12 he developed a right-sided orchitis and next day he complained of severe headache and vomited. On Sept. 15 his speech was slurred and there was marked neck rigidity. Kernig's sign was positive. On the 17th he developed a left facial paresis; there was weakness of his right leg, with normal tendon reflexes and bilateral extensor plantar responses. On the following day the plantar responses became flexor, but his condition was otherwise stationary. The cerebrospinal fluid was slightly turbid and contained 420 cells per c.mm. (98% lymphocytes, 2% polymorphs); total protein, 90 mg. per 100 ml.; Pandy's test positive. By Sept. 30 he had completely recovered except for a slight left-upper-motor-neurone facial paresis. In February, 1947, he had an attack of measles with severe headache. Lumbar puncture performed when the rash was fading (sixth day) showed that the C.S.F. contained 33 cells per c.mm. (32 lymphocytes, 1 polymorph); total protein, 40 mg. per 100 ml. Pandy's test was negative. White blood cells numbered 9,150 (64% polymorphs, 32% lymphocytes, 4% monocytes). There were no physical signs in the nervous system except for the slight left facial paresis, a relic of his previous illness.

Case 7.—F. H. G., a woman aged 27, was admitted to 6 N.Z.G.H. on Sept. 7, 1946, complaining of headache and malaise; there was bilateral parotid swelling, more marked on the left. On the second day she developed a dull peri-umbilical pain with tenderness. Next day the headache became worse and she became drowsy; slight neck rigidity was present. On the ninth day a right facial paresis developed. There was mild bilateral mastitis during the illness. She was discharged fit after three weeks, although the facial weakness was still obvious. At the follow-up seven months later there was still a trace of facial weakness, and the patient complained that she had had amenorrhoea since the illness.

Case 8.—C. O. N., aged 26, developed bilateral parotitis on June 6, 1946. Next day he noticed a slight degree of deafness in the left ear, which became severe during the next 24 hours. There was also vertigo. At the follow-up nine months later he was found to have a pronounced degree of nerve deafness in the left ear.

Discussion

The literature on the nervous complications of mumps is adequately reviewed by Lightwood (1946), Church (1946), and Holden *et al.* (1946). The incidence is reported in various studies as varying from nil to 40%. Meningitis is undoubtedly the most frequent manifestation of nervous involvement in mumps, in addition to which numerous minor and less common syndromes have been recorded less commonly. Generalized mumps-encephalitis with or without fits, diencephalic encephalitis, hemiparesis, tetraplegia, cranial-nerve palsies (especially 3, 7, and 8, acoustic and

vestibular divisions), optic neuritis, bulbar palsy, involuntary movements, and myelitis. From all of these complete recovery is usual, and consequently pathological studies are few. Demyelination of the corona radiata and encephalitic patches in the cerebral cortex and brain stem have been observed. The changes in the C.S.F. have been recorded often and at length, and are well known.

The nervous symptoms and signs are generally said to have their onset at the height of the illness, usually before the development of orchitis. In the eight cases recorded above the onset ranged from one in which the patient reported sick with nervous involvement and possible pancreatitis (Case 5) to one in which there was no nervous involvement (unless the early headache is regarded as such) until the 14th day (Case 3). The average day of onset was the fifth. In most of the cases recorded above it was not possible to localize the encephalitis to a single site, which is what would be expected in this type of disease. Case 1 presented a rather mixed picture, which could be accounted for by bilateral involvement of the corona radiata, more marked on the left. During convalescence the picture of an uncrossed hemiparesis, most pronounced in the face and arms and less severe in the leg, with sensory change over the upper part of the body, supports a subcortical localization, although affection of the brain stem could also account for it.

Case 2 showed a crossed hemiparesis (left face and right limbs), which is most likely to be due to a brain-stem lesion. Case 6 was of considerable interest in that the patient had an abnormal C.S.F. during an attack of measles five months later. It is not known whether the fluid was normal in the interval, but usually it fairly rapidly becomes so after mumps encephalitis, and it would therefore seem that man is constitutionally susceptible to potentially neurotropic viruses or that this susceptibility dates from and is due to the mumps encephalitis. Case 8 showed involvement both the acoustic and the vestibular portions of the eighth nerve. Recovery from the facial weakness in Cases 1, 2, and 7 was still incomplete at the follow-up, and it seems more likely that some permanent damage has been done. Apart from this and the vasomotor instability of Case 6 and the deafness of Case 8, all recoveries from nervous involvement were fairly rapid and complete.

Orchitis

Orchitis occurred in 53 (26%) men—in 17 cases still confined to bed, in 5 at onset, in 6 before report, and in 21 after starting to get up. For the remaining 4 no information was available. The follow-up period was four months in two cases, five months in one case, and between six and ten months for the remainder. The onset occurred during the first week in 34 cases and during the second week in 16. One case developed on the 15th day and two cases on the 22nd day. The disease was bilateral in five patients. Orchitis was the first definite sign in five cases, appearing on the second or third day after a prodromal stage of lassitude and anorexia. In four of these the orchitis was the only clear manifestation of the disease, there being no subsequent parotitis.

In the follow-up 31 cases (57%) were perfectly normal. There was no testicular atrophy, the consistency and the sensation of the testes were unaltered, and sexual activity was unimpaired. In four cases there was or had been some residual pain after exercise, mild in all cases and usually transitory. In two the aching still occurred seven months after onset, and was associated with some degree of atrophy. In the other two there was no atrophy; one man's discomfort had ceased three to four months after onset, while the other's was improving at ten months.

Assessment of atrophy was based mainly on a difference of more than 1/4 in. (0.6 cm.) between the length of the two testes. This criterion is open to certain objections, including some degree of difference between the two sides in healthy people. It was applied only when the unaffected side appeared to be well developed and healthy. In none of the bilateral cases was there any reason to suspect any degree of atrophy. The patients' observations were invited in each case as a rough check. There was no case of complete atrophy in the series. Some degree of difference between the healthy and the affected sides was noticed in 22 cases (42% of those with orchitis), amounting to 1/2 in. (1.25 cm.) in 3 men, 3/4 in. (1.9 cm.) in 10, 1 in. (2.5 cm.) in 7, and 1 1/4 in. (3.2 cm.) in 2. Of these 22 testes 4 were softer than on the healthy side. Testicular sensation was normal in all. A decrease in size after the orchitis had been noticed by 13 patients, no change had been observed by 2, while the remaining 7 had no observations.

Sexual activity, as judged by intercourse, masturbation, or nocturnal emission, was unimpaired throughout the whole orchitis series. It remained unaltered in one man whose other testicle was completely atrophied from a preceding and independent cause; no atrophy of the remaining testis followed the mumps orchitis.

One patient had had an attack of mumps two years earlier, with orchitis on the same side in each attack. By contrast, another man had had orchitis with mumps five years earlier without developing orchitis in his second attack.

Considering the absence of complete atrophy in the series, the fact that 1 in. or more of atrophy occurred in only nine cases and that there was a lack of any impairment of sexual activity, it is doubtful if we are justified in recommending a decompression operation in all cases of mumps orchitis. It might perhaps be advised for those with orchitis of a single functioning testicle or for those with severe bilateral orchitis, though the present small series would hardly justify the latter indication; but for the remainder it is not indicated in the present state of our knowledge.

Other Complications

Pancreatitis and Mastitis.—Some degree of pancreatitis was considered to be present in 16 (8%) of the complete series. Symptoms lasted from one to five days. No sugar was found in the urine of 11 cases tested at follow-up, nor were there any sequelae. One woman complained of tenderness of the breasts during the early part of the illness, and one man had vague fleeting pains round his nipples soon after the onset of mumps.

Cardiovascular System.—Myocarditis has been reported in mumps, and Rosenberg (1945) undertook a full electrocardiographic study, in which he obtained abnormal records in 15% of cases. Although no thorough investigation could be carried out in this epidemic it was thought that it might be of interest to note the number of patients in whom the pulse rate fell below 50. Only 131 pulse charts were available, and 52 showed readings of less than 50 for varying periods, chiefly in the second and third weeks. One of these cases also had an apical systolic murmur which was still present at the follow-up. There were five cases of apical systolic murmur without bradycardia: in only one of these had the murmur disappeared at the follow-up several months later. It is not proposed to attempt to draw any conclusions, as there are obviously insufficient data, but these results seem to confirm the opinion that the cardiovascular system deserves more attention in cases of mumps than it has hitherto received.

Relapse and Second Attack.—Two cases relapsed with recurrence of glandular enlargement after discharge from

hospital. A third patient relapsed with submandibular sialadenitis after an initial orchitis. Eighteen men gave a definite history of a previous attack of mumps and six thought they had probably had mumps before but were not certain.

There were no cases of urethral discharge, pericarditis, arthritis, nephritis, or suppuration of glands, all of which have been recorded as complications of mumps.

Complications in Women.—In one case the disease started with diarrhoea and vomiting, and the patient had amenorrhoea for six months afterwards and felt generally run-down. A second case (No. 7) showed evidence of mild meningo-encephalitis and mastitis. The remaining three cases complained spontaneously of tiredness since the illness—a complaint which was not made by any of the men.

Summary

An epidemic of mumps was investigated with the view of determining the incidence of complications and any permanent after-effects resulting from them. Eight cases of meningo-encephalitis are described. It was found that recovery tended to be slow and that when facial palsy occurred recovery was incomplete.

The incidence of orchitis was 26%. There were no cases of complete testicular atrophy following this complication, but 42% showed minor degrees of atrophy. Sexual activity was unimpaired.

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FATAL AIR EMBOLISM DURING MASTECTOMY

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Air embolism may be associated with a large number of conditions. The circumstances in which it most frequently occurs are as follows: (1) Gynaecological and obstetrical (often criminal) procedures involving the manipulation of the pregnant or puerperal uterus. Many deaths have been recorded after insufflation of the vagina during pregnancy or the puerperium, and death has even occurred following insufflation of the Fallopian tubes. Placenta praevia is also an especially dangerous condition. (2) Intentional introduction of air or other gas into cavities or potential cavities such as the bladder, joint cavities, paranasal sinuses, and peritoneal and pleural cavities. Perirenal insufflation has given rise to air embolism. (3) Unintentional introduction of air into vessels during transfusions or infusions or into solid organs such as the liver. (4) Operative procedures to the breast, thyroid, lungs, etc. Air embolism may follow injury to vessels by stab wounds, bullet wounds, etc.

The effects of air embolism are very variable in severity, depending mainly on the condition of the patient, the

amount of air entering the circulation, and especially on the rate of access to the circulation. Symptoms may be absent or they may be slight and transitory. On the other hand, death may supervene, and this may be rapid or delayed. A rapidly fatal case which occurred during mastectomy is here described.

Case Report

The patient was a healthy-looking woman of 52 who had a fairly advanced carcinoma of the right breast. At the age of 37 her heart had been examined and it was suggested that she might have a lesion of the aortic valve, but she had remained in good health since that time. On examination the day before the operation no abnormal physical signs could be found in the heart.

A radical mastectomy was performed under general anaesthesia, induction being by intravenous thiopentone and maintenance by nitrous-oxide-oxygen in a closed circuit. A small amount of ether was added during the first ten minutes. The operation and anaesthesia proceeded without incident until the breast had been removed and glands were being dissected out from the axilla. Some haemorrhage took place from the axillary vein, and a few minutes elapsed before a ligature was passed round the vein and tied. At the moment of ligation the patient gave a sharp inspiration and stopped breathing. Simultaneously the colour became grey and the pulse imperceptible. The breathing circuit was at once emptied and refilled with oxygen, and after four or five compressions of the rebreathing bag spontaneous respiration started, the colour became pink, and the pulse returned, although it was poor in volume. The operation was finished with the patient breathing pure oxygen. An intravenous injection of 20 mg. of "methedrine" did not improve the pulse.

As dressings were being applied the colour again faded and the pulse and respiration ceased. Right auricular puncture at first showed a few twitches at the end of the needle, but these soon ceased. Cardiac massage also produced no response, and after about twenty minutes resuscitation was abandoned.

The cause of death was at first thought to be primary cardiac failure, but on further reflection this theory was found to be untenable. The conditions known to predispose to this event were not present. No drug or combination of drugs likely to produce cardiac failure had been given and no reflex stimulation had occurred. Furthermore, cardiac stimulation and massage, although carried out promptly, produced no response. Secondary cardiac failure from advanced operative shock was inadmissible, as the condition of the patient immediately preceding the first collapse was perfectly satisfactory. An acute circulatory crisis seemed to offer the most reasonable explanation of death. Coronary thrombosis appeared unlikely, and some form of gross embolism as the cause of death was arrived at by a process of exclusion. Air embolism seemed a distinct possibility, as venous bleeding had occurred immediately before the collapse, although it was not severe and no sucking had been heard. On the other hand, the right shoulder had been slightly raised on a sand-bag, and under these circumstances there is usually a negative pressure in the axillary vein during inspiration.

Post-Mortem Examination

Death occurred at 4.45 p.m., and a post-mortem examination was begun next day at 10 a.m. The essential findings were as follows.

No evidence of putrefactive change was found. As air embolism was considered as a possible cause of death the front of the thoracic cage was very carefully removed. The heart was seen to be distended on the right side, and on elevating the apex with the fingers the coronary sinus and its tributary vessels were seen to contain large numbers of air bubbles. The thorax was then filled with water and the heart showed a marked tendency to float. The heart was depressed with the fingers so that it was completely immersed below the surface of the water, and the lateral margin of the right ventricle was stripped with scissors. An impressively large volume of gas rose to the surface. This must have almost completely filled

the right side of the heart, because very little blood escaped after opening the heart and only a small clot was present.

On further examination of the heart the foramen ovale was found to be patent but well guarded by valve action. The anterior cusp of the aortic valve was adherent to the right posterior cusp, and this may have slightly impaired the efficiency of the valve, but the defect was not a gross one. No marked pathological changes of the other valves were seen. The coronary arteries showed only minor atheromatous changes.

Discussion

Air embolism may involve the right side of the circulation, the left side, or both sides. In this case it seems that air entered the torn slightly elevated axillary vein and made its way to the right side of the heart, where it was found in large quantity. This was undoubtedly the cause of death. Post-mortem examination confirmed the presence of a minor lesion of the aortic valve which had been detected clinically fifteen years previously, and the condition of the heart may have been a contributory factor.

Opinions differ regarding the minimum volume of air that, by entering the circulation, may produce a fatal result. Richardson, Coles, and Hall (1937) examined the results of experiments carried out on dogs by Harkins and Harmon (1934) and, applying these results to man, came to the conclusion that the rather large amount of 480 c.cm. would be necessary to cause death. In the course of their own work on dogs, however, Richardson and his colleagues showed that several factors governed the amount of air necessary to kill their animals. Chief of these was the rate of entry of the air, but they also found that the general condition of the animal as evidenced by the systemic blood pressure played a great part in determining tolerance to intravenously injected air. Much less air was fatal to animals with low blood pressure than to those with a normal blood pressure. These investigators considered that such factors as trauma, pain, apprehension, loss of blood, etc. were also of paramount importance. Simpson (1942) claims that under certain circumstances even 10 to 15 c.cm. may cause a fatal outcome in human beings. Whitby and Britton (1946) accept his statement that while a surprisingly large volume of air can be tolerated by a healthy subject, no more than a few cubic centimetres may precipitate death in a patient gravely ill.

Although air embolism was suspected as the cause of death in our case, post-mortem examination was necessary to prove that this was correct. In some cases a hissing noise may be heard as air enters the vein, and in animals splashing and churning noises may be heard with the unaided ear. In human beings, however, such findings must be rare, and the cause of death may be unsuspected until revealed at necropsy. Evans and Murley (1945) report such a case, and state that necropsy prevented the death being written off as due to a complication of severe malaria. Auer and Krueger (1946) report a similar experience following operative procedures on the spinal cord and skull in a number of rabbits. These animals died more or less acutely, and death was at first attributed to "vascular shock." After careful necropsy death was ascribed to air embolism associated with fibrin formation in the right ventricle of the heart. There is no doubt that the diagnosis of air embolism must often be missed unless a post-mortem examination is carried out, and Simpson has suggested that the diagnosis of air embolism may be missed even at necropsy if not previously suspected.

Summary

A case of fatal air embolism during mastectomy is described. Diagnosis of air embolism may be missed unless a post-mortem

amination is made, and even then may, in view of the small volume of air sometimes involved, be overlooked unless previously suspected.

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HYPERTROPHIC PYLORIC STENOSIS IN THE ADULT

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Hypertrophic pyloric stenosis in the adult is a somewhat unusual condition but is perhaps not quite as rare as it is held to be. In four years I had two cases that showed one or two unusual features, and therefore put them on record. A full bibliography and a discussion of the condition appear in an article by Howard Wakefield (1944).

The condition appears much more often in men (80%). Most patients have persistent stomach trouble, mild in character, from birth onwards. This characteristic suggests that, aetiologically, the stenosis is a persistence of a milder congenital stenosis. The usual complaint is of bouts of vomiting or of a feeling of nausea after meals. Pain is absent or slight. Few, if any, develop gastric or duodenal ulceration. The cases are nearly always diagnosed as carcinoma ventriculi and operated upon as such. In fact, the consensus of opinion is that diagnosis of the condition before operation, or even at operation, is difficult if not impossible with safety to the patient. In other words, the condition must be treated as a carcinoma even if a strong suspicion is felt as to the correct diagnosis. A mass is rarely palpable before operation.

Radiography reveals an elongated pyloric canal devoid of peristalsis (Berk and Dunlap, 1944). Macroscopically, the muscular coat of the pylorus is much hypertrophied and the circular coat on section tends to present the appearance of a palisade. The thickening ends abruptly on the duodenal side but shades off into normal thickness towards the stomach. To the naked eye the resemblance to "leather-bottle" stomach is close. The maximum thickness of the hypertrophied muscle yet reported appears to be about 1/3 in. (0.8 cm.). Microscopically, chronic gastritis is shown. About 100 cases are on record, including 81 out of 60,000 gastric patients treated at the Mayo Clinic from 1927 to 1931.

The two cases here reported were both in females, and were unusual in the complete absence of any history of gastric upset until very shortly before operation. The x-ray picture in both cases was typical, and, except for the extraordinary thickness of the pylorus in the second case, the appearances at operation and pathologically were again typical. One of these patients, who was somewhat peculiar mentally and who was in the habit of consuming large quantities of raw rice and lentils (whether the cause of the disease or a consequence cannot be said), had a hyperchlorhydria, the other an achlorhydria. It has been noted

that the condition seems to occur in "aggressive and martial" types. Both these patients were quiet and somewhat subdued.

As I have had these two cases within such a comparatively short time, it is quite possible that milder degrees of hypertrophic pyloric stenosis are commoner in adults than is supposed and may be missed if not specially looked for. In cases of persistent gastric trouble, with some stenosis revealed on radiography and little or nothing found at operation, it would seem advisable to keep the condition in mind. Whether any less drastic treatment than partial gastrectomy would suffice to bring about a cure in the milder cases it is difficult to say, but it would seem well worth while to try the effect of simple gastrojejunostomy or a plastic operation on the pylorus, provided the diagnosis was clear enough at the time of operation.

Case 1

Mrs. B. E. V., aged 55, had had an epigastric pain radiating to the left side of the abdomen for two months; vomiting for three to four weeks, chiefly in bed at night; a feeling of fullness later and of a heavy weight across the upper part of the abdomen; and a loss of appetite for more than a year. There had been much loss of weight during the last few months (this is the patient who had a passion for raw rice). She had been in hospital two months previously with a mild chronic nephritis.

Examination showed the patient to be somewhat thin; there was a systolic murmur in all areas, and tenderness in the epigastric region. No mass was felt. Cystocele was present; she had to get up three times a night to pass water. Radiographs showed a persistent filling defect of the antrum, with an irregular outline typical of carcinoma ventriculi. There was a considerable gastric residue at six hours. A test meal revealed hyperacidity and no blood. A blood count showed: red cells, 4,000,000; Hb, 74; colour index, 0.9.

At operation the pyloric end of the stomach was found to be much thickened but soft. A partial gastrectomy was performed, with a posterior gastrojejunostomy after dividing the ligament of Treitz. On the day after operation there was a little basal collapse; this soon cleared up, and the patient progressed very well. When readmitted to hospital two months after her operation for a colporrhaphy she was in very good health and underwent the operation without untoward effects. One year later she was still in very good condition, with no gastric symptoms, good appetite, and a more normal weight.

On section of the pylorus the pathologist reported: "Chronic gastritis with oedema of slightly fibrotic hypertrophied muscle of pyloric part of stomach." Naked-eye inspection of the pyloric end of the stomach revealed a great thickening of the muscular coats, which measured quite 1/3 in. (0.8 cm.) across. The muscle showed a typical palisade appearance. The hypertrophy stopped short at the duodenum but gradually shaded off into normal stomach wall at about the middle of the lesser curvature.

In view of the connexion between pyloric stenosis and uraemia it is interesting to note that two months before gastrectomy her blood urea was 94.28 mg. per 100 ml.; at the time of operation it was 40.5 mg., and three months later it was only 17.15 mg.

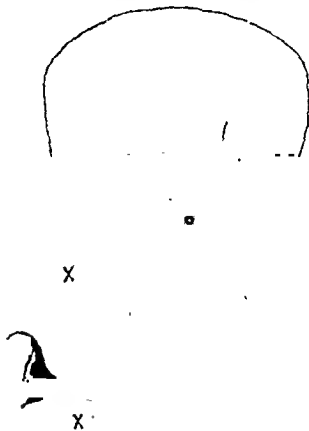
Case 2

Mrs. F. A., aged 54, complained of pain in the lower chest for six weeks, with a loss of 12 lb. (5.4 kg.) in the last four months. She felt sick all the time, bringing up water, and occasionally food. Pain came on a quarter of an hour after food and lasted a few minutes. There was a tendency to feel faint. She started to get a little indigestion about 18 months before. Her appetite was poor.

On examination a definite mass could be felt at the pyloric end of the stomach.

Radiography (see illustration) showed a filling defect, giving a smooth and non-contractile outline to the pyloric end of the stomach extending from the pylorus to half-way along the lesser

curvature. The radiologist reported: "Findings consistent with an extensive pyloric carcinoma." A test meal showed complete achlorhydria with a low total acidity. Occult blood, negative; blood urea, 50 mg. per 100 ml.



Tracing of radiograph of Case 2. X=filling defect.

At operation the pyloric end of the stomach was found to be thickened and the transverse mesocolon was adherent to the stomach, the adhesions involving the middle colic artery. A partial gastrectomy with a posterior anastomosis was performed with some difficulty. The patient made an uninterrupted recovery.

The following is a report on the pathological findings, naked eye and microscopical, by Dr. Stanley F. Marshall: "There is marked hypertrophy of the outer muscular coat, which is visible macroscopically on the slide. Microscopically, large bundles of smooth muscle fibres are seen—presumably the longitudinal coat beneath the serous coat and occupying about two-thirds of the thickness of the wall, which is about

1/2 in. (1.25 cm.) thick at its widest. Lymphocytic aggregations are scattered among and superficial to these hypertrophied muscle fibres. Numerous granulation and inflammatory cells are seen in the submucous coat. Three lymph glands in the vicinity show moderate inflammatory reticulosis only. No evidence of malignancy was seen." Naked-eye examination showed typical palisading of the muscular coat, which when first removed from the patient was nearly 3/4 in. (1.9 cm.) thick.

Summary

Two cases of hypertrophic pyloric stenosis in the adult are reported. Both show an absence of the usual lifelong history of gastric discomfort. One had a remarkably thick muscular coat and presented a palpable mass before operation.

The view is expressed that mild degrees of the condition may be relatively common, and the suggestion made that if the difficulties of accurate diagnosis can be overcome some less drastic treatment than partial gastrectomy may be possible.

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Under the new national insurance scheme, which comes into full operation on July 5, 1948, a single contribution card will be issued for each insured person. The contribution will be paid by affixing a single stamp to this card. The standard card, which will be current for 52 weeks, will consist of two leaves, but some of the cards issued at the outset of the new scheme will cover a period of 74 weeks and will consist of three leaves.

CONGENITAL HYPERTROPHIC PYLORIC STENOSIS

REPORT OF FOUR CASES IN BROTHERS

BY

A. A. H. GAILEY, M.D., D.C.H.

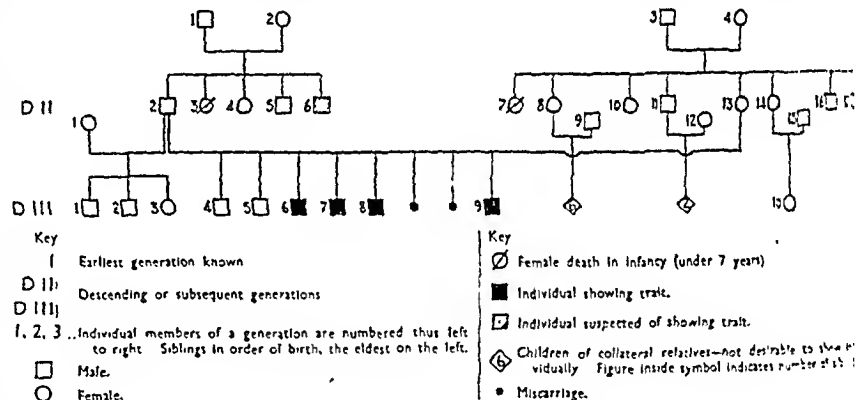
Medical Registrar at the Belfast Hospital for Sick Children.

Several authors have reported two or three siblings with congenital hypertrophic pyloric stenosis, but in search of the literature I have been able to find only one instance.

Clinical Features of the Cases

Clinical Features	Peter D III/6	John D III/7	Brendon D III/8	Patrick D III/9
Date of birth	29/3/39	9/6/41	30/7/43	6/2/44
Gestation, labour, delivery	Normal	Normal	Normal	Normal
Sex	Male	Male	Male	Male
Position in family	3rd	4th	5th	6th
Birth weight	9 lb. 8 oz. (4.3 kg.)	6 lb. 10 oz. (3 kg.)	9 lb. 10 oz. (4.08 kg.)	(4.51 kg.)
Foetal abnormalities	None	None	None	None
Feeding prior to symptoms	Breast	Breast	Breast	Breast
Age at onset of symptoms	59 days	7 days	15 days	10 days
Projectile vomiting	Yes	Yes	Yes	Yes
Visible peristalsis	Yes	Yes	No note	Yes
Pyloric tumour palpable	Doubtful	Doubtful	No note	No
Bowel action	Constipated	Constipated	Normal	Constipated
Age on admission	78 days	18 days	27 days	31 days
Dehydration before operation	Yes	No	Yes	No
Age at operation	80 days	19 days	28 days	33 days
Age on discharge	85 days	21 days	31 days	42 days

of this condition being discovered in four members of the same family—a family reported by Finkelstein, quoted by Sauer (1924). Each of the four cases here reported show



the classical clinical picture. They were the children of the father's second marriage, and were preceded by two sisters, one stepsister, and two brothers, all of whom were normal. The clinical features are outlined in the table.

In each of these cases Rammstedt's operation was successfully performed and convalescence was uneventful. The three older boys have "never looked behind them," and have developed into normal healthy boys. The youngest (Patrick), more than two months after his operation, is thriving and putting on weight regularly.

An attempt was made to gain enough information to prepare a family tree, but the parents (Mr. and Mrs. C.) were unable to remember any details before their own generation, and as the grandparents are dead and the rest of the family scattered it was impossible to build up a complete picture of the family. However, the accompanying genealogical table shows the details that were obtained of the two generations. The symbols used are those recommended by the Eugenics Society.

In the generation D II there are three interesting members. D II/3 and D II/7 were sisters of Mr. C. and Mrs. C. respectively, and both died at the age of 2 years, the cause of death and the nature of the illness being unknown. D II/6, a brother of Mr. C., was reported to

ve been ill from shortly after birth with severe "gushing" and persistent vomiting, so that both breast-feeding and bottle-feeding were impossible, and he was able to keep anything down only by receiving very small feeds from a syringe. After a very stormy illness, during which there were times when his life was despaired of, he started to make a recovery about the age of 1 year and is now reported to be a very healthy man in Canada. This boy's illness was considered by his mother, I/2, to have been exactly the same as that of her grandson, Peter D III/6, the first case of this report. In view of this story I have ventured to record him as a suspected case of congenital hypertrophic pyloric stenosis, and have represented him by a shaded square.

While there is still disagreement on the aetiology of congenital hypertrophic pyloric stenosis, most authorities seem to agree that the condition is congenital, that the hypertrophy is primary, and that the spasm, to which the initial picture is probably due, is secondary to the hypertrophy. In this family the condition appears to have been transmitted as a Mendelian recessive character.

I am grateful to Dr. F. M. B. Allen, under whose care they were, and to Mr. H. P. Hall and Mr. J. S. Loughridge, who performed the operations, for permission to publish notes of these cases.

REFERENCE

Sauer, L. W. (1924). *Arch. Pediat.*, 41, 145.

Medical Memoranda

A Case of Epidermolysis Bullosa

The following case is considered to be an example of epidermolysis bullosa and to belong to a rare variety which develops in adult life. It is stated in the literature that some cases resolve spontaneously; it is therefore notable that in the present case relapse occurred two years after spontaneous recovery from the disease.

CASE HISTORY

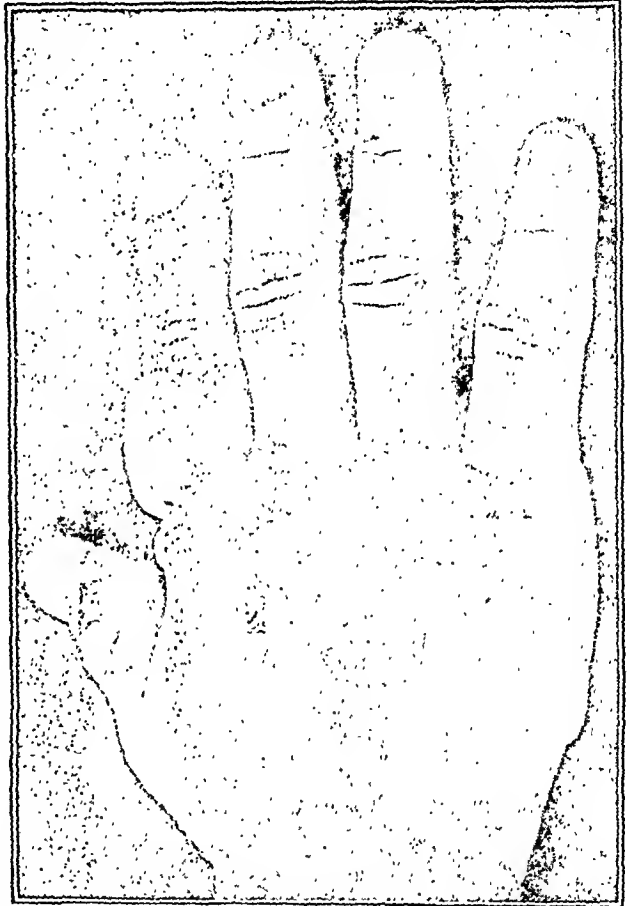
A naval telegraphist aged 19 was sent to hospital complaining of blisters forming on his hands. It appeared that for about two years he had been liable to lose large areas of skin if he slipped and bruised himself. The skin "slid off." Confirmation of this was supplied by the numerous discoloured areas in places where trauma was readily sustained, but there was no scarring anywhere. About eighteen months previously he had a similar attack involving the hands; this cleared up quite quickly, and recently he had been under treatment with impetigo of the face, which was also of a vesicular nature and which cleared with penicillin cream. There was no other relevant previous history or any relevant family history.

On examination many flaccid and unilocular blisters varying in size from 3 by 2 in. (7.5 by 5 cm.) to minute vesicles were seen arising off normal skin and unattended by itching, soreness, or malaise (see photograph). The skin enclosing the blisters was noticeably tough. Burst blisters dried up and did not form crusts, nor did the blister contents tend to become purulent. The bullae were at the time confined to the hands, but there were discoloured marks of old lesions on the elbows and a few on the shins and knees. His nails and teeth were normal. Examination of other systems revealed no abnormalities. The fundi were normal, and there was no hyperhidrosis. A blood count showed: R.B.C., 4,960,000 per c.mm.; haemoglobin, 96% (Sahli); colour index, 0.97; W.B.C., 9,600 per c.mm. (polymorphs, 37%; lymphocytes, 57%; monocytes, 3%; eosinophils, 3%). A further count seven days later gave a similar result. The Paul-Bunnell reaction was positive to 1 in 16 only. A radiograph of the chest revealed nothing abnormal. The urine was normal; there were no bromides or iodine, and no darkening on standing. The Kahn test was negative. The blister fluid was sterile on culture; cytology: 3% polymorphs, 96% lymphocytes, and 1% eosinophils.

A small area of skin on the back of the hand was rubbed firmly and a blister formed in 18 hours.

COMMENT

Differential Diagnosis.—Apart from many easily excluded bullous diseases, there are a few which can give trouble in differentiation. These, with the main points of difference, are: (1) *Pemphigus*:—The health deteriorates, and the patient with well-developed pemphigus is usually an ill person; widespread and not confined to traumatic areas. (2) *Impetigo bullosum*:—Typical lesions elsewhere and presence of infection. (3) *Iodism* and *bromism*:—Test urine. (4) *Syphilis*:—History and positive



The patient's hand on admission. (Photograph by courtesy of the Fleet Photographic Officer, Malta.)

Kahn reaction. (5) *Syringomyelia*:—No other confirmatory signs. (6) *Dermatitis herpetiformis*:—Polymorphism and itching.

Treatment.—Arsenic in various forms is recommended, but it has had no effect in this case. Ultra-violet light is also said to be of use, but, in the main, treatment must be symptomatic until the cause of this disorder is discovered. It is perhaps notable that the first attack in this case subsided after six weeks without any other than protective treatment.

I am indebted to Surgeon Rear-Admiral Brownfield for permission to publish this case.

B. S. LEWIS, D.S.C., M.R.C.S., L.R.C.P.,
Surgeon Commander, Royal Navy.

Speaking at the annual general meeting of the Industrial Welfare Society on Nov. 25, 1947, Lord Trent said that there had been a considerable increase in membership. Requests for information about personnel policy poured into headquarters all the year round, and more than 2,500 such inquiries had been dealt with. During the year some 715 firms had been visited. Specialist advice was given on such subjects as education and training schemes, canteen planning, joint consultative machinery, the organization of personnel departments, and many others.

DERMATOLOGY

H. HALDIN-DAVIS.

SEROLOGY

G. S. WILSON.

Our colleagues in the U.S.A. are tackling with characteristic energy and thoroughness the national aspect of a world-wide problem—namely, how to provide a complete medical service for all who need it. The New York Academy of Medicine set up a committee whose reference is "to review the nature, quality, and direction of the economic and social changes that are taking place; to define how these are likely to affect medicine; and to determine how the best elements in medicine may be preserved embodied

It was obvious that in recent years there has been in the U.S.A. a great extension of State and Local activity in this field and that one of the first requirements of the committee was to know how far and in what ways this tendency had evolved. This book, fathered by the Government, Dr. Lund and written by Dr. Bernhard Stern, formerly at the University of Columbia, seems to supply the need very adequately.

Dr. Stern in a preface says that practically all government provision of medical care stems from the original local commitment to responsibility for the care of the sick poor. Dr. Stern goes on to trace it from the ground upwards. Many of the problems dealt with are familiar to us, but we have been impressed by one of the toughest which is inherent in the federal system of government in an immense country. The federal States are shown to be jealous of Federal encroachments on their rights, and in their turn find similar jealousies in other community authorities. This attitude has led to great differences in the amount and quality of medical services provided communally. Though Dr. Stern does not directly say so, it seems probable that many of them will be met by increasing central financial grants, with, no doubt, increasing central direction. The book is very fully documented.

ALFRED COX.

VIENNESE TWILIGHT

The Art of Healing. By Bernard Aschner, M.D. (Pp. 336, 2s. 6d.) London: Research Books, Ltd., 1947.

This book is written by a gynaecologist who taught "medicine" at the University of Vienna from 1918 to 1938 and who is said to have written several medical textbooks in explanation of the methods used by himself in the treatment of disease. It is now dignified by the title of "Constitutional Therapy." The methods include bleeding, cupping, and leeches as a means of eliminating various toxins (menstruation is highly commended for the same reason, which makes the male patient feel for the first time that he may have missed something after all, emesis as a treatment for schizophrenia, and the employment of many drugs long since excluded from orthodox medicine by reason of their pharmacological inertness. This system of "Constitutional Therapy" should not be confused with that described in the excellent book by Julius Bauer, another physician from Vienna, entitled *Constitution and Diagnosis*, a medical philosophy of a very different order.

The author supports his claims by a series of dogmatic statements whose refutation would occupy a regiment of research workers for a lifetime. He quotes, with disapproval, the retort of a scientist to whom he was explaining the importance of the colour of hair, eyes, and skin in assessing constitution: "You are quite right. Unfortunately I still have another twenty years of cranial measurement to do, and then perhaps I shall find a cure for the problem of complexion." Dr. Aschner has preferred what Alroth Wright used to call the *salus empiricus* and has no doubt already received his reward, but he cannot hope to succeed in his avowed aim "to re-establish fully the partially shattered confidence of the public in scientific medicine." British physicians see more clearly than the author the limitations of present-day therapy—its mechanism, its preoccupation with the end-results of disease processes, its failure to consider the whole man—but that does not mean that we wish to return with him to the mediæval mess of leeches, purges, emetics, and clysters from which we have just painfully emerged.

D. V. HUBBLE.

As Rhine and Carington have shown, it is possible to write dispassionately about extra-sensory perception, telepathy, precognition, and similar subjects. These workers and Dr. Soal have accumulated valuable experimental data under rigid laboratory conditions. It is a pity that Mr. G. N. M. Tyrrell has not found more space in *The Personality of Man: New Facts and their Significance* (Pelican Books, Harmondsworth, 1s.) to discuss work of this kind; he makes good the deficiency by an abundance of material of a more anecdotal and dramatic nature. His book is frankly polemic. He has a bone to pick with the scientific critics, whose attitude he attributes to "a quite primitive psychological foundation"; and he underestimates the force of their objections. It is to be feared that his aggressive partisanship will come between him and the inquiring reader.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

The Transactions of the Hunterian Society. Vol. V. Edited by Mr. A. E. Mortimer Woolf. (Pp. 119. No price.) London: Metropolis Press. 1946-7.

Includes Hunterian Oration on "Literary Surgeons," by Zachary Cope, a discussion on "Flatulence," opened by Geoffrey Evans, and a discussion on "Sprains and Strains," opened by Sir R. Watson-Jones.

The Medical Annual, 1947. 65th Year. Edited by Sir Henry Tidy, K.B.E., M.A., M.D., F.R.C.P., and A. Rendle Short, M.D., B.S., B.Sc., F.R.C.S. (Pp. 441. 25s.) Bristol: John Wright and Sons, Ltd.; London: Simpkin Marshall (1941), Ltd.

Recent advances in medical and surgical treatment.

A Memory of Solferino. By J. Henry Dunant. (Pp. 64. 6s.) London: Cassell and Co., Ltd. 1947.

A short story of battle by the founder of the Red Cross

Gifford's Textbook of Ophthalmology. By Francis H. Adler, M.D. 4th ed. Illustrated. (Pp. 512. 30s.) London and Philadelphia: W. B. Saunders Company.

Intended particularly for the medical student and general physician.

Developmental Diagnosis. By Arnold Gesell, M.D., and Catharine S. Amatruda, M.D. 2nd ed. (Pp. 496. 32s. 6d.) London: Hamish Hamilton Medical Books. 1947.

An account of abnormalities of physical and mental development.

Some Lessons of War-time Psychiatry. By Kenneth Soddy, M.D., D.P.M. (Pp. 23. 1s.) London: National Association for Mental Health.

Makes suggestions about a psychiatric service in the light of experience gained during the war.

The Story of St. Thomas's, 1106-1947. By Charles Graves. (Pp. 72. 8s. 6d.) London: Adprint, Ltd. 1947.

A short illustrated history of the famous teaching hospital.

Johannes Fibiger. By Knud Secher. (Pp. 206. £1.) London: H. K. Lewis. 1947.

A biography stressing particularly Fibiger's contributions to cancer research. In English.

Lectures on the Liver and its Diseases. By H. P. Himsworth, M.D., F.R.C.P. (Pp. 204. 18s. 6d.) Oxford: Blackwell Scientific Publications. 1947.

An account of recent knowledge about the liver, its functions and disorders.

Hipertensión Arterial y Tiocianato de Potasio. By Alfredo Claudio Carrera. (Pp. 434. No price.) Buenos Aires: Estudio Clínico y Experimental. 1946.

A monograph on hypertension and its treatment by potassium thiocyanate.

The Internal Fixation of Fractures. By C. S. Venable, M.D., M.S., F.A.C.S., and W. G. Stuck, M.D., M.S., F.A.C.S. (Pp. 237. 30s.) Oxford: Blackwell Scientific Publications. 1947.

An account of the history and modern methods of fracture fixation by means of internal appliances.

A Hand-Book of Ocular Therapeutics. By the late Sanford R. Gifford, M.D., F.A.C.S. Revised by D. Vail, M.D., D.O., F.A.C.S. 4th ed. (Pp. 336. 25s.) London: Henry Kimpton. 1947.

A manual of therapeutics in ophthalmology. The chapter on disorders of the muscular apparatus has been removed.

London Children in War-time Oxford. By a Barnett House Study Group. (Pp. 113. 6s.) London: Geoffrey Cumberlege. 1947.

A survey of the effects of wartime evacuation on children.

The 1947 Year Book of General Therapeutics. Edited by Oscar W. Bethea, Ph.M., M.D., F.A.C.P. (Pp. 455. 21s.) London: H. K. Lewis.

A summarized account of recent advances.

Basic Mental Concepts. By Edward Glover, M.D. (Pp. 32. 3s. 6d.) London: Imago Publishing Co. 1947.

An account of the basic concepts of psycho-analysis.

BRITISH MEDICAL JOURNAL

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SATURDAY JANUARY 17 1948

WHY BE FEARFUL?

The Representative Body last week said No with a determination. Some doctors were naturally anxious about the result of saying No. The fear of the paymaster was one of them—a fear, no doubt, that Mr. Bevan would mean in his estimate of the chances of successful opposition to the profession to his Health Service Act in the next few months.

But the power of the purse—or will have if the Act is passed—decide to enter his Service on July 5. But, at the Representative Meeting last week, we heard one thing to fear—"and that is that the profession does not know its own mind." It is for medical men to state the mind of the medical profession in answering the questions on the plebiscite sent out on Jan. 31. Opposition to the Act requires a sufficient majority which includes 13,000 practitioners votes No.

In its present form the Act is the first and irrevocable step towards a whole-time State Medical Service (not Health Service). If doctors are convinced that this is a step that they hold fast to their centuries-old detestation of State medicine—then the Noes will have it. The Representative Body have given the lead. It will abide by the decision of the majority as they vote.

Men and women must vote on the merits of the case. If they believe their case to be good and just, their duty is to vote accordingly. Montgomery knew it was not his army that would defeat our Army at El Alamein—not the numerical superiority of the enemy. He forbade his officers to use phrases such as "It's bound to come." His first duty was to eliminate fear and the use of fearful slogans. And he won his battle. If the plebiscite results in the necessary volume of Noes we shall win our case with the Minister of Health if we succeed in banishing fear and move forward with the strength of conviction.

What are the fears that men have? Doctors are not a class. They do not form a class whose money is inherited by heredity. They work hard—probably longer hours than any other section of the community. They are subject to great strain and stress. The love of their work makes them more devoted to their work than any other group of workers would be. They are taught and to be taught and to be taught and to be taught. In Britain this freedom of general practices and of the medical profession. This freedom is now being threatened. The medical man most fear is this freedom. The medical man most fear is this freedom.

Mr. Bevan thinks he has a trump card in offering compensation to those general practitioners who do not enter the Service on July 5. Is he right? The Association will advise general practitioners not to enter the Service only if the number who say No is sufficient to defeat Mr. Bevan. This number must be large enough on Jan. 31 and remain large enough until July 5. Faced by what will probably be overwhelming opposition Mr. Bevan will choose between postponing the appointed day or adhering to it. If he postpones it the compensation and other issues will also be postponed, and National Health Insurance will continue. If he does not postpone it he will be unable to operate his Service because he will not have the man-power. Again, he is defeated. He must in that case come to terms with the medical profession, terms which will have to be acceptable to those who have voted No. The strength of the profession will lie in the size of the majority against the Act.

The doctor who votes No may temporarily suffer because a doctor in the next street votes Yes. The B.M.A. has substantial funds at its disposal to tide him over this difficulty. In any case the Yes man is unlikely to be a superman, nor even, may it be said, a better doctor. A doctor gives his services and has a right to be paid for them. Mr. Bevan's Health Service is not an insurance scheme, as National Health Insurance is. The man between 18 and 65 who pays his social insurance contribution of 5s. a week is providing only 10d. a week to the Health Service. And nearly half the population of Britain will not ever be paying this.

Those who fear that some men may change their No into Yes between February and July may be assured by the knowledge that the B.M.A. will know exactly to what extent this is occurring even if it occurs at all. The B.M.A. will persist in opposition only if the necessary majority is maintained. If the Noes are in the sufficient majority medical men will be asked to form small security groups in each division. They will be asked to enter into bonds with one another, and thus keep firm their Noes.

Consultants and specialists have little or nothing to fear. They will not be able to sign contracts with hospitals, because such contracts will not be ready. In any event the hospitals cannot do without them. Those who sincerely believe that the Act in its present form is directed towards the establishment of State medicine are asked to sign No. Hospital residents—those temporarily in whole-time employment—are asked not to enter the Service as general practitioners or consultants but to carry on with their work.

Doctors have been criticized for being "emotional" over the present conflict. It was the strength of emotion that held this country firm between 1939-45. Emotion, if we are to believe modern psychology, is the driving force behind reason and action. Opposition to State medicine certainly has a basis in reason, but perhaps a much sounder basis in emotion. Five hundred years ago Medicine had to free itself from the dictatorship of authority—the authority of Galen. This freedom was won by men who thought fearlessly. To-day we are faced with that recurring historical phenomenon—the dictatorship of the State. We can defeat this in Medicine if we think and fight fearlessly, and we need not be ashamed of emotion if we avoid that perversion of emotion called hysteria.

STREPTOMYCIN IN TUBERCULOSIS

Streptomycin is so far the only antibiotic of many studied since the discovery of penicillin to take an assured place among existing chemotherapeutic agents. Experience of its use in this country is so far limited, although it is now a year since the Medical Research Council allocated supplies to a limited number of hospitals with the object of studying its effect both in certain forms of tuberculosis and in other infections specially susceptible to it. The scheme for the treatment of military and meningeal forms of tubercle is has now been extended by the Ministry of Health, and many such cases have been or are being treated, but it is too early to assess results in terms of ultimate prognosis. In the U.S.A., on the other hand, therapeutic studies were begun two years earlier and have since been extended on a scale which our present supplies do not permit. The accumulated experience of American workers is thus a valuable, and indeed almost our only, guide to the clinical use of streptomycin. A leading part in the study of the treatment of tuberculosis has been taken by W. H. Feldman and H. C. Hinshaw, of the Mayo Clinic, the former from the experimental and the latter from the clinical point of view. It is our privilege to publish to-day a paper in which they give a general account of this work and an assessment of its results. Their conclusions are the up-to-date outcome of extensive experience, and will command wide attention, even though some of the practical lessons cannot yet be put into effect.

There are two main facts about the acute forms of the disease which we are now treating ourselves. One is that in tuberculous meningitis and military tuberculosis early treatment brings about a remission in 50% of cases; the second that such remissions have been observed to last for over two years. On the other hand, if a recurrence takes place, and if the tubercle bacillus has acquired resistance to the drug, further treatment is useless. It will be interesting to have more details of American experience in the treatment of tuberculous meningitis to compare with the remarkable series described by R. Dôré and his colleagues in the *Journal* a few weeks ago.¹ Within the compass of a general survey it was naturally not possible to embody a discussion of the indications for streptomycin treatment in pulmonary form of the disease: these have been defined elsewhere. Further experience has confirmed the earlier conclusion that actively progressive disease is often at least temporarily arrested, with obvious and immediate benefit. Ulcerative lesions of the air passages, notably laryngitis but including similar lesions of the trachea and bronchi and of the pharynx and tongue, appear to respond well and regularly, and treatment is considered to be clearly indicated even though its object may be only palliative. Symptomatic relief can also be obtained in tuberculous enteritis, and here again administration is justified even without hope of effect on the ultimate prognosis. In "surgical" forms of tuberculosis it has also been found that the drug can play a valuable part. As might perhaps be expected by analogy with the action of penicillin, it is without any radical effect on established disease of bones and joints. Unlike penicillin, it is incapable of sterilizing large collections of pus; it has previously been pointed out that this is probably due

to the great diminution in activity of streptomycin in an acid medium. On the other hand, with the protection afforded by the drug, such collections can now be drained, a procedure which otherwise is usually inadvisable. As an aid to surgical treatment in general, and particularly radical thoracic surgery, streptomycin is likely to prove of great value. Like other forms of chemotherapy, it is seen at its best when combined with appropriate surgical treatment rather than when relied on alone.

There is another side to this picture which is less encouraging; indeed, if one looks to the ultimate future of streptomycin treatment it can encourage nothing but frank pessimism. The unexampled degree and rapidity of bacterial habituation to streptomycin were recently discussed in these columns;² unfortunately *Mycobacterium tuberculosis* is no exception, although its acquisition of resistance, like everything else it does, seems to proceed in a more leisurely fashion. It has been shown in connexion with other species, notably *H. influenzae*,³ that large bacterial populations contain a small minority of naturally resistant cells, the exclusive multiplication of which during exposure to streptomycin, whether *in vivo* or *in vitro*, is evidently the source of the resistant populations produced. It appears from the studies of Marjorie M. Pyle⁴ that this is also true of the tubercle bacillus. Her method was to make quantitative cultures of the sputum of patients before and during streptomycin treatment for pulmonary tuberculosis, using sealed plates of an egg medium containing 9 different concentrations of streptomycin, from 1 to 1,000 micrograms per ml. In 7 out of 8 cases a few colonies (representing one in many thousands of the numbers on normal medium) were obtained on media containing 5 or 10 micrograms per ml. before treatment began. During a course of treatment occupying several months there was in 5 of the cases a steady increase in the proportion of resistant organisms and in the degree of their resistance; in one case of which the findings are given in full there were innumerable colonies resistant to 1,000 micrograms per ml. after 12 weeks. In two patients no increase in the resistance of the organism was observed, and in one the increase was only slight. These observations show incidentally that estimations of sensitivity performed with cultures derived from a single colony are of very limited value; we are dealing here with a mixed population in which a wide range of degrees of sensitivity may be represented. But their main lesson is that in perhaps a majority of patients the drug has only a limited time in which to do what good it can: thereafter that strain of tubercle bacillus will be quite unaffected by it. Presumably its resistance will continue in a further host, and patients uncured by this treatment should consequently be looked upon as peculiarly dangerous sources of infection.

Much as we may learn from clinical experience in the U.S.A. there is ample scope for further study, particularly in relation to systems of dosage and the theory of streptomycin action. The tendency has been to reduce both the total dose and the number of daily doses given, a common practice now being to give only two daily. This policy is supported by Feldman's observations in guinea-pigs, when still longer intervals or even treatment during alternate weeks did not appear to impair therapeutic effect. The efficacy of such intermittent attack on the tubercle bacillus seems inconsistent with the idea of a predominantly bac-

¹ *British Medical Journal*, 1947, 2, 897.

² *Ibid.*, 1948, 1, 20.

³ *J. exp. Med.*, 1947, 85, 329, 607.

the maintenance of an adequate level in the blood and the continuous administration should produce better results. Even though penicillin is known to have a bactericidal as well as a bacteriostatic effect, great ingenuity is required in devising methods of obtaining a continuous effect from each dose, on the well-founded assumption that continuous action at the site of infection is superior to intermittent. If this principle is applicable to penicillin but inapplicable to streptomycin we have yet to find the reason for the difference. Evidently there is, and the possibilities of experimental study which may throw some light on it have not been exhausted. In the meantime the present system of administration need not be regarded as final, and users of streptomycin in this country have the opportunity of trying to better it. The suggestion by Debré of a week's intensive treatment followed by a smaller maintenance dose is rational and worthy of further study. Perhaps the most difficult problem of all is when to stop treatment; in view of the lasting effect obtained while the bacillus gains resistance, and of our exiguous supplies of the drug, one conclusion we might well make to this study is to observe the effects of a shorter course.

RICKETS IN PREMATURE BABIES

Immaturity at birth is the chief cause of death during the first month of life. According to the Registrar-General's *Annual Report of England and Wales for 1945* there were 1,146 deaths certified as due to premature birth out of 1,146 deaths ascribed to "diseases peculiar to infants of life". Sometimes the immature infant dies because it is functionally incapable of adjusting itself to the conditions of post-natal life, perhaps more often an accident to him such as birth injury, asphyxia, or infection.

The prospects of a premature baby's survival have improved considerably during the present century. It is now possible, with adequate co-operation between general practitioners, paediatricians, and administrative medical officers, and with the necessary financial resources, a viable life may be saved and guided to a normal childhood. The practical possibilities of this work will be apparent when it is recalled that about 45,000 to 50,000 premature babies are born each year in England and Wales. These infants are prone to anaemia, rickets and other nutritional disorders, infections, delayed intellectual and physical development, and abnormal psychological reactions. A recent paper by Gert v. Sydow¹ presents a study covering a period of six years of the part played by vitamin D and minerals in the development of rickets in premature babies. The most important practical aspects of his work are the ground the diagnosis of rickets and the part of human milk in its prevention. The report of the British Paediatric Association on the incidence of rickets has drawn attention to the difficulties of clinical and radiological diagnosis. Gert v. Sydow's study is especially valuable in correlation of the radiological findings with the state of the blood. A series of 236 premature babies, born between 1939 and 1944, were under 2,000 g. (approximately 4 lb.) at birth and compared with 292 normal full-term babies. The blood was examined on estimations of calcium, phosphorus, and alkaline phosphorus, calcium,

and total protein and radiological examinations of the left wrist, and the results were studied by careful statistical methods. Metaphyseal decalcification was the earliest radiological change observed in infants subsequently showing signs of rickets. It was noted in more than half the premature infants after the first month of life. Fringing and cortical spurs, seen in the first half of the second month, are the earliest of the definite radiological changes. Cupping, spreading, and periosteal proliferation, to which von Chiari and Malmberg² had previously drawn attention, were found only infrequently and were then coincident with or subsequent to calcification at the epiphyseal line, which v. Sydow regards as a sign of healing but not of health. The author makes no reference to symptoms or clinical signs and perhaps this should be taken to mean that there were none. The point is important and should be settled authoritatively.

The premature baby is in special need of vitamin D because its rate of growth is rapid, fat absorption from the intestinal tract is poor, and its calcium stores are low. Human milk, which has always occupied pride of place as the ideal food for all newly born babies, and especially for those born prematurely, is relatively poor in calcium, phosphorus, and protein when compared with cow's milk. It has been suggested therefore that human milk should not be given to immature babies unless supplemented by additional calcium, phosphorus, and vitamin D.³ To study this question v. Sydow divided the patients into groups which were offered (a) human milk without supplements; (b) human milk and large doses of vitamin D; (c) cow's milk alone; (d) cow's milk and large doses of vitamin D; and (e) human milk and various additional calcium and phosphorus preparations. The following conclusions were drawn: human milk may not provide the premature infant with enough phosphorus, though it gives a fairly adequate supply of calcium; the calcium will be insufficiently absorbed unless vitamin D is also given. When cow's milk is used enough phosphorus but not enough calcium will be absorbed unless vitamin D is given.

TRAUMATIC AMNESIA

Transient loss of consciousness without physical after-effects is the common result of a head injury. The recovery of consciousness does not necessarily mean the full return of all cerebral functions. In the acute phase the cerebral paralysis involves motor, sensory, reflex, and mental functions. As is usual in the nervous system, recovery begins with the simplest mechanisms. Memory is the last function to return, and the total duration of the lapse of memory from the time of the injury—the period of post-traumatic amnesia—was regarded by Russell⁴ as a measure of the severity of the injury. If the head injury is more than trivial it is not uncommon for recollection of the moment of the impact to be obliterated, but this retrograde amnesia rarely extends appreciably into the past life of the individual. Ritchie Russell and Nathan⁵ have shown that the length of the phase of post-traumatic amnesia may indicate not only the severity of the immediate brain damage but also the future efficiency of the individual. This cerebral damage, which is entirely reversible with complete recovery in the mild cases and partial recovery in more severe cases, is not structural. In their work on experimental concussion Denny-Brown and Russell⁶ found no histological changes. They felt that the term "cerebral concussion" should be reserved for this immediate functional paralysis of the neurones. The neuronal damage is attributed to a general shake-up of the brain inside the skull produced by a change

¹ *Brain*, 1932, 55, 549.

³ *Lancet*, 1944, 1, 271.

...had any effect on the course of the disease. It is performed before or after the onset of the disease. Have recently been expressed the opinion that the relation of chorea to acute rheumatism he has followed the course of the disease in children and has found no significant difference from the course of the disease in children. He found that chorea must be regarded as a complication of rheumatic fever.

The incidence and severity of acute rheumatism have declined during the last 40 years. It is apt to attribute to the general rise in the incidence of the disease in Sweden, on the other hand, the change in the incidence of the disease in 1922 to 1931, though he did note a significant change during that period. While admitting that this may be due to an alteration of the "genus" of the disease, he considers that the real cause is to be found in the more efficient treatment as a result of earlier diagnosis and longer rest in bed and care. Thus, while in Sweden the natural history of acute rheumatism is broadly similar to that in Britain and the United States, there are interesting differences of detail which may be explained similarly in different countries with different climatic and social conditions.

NEEDLE BIOPSY

In order to obtain pathological material for histological examination, the means short of open operation is a needle biopsy, and established techniques are already available. From the puncture of the bone-marrow, the liver, and the spleen, Martin and E. B. Ellis¹ applied a technique to the biopsy of tumours, and other organs. They have reported favourably on their method. Ellis has now performed some hundreds of needle biopsies, and has obtained approximately the same results in tumours of glands, bones, and abdominal viscera. He uses the term "needle biopsy" to describe the insertion of a needle into a tumour, and the withdrawal of neoplastic material. "Drill biopsy" is an elaboration of the needle biopsy, a cannula being driven into the tumour by the use of a dentist's drill. This affords more delicate biopsy than needle puncture.

A correct diagnosis is necessary before starting treatment, and particularly the non-operative treatment, and there need no longer be any fear that the biopsy of a tumour hastens its spread.¹²⁻¹⁴ The biopsy of the neurofibroma are perhaps the only cases which have been clearly shown to become more malignant after partial surgical removal; to these may be added the mixed tumour of the parotid, which at present is only, if it does not undergo malignant change, a complete ablation. While the dangers of biopsy have been exaggerated in the past, there are certain cases in which they are probably greater with aspiration than with needle biopsy. Aspiration does not threaten the patient (Ellis reports only four cases in his series), but inadequacy of material may lead to faulty histological diagnosis. This is particularly true of bone sarcoma, whose variegated histology may include within a single tumour a range of mesoblastic tissue from virtually normal bone to highly anaplastic sarcoma; even open biopsy may secure from an undoubtedly malignant tumour only benign tissue.

The clinician's duty to the pathologist is to obtain at biopsy the largest possible amount of representative tissue, and this duty cannot always be discharged by an aspiration technique. It is seldom that open biopsy cannot be undertaken safely. Possibly the only clear indication for "aspiration biopsy" is in the case of a tumour so superficial, especially in the neck, that an open wound would offer a prospect of external fungation.

AMNIOTIC GRAFTS FOR BURNS OF THE EYE

Sorsby and others¹ recently described the results of treating burns of the eye by the application of amniotic-membrane grafts, and in 1946 Sorsby and Symons² published an account of their technique. The results indicate that it is a valuable method of treatment in suitable cases. Sterile, fat-free, dry amniotic membrane is used. Amnioplastin, as it is called, is supplied by the London Hospital in 1-in. (2.54-cm.) squares consisting of four layers of membrane. This is a convenient size to use if upper and lower parts of the conjunctiva are damaged, while it may be folded to half that size if only the lower part is to be treated. Conjunctival tissue is not removed, and the operation is carried out under local analgesia after preliminary treatment of the eye with penicillin drops. The dry membrane is secured by No. 0 silk sutures—inserted through each corner—and attached to the bulbar conjunctiva so as to separate it from the palpebral conjunctiva. Not more of the cornea should be covered than is necessary, and the graft is trimmed accordingly. Both eyes are bandaged for 48 hours, by which time the graft is clear and hardly visible. The sutures are removed on the third or fourth day, when the graft will have disappeared by absorption.

This simple operative procedure has been found of great benefit in limiting the after-effects of burns of the eye, especially if applied the same day as the accident, but it is also of value if used days later. It is indicated particularly in burns of the second degree. Burns of the first degree can be treated satisfactorily in other ways, and burns of the third degree—with necrosis or blackening of the conjunctiva—are better treated by excising necrosed tissue and replacing it by mucous-membrane grafts, as described by Denig and Siegel. In many cases treated by amniotic-membrane grafts the red and roughened conjunctiva became of nearly normal colour and smoothness in 48 hours, without any ulceration, as shown by absence of staining with fluorescein drops, and there was less tendency to complications affecting the cornea. In some instances where in the course of recovery from a burn there was a tendency for adhesions to form between the eye and the eyelid, the application of an amniotic membrane graft eliminated this tendency, and the result was evident in 48 hours.

Details of 30 cases are given and 28 in a previous publication referred to. Lime, sodium hydroxide, ammonia, and acids were among the substances causing the burns, which in a few cases involved the whole eye and in most cases the lower half of the eye. The results show that good vision (6/6 to 6/12) was maintained in nearly all the cases, and the description of individual cases makes it clear that this method of treating second-degree burns of the eye can produce remarkable improvement of the damaged conjunctiva in 48 hours.

¹ *Brit. J. Ophthalmol.*, 1947, 31, 409.

² *Ibid.*, 1946, 30, 217.

THE MINISTER'S REPLY EXAMINED

A POINT-BY-POINT COMMENTARY

The General of the British Medical Association has examined in detail the Minister of Health's reply to the Negotiating Committee's case. We print its analysis below.

"The task now before the profession is to strip the proposals from the essentials, to distinguish between the shadow and substance."—From the Statement by the B.M.A. Council, Dec. 18, 1947.

What does the National Health Service Act of 1946 actually say? What is the gloss which the Minister's statement puts upon the Act? The profession is advised to distinguish carefully between the two.

No Compulsion to Join?

The Minister prefixes his reply to the representations of the Negotiating Committee with some general comments couched in private law if including language and "addressed to the individual doctor," possibly in the hope of separating the individual members of the profession from those who represent them. "The doctor," he assures the profession, "can participate in the scheme or not, just as he thinks fit. There is no compulsion to join." Yet, once a free medical service available to the whole community is operating, only by State payment can the great majority of general practitioners hope to live. But there is no compulsion to join. One can stay out and starve! The Minister adds that the doctor can participate "partly so and partly not," whereas the actual choice before the doctor is to join—and to give up the ownership of his goodwill and take a basic salary—or not to join and to be unable to accept a single public patient.

Will the Doctor be a Civil Servant?

"The word 'service,'" the Minister adds, "is perhaps a misnomer," having himself included the word in the description of his Act. "The doctor is not under orders," he says, though perhaps he should have said "not yet under orders." "The doctor is not employed," the Minister continues, whereas the Oxford Dictionary defines "employ" as "to use the service of." "He is not a Civil Servant," the Minister adds. Worse—he will be under the administrative control of the Civil Servant, medical and lay. Nor will he be a whole-time officer; he will be a part-time salaried officer; and the size of the salary element of his remuneration can be changed at any time by the Minister by regulation.

Then the Minister passes, with some alacrity, to the subject of remuneration. If a doctor takes on 4,000 potential patients under this scheme his gross income from "public funds," the Minister states, would be £3,300. How many doctors will have 4,000 persons on their lists? Each doctor can answer this for himself by dividing the population of his area by the number of general practitioners practising there. To-day the general maximum for insured persons is 2,500, and the average number on doctors' lists is about 1,000. It may be expected that under the new Service the average number of persons on a doctor's list will be just over 2,000. This average will decrease as the number of general practitioners increases. Remuneration in this case will be about £1,816. This is, perhaps, a better illustration of what the remuneration is likely to be. Deducting only 33½% for practice expenses, these figures become £2,200 for a maximum list and about £1,200 for an average list.

How Much Work Will it Mean?

The burden of a full list will be very considerable. The effect of introducing a free-at-the-time service is of course an increase in the number of items of service. National Health Insurance trebled the number of items of service. If the annual rate of items of service per person at risk remains as low as the present figure for insured persons, a list of 4,000 persons will need more than 20,000 items of service a year. This means, allowing a fortnight's holiday, just over 400 items of service

a week. At a six-day week this means about 70 items of service a day. Of course these will not be evenly distributed over the year. It will probably mean over 100 items a day for twenty weeks of the year and between 60 and 70 items a day for thirty weeks.

"In addition," the Minister goes on, "he may have private fees from other patients; other public or private paid appointments; additional fees for undertaking maternity work; mileage allowances, allowances for training assistants, and other extras." What he does not say is that the post of district medical officer will disappear; the post of public vaccinator will go; and the posts of Post Office medical officer and police surgeon will probably undergo contraction and eventual disappearance. Nor does the Minister mention that mileage allowances are no more than payments for travelling expenses and time spent—the greater the mileage allowance the smaller the doctor's list; that for those who undertake midwifery under the Service it will be well-nigh impossible to take on a full list; that in most areas private practice will be virtually non-existent. Yet the Minister says quite hopefully that in addition to the remuneration for a full list there will be remuneration from those other sources! "'O come into my parlour,' said the spider to the fly!"

In his section on "distribution" the Minister assures the profession that consent will be refused only in those few areas where there is clearly no need for additional public practice. If so, why create an administrative mountain to bring forth an obedient mouse? If the areas are so few, then why is he proposing a vast scheme of licensing of all incoming doctors before they can practise in the public service anywhere? "No doctor can be directed," the Minister says. But any doctor can be prevented from entering the public service in any area.

No Attempt to Justify the Basic Salary

A remarkable feature of this preliminary piece of Ministerial "public relations" is that there is not a word in it to justify the decision to make a basic salary an element in the remuneration of every general practitioner. First the basic salary was to be large; then it was to be small; then the Minister said that it was something "he had had in mind," implying that it was no longer "in mind." Now it is clear what he has had "in mind" throughout. Of course, a good case can be made out for a guaranteed minimum for a young practitioner in certain circumstances, as for the payment of additional inducements in specially difficult areas. But for the universal basic salary no arguments whatever are put forward. It is not surprising that the profession regards it as the first step to a State salaried service.

Some of these preliminary paragraphs are too good to be true, too rosy to be even plausible. Beneath all the Ministerial varnish the Act still stands, and in proceeding to examine the Minister's memorandum his assurances must be related to the Act as it is now worded. If there is one thing that is plain it is the Minister's blank refusal to amend the Act in any shape or form.

THE MINISTER'S STATEMENT AND THE ASSOCIATION'S COMMENTS

Points from the Minister's statement (in *italics*) are given below with the Association's comments.

The Minister states that he has never excluded—and does not now exclude—the possibility of amending legislation being found desirable. The discussions have not convinced him of any sufficient reason to go to Parliament now (Para. 3).

For nearly a year discussions have been proceeding on principle and detail, yet the Minister remains unconvinced that there is the slightest case for amending the Act in any particular or any detail. What he alleges will be easy for him to do, once the profession is in the Service, he cannot or will not do now.

The Minister finds no conflict between the seven general principles of the profession and the Act (Para. 5).

Let us examine the Act in relation to just two of the principles.

Principle 1: The medical profession is, in the public interest, opposed to any form of service which leads

the profession as a whole be-
cause of the interests of the State or local

general practitioners receiving part-
of the funds of the State. He can at any
time convert the proportion of remuneration
which he receives, convert it entirely into
a salary, if there is no conflict.

He should, like other workers, be free
to choose the form, place, and type of work they prefer
in any other direction.

General practitioners will not be free to choose
their work. They must first get permission from a
committee—even sons and daughters who desire
to follow in practice!

Distribution

It is difficult to justify the machinery
of the Medical Practices Committee. *He says that no doctor should have the right
to do remunerated work, implying throughout
that the level is one of public finance.*

General practitioners are remunerated by capitation fee, the individual
fee paid only in so far as the people of the area
are concerned. His success or failure would be
in the hands of the people. The Government's total commit-
ment to the service, and the choice of patients would
be the distribution of the public remuneration.

The Minister argues that the essence of the difference
between general practitioners are concerned is just that they
are paid by public funds, instead of by private fee. Now
because the doctor is paid by public funds he
must be free to practice. One begins to see a
universal basic salary. The Minister insists on
a basic salary, where it is unnecessary and then argues that
if you give a basic salary to everyone, then everyone
must obtain permission before entering an area for
practice.

He says that the Medical Practices Committee
is not to be taken to be efficient, saying
that it is a committee which will keep itself informed
of the public practice or establishments.

He says that even general practitioner who seeks
to practice in any area must first get permission
from the Medical Practices Committee, in every case
of the doctor is needed. The idea that com-
mittees and I think even the Minister with the object
of the committee remain ignorant of the whole
of the practice in every part of the country is
absurd.

He refers to the claim of a doctor to be an
owner of a practice, but says that the lack of acquaintance with the law
of the doctor is a mistake, and is representative
of the whole of the profession. This can be a "right" to
be appointed to a practice? When
the doctor becomes entitled to a very modest
remuneration in the practice and its maintenance ends.
He says that to prove that a system of universal license
is the only way to deal with what he now admits are a few
"bad doctors."

He says that extra inducement, coupled with the almost
total control of the Minister under Section 43 of the
Act, provides the Minister with
the means to deal with the situation.

He says that a doctor's area of practice, the
idea of a boundary line to stop
the Medical Practices Committee seem to think
that the Committee will be asked to make
a decision on the carrying on
of the practice in any part of the area.

He says that the Act "The Medical Prac-
tices Committee" will be asked to make
a decision on the carrying on
of the practice in any part of the area.

concerned is already adequate . . . the Committee may grant
an application subject to conditions *excluding the provision
of general medical services* by the applicant in such part or
parts of the area of the Executive Council as the Committee
may specify."

It will be the duty of the Medical Practices Committee to
carry out the Act, not the Minister's reply.

Ownership of Goodwill

The Minister has a closed mind on the subject of the pur-
chase by the State of the goodwill of the general practices of
those who enter the Service.

Existing Partnership Agreements

Here lies the acid test of the Minister's intentions on the
subject of amendment. Under Section 35 (4) of the Act there
are described three kinds of transaction which are deemed to
involve sale and purchase of goodwill and so to be illegal. The
first two refer to circumstances in which something is paid by
one partner to another for considerations other than work
done; the third where a partner receives more than his services
are worth. There then follows a so-called proviso which ex-
cludes certain transactions from the definition. The Minister
says that this proviso excludes *all* existing partnership agree-
ments so that they remain in full operation after the appointed
day. Our legal advisers say that the proviso excludes only
some partnership agreements—those where a partner is paid
more than the value of the services he renders.

Certainly Mr. Key, then Parliamentary Secretary to the
Ministry of Health, did not know what the proviso meant, for
all he said in moving its addition was as follows: "This
Amendment applies to assistant agreements. It is the same
principle as that applying to partnerships."

At first sight this might seem to be a mere legal quibble. But
our legal advisers regard the matter as one of great importance,
and Sir Cyril Radcliffe, K.C., and Mr. J. H. Stamp, having had
long experience in the interpreting of legislation, are not men
to use words lightly. They write as follows: "If Sections 35
and 36 are allowed to become operative without amendment
the profession and the Ministry alike will labour under em-
barrassing uncertainty on matters of great importance until the
debatable matters have been finally adjudicated upon, and in
the meantime steps may have been taken on the footing of a
construction which is ultimately found erroneous with unfor-
tunate consequences to all concerned. In our opinion it would
involve a real hardship to the practitioners concerned if they
were required to submit to such uncertainty when it has been
clearly foreseen and can be removed by an amending Act."

The Minister makes no attempt to refute the arguments put
forward by our legal advisers, merely stating that if he is found
to be wrong after the appointed day he will introduce legislation
to make his interpretation the right one.

He expects the members of partnerships to decide whether
or not to enter the Service without knowing whether in fact
their rights and obligations in their partnership deeds are nullified
by the Act. He leaves the whole position vague and ambiguous.
Soon a dispute will arise and it will be left to individual prac-
titioners to incur the expense of taking the case to the House of
Lords. If the Minister's interpretation is found to be wrong
and he, or his successor, carries out his promise of introducing
amending legislation, the position will be clarified for the
future, but nothing can be done to rectify the steps partners
have already taken in fulfilment of their agreements.

Such ambiguity having been demonstrated, surely the pro-
fession is entitled to have it removed before individuals are
called upon to decide whether or not to enter the Service.

The position is even worse, for our legal advisers give as
their opinion that *the Minister's own interpretation is incon-
sistent with the Act*. For example, the Act requires him to pay
interest annually on the compensation due to individuals and,
for reasons Counsel give in full in their opinion, the Minister
will be unable to carry out this requirement. The Minister
replies by claiming that his solution is equitable. But the
Negotiating Committee raised the point not as one of *equity* but
as one of *law*.

Again, the Minister's own interpretation means that where
a practitioner in the Service is in partnership with a practitioner

not in the Service the former may be called upon—under the partnership agreement—to purchase a private practice in respect of which no compensation is provided under the Act; the latter may be called upon to buy a public practice the income of which he cannot receive without joining the Service, so sacrificing the capital value of his own share and the one he has led to buy. The compensation which the public practice would otherwise have attracted is forfeited to the Treasury. The Minister's solution is ingenious. To the extent to which the practitioner not in the Service but called upon to buy a public practice is entitled of money which to him is a complete loss, to that extent there is money left in the compensation "left" to pay compensation which is not authorized by the Act. The Minister converts the proceeds of expropriation to relieve him of the necessity for amending the Act so as to pay compensation not provided for by the Act in its present form.

The Doctor's House

The Minister asserts the profession that a doctor's widow who puts up her home for auction, whoever may buy it, is not committing an offence.

His statement needs to be compared with the words of the Act, which defines an offence, without excluding the procedure of the auction sale, the selling of a house to an incoming practitioner at a price "substantially in excess of the consideration which might reasonably have been expected if the premises had not been used for the purposes of a medical practice" (Section 35 (3)).

When it suits him the Minister argues that the Act is for the Courts and not for him to interpret. But when he is seeking to apply professional fears he does not hesitate to produce an excellent interpretation of the Act even if a simple straightforward reading of the Act proves him to be wrong!

Remuneration

Whatever the form of Service, the range of remuneration of general practitioners is governed by the report of the Spens Committee, which the Minister has accepted in principle. For the profession to stand out for amendment of the Act will not affect the range of general practitioner remuneration.

An examination of the Minister's proposals reveals some interesting features:

The central pool will receive 18s. in respect of 95% of the population for two years only. Therefore, remuneration should be examined on the 95% assumption.

The more general practitioners who enter the Service as principals the greater the number of basic salaries to be paid and the less the capitation fee.

Conversely, the smaller the number of general practitioners who join the Service, the larger the capitation fee.

Nothing has been heard of the tapering capitation fee since the publication of the White Paper. It now returns in a new form. The remuneration for the first 1,000 patients works out at a capitation fee of 21s. 2d., the remuneration for every additional person on the list being 15s. 2d. if 17,900 principals join the Service, 17s. 3d. if 17,300 join, 15s. 4d. if 17,000 join, and so on. It will be seen from the figures given in para. 27 of the Minister's reply that the effect of the basic salary is to reduce the average payment per patient from 21s. 2d. for 1,000 patients to 16s. 8d. for a list of 4,000 patients. The basic salary of £300 a year will be paid to every general practitioner entering the Service, "subject to conditions to ensure that some reasonable minimum number of patients is accepted by such doctors within a reasonable period." The basic salary, it seems, is to be paid on the assumption that those who need it should not need it for long. The great majority of practitioners do not need it at all. The only argument ever used by a member of the Government in support of a universal basic salary is the one used by the Lord Chancellor in the House of Lords when he argued that the salary method was needed for the control of certification.

Comparison with Spens

Does the proposed remuneration square with the recommendations of the Spens Committee? That Committee

recommended in net figures and in terms of 1939 money values the following spread of professional remuneration:

75% of general practitioners should obtain over £1,000 per annum.
50% of general practitioners should obtain £1,300 per annum or over.
25% of general practitioners should obtain over £1,600 per annum.
Slightly less than 10% of general practitioners should obtain over £2,000 per annum.
A few general practitioners should obtain at least £2,500 per annum.

The betterment factor used by the Minister in the recent increase of the current insurance capitation fee to bring 1939 values up to current values was 30%. If this low figure is applied to the Spens recommendations we get:

75% of general practitioners should obtain over £1,300 per annum.
50% of general practitioners should obtain £1,690 per annum or over.
25% of general practitioners should obtain over £2,080 per annum.
Slightly less than 10% of general practitioners should obtain over £2,600 per annum.
A few general practitioners should obtain at least £3,250 per annum.

(These are net figures.)

In order to make these figures comparable with the Minister's present proposals, it is necessary to convert them into figures of gross income. If this is done, on the assumption that expenses amount to one-third of gross practice receipts, the Spens recommendations take the following form:

75% of general practitioners should obtain over £1,950 per annum.
50% of general practitioners should obtain £2,535 per annum or over.
25% of general practitioners should obtain over £3,120 per annum.
Slightly less than 10% of general practitioners should obtain over £3,900 per annum.
A few general practitioners should obtain at least £4,875 per annum.

(These are gross figures.)

How do the Minister's proposals compare with the Spens recommendations? The comparison is exceedingly difficult to make, though one or two calculations are suggestive:

According to Spens, 50% of the profession should receive a gross income of £2,535 or more a year.

The average number of insured persons on a doctor's list is at present approximately 1,000.

If 95% of the community use the new Service the average number is likely to be rather more than 2,000.

Thus the average income of insurance practitioners, taking the Minister's figure for a list of 2,000 patients, will be £1,816 gross (or approximately £1,200 net).

The average income for the "middle group," according to Spens, should be £2,535 gross. Although the average income is not necessarily equal to the middle income, the size of the margin between £2,535 and £1,816—£719—suggests that, even allowing for the Government contribution to superannuation, the Minister's proposals do not wholly fulfil the Spens Committee's recommendations in the middle ranges.

Again, slightly less than 10% of the profession should, according to Spens, receive over £3,900; yet the practitioner with the maximum on his list will receive only £3,332. This means that no practitioner in the public service devoting the whole of his time to that Service can possibly achieve the level of remuneration recommended for 10% of the profession. To reach the level of £4,875 recommended for the few is out of the question.

It cannot be pretended that an exact comparison between the Spens recommendations and the Minister's scale is possible at this stage, but it seems possible that the middle and certain that the higher ranges of remuneration recommended by the Spens Committee will not be achieved by the Minister's proposals.

Right of Appeal to the Courts

The Minister rejects the request of the profession.

This is the one point upon which the Minister was defeated in the Committee stage. He states that any other situation would be impossible. So the position remains that medical practice can be made virtually impossible for a medical practitioner whose name appears on the Medical Register, without his having the elementary right of appeal to the Courts. In the Northern Ireland Health Service Bill a practitioner aggrieved by any decision of the tribunal is given the right of appeal to the Courts.

Hospital and Specialist Services

The Minister is empowered to do this. He states that he would not be subject to hearing any views from the "Hospital Board"—a qualified body which might be hindered by his successors. "Where circumstances make it impossible to use the available private beds for the prescribed maximum charge." He also mentions a number of other points of view from the Nettlestone Committee. But the Minister's assurances are not binding. The Minister does not intend to take over the management of private hospitals, why does he propose to do so in the Act? Section 4 accommodation is developed, but the Minister or his successors to make any such arrangements can be reversed at any time. The Act is a State monopoly of hospitals.

LOCAL HEALTH AUTHORITY SERVICES**Health Committees**

The Minister has no powers of compulsion—to seek such powers—to ensure that local health committees members of the profession. The Minister refuses to ensure that local health authorities to appoint statutory committees and to refer to them all matters relating to their functions under the Act. The new committees, which are required to co-opt persons in addition. But the Minister refuses to ensure that the committees shall co-opt persons experienced in

Decentralization of Local Health Authority Services

The Minister is asked to provide compensation for county medical officers of health who lose a major part of their status as a result of schemes for the decentralization of local health services. This is a matter for the medical officers of those areas which are to be transferred to the medical officers of those areas. The Minister, however, has not considered the effects of the Act on the position

GENERAL

The Minister in his closing paragraphs that the Act is intended in the ultimate resort solely to the welfare of the men, women, and children of the country. Part of this programme is to ensure that the medical profession, for it knows that its work to the public if its members, become salaried officers of the State. The general practitioners shall no longer be paid by the State; that they shall set up an area only with the permission of a hospital monopoly and to render the medical profession these developments are towards the goal which the Minister has in mind. To use his own words, "We owe it to the public and to the medicine of the country to ensure that the medical profession of the country will co-operate with the State in the main objective, would be to ensure that the medical profession which is the public health."

In the long run the independence of medicine is no less important to the country than the independence of the judiciary. What the Act of Settlement secured for the judges is being swept away two centuries later for medicine, under the influence of a contemporary political fashion.

THE PLEBISCITE

There will be issued to every member of the profession Jan. 31, 1948, a plebiscite form. If a sufficient majority of the profession confirms the view which is here expressed and vote accordingly, the medical profession will be advised not to accept service under the Act in its present form. The profession will be asked to accept the verdict of the majority that majority is of sufficient size. Whatever the result, a doctor will be advised not to render service to his patients or not to continue with his professional work. The position is well summed up in the statement which the Council of the Association has already issued:

"If the profession decides against service consultants and specialists will be advised to continue with their hospital work, meanwhile refraining from entering into contract with regional hospital boards; general practitioners will be advised to continue with their practices but without entering into contract with local executive councils; public health officers will be advised to continue with their work under local authorities. Parliament has given to every doctor the right freely to enter or not to enter the Service. Indeed the Minister, in his reply, draws attention to this right. The medical profession, while never willing to withdraw its services from the public, is fully entitled to say that the State Service offered is, in its considered view, opposed to the best interests of the public and the profession."

"The task now before the profession is to strip the non-essentials from the essentials, to distinguish between the shadow and the substance. Despite the Minister's promise that if convinced he would seek amendment of the Act, he has remained unconvinced and impervious to argument, and thus for nearly a year we have worked at the conference table to no purpose."

"There remains one final question and one central issue. Does the Service as described by the Minister conflict with the traditions and standards of a great profession? The answer is only one the Council of the Association can give to this question. It does so conflict."

Conclusion

Parliament has given every doctor the right to decide whether to enter the Service or not to enter it. The Minister of Health has agreed that the profession is entitled to decide the question collectively as well as individually. Indeed, it is obvious that in such a matter, which is of the highest professional and national concern, doctors, like other workers, are entitled to look to their leaders for guidance.

The British Medical Association now offers such guidance. It does so neither lightly nor recklessly but after prolonged study of all the issues.

Firmly believing that the National Health Service as at present constituted will undermine the independence which in all ages medicine has needed for its work, and that it is therefore contrary to the interests of both patients and doctors alike, the British Medical Association recommends the medical profession to give expression to this view in its votes in the forthcoming plebiscite.

RESOLUTION BY REPRESENTATIVE MEETING

The following resolution was carried by the Special Representative Meeting on Jan. 8:

The elected Representatives of the medical profession in Great Britain and Northern Ireland, meeting in London this 8th day of January, 1948, solemnly declare that in their considered opinion the National Health Service Act, 1946, in its present form is so grossly at variance with the essential principles of our profession that it should be rejected absolutely by all practitioners.

PHYSICAL EDUCATION IN THE NATIONAL HEALTH SCHEME

A five-day conference on remedial gymnastics was held under the auspices of the Fine Physical Education Association in London in the first week of the New Year. An intensive programme of lectures, demonstrations, and visits was carried through. The opening address was given by Dr. Harold Balme, medical officer in charge of rehabilitation, Ministry of Health, whose subject was the place of remedial gymnastics in the National Health Service scheme.

Remedial gymnastics, said Dr. Balme, started in this country as a means of dealing with congenital deformities and postural defects. Its emergence into a wider field was due largely to the report of the B.M.A. Committee on Fractures, which recommended the development of fracture clinics and the use of rehabilitation methods, particularly remedial gymnastics, in dealing with industrial injuries. Similar recommendations were made in 1916 by the departmental committee of inquiry into arrangements for the restoration of the working capacity of persons injured by accidents. During the recent war remedial gymnastics extended into a still wider field, including the treatment not only of orthopaedic disabilities but of any disorder, whether medical or surgical, which might lead to permanent disability.

In the proposed National Health Service remedial gymnastics had a vital part to play. Any child born with a deformity should receive continuous gymnastic guidance during school life and later. There were now some 500 hospitals in which the general idea of rehabilitation had been accepted to the extent of allocating separate departments for this work and appointing rehabilitation officers, remedial gymnasts, and occupational therapists. In the future the remedial gymnast must work in children's clinics, where he or more often she—would be able to deal with deformities and postural defects. No remedial gymnast, said Dr. Balme, need fear that under the new scheme she or he would not find an important place.

Postural Defects

The programme of lectures and demonstrations at the conference included a lecture by Prof. A. B. Appleton on feet and posture and several demonstrations on the remedial treatment of postural foot defects in school-children. Dr. F. S. Cooley, director of the physical treatment department at King's College Hospital, spoke on postural defects of the spine. Severe structural scoliosis was a problem ten years ago, but comparatively few cases were seen to-day. There were, however, a large group of cases of round back or kyphosis. This condition started early in childhood, and if it was to be remedied physical education must begin in the nursery. In modern orthopaedic books there were many pages on scoliosis, but the antero-posterior curvature of the spine was largely disregarded. The condition often arose in debilitated children, and in adolescence was often associated with impaired respiratory function. He thought that this condition of lordosis had frequently been missed in school medical examinations because while the front and back of the child were inspected no regard was paid to the sideways position, in which the abnormal curvature became apparent.

The disorder was a progressive one. He thought that many such cases might be explained by the frequency of cold and feverish conditions in young children. They were kept in bed for a day or two, but as soon as the temperature subsided they were allowed to get up; and then, owing to weak muscles, they tended to adopt the "slump posture," which became habitual. The child with adenoids and persistent toxic absorption from the nose and throat quickly became fatigued. The spine came out still more with the wedging of the vertebrae, and the round shoulders, "slump posture," flat pectorals, and long dorsal kyphosis became permanent. The problem was one of physical education in the widest sense. Any eye trouble should be corrected, for some of the slumping might be attributed to visual difficulty at the desk. Faulty breathing should be corrected. The child's environment should be studied, and he should be examined at work and play, and particularly when he was tired. Adequate rest, not on an arbitrary basis but according to the needs of the individual child, should be

enjoined. If a child got to secondary school age with a round back nothing could correct the real evil, namely, the bony change, though it was true that the appearance could be improved by exercises which encouraged proper muscular tone and carriage.

THE CHILD IN INDUSTRY

The Conference of Educational Associations which was held in London at the beginning of January included a discussion arranged by the Medical Officers of Schools Association, when the subject of the transition from school to industry was introduced by Dr. T. Lloyd Davies, an industrial medical officer of Nottingham. Dr. R. E. Smith (Rugby) presided.

Dr. Lloyd Davies said that 280,000 boys and 270,000 girls entered industry (using the word to include all profitable employment) between the ages of 14 and 17 in 1946. In industry, as compared with school life, the young person found the hours longer, with fewer breaks, the work more monotonous, and the supervision less close. The nutrition of the child was apt to suffer with the end of school meals and milk, and there was likely to be an excess of carbohydrates in the diet. By the time the child entered industry he had come to the end of his second big spurt in the rate of growth. At about the age of 14 boys began to be taller and heavier than girls, who up to that age had had the advantage in these respects. The raising of the school age would make a considerable difference to the stage of maturity in which the majority of young people entered industry.

Speaking from his own experience as an industrial medical officer, Dr. Lloyd Davies described "the pathetic scraps of humanity" who sometimes presented themselves for employment—undeveloped physically and in every respect. For some rather obscure reason children who applied for work in offices were on the whole graded higher on intelligence tests than those who applied for work in factories. These children were much more sophisticated than the public-school group; they came from a less well protected environment, and sometimes they had questionable values and standards. They were often difficult, being shy and suspicious, but if handled properly their response was whole-hearted. When there were defects in the home it was not uncommon to find these children on the verge of social delinquency. Their reading matter often consisted of journals devoted to love or crime or both, sometimes with advertisements having an unpleasant sex appeal.

If these children were to be asked what they sought in employment it would be found that most of them were out for a safe job. This was a repercussion of parental unemployment in the 'thirties. It created a deep impression in the family when the father was out of work, for if ineffective from the economic point of view he was likely also to be ineffective from the social and disciplinary point of view, and the psychological balance of the family was upset. Some of the children were more concerned about those with whom they would have to work than about the nature of the job itself; with others it was the reverse, and doubtless there were intermediate grades. In repetitive jobs girls were more at home than boys, being more skilful in escapism, usually an escape to love fantasies and the making of a home of their own. Many boys could not stand repetitive jobs, and this dislike might be reflected in high accident rates or in strikes. Dr. Lloyd Davies reminded the meeting that in one year 32 boys and 4 girls under 18 were killed in factories and mills, and 21,000 boys and 7,000 girls injured to such an extent as to necessitate absence from work for more than three days. Of machine accidents, 16% involved the injury of persons under 18.

The fact remained that the vast majority of children in this country must make the transition from school to industry, the period of growth from childhood to adult life being passed partly at school and partly in industry. Educationists began the job of training them for citizenship, and industry had the responsibility of creating the conditions under which development in that direction was completed. He welcomed the Education Act, 1944, in that it made possible a prolongation of school discipline and oversight into a later period, so that the transition at a critical time in the life of the growing child was made less abrupt and involved less peril for the future.

MEDICAL PRACTITIONERS AND PHARMACISTS ACT

REGISTRATION PROCEDURE

It is noted the following statement on

... country possessing only foreign ... temporarily admitted to the British ... arrangements have for some ... to their future after the termina- ... Dec. 31, 1947. The Medical ... Act, 1947, which received the ... Dec. 12, defines their position after that date. ... General Medical Council is empowered to ... to such practitioners subject to ... the most important of which are the pro- ... of satisfactory service in a medical capacity ... residence in the United Kingdom ... for a temporary purpose, and the submission of ... of their medical qualifications if they were ... it at the time of temporary registration. ... permanent registration are required to be ... within six months of the passing of the ... that their temporary registration continues. ... registered under the Polish Resettlement ... covered by the new measure.

Four Categories

made in the Act for the medical registration of ... of medical practitioners qualified abroad and ... temporarily registered who are now resident in this ... for a temporary purpose. They are:

- (1) ... in H.M. Forces (including ... and Burma Forces); in any ... in connexion with H.M. Forces;
- (2) ... in territories within the Empire ... or enemy occupation or the ... therefrom;
- (3) ... or remain in the United ... owing to war circumstances;
- (4) ... (or equally come) to this country ... and have tried to secure ... Polish Resettlement Act by the date (Dec. 31, ... that Act was due to expire, though ... under the Act.

... of Medicine, Edinburgh

... of (2), (3), and (4), is provisional in ... conditional in the case of (2) and (4) upon ... selected for employment in a hospital or ... by the Minister of Health or the ... in the case of (3) upon the ... for registration laid down in the ... employment for the medical care ... Forces or other employment ap- ... of Secretary of State.

... of applications under (1)-(4) is ... of the Act. ... for registration and full instructions will ... the Registrar, General Medical ... Street, London, W.1, to whom inquiries ... other than the Departmental ... for the purpose of ... for the Polish Resettlement Act. In- ... should be addressed to the ... for Scotland.

... in the new Act of regulariz- ... the position of doctors ... for a temporary period— ... demonstrations of their ... fully at teaching ... employment in a ... the General Medical ... should be

Pharmacists with Foreign Qualifications

Another permanent change in the law effected by the Act enables the Pharmaceutical Society to register pharmacists qualified abroad either without examination and compliance with normal requirements as to training and study, or subject to such modified examination and other conditions as they think proper. This replaces an existing provision limited to holders of "Colonial" Diplomas whom the Society were empowered to register without examination. Pharmacists qualified abroad who are temporarily registered under the Defence Regulations are eligible for consideration. In the meantime, their temporary registration continues for six months from the passing of the Act.

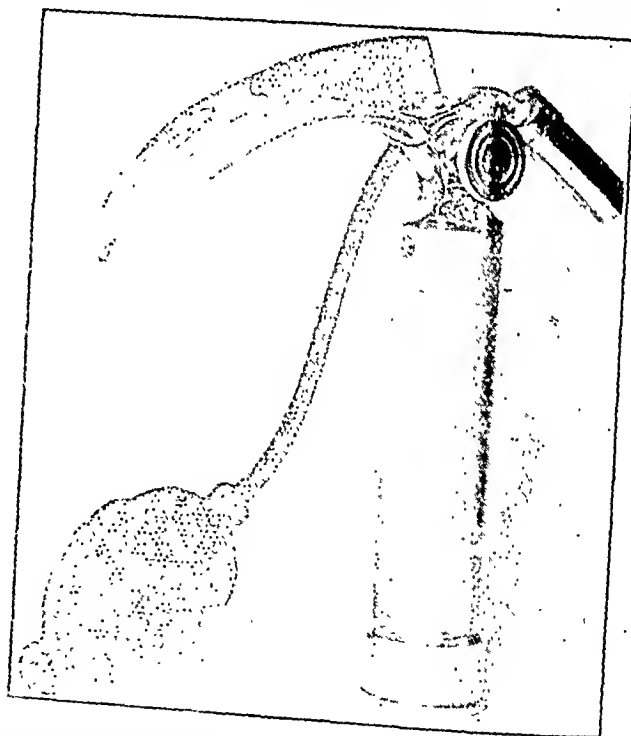
Preparations and Appliances

A SPRAY DEVICE FOR SURFACE ANALGESIA

Dr. A. OWEN-FLOOD, Hornsey, writes: The attainment of effective analgesia of the pharynx and larynx, and especially in the more extensive preparation for bronchoscopy, is seldom easy and, as evidenced by the obvious distress of many patients undergoing the ordeal of this trying examination, not always successful.

Adequate analgesia of the more accessible structures like the mouth, pharynx, and fauces requires no great effort or skill, but the larynx, epiglottis, vocal cords, and trachea, protected as they are by the shelving parts of the tongue base and the powerful reflexes guarding these vital channels, call for a more expert technique.

Two main difficulties are here encountered: The patient, making every effort to resist invasion of the foreign bodies—



the spatula (which is invariably too short) on his tongue and the liquid spray down his throat—renders the view of the larynx imperfect and the saturation of the whole area with the analgesic solution a hit-or-miss affair. The "saying 'Ah!'" technique, by which prolonged exclamation the patient exposes deep structures, is well enough in itself if there is uniformity in its performance by all patients, but experience shows that it can vary from a faint mouse-like squeak to a bull bellow.

I have chosen Macintosh's laryngoscope for the spray attachment illustrated, because it lends itself more readily to this adaptation than the other makes, allowing a ... nated

view of the epiglottis and vocal cords, at the same time exerting an even pressure on the whole surface of the tongue. It also steadies the organ and holds it firmly out of the line of vision.

The tongue-piece is composed of two thin plates through which is inserted a fine-spray nozzle which emerges about an inch (2.5 cm.) from the end of the spatula, at a point where it curves slightly downwards. This position gives a maximum spread to the spray, allowing also a quantity to dribble and desiccate the inner surface of the epiglottis and the vallecula. At the rear end of the tongue-piece the spray tube joins a small metal cylinder in a gentle curve, to avoid coming into the line of vision, and to render clearing its stuffed lumen by suction thread a simple operation should it be necessary.

The cylinder is composed of three parts: a lid containing the spray mechanism and inflator apparatus, the body to which it is screwed in an airtight joint, and its glass-lined container charged with the anaesthetic solution. Cleansing is facilitated and corrosive action by this agent is thus prevented.

The surface anaesthesia, thanks to the excellent properties of the Laryner-spr, becomes smooth and comfortable for the patient. With a few squirts into the mouth the tongue-piece can be passed without gagging, and an adequate analgesia is obtained of all structures in view. With fair relaxation of the vocal cords some of the agent can be sprayed directly down the trachea, thus avoiding the necessity for the injection of the fluid. Agent directed into the larynx by piercing the crico-thyroid membrane is an operation distressing to the patient as well as hazardous.

Reports of Societies

MENSTRUAL DISORDERS IN RELATION TO GENERAL MEDICINE

The last Hysterian Society meeting of 1947 was devoted to a discussion of menstrual disorders in relation to general medicine. Mr. ARTHUR L. ROCHF. presided.

Mr. ALFRED W. BOURNE, in opening, excluded from the discussion disorders due to general pelvic conditions. Where there was no local disease he believed that the majority of manifestations of menstrual disorder, whether amenorrhoea or excessive loss or pain, were due to disturbances of function of the anterior pituitary. How the anterior pituitary exercised such a varied function was one of the biggest problems in medicine. In conditions of anxiety, grief, and fear the gland seemed to go wrong, as was shown by its gonadotrophic action on the ovary. Certain cases of amenorrhoea were clearly associated with emotional disturbance. How was it that the anterior lobe could be disturbed in the absence of any ascertainable hormonal influence? He supposed that the effect of emotional distress on the function of the gland must be explained by the influence of nerve fibres coming down the pedicle from the thalamus, but that only put the problem one stage further back. He believed that the function of the lobe was so strongly under the influence of mental and emotional conditions that it was sensitive to all that a woman feared and equally to all that excited her. He understood, too, that at least fourteen hormones had been found to be derived from the cells in this tiny lobe of the sella turcica.

Dr. EDWARD SJARRP described a small series of cases seen in general practice. Eight cases of spasmodic or intrinsic dysmenorrhoea had not responded to hormone treatment, a general tonic, and advice about fresh air and exercise. Then he had a talk with each patient, trying to persuade her that her dysmenorrhoea did not mean that she was abnormal, and that she must not allow it to "get her down." This was more effective: one patient was much improved and apparently cured, and three others were improved to the extent that it was no longer necessary for them to stay away from work at the monthly period; the remainder were no better. His second group consisted of eight cases of amenorrhoea and oligomenorrhoea; some of them improved after treatment with stilboestrol. His third group consisted of eight cases of metrorrhagia and menorrhagia, and in seven, the condition occurred towards the

end of reproductive life. Four had volunteered the information that their loss was always very much heavier when they were emotionally upset, and five of them had a very unsatisfactory emotional background.

One of these women had been saddled with an ungrateful and unsatisfactory father-in-law, entailing a great increase in her work and threatening to come between her and her husband. He was eventually disposed of, and her periods returned to normal. Another was a woman who was in continual anxiety, separated from her husband, and engaged in work which she thought beneath her but which was necessary for the support of her family. So far her periods had been unaffected by any sort of treatment. Another was a woman aged 42 whose husband developed tuberculosis of the spine and whose daughter made an unsatisfactory marriage. Her husband was now very much better and she was improving without treatment. Another woman, aged 32, was anxious about her husband, who was a civil air pilot and absent for long periods. She was sterile, and here again treatment had no effect. Another was a woman aged 44 who had been twice married. Her second husband became a chronic invalid almost immediately after marriage, and the wife devoted her life to nursing him. He died after twelve years. During the last five years there had been no sexual intercourse, but the husband's invalidism was not such as to prevent him from taking a mistress, unknown to her, during the last eight years, a fact which the wife did not discover until she was a widow. After she recovered from her distress and anger she herself took a lover, and her periods had been regular ever since.

These cases illustrated the futility of treating metrorrhagia and menorrhagia as anything more than symptoms. It was significant that in five of these eight cases the husband loomed large in the picture, either owing to his absence or his actions. Happiness in marriage was closely related to normal menstrual function.

Mr. JOHN HOWKINS spoke of girls in the Services during the war who came up for treatment owing to menstrual disorders. He believed that the mothers of these young women had a good deal to do with their condition. They were apt to relate with sadistic delight what had happened to them, and a number of the girls were "auto-suggested" into dysmenorrhoea. He expressed some scepticism about the claims made for drugs in the treatment of these conditions. One disease which was of some interest in this connexion was tuberculosis of the genital tract. Attention had been drawn to the number of cases of sterility in which on diagnostic endometrial biopsy giant cells had been discovered. This question of tuberculosis of the endometrium was a very important one. It used to be said that when a woman who had pulmonary tuberculosis developed amenorrhoea or menorrhagia it was a sign that she had genital tuberculosis. It was worth while to draw attention to the possibility of tuberculosis of the genital tract.

Mr. V. B. GREEN-ARMYtage quoted some Biblical and Shakespearean references to menstrual trouble, notably the case of the woman with the issue of blood as described in St. Mark's gospel and certain passages in *Romeo and Juliet* and *The Winter's Tale*.

After some further discussion Mr. ALECK BOURNE, in reply, suggested that the completely happy individual, perfectly adjusted to environment, and exalted, could never be ill. Their trouble as physicians was that they could not prescribe the initial therapy—happiness—for all functional diseases. With regard to tuberculous salpingitis, a recent writer on the subject, in examining the biopsies of women who suffered from sterility, found that 4% showed giant cell systems. It might not be the true deduction that a giant cell in the endometrium necessarily meant tubercle, but it was the fact that tuberculous endometritis was much commoner than many thought.

The first ordinary meeting of the newly formed Medical Subsection of the Library Association was held at the National Institute for Medical Research on Jan. 2. Welcoming the seventy or more members and guests, Dr. C. R. Harrington, the director of the Institute, spoke of the increasingly important part played by library services in the modern world and of the invaluable aid that specially trained librarians could give to those engaged in medical practice and research. Dr. G. Popjak gave an illuminating talk on recent developments in nuclear physics and their medical applications, and Miss Ethel Wigmore described the work of the library. A conducted tour followed, and the visitors displayed a special interest in the system of indexing current periodical literature and reprints.

Correspondence

National Health Service

At the meeting on 15p. 4 Dr. Guy Dun spoke of the importance of the plebiscite being legally binding. He proposed that the proposal that will achieve the purpose of the vote against the N.H.S., is of course, to avoid putting the fear of being in the

position of a Ministerial agreement we sign it but it is not binding. These papers are then collected by the Secretary (by personal application) and the papers are collected. The B.M.A. Council should be asked to collect, and if our majority were not in favour of them *not entering the scheme* and if Mr. Bevan. If our majority is not in favour of them to be returned to their owners.

The fear of revoking between our plebiscite and the Act, and if made known early enough the vote of "no" into the plebiscite figures, we hope to specialists and G.P.s alike.—I am, etc.,

R. MUTTON.

If the majority of us G.P.s are opposed to the National Health Service, surely if we refuse to join the Service, surely the Government will be forced to work and an amendment will be forced. We are not sure of the strength of will in other parts of the country. We fear that the Service may increase to a rapid flow, followed by a rapid decline.

As a part of the questionnaire the profession be asked to state if they are opposed to the Service as it stands, and if they are of the same opinion, will you bind yourself to the Service until acceptable terms are agreed by the Committee? If 60% bound themselves thus, the Government would be immensely strengthened.—I am, etc.,

G. H. GIBBINS.

As the last B.M.A. plebiscite made it clear that the profession held a majority opinion against this Act, the intervention of the three Presidents the Minister of Health to lay more of his cards on the table. After a year's delay there is still no amendment of the Act. Surely therefore, the plebiscite still holds? And if we must have a decision, why should it be decided into it within a month? As the Act is being delayed for a year why should we not wait for six months and hold our plebiscite

As a manifesto by the Minister himself to the individual doctor—suggesting an amendment between the general practitioner and the Minister of Health, a superficially alluring picture of the Service under the Act and thus the Minister of Health from which there is no doubt that he is left in the last resort to the Minister of Health. This would be impossible to compare with any form of ultimate jurisdiction. This would enable the Minister to amend any or all the terms of the Service, and we should have

As a manifesto that an appeal can be made to the Minister of Health any decision of the Minister of Health is surely not only a decision of the Minister of Health, etc.,

W. H. SPOON.

SIR.—The Minister of Health has now clearly revealed his intentions, and it is up to the profession to act decisively. Our only weapon is a majority decision to refuse to enter the new Service, but individual doctors cannot be expected to do this without complete confidence that the majority of their colleagues are doing likewise. In order to ensure this confidence I propose that the Secretary of the B.M.A. should send to every member of the profession the following two documents. The first should be addressed to the Minister of Health and should be signed by all doctors agreeing to the scheme and should be undated, and then returned to the Secretary of the B.M.A. Subject to revision by legal experts, it should read somewhat as follows:

"I (Dr. X), being in active practice as a general practitioner, or consultant, or employed by a hospital or local authority in a full-time capacity, or being retired, do hereby inform the Minister of Health that I refuse to accept service under the National Health Service Act, 1946.

"This document must be taken as cancelling any previous application to serve under the Act that I may have signed.

"Signed, Dr. X."

The second document should be addressed to the individual doctor concerned and should be signed by the Secretary of the B.M.A. and should give him a solemn promise that the preceding document, if signed by him and returned to the Secretary of the B.M.A., would not be used unless at least 50% of the entire profession were to sign and return similar forms before the closing date. It should also be required that at least 60% of the general practitioners should sign such forms, and that the forms signed by members of the special groups such as consultants (except those retired) should not be used unless at least 40% of the doctors in the same group had signed and returned similar forms. It should also be made clear that a doctor who had signed such a form would still be free in the meantime provisionally to accept service under the Act, but that such acceptance would automatically be cancelled if the above document were to be used, in the manner to be described, by the Secretary of the B.M.A.

Assuming that the above conditions were fulfilled, they should be retained by the Secretary of the B.M.A. until the closing date for applications, though the existence of the forms and their numbers could be made public. If the Minister remained impassive they would then be dated and delivered to the Minister on the closing date, and each doctor concerned would be individually informed of the fact by the next morning's post.—I am, etc.,

Newport, Mon.

G. W. HOARE.

SIR.—Many like myself must have a profound feeling of dissatisfaction at the results of the negotiations between the Minister of Health and the B.M.A.—dissatisfaction both with the results, which amount to *nil*, and with the fact that these negotiations were allowed to drag on for so many months while the profession was kept in complete ignorance of what was happening behind the "iron curtain." The impressions formed are that the Minister of Health was gaining time on his side and that the B.M.A. was at fault in submitting to such a prolonged period of negotiation when it was obvious, as the results prove, that no headway was being made. These results now circulated to the profession could surely have been arrived at in as many weeks as it has taken months. Can there be any reasonable explanation for this delay?

I am sure there is a growing feeling of dissatisfaction against the "kid-glove" methods of approach to the Minister of Health by the B.M.A.

Many of Mr. Bevan's statements are very misleading, especially to the general public. One such statement, that doctor are entirely free to join the Service or remain out of it, is very misleading. The "pistol" is at our heads and we are asked to "sign on the dotted line" and give up our freedom or not to sign and give up our possibilities of making a living.

If we are compelled to accept service under the Act as it now stands in order to make a living, probably the greater percentage of doctors will enter the Service under protest and with a disgruntled feeling. It seems a pity that Mr. Bevan has shown so little consideration for the principles which the profession has aimed at maintaining, not with any ulterior motive

and that he would have the opportunity of appealing our modest desires, which he could very easily have done and so ensured a Service which would be contented and contented profession. My only conclusion is that the membership and understanding have been overruled by party political considerations by which we will be for ever controlled if we accept service under the Act.

One would think that resignations from our present N.H.I. contract would influence Mr. Bevan to change his mind as to the effect of such resignations did on a previous occasion. There is little time left for such action, and it would be a pity to let it pass without delay. —I am, etc.,

Stapleford

A. B. TAYLOR.

Sir,—The only reason for a plebiscite now is to confirm the previous decision. This can be done emphatically if:

(a) New members of the B.M.A. and members who do not read the *Times* are reached by clear brief leaflets stating our objections to the Act, as it exists; publishing the proposed Government policy, i.e., a full-time salaried Service, which obviously is not the Minister's intimate aim; and pointing out that it is in the power to attain this with his dictatorial powers under the Act and that there is no appeal against his decision.

(b) Doctors are told it difficult to decide, owing to financial reasons, the given costs of the Lighting Fund, its source, and whether or how it will be used.

(c) An answer is given to the many who say, "I would vote against it if I knew what my neighbours are doing."

(d) There is a guarantee that no agency or group will be allowed to pull another red-herring after the plebiscite, no matter how good their intentions.

(e) It is pointed out how a handsome capitation was offered to get doctors into N.H.I. in 1912 and how it was "adjusted" to less than 50% of that sum in due course. This bait is offered again with the significant sentence, "But in two years' time that position will be reviewed."

(f) It is pointed out that the silky "General comments of the Minister addressed to the individual doctor" were obviously not written by Mr. Bevan's pen. They remind one of Hitler's propaganda facts before invading a small neighbour. Neither was para. 71 of the Minister's report, which might have been written by a Florence Nightingale. It even promises amending Acts!

(g) Finally, the actual plebiscite paper is made simple and clear. (It is generally agreed the last one was misleading to many.) —I am, etc.,

Merton

THOMAS J. CRONIN.

Sir, Dr. E. Billing (Jan. 3, p. 25) writes, "The decision should be taken on the vote of private practitioners only (consultant and general, whose future is at stake," and gives a list of various publicly paid doctors whose "votes should not influence the issue." May I, a retired G.P., go further and say that the votes of retired men should for obvious reasons (political or family) be entirely left out of the count, as our future is not at stake and we can, so far as is possible, leave the future and the reputation of the profession in the hands of its acting members.—I am, etc.,

Credon, Devon

E. PROTHIERO SMITH.

Sir,—The preamble to the circulated pamphlets of the Negotiating Committee's case and the Minister's reply asks the profession to study these preparatory to a plebiscite being taken. For this purpose preliminary and divisional meetings are being held for exposition and discussion. I think a serious error is being committed in not also circulating to the profession the exact terms on which a plebiscite will be taken.

The terms for the plebiscite are *all-important*; they should be the subject of careful discussion by the profession and should be agreed by the profession before being sent out for voting. For instance, it may be impossible for a man to give an honest "yes" or "no" vote on whether he will serve under the Act as it now is. He could only do so if assured that action will only follow a unanimous decision. It is quite clear that there will not be a unanimous decision, and in this case a man standing to his vote of refusal to serve might well find himself

faced with economic ruin. Such a strain on him would be intolerable and should not be required. It would be better for the plebiscite terms to be much weaker but capable of being carried out, otherwise an honourable man must abstain from voting. I would suggest that the plebiscite should include a vote that he would serve, but with disapproval of the offending clauses and intent to work for their amendment. The exact wording should be the subject of careful discussion. Such voting would have great weight because of its obvious integrity and as indicating that service would be given under duress.—I am, etc.,

Worthing

W. O. PITT.

Sir,—The Minister's reply may be summarized as soft soap and personal promises. I do not believe he personally wrote the former; the phrasology simply is not his; and the promises are useless, for apart from any question of good faith he may be dead or dismissed to-morrow. The only thing that counts is the Act. The Act in its present form is anathema to us. The trap is wide open. Once we are in we are finished; this is our last chance. Sell your practice (note the blackmail: no compensation if not in by July 5) and accept a basic salary (stated categorically by the Lord Chancellor as designed to control our certification), and you are a slave.

Certification? What a thought! What a weapon! If we stop issuing certificates the whole machinery of the top-heavy bureaucratic mass stops dead as completely as the kingdom in the fairy story. "No amending Act: no certificates." Not a bad slogan, my brothers and sisters.—I am, etc.,

Devon

W. F. BENSTED-SMITH.

Sir,—Time is getting short. Overmuch has been said about some aspects of the National Health Service and insufficient about others. We still have no idea of what our income will be for the following reasons: (1) The rate of remuneration depends upon the percentage of population insured; (2) the greater the percentage insured the less will be the number of private patients who can afford to pay us.

We still know nothing definite about compensation. Is it to be twice average gross of the last three years? If it is for any earlier period then it amounts to capital appropriation, because no allowance is made for practice growth in recently acquired practices. For example, a panel practice is bought in 1945 and a private practice is built up in addition subsequently. Is the compensation only to be for the panel value in 1939 with no allowance for existing private income?

The majority of practitioners in N.H.I. work must feel how much more satisfactory it is to treat private patients, because private practice is recompensed in proportion to output whereas N.H.I. work, hedged about as it is with irksome restrictions, leaves one with the feeling that one is constantly being imposed upon by the irresponsibles and neurotics.

I see that the Minister intends to arbitrarily decide what certificates must be issued free. I should hate to be dependent on his decision when I think of the numerous reasons for certificates arising out of rationing and control.

The present N.H. system, in which the doctor is under contract with the societies instead of dealing direct with the public as regards payment, is unsatisfactory enough. Why not seize the present opportunity to start afresh? Follow the example of the medical profession in the Department of War, S. France, where the doctor is paid direct by the patient, who is thus made to realize that service costs money and is not to be dissipated on aspirins and bromide. The patient then collects what he can from his society, which in turn learns to recognize the bad sheep in its fold and deals with them accordingly.

Substitute the Government for the society in this proposal and let matters take their course. The net effect of the compulsory levy of 6s. 2d. weekly, which all self-employed men, including myself, will have to pay, and the resulting experience of the scheme by the public will no doubt cause many second thoughts and result in an electoral kick in the pants for this or any Government which persists in it.

Are we going to be such fools as to voluntarily relinquish our present degree of freedom, and income of known dimensions, for more restrictions and absolute doubt about our future?—I am, etc.,

Bournemouth

A. R. THATCHER.

...the new National Health Service "is of force" and suggests that the points in the dispute are determined by the Government. Having carefully read Mr. Bevan's reply, your leading article of Dec. 26, 1947, and the letters in your issue of January with *The Times*. For what reason do you find fault with Mr. Bevan and his Government's financial future and the future of the National Health Service? We, in your issue are asked to "compromise" but say that our freedom is in jeopardy. It faces squarely the fact that we cannot only take place at the expense of the State but what he likes. Surely the whole of the country is in the direction of increasing organization to recognize this because we dislike the present process entails? Would it not be a part in the very difficult problem of destroying individual liberty and

...to refuse co-operation on the basis of playing a confidence trick on us. We shall be forced to accept a full-time service. Surely if any Minister were to attempt this we should then have a major part of the stake in our hands. Should we have the public behind us that they have received a satisfactory result?

...to have gone out of his way to put our views on the B.M.A. platform have taken no part in it. We have heard appeals for democracy. This emotional conflict of the movement and commands little support in the public mind. The Government have disposed of any illusion by rousing against the present Government "freedom versus bureaucracy." The average citizen must somehow be combined. Let us contribute to the solution of this problem.

...in the policy advocated by the Government I foresee an ignominious repetition of the past.

F. E. S. HATFIELD.

...agreement with Dr. L. P. Gray (p. 107) that direction of any labour is wrong. The industrial action to further political and sectional interests as he appears to intend to do. Then I submit, we should not be setting a very dangerous

...there should be no politics, and work let us be as forceful as we can. As doctors we have every right to sabotage the Government, actual or alleged, when as compared with those wishes bad for the profession, both of which we have the right to do. Outside our special province we are the weapon of the sabot.—I am, etc.,

T. J. TAUNTON.

Dr. F. W. Vincent (*Supplement*, Dec. 27, 1947) says that the Government's estimate of the cost of the new service is £66,000,000. Even if the £66,000,000 was the actual cost, it can hardly be taken in value since then and it is worth the cost when compensation is paid.

...a practice would normally be expected to be a full-time service, whereas compensation is fixed. This is a very serious matter for the G.P.s, who must be paid for their services. We should not let the Government have the last word. It is contended that

the country cannot afford to spend so much money at this time. It is further proof that this is not the moment to introduce such a costly service, the success of which is by no means certain.—I am, etc.,

Musselburgh, Midlothian.

JAMES SHARP.

SIR.—In the *Supplement* of Nov. 1, 1947 (p. 100), a report of the Ophthalmic Group Committee appears in which it is stated that in the view of the Ministry of Health there was no case for the compensation of specialists for their practices for the reason that, "in so far as consultant and specialist practices might continue to be bought and sold, the National Health Service Act would not prevent the continuance of this custom." If this refers to "State" practices, it is, to say the least, a very curious anomaly. If on the other hand it refers only to private practices, the fallacy in the argument is obvious.

On receiving the report of the Negotiating Committee I naturally expected to find some clarification of this position. It appears, however, that this cynical disregard of the elementary principles of equity is not considered of sufficient importance to be worth a mention. Nor is the matter mentioned in the Minister's statement, from which one would gather that all doctors who elect to join the Service on the appointed day will receive compensation.

The report of the Negotiating Committee is stated to give all the information at present available. It is only to be assumed, therefore, that this matter, in common with most of the regulations, etc., concerned with the specialist services under the Act, is still under discussion. If this be the case, it is surely premature to hold a plebiscite before every member of the profession has had an opportunity of studying the complete regulations of the Act in their final form.—I am, etc.,

Plymouth.

P. R. GREEVES.

SIR.—In the *Journal* of Sept. 7, 1946 (p. 342), you were good enough to publish a letter in which I tried to show that the essential difference between the Minister of Health and ourselves was one of policy rather than of principle. No one attempted to refute my argument at the time, and I refer to it because your able leader (Dec. 27, 1947, p. 1037), together with the Council's statement (p. 1046), appear to confirm my contention, for it is because the National Health Service Act is regarded as "the first and irrevocable step towards a whole-time State service" that we are invited to refuse service under the Act.

Socialist policy has always included a whole-time State service, and in 1945, when the present Government was elected on a clearly defined Socialist programme, many of us expected, and feared, that the new National Health Service would be according to plan and were astonished and relieved when Mr. Bevan's Bill proved to be merely a pale pink edition of the measures introduced by his predecessor, which, be it remembered, was an essential part of the Beveridge Plan accepted by all parties.

I am not a Socialist, and I loathe the idea of a whole-time State service, but it is advisable not to allow the violence of our emotions to interfere with the clarity of our thought. It is unfortunate that so few people recognize the fact that we are living in a period of revolution, as real as those of France or Russia, happily unaccompanied by the bloodshed and expropriation which disgraced them, but every whit as real. The party which now rules us has not lost a by-election, has nationalized the banks, the mines, and the railways in spite of all opposition, yet we are invited by our leaders to oppose a Government which has triumphed thus far because it has taken "the first step" towards nationalizing our profession. Has the B.M.A. Council forgotten King Canute and Mrs. Partington?

The Minister has promised that he will amend such portions of the Act as are found to be unworkable and asks us to co-operate with him in working it on those terms. As an alternative to the recommendations of the Council, with all respect, I venture to suggest that we take him at his word. The Defence Fund has ample funds to pay the expense of taking a test case to the House of Lords, and if one may judge from letters in the *B.M.J.* there should be fierce competition among the fire-eaters for the honour of being the principal figure in the case.

Section 36 (2) suggests that the Minister estimates that about 19,000 practitioners will be necessary to work the Act. Assuming that he has obtained that number of signatures on the appointed day, he will find himself in the position of being legally liable to

provide free medical attendance on about 45 million people and dependent on those amenities to enable him to fulfil his contract. If we co-operate with him, within a year or two we shall be in a very powerful position, for even a Socialist Minister of Health cannot afford to exclude several thousand medical practitioners to enable him to meet his obligations. Panel practitioners have proved at least once that it is possible to combine and force a Minister to listen to reason, and the power of the profession in the N.H.S. will be far greater than in National Health Insurance.

I now appeal to remember 1911 and 1912. Everything that has been said against the N.H.I. Act was said then against the N.H.I. Act—except that. And in those far-off days of freedom Lloyd George's Act was not even more revolutionary than Bevan's does to-day. The B.M.A. put up a stout fight and won five rounds out of six, and Bevan's side pleaded a not to take service "except on terms in accordance with the Association's policy." The Council then, as now, thought that the profession could successfully oppose an Act of Parliament, and laid out hopes to win the sixth round—and there was a knock-out blow. Then we had a powerful Press and a large number of public bodies, and to-day we have neither.

It is shown by the fact that the profession is as united now as it was in 1912, that evidence is evidence of that. In the questionnaire of 1947, 2,500 men and women took the trouble to answer forty-one questions, of which are the crucial points to-day. More than one-third are in favour of payment by basic salary plus expiation fee. More than one-half expressed their opinion that the Minister's "idea" proposed was reasonable and that the sale and purchase of practices should be abandoned. Is it likely that all these people have changed their minds? Nothing new has been said by anybody to induce them to do so.

Let us face facts. The Minister has at his disposal the sum of £20,000,000 with which to compensate for the loss of the sale of the goodwill of their practices those men and women whose names are on the lists of Executive Councils on the appointed day, and those only. How many of us can afford to take the risk of losing his or her share of this? We know that few of us can do so, and, however fine it may be to reflect on and talk about the "traditions and standards of our great profession," most of us have to earn our living in order to practise it, and that stark fact is the basic reason why we cannot refuse to serve.

None of the disasters predicted in 1912 materialized and we made the National Health Insurance Act a success, a benefit to the public and to the profession, and it is because of my long experience in that service that I am convinced that we shall be able to serve in the National Health Service without sacrificing any of our standards or being false to our traditions.—I am, etc.,

SYDNEY R. WILLIAMS.

Redditch, S. Dorch.

Sir,—The most obvious way to defeat the machinations of the Minister of Health is to reduce as soon as possible the number of practitioners who have no vested interests. I would suggest that all present practitioners and firms in partnership who are anxious to maintain the status quo ante do their utmost to take a partner and make him or her a "Have" instead of a "Have-not." Mr. Bevan is relying on the latter in the main to implement the Act. It is worth while making some pecuniary sacrifice to deprive him of his recruits and safeguard the future of the general practitioner and the public.—I am, etc.,

LEONARD LEY.

Great Yarmouth

Sir,—After a careful study of the Negotiating Committee's statement and the Minister of Health's reply, together with the Press (medical and lay) reactions over the week-end, one is still left in a somewhat perplexed state of mind. The *Lancet* comes out with the advice, "Trust the Minister," and makes the plain statement that because in the past we have sponsored the cause of medical reform the possibility that the profession will in the end refuse to take part in the N.H.S. is virtually buried, though concessions may be necessary before it commits itself. How these are to be secured from a Minister who has proved himself so stubborn in the past and believes he is going to be victorious ultimately is not stated.

The *British Medical Journal* on the other hand, having led us to believe (Panel Conferences, reports, etc.) that the Negotiating Committee had presented an unanswerable case, feels slightly hurt that the Minister made no conciliatory gesture by offering to make the smallest amendment of the Act. Much was made of Sections 35 and 36, but what does it all amount to when the Minister makes

it clear that if at a practitioner's expense a costly court case proves his interpretation of the sections wrong he would "take steps" to introduce legislation to restore his original intentions?

Two points occur here. The first is that no suggestion is given that the B.M.A. would or could bring a test case to relieve some practitioner of colossal expense; and the second, did the Negotiating Committee beg the Minister to omit *pro tem.* contentious clauses so that the Act could be operated in a "favourable atmosphere" and he made "the success which both they and he want it to be"? What we have in these documents is the presentation of two answers to the same problem—viz., can the N.H.S. be made to work well? The Minister says there are no difficulties about it given good will. The B.M.A. says no, it cannot, since the sacred principles are still violated.

As the *Daily Telegraph* said, the position is one of stalemate. Is it surprising that the practitioner is puzzled when one paper proclaims that this Act will make the medical profession the best paid in the country, while yet another informs us that to take in 4,000 units the doctor would have to be an athlete, a road hog, and as expeditious as lightning. One feels therefore that the Council of the B.M.A. should give us the inside facts to help us make up our minds. Surely the least we could expect is the immediate printing in the *Journal* of the verbatim account of the final discussions with the Minister. Did he present the velvet glove discernible in the Memorandum, or was the iron hand employed? Frankly, much of the difficulty arises because no one completely trusts Mr. Bevan—his intransigent attitude, his great powers under the Act, and his ability as a side-stepper are too well known. On the other hand, we should like to judge whether the Negotiating Committee properly presented their case. Only the fullest and early publication of what was said can enable the rank and file to instruct their Representatives at the S.R.M. on Jan. 8.

On closer examination of the documents no light is shed on (a) hours of work, (b) holidays, (c) provision of locums during unavoidable absence—e.g., sickness—(d) formation of a liaison body like the I.A.C. unless such is adumbrated by 26 (8). All these points are of importance before deciding what the remuneration amounts to.

Compensation.—Surely it is not the normal procedure in business when one party's interest in a business is acquired by another to defer payment till retirement or death. Did the Negotiating Committee press for a speedy payment of capital values so that the doctors could invest at better rates than 2½% if they so wished or could buy their own annuity or at least make it negotiable? What, for instance, would be the position of a doctor who is dismissed from a 95% service? Would his compensation and superannuation be paid or would they be forfeit? If the latter, the effect would be to make practitioners more subservient to an all-powerful Minister. On this matter of expulsion the *Lancet* naively suggests that we should be "saushed" with the Minister's proposal to set up an advisory committee instead of the right of appeal to the courts; "but only if members of the Service remain perpetually alert in the cause of professional freedom and ready to defend it at all levels. As with so much in this Service, the remedy here lies with ourselves." Is this a polite suggestion that, like the proletariat, we might stage a lightning strike occasionally? If doctors are not prepared now to insist on what the Panel Conference has already declared advisable, what possible chance is there of Ministerial puppets doing anything drastic?

Remuneration.—We should like to know how the figure of £300 basic salary was arrived at. With the sliding scales proposed it is very difficult to calculate what one's income would be. The unknown factors are (a) what proportion of the population would elect for panel doctoring, (b) the number of doctors who would either willingly or unwillingly take part. The figures (17,900) are misleading, as my information is that there are 21,000 general practitioners available plus 2,000 aliens who could come on the Register. If all these take part the capitation fee will fall badly. Here again one wonders if any attempt was made by the Negotiating Committee to get a fast rate fixed so that reasonable calculation could be made of one's expected income and help decide whether the N.H.S. offer was an economic proposition in each case.

Working things out on the figures given, this is what one urban practitioner's income might be, assuming a 95% service and a panel of 2,500. **Gross income:** £300+£1,895=£2,195. **Expenses** (approximate figures): Superannuation, £125; car (12 h.p., 12,000 miles yearly at 6d. per mile), £300; rental of surgeries, etc., £200; income tax on, say, £1,400 at average 8s. per £1, £560; rates on house, etc., £80. Total unavoidable practice expenses: £1,265. Net balance: £930.

With two children at school the position is not easy. If one child should wish to go to a medical school at, say, £360 per annum, it is quite impossible for another child to take up medicine as well. It would be a salutary measure if every medical practitioner would similarly work out his financial position from known expenses as for inland revenue returns.

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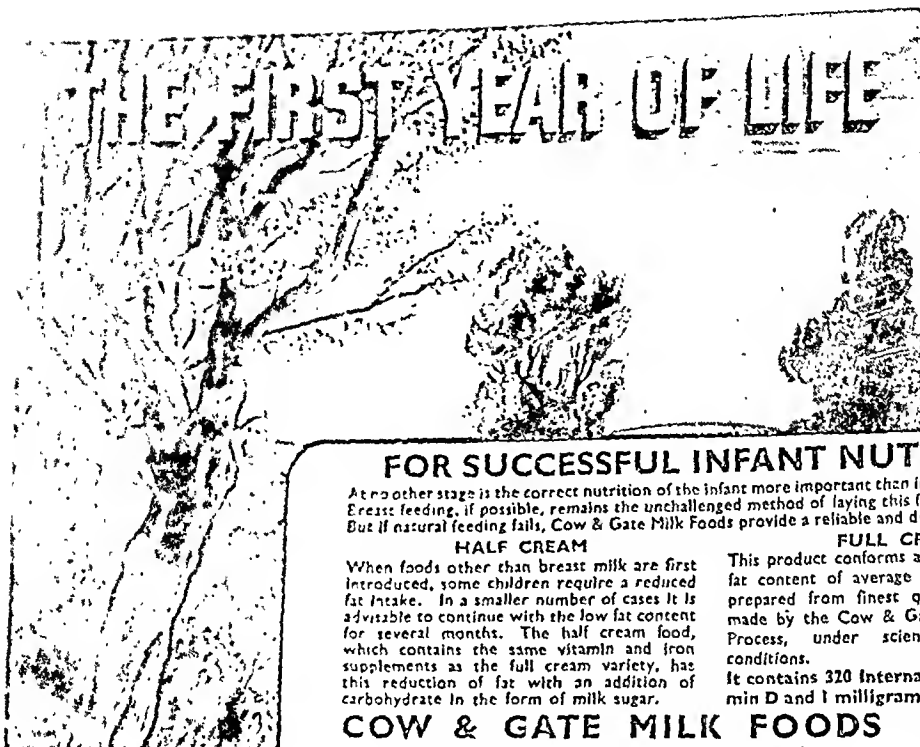
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'PHYSEPTONE'

di-2-DIMETHYLAMINO-4:4-DIPHENYLHEPTANE-5-ONE HYDROCHLORIDE



BURROUGHS WELLCOME & CO.
(The Wellcome Foundation Ltd) LONDON

SIR.—We are not told how our contract, under which we are responsible for the treatment of patients on our panel list, is to be discharged when the State Medical Service comes into force. Under normal circumstances, a panel doctor remains responsible for the care of his patients until the expiration of three months' notice given at the beginning of a quarter. The doctor is fully bound otherwise, unless he arranges an approved deputy or transfer.

Does the National Health Service Act discharge the present contract by operation of law? It would be well to get this clear. Unless this is so, a panel doctor will, on July 1, 1948, be legally bound to attend, for a further three months, all patients then on his list, unless he has given notice of resignation to the Executive Committee not later than April 1, 1948. To give such notice on April 1, 1948, would be to deprive himself of the right to compensation in respect of his panel practice. He couldn't have a panel practice when the Act comes into force.

If the doctor did not give notice of resignation, and did not elect to practice under the Act, would it result, if an insufficient number of doctors joined the Service, in the panel doctor being compelled to attend to all or some of the patients then on his panel list, but being precluded from receiving remuneration out of public funds unless he enters into a new contract with the Minister?

As to the Act itself. May I take the opportunity of saying that, though not all doctors are in favour of the Act (and some of us are very much against the upheaval in the practice of medicine as we received it and have always known and regarded it), we must accept the fact that centralization and control are the ways of the world to-day. The Act is on the Statute Book. It would have needed a 100% vote against the Bill when it was going through Parliament to have defeated the only thing in it which really matters—that medical practices are to be taken over by the State after a given date. We were not sufficiently unanimous as a profession to oppose it. Time may prove that opposition was wrong. It may be that the relief from financial burdens and obligations that most G.P.s saddled themselves with will enable the young practitioner to keep his mind on his job and give him a longer and happier life.—I am, etc.,

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SIR.—The Minister of Health's refusal to meet the profession in amending Sections 35 and 36 of the Act, despite the strong protest of the Negotiating Committee backed by prominent legal advice, is surely a very definite indication to the profession that there is a determination to enforce the Act as it stands ruthlessly, without any attempt to "meet any views of the profession which do not conflict with the principles of the Act." The unnecessary hardship likely to be inflicted—particularly on younger men in partnership with one of more advanced years where compulsory purchase of the retiring or deceased partner's share is a condition of the partnership agreement—is likely to impose a financial load of some considerable moment. The Minister's failure to concede what to him must be a minor point must cause much misgiving when we realize the powers he is determined to assume in other directions over the life and soul of the profession from "the appointed day."

The suggestion is made that the continuance of partnerships or group practice is desirable, and most of us will agree with this; but once again one of the main safeguards of the patient of such a partnership has been that the choice of a new partner has been made by the partnership. Under the new Act no mention is made of any participation in the selection of the new partner by the existing partners, unless they happen to be members of the Medical Practices Committee; and I am convinced that, unless this is remedied, group practice such as we understand it at present will be eliminated through natural causes in course of time, as no one would be such a fool as to risk the choice of an independent body without accurate knowledge of the personalities in existing partnerships.

The basic salary might well be confined to that offered by the Executive Council through the Medical Practices Committee to the nominee to a vacancy in a partnership practice during a, say, six- or twelve-months preliminary assistantship such as is undertaken at present, to determine (1) whether the partners approve, and—Mr. Bevan please note—(2) whether the patients can cope with the incomer. At the end of that time the new partner would be sufficiently well known to create his own practice and income, whether by purchase and share in the general income or by gradual acquisition of overflow from the existing practitioners.

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their work, and they usually disappear, but the nutritional upset persists, and under the influence of lymph stasis the papilloma may ultimately in the course of years evolve into carcinoma without the intervention of any new factor.

In lupus cancer, x-ray cancer, and tongue cancer I have traced every stage of this process, and Mr. O'Connor will find the evidence fully stated in my book *The Genesis of Cancer* (Kegan Paul, London, 1931). I have not had the material for extending my observations to cancer of the penis and of the cervix, but it seems most unlikely that these forms of cancer are exceptions to a rule which appears to be general. The papilla is a little physiological engine. It must be supplied with not too rich a mixture at the right pressure, and must have a free exhaust. Lymph stasis following local bacterial infection violates all these conditions, and cancer is the ultimate consequence.

Temporary lymph stasis is seen in every focus of acute inflammation as Nature's method of inducing proliferation and repair. The enormous legs of elephantiasis show how intense is the proliferative impulse imparted to a tissue if the lymph stasis is permanent. It was from a case of elephantiasis which presented about fifteen separate epitheliomata on the affected limb that my researches started.—I am, etc.,

London, W.1.

W. SAMPSON HANDLEY.

A Method of Abdominal Palpation

SIR,—Dr. E. W. Price (Nov. 1, 1947, p. 703) argues in favour of abdominal palpation when the patient is sitting upright or leaning forward. I have been convinced for a long time that the abdominal palpation used on patients supine is frequently insufficient, and so I complete this first examination, when necessary, by the following methods:

(1) *Genu-cubital Position*.—This throws forward the deeper organs and enables one to distinguish some pains, especially those issuing from the right iliac fossa.

(2) *Orthostatic Position*.—When the patient leans forward, or is sitting, his legs are drawn up against his abdomen. Therefore I usually ask the patient to *lean backwards* and relax as much as he can. In order to make this possible he must be supported at the back. The physician behind the patient could support him, but this situation might prove awkward in some instances.

In order to avoid this difficulty I have had a "palpation board" constructed. It is 14 in. (35.6 cm.) wide and 6 ft. (1.83 m.) high. The top part of the board is attached to the wall at a distance of 17 in. (43.2 cm.), while the base of it is 24 in. (61 cm.) away; this inclines the board at an angle of 8–10 degrees.

To use the vertical palpation, one stands behind the board, between it and the wall. The patient is standing against the board in a leaning position and completely relaxed. The top part of the board is adapted with a groove; this enables it, when not in use, to be slid back against the wall so as not to take up too much room.—I am, etc.,

Geneva

M. J. DEMOLE.

General Anaesthesia and Surgical Shock

SIR,—In a recent article (1947) I cited evidence to prove that fainting and shock are identical in origin, and that both are due to overstimulation of the sympathetic nervous system, a prominent cause of which in civilized man is pain. Opponents of the theory of the sympathetic origin of shock have pointed out that shock fails to develop in conditions such as biliary and renal colic, in which pain is intense and prolonged (Moon, 1938). Painful (sensory) impulses, however, are not the only shock-producing impulses arising in damaged tissues (Moon, 1944).

That pain is capable of causing shock is clearly demonstrated by the effect, in pre-antiseptic days, of the introduction of general anaesthesia on the mortality from surgical operations (amputations). It is to be remembered that general anaesthesia, though effectively cutting off all painful impulses from the vasomotor centre via the sensorium, does not prevent the reception by that centre of non-sensory shock-producing impulses from the traumatized area via the spinal cord. To prevent the reception of such impulses spinal anaesthesia is required (Tomb, 1937).

In an address to the Hunterian Society in 1848 "On the Advantages of Ether and Chloroform in Operative Surgery" Dr. T. B. Curling quoted statistics showing that the death rate from surgical operations in the London hospitals during the year 1847–8 fell by 50% consequent upon the introduction of general anaesthesia—a result which must be attributed to the diminution of shock from the prevention of pain and the sympathetic overstimulation arising therefrom.—I am, etc.,

Sydney.

J. WALKER TOMM.

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- Moon, V. H. (1938). *Shock and Related Capillary Phenomena*, p. 100. Oxford Medical Publications, New York.
— (1944). *British Medical Journal*, 1, 773.
Tomb, J. Walker (1937). *Lancet*, 2, 1416.
— (1947). *N. Zealand med. J.*, 46, 131.

Thiouracil in Toxic Goitre

SIR,—In his letter (Dec. 6, 1947, p. 927) in connexion with our paper on "Thiouracil in Toxic Goitre" (Nov. 15, p. 759) Mr. Henri Ronalle mentions experiments in which thyroid tumours have been produced in rats treated with thiourea. Although these and previous experiments on the same lines are remote from the clinical use of thiouracil, a watch must be kept for neoplasm developing in the thyroid in patients taking thiouracil. After four years' experience we have not yet seen such a development nor has it been reported as far as we know. In the animal experiments the thyroid enlarges, whereas in our experience thiouracil often leads to a reduction in the size of the goitre.

Mr. Geoffrey Keynes and Dr. J. W. Linnell (Dec. 13, p. 971) think that the ten deaths in our 95 patients are to be attributed to thiouracil or perhaps failure to employ some other form of treatment. In nine of the ten this was not so, as shown by the details we gave. Three cases were too near death on arrival for any treatment to be effective; they had thiouracil for a few days to a few weeks before death. Six patients died from cardiovascular disease not immediately due to toxic goitre. The average age of these nine patients who died was 70 years.

As to the potency of thiouracil in restoring normal rhythm in goitrous fibrillation, our figure of 50% restored understated the case. This was because we included in the failures two patients who died shortly after coming under observation and before there was time for thiouracil to exert its effect, and also one, possibly two, patients who also had mitral stenosis. No quinidine was used for any patient. It therefore seems that thiouracil is almost the equal of thyroidectomy in converting goitrous fibrillation to normal rhythm. Lastly, as to the cases in which thiouracil is to be preferred to surgery in toxic goitre, we think that this applies to the elderly, thiouracil being the safer, particularly in those with evidence of degenerative or hypertensive cardiovascular disease. Again, in younger patients with smooth goitres of moderate or small size our results showed good control with thiouracil and a high proportion of remissions.—We are, etc.,

HAROLD COOKSON.

F. H. STAINES.

Bournemouth.

Tetraethylammonium Bromide

SIR,—In the annotation (Dec. 27, 1947, p. 1041) attention is drawn to the great possibilities of the drug tetraethylammonium bromide (T.E.A.B.). Stimulated by the early American publications, we obtained supplies of this drug early this year for clinical trial through the kindness of Dr. W. R. Thrower and Messrs. May and Baker. A short paper is being prepared giving the results of this trial, but it is not out of place to remark here that we have in general failed to produce the very favourable results reported by Collier *et al.* last June (*Annals of Surgery*, 1947, 125, 729).

Our main use of the drug was to attempt to reduce those symptoms most troublesome to hypertensives attending the medical out-patient department—i.e., headaches and giddiness—by weekly or fortnightly administration of T.E.A.B. intravenously or intramuscularly. We found that some patients obtained dramatic benefit, headaches disappearing for days or even weeks and vision clearing appreciably, so that the smaller newspaper previously unreadable could be read with comparative ease. This last statement was made quite independently by three separate out-patients who had never seen each other and to whom no suggestion had been made that improvement

the State, or will I have to send my patients to a midwife and another doctor on the "list"? Can the Minister or anyone interested in seeing this part of the Act implemented as it stands to-day tell us the answer to these questions?

The matter seems to me to strike at the very root of our acknowledged principle of being free to exercise the art and science of medicine.

If the "others" are debarred from practising midwifery in the Service, then the first sentence quoted can, at best, only be called a terminological inexactitude. The "others" have been passed as competent by their university or college professors or they would not be qualified, and in the absence of proved incompetence or negligence after qualification I can see no justification whatever for preventing them working in the Service. General practitioners might next be prevented from treating pneumonia as this would be the province of "physicians," from treating a whitlow as this would be the province of a "surgeon," from giving an anaesthetic as this would be the province of an "anaesthetist."

We are qualified practitioners. It has been and should continue to be our right to decide when we shall refer our patients to another practitioner. And that should be only when we feel in need of his help or advice—and not when we are instructed to do so from "higher authority."

My fears are not fancies. Many of us experienced interference in our professional freedom during the war, but that is not necessary now. Let us see that it shall not be so by our united voice. In this as in the other vital issues raised with the Minister it is only by unity that we can ensure that the best possible service is evolved for our patients and ourselves.—I am, etc.,

Harrogate.

D. C. WILLIAMS.

SIR,—A crucial question at this time which I think is being forgotten is, Do the public gain in health through the introduction of the Service at this stage?

The answer is obviously "No." The Service will call for more work among doctors owing to more visits by patients and the inevitable form-filling which is the necessary evil of any co-ordinated service. If we look upon the patients as the material with which we work, and whose medical well-being is our "finished job," then I'm afraid we're being forced on them at a time when workmen and material are of poor quality. We should have workshops (hospital beds)—the present numbers are inadequate; also assistants (nurses)—whose number is also inadequate.

A little variation in available foods may brighten a few in mind if not in body. Tuberculous-infected milk can still take its toll of children, and tuberculous patients still linger at home waiting for hospital beds. However bad these are, and however good are the excuses for not remedying them now, the introduction of a health service, which to the patient promises improvement in medical care, can do nothing—in fact, we could be made the scapegoat for its failure.

Let us accept the role of heaven-sent advisers to Aneurin Bevan and tell him gently "No," or at least "Not yet."—I am, etc.,

Newport, Mon.

H. J. HOUGHTON.

SIR,—I have never seen or heard discussed the obvious solution to the aim of the National Health Service—the desire of the public for the avoidance of doctors' bills. All patients desire private (in every sense) service, and pay for such when possible. Why not have universal private practice, raising panel patients to the private level, and let the £66 millions, plus insurance, pay the doctors' bills?—I am, etc.,

Farnham, Kent.

H. M. DENHOLM-YOUNG.

SIR,—In all the letters which you publish in your issue of Jan. 3 I have not observed any mention of the one solid ground upon which we may rightly take our stand with the solid psychological backing of the general public, a prerequisite to any success—i.e., the absence of the right of appeal to the High Court. No amount of "haggling" over fees or the precise method of remuneration would cut much ice with the public, enlist their sympathy, or enhance our prestige. But to refuse

us a right of appeal is a refusal of bare justice and reason, weakens the Minister's case, and is clearly illogical. *The Times* leader complained that the dispute was passing from the logical into the emotional. No emotion is involved in the right of appeal. I am heartily in favour of a basic salary.—I am, etc.,

Hassocks, Sussex.

CHARLES FRANKLYN.

SIR,—One hears the question asked, "What can we do if the Minister brings the Act into operation in spite of us?" with dark hints as to the penalties for strikes by bodies other than trade unions. Surely there can be no question of a strike against a non-existent employer? Again, is there anything to prevent the individual general practitioner from saying to a patient on and after July 5, "I am not in the Service. I am perfectly willing to treat you, but in case the Minister gets up to any hanky-panky about the recovery of medical fees I must ask you to pay me each time I see you, and I am sorry, but I cannot let you have any certificate for anything." Perhaps some of your readers learned in the law will let us have their views on our powers and limitations.—I am, etc.,

Launceston, Cornwall.

DONALD M. O'CONNOR.

The Treatment of Myasthenia Gravis

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If the "others" are debarred from practising midwifery in the Service, then the first sentence quoted can, at best, only be called a terminological inexactitude. The "others" have been passed as competent by their university or college professors or they would not be qualified, and in the absence of proved incompetence or negligence, after qualification I can see no justification whatever for preventing them working in the Service. General practitioners might next be prevented from treating pneumonia as this would be the province of "physicians," from treating a whitlow as this would be the province of a "surgeon," from giving an anaesthetic as this would be the province of an "anaesthetist."

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Farningham, Kent.

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their work, and they usually disappear, but the nutritional upset persists, and under the influence of lymph stasis the papilloma may ultimately in the course of years evolve into carcinoma without the intervention of any new factor.

In lupus cancer, x-ray cancer, and tongue cancer I have traced every stage of this process, and Mr. O'Connor will find the evidence fully stated in my book *The Genesis of Cancer* (Kegan Paul, London, 1931). I have not had the material for extending my observations to cancer of the penis and of the cervix, but it seems most unlikely that these forms of cancer are exceptions to a rule which appears to be general. The papilla is a little physiological engine. It must be supplied with not too rich a mixture at the right pressure, and must have a free exhaust. Lymph stasis following local bacterial infection violates all these conditions, and cancer is the ultimate consequence.

Temporary lymph stasis is seen in every focus of acute inflammation as Nature's method of inducing proliferation and repair. The enormous legs of elephantiasis show how intense is the proliferative impulse imparted to a tissue if the lymph stasis is permanent. It was from a case of elephantiasis which presented about fifteen separate epitheliomata on the affected limb that my researches started.—I am, etc.,

London, W.1.

W. SAMPSON HANDLEY.

A Method of Abdominal Palpation

SIR,—Dr. E. W. Price (Nov. 1, 1947, p. 703) argues in favour of abdominal palpation when the patient is sitting upright or leaning forward. I have been convinced for a long time that the abdominal palpation used on patients supine is frequently insufficient, and so I complete this first examination, when necessary, by the following methods:

(1) *Genucubital Position*.—This throws forward the deeper organs and enables one to distinguish some pains, especially those issuing from the right iliac fossa.

(2) *Orthostatic Position*.—When the patient leans forward, or is sitting, his legs are drawn up against his abdomen. Therefore I usually ask the patient to *lean backwards* and relax as much as he can. In order to make this possible he must be supported at the back. The physician behind the patient could support him, but this situation might prove awkward in some instances.

In order to avoid this difficulty I have had a "palpation board" constructed. It is 14 in. (35.6 cm.) wide and 6 ft. (1.83 m.) high. The top part of the board is attached to the wall at a distance of 17 in. (43.2 cm.), while the base of it is 24 in. (61 cm.) away; this inclines the board at an angle of 8-10 degrees.

To use the vertical palpation, one stands behind the board, between it and the wall. The patient is standing against the board in a leaning position and completely relaxed. The top part of the board is adapted with a groove; this enables it, when not in use, to be slid back against the wall so as not to take up too much room.—I am, etc.,

Geneva

M. J. DEMOLE.

General Anaesthesia and Surgical Shock

SIR,—In a recent article (1947) I cited evidence to prove that fainting and shock are identical in origin, and that both are due to overstimulation of the sympathetic nervous system, a prominent cause of which in civilized man is pain. Opponents of the theory of the sympathetic origin of shock have pointed out that shock fails to develop in conditions such as biliary and renal colic, in which pain is intense and prolonged (Moon, 1938). Painful (sensory) impulses, however, are not the only shock-producing impulses arising in damaged tissues (Moon, 1944).

That pain is capable of causing shock is clearly demonstrated by the effect, in pre-antiseptic days, of the introduction of general anaesthesia on the mortality from surgical operations (amputations). It is to be remembered that general anaesthesia, though effectively cutting off all painful impulses from the vasomotor centre via the sensorium, does not prevent the reception by that centre of non-sensory shock-producing impulses from the traumatized area via the spinal cord. To prevent the reception of such impulses spinal anaesthesia is required (Tomb, 1937).

In an address to the Hunterian Society in 1848 "On the Advantages of Ether and Chloroform in Operative Surgery" Dr. T. B. Curling quoted statistics showing that the death rate from surgical operations in the London hospitals during the year 1847-8 fell by 50% consequent upon the introduction of general anaesthesia—a result which must be attributed to the diminution of shock from the prevention of pain and the sympathetic overstimulation arising therefrom.—I am, etc.,

Sydney.

J. WALKER TOMB.

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— (1944). *British Medical Journal*, 1, 773.
Tomb, J. Walker (1937). *Lancet*, 2, 1416.
— (1947). *N. Zealand med. J.*, 46, 131.

Thiouracil in Toxic Goitre

SIR,—In his letter (Dec. 6, 1947, p. 927) in connexion with our paper on "Thiouracil in Toxic Goitre" (Nov. 15, p. 759) Mr. Henri Roualle mentions experiments in which thyroid tumours have been produced in rats treated with thiouracil. Although these and previous experiments on the same lines are remote from the clinical use of thiouracil, a watch must be kept for neoplasm developing in the thyroid in patients taking thiouracil. After four years' experience we have not yet seen such a development nor has it been reported as far as we know. In the animal experiments the thyroid enlarges, whereas in our experience thiouracil often leads to a reduction in the size of the goitre.

Mr. Geoffrey Keynes and Dr. J. W. Lionell (Dec. 13, p. 971) think that the ten deaths in our 95 patients are to be attributed to thiouracil or perhaps failure to employ some other form of treatment. In nine of the ten this was not so, as shown by the details we gave. Three cases were too near death on arrival for any treatment to be effective; they had thiouracil for a few days to a few weeks before death. Six patients died from cardiovascular disease not immediately due to toxic goitre. The average age of these nine patients who died was 70 years.

As to the potency of thiouracil in restoring normal rhythm in goitrous fibrillation, our figure of 50% restored understated the case. This was because we included in the failures two patients who died shortly after coming under observation and before there was time for thiouracil to exert its effect, and also one, possibly two, patients who also had mitral stenosis. No quinidine was used for any patient. It therefore seems that thiouracil is almost the equal of thyroidectomy in converting goitrous fibrillation to normal rhythm. Lastly, as to the cases in which thiouracil is to be preferred to surgery in toxic goitre, we think that this applies to the elderly, thiouracil being the safer, particularly in those with evidence of degenerative or hypertensive cardiovascular disease. Again, in younger patients with smooth goitres of moderate or small size our results showed good control with thiouracil and a high proportion of remissions.—We are, etc.,

HAROLD COOKSON.

F. H. STAINES.

Bournemouth.

Tetraethylammonium Bromide

SIR,—In the annotation (Dec. 27, 1947, p. 1041) attention is drawn to the great possibilities of the drug tetraethylammonium bromide (T.E.A.B.). Stimulated by the early American publications, we obtained supplies of this drug early this year for clinical trial through the kindness of Dr. W. R. Thrower and Messrs. May and Baker. A short paper is being prepared giving the results of this trial, but it is not out of place to remark here that we have in general failed to produce the very favourable results reported by Coller *et al.* last June (*Annals of Surgery*, 1947, 125, 729).

Our main use of the drug was to attempt to reduce those symptoms most troublesome to hypertensives attending the medical out-patient department—i.e., headaches and giddiness—by weekly or fortnightly administration of T.E.A.B. intravenously or intramuscularly. We found that some patients obtained dramatic benefit, headaches disappearing for days or even weeks and vision clearing appreciably, so that the smaller newspaper previously unreadable could be read with comparative ease. This last statement was made quite independently by three separate out-patients who had never seen each other and to whom no suggestion had been made that improvement

in visual acuity would result. The easing or abolition of headache for as long as several days surprised us, as the effect of the drug on the blood pressure is short-lived, lasting from a few minutes to at most an hour or two. We therefore substituted control injections of saline, elaborate and lengthy readings of blood pressure being taken as before, retinæ and pupils being examined every few minutes. Equally satisfactory results in improvement in vision and lessening of headache were reported by the patients after such "dummy" injections.

Apart from this small group where improvement was effected by suggestion no really satisfactory results were obtained with the drug, and the high hopes we held for its being useful in treatment of hypertensive patients unsuitable for sympathectomy have not been fulfilled. We have found the effect of the drug on skin temperature of the extremities variable and erratic and less satisfactory than simpler methods. In some cases, little or no drop in blood pressure resulted, though most patients had some depression of systolic and diastolic pressure for 3 to 30 minutes after intravenous injection of 100-600 mg. of the drug. The rate of the injection appeared to play a part as well as the dosage given, the more rapid the administration of the drug the more the effect on the blood pressure.

As stated in your annotation, T.E.A.B. is an impracticable therapeutic agent, but it may prove of use to the research worker. We have not found it a useful drug either in testing rises in peripheral skin temperature or in lessening symptoms in hypertensive subjects. In the last group of cases the psychogenic element features largely in so many cases, and it is easy to produce symptomatic relief by suggestion backed by elaborate investigation. Nevertheless it is possible that new uses may yet be found for this drug, and our trial is still in progress.—I am, etc.,

London, S.W.1.

F. DUDLEY HART.

Acute Non-specific Gastro-enteritis

SIR,—We note with interest the letter from Dr. William Forster (Dec. 13, 1947, p. 971) describing an outbreak of acute non-specific gastro-enteritis in a mental hospital, and we would like to comment on a few of the points made in it.

Treatment and Prophylaxis with Sulphonamide Drugs.—In our experience of a number of outbreaks, some in mental hospitals, treatment of established cases of gastro-enteritis of this type with sulphaguanidine has been without effect on the duration and severity of illness as compared with controls treated symptomatically, a finding in agreement with that obtained by Dr. Forster, using phthalylsulphathiazole. Dr. Forster suggests, however, that "sulphonamides were effective in prophylaxis." Examination of the data given in his letter yields little to support this conclusion, for the drugs were administered when the ward outbreaks had been in progress for some days (9-17 days) and when the attack rates were declining naturally. Again, at least four patients commenced the disease while they were actually receiving prophylactic sulphonamide.

In our experience the duration of outbreaks in mental-hospital wards where no prophylaxis had been undertaken was relatively short, due possibly to the rapid spread of the disease through an unchanging population. Thus in a Leicester mental-hospital outbreak¹ the duration of ward outbreaks on the male side of the hospital ranged from 7 to 14 days (mean 9.8 days) and on the female side from 12 to 22 days (mean 18.4 days). There was therefore considerable variation between wards, but the figures are of the same order as those (12, 15, and 20 days) occurring in Dr. Forster's wards in which prophylaxis was undertaken. The variability between untreated wards makes deductions concerning the value of prophylactic treatment extremely hazardous.

Variation in Attack Rates in Wards with Different Populations.—It was very interesting to note the uniform gradation of the size of attack rate in different wards as given in the table of Dr. Forster's letter. Thus, wards having overcrowded low-grade mental patients tended to have higher attack rates than the wards which were less crowded and had patients of a higher mental grade. We have observed a similar gradation in two mental-hospital outbreaks.² This may be partly a reflection of the degree of day-time dispersion in different ward populations, but investigation of these differences and their relation to the mode of spread of the disease might be illuminating. The problem might be approached by comparing the attack rates in "non-specific gastro-enteritis" in these varying ward populations with the rates observed on the one hand in diseases whose method of spread is intestinal-oral, such as bacillary dysentery, or on the other hand "airborne," such as influenza.

Mode of Spread of the Disease.—In the mental-hospital outbreaks that we have investigated, as in that investigated by Dr. Forster,

case-to-case infection rather than water or massive food-borne infection has been the pattern of spread. Dr. Forster states, however, that the infection was "probably airborne" in his outbreak. It would be interesting to know the facts which led Dr. Forster to this conclusion. It is a commonly held belief that the disease is spread by the "airborne" route, but we are in ignorance of the epidemiological method which enables a distinction to be made between "airborne" and case-to-case contact spread of infection. The mere fact that the disease is very infectious, has high attack rates and a particular seasonal incidence, is not by itself sufficient evidence for a respiratory mode of spread.

The findings of Reimann *et al.*,³ who transmitted a similar gastro-enteritis to student volunteers when they inhaled nebulized filtrates of throat washings or stool but failed to infect volunteers by feeding stool filtrate, have influenced the interpretation of outbreaks in this country. Reimann was, however, the first to point out that his experiments were undertaken under difficult circumstances in that the volunteers could not be isolated from the rest of the student body which was experiencing natural attacks of the disease. Further, examination of his figures reveals that the incubation period was between 9 and 21 days in 42% of the volunteers having gastro-enteritis, and as the natural incubation period is 3-5 days it is questionable whether these later cases were in fact due to inoculation. The volunteers were inoculated in batches on six different days using, from (presumably) different donor material which consequently may have been of different activity. The results obtained by Reimann should, therefore, be applied with caution until they have been confirmed.

Recently a well-planned and controlled experiment has been undertaken in New York by Gordon and colleagues.⁴ These investigators, using known susceptible and carefully isolated volunteers, have shown that a clinically similar gastro-enteritis of the type under discussion can be transmitted by ingestion of filtered stool or unfiltered throat washings but not by the inhalation of nebulized throat washings known to be infective by ingestion. It remains to be proved, of course, that the disease described by Reimann, the New York workers, and various investigators in this country is in fact the same regardless of the similarity of clinical picture, but enough has been said to illustrate the need for caution in labelling the disease an "airborne" infection.—We are, etc.,

B. P. MARMON.
G. T. COOK.

¹ ² These data are quoted with the kind permission of Dr. K. K. Drury, Carlton Hayes Mental Hospital, Narborough, and Dr. T. W. Davidson, City Mental Hospital, Humberstone, Leicester.

³ *Proc. Soc. exp. Biol., N.Y.*, 1945, 59, 8.

⁴ *J. exp. Med.*, 1947, 86, 409.

Penicillin in Otitis Media

SIR,—With reference to the report of the meeting of the Section of Otolaryngology of the Royal Society of Medicine (Dec. 27, 1947, p. 1049) may I be permitted to give a general practitioner's experience in the treatment of otitis media with systemic penicillin, both in acute and chronic cases?

I use the oil-wax suspension of 1,250,000 units in 10 ml., giving a single injection of 200,000 to 300,000 units daily. I had eleven cases of acute otitis media with otorrhoea in children between the ages of 2 and 14, and, with the exception of one, there were no recurrences from two to eight months after injection. The discharge ceased on the second or third day and hearing became normal within fourteen days. I gave another course of penicillin to the recurrent case, and the patient has been free from discharge for the last four months. I have also dealt with six cases of otorrhoea due to chronic otitis media, out of which three recurred, the other three having now been free from discharge from eight to thirteen months. One of the recurrent cases had another course of penicillin injections and has now been free from discharge for the last four months.

I give herewith a short history of a case of chronic otitis media:

A man aged 44 developed a right otitis media with otorrhoea 36 years ago. He had been attending hospital ever since and was treated with peroxide ear drops. He was never free from aural discharge for more than two months. His hearing was becoming impaired and he felt dizzy on bending down his head. In November, 1946, I gave him one injection daily of 250,000 units of penicillin calcium in oil-wax suspension for five days. The discharge ceased on the third

day, his dizziness disappeared in a week, and after more than thirteen months the discharge has not recurred, his hearing is greatly improved, and his dizziness has ceased.

I write in order to refute the claim that four-hourly injections are necessary, as stated by Mr. I. Simson Hall (Dec. 27, 1947, p. 1050), and also to make a strong appeal to other doctors to try treating the chronic cases of otitis media with large doses of penicillin, as suggested above, since the number of cases of otitis media in the country must be enormous, and apart from the inconvenience of discharging ears and deafness there is always a danger of more serious complications. Operation, apart from its risk, is not always effective, and patients are usually reluctant to submit to it.—I am, etc.,

Sheffield, 5.

I. GOTTLIEB.

Dicoumarol

SIR,—From the vast literature on the pharmacological action and therapeutic use of dicoumarol there appear several findings which are of importance in the control of dicoumarol therapy: (a) It is not advisable to reduce the prothrombin to such a degree that the ordinary blood-clotting time becomes prolonged.¹ (b) Very low prothrombin concentrations must be attained before the clotting time is significantly altered.² (c) Intravascular thrombosis rarely occurs in patients on dicoumarol if the prothrombin is kept below 30%, while haemorrhagic complications are rare if the prothrombin is kept above 10%.³ (d) In the Quick method of prothrombin estimation the source of thromboplastin is acetone-dried rabbit brain.^{4,5}

The clotting time (Lee and White method), which Dr. M. J. Pivawer (Dec. 6, 1947, p. 928) recommends as a means of controlling the dosage of dicoumarol, has very little experimental evidence to support it. From my own experience the clotting time does not appear to give sufficient warning of the approach of, nor in some cases the arrival at, the danger level of 10% prothrombin. This is illustrated in the following case.

Case 1.—A post-operative patient received 650 mg. dicoumarol over a period of three days. On the fourth day the prothrombin concentration was found to be less than 10% by the Quick method and 35% by the Fullerton modification⁶ of the Quick method. The patient developed a haematoma at the site of operation. At this stage the clotting time (Lee and White method) was normal and no different from the clotting time estimated before the administration of dicoumarol.

Full details of Quick's method are to be found in his excellent monograph. I have found acetone-dried human brain to give as satisfactory results as acetone-dried rabbit brain. For every batch of dried brain which one obtains a graph must be plotted correlating prothrombin times with prothrombin concentrations. In the Fullerton modification⁶ of the Quick method Russell-viper venom is the source of thromboplastin. The results are often misleading and may cause an overdosage with dicoumarol. This is illustrated by the following case.

Case 2.—A post-operative case which developed a thrombophlebitis received 1,700 mg. of dicoumarol over a period of eight days. Prothrombin estimations were carried out daily by the Fullerton modification. At no time during the eight days was the prothrombin found to be below 25%, which, in view of the large amount of drug administered, was rather curious. On the eighth day I estimated the prothrombin by both methods. The prothrombin was well below 10% by Quick's method and about 25% by the Fullerton modification. Treatment with dicoumarol was immediately stopped, but the prothrombin concentration continued to fall. Six days later the patient had a severe epistaxis, and it was noticed that his operation scar was not healing. At this stage the prothrombin was less than 5% (Quick method) and about 20% (Fullerton modification). Fortunately in this case the prothrombin began to increase the next day and bleeding stopped. About six days elapsed before the prothrombin was over 30%.

Dr. Frank Marsh (Dec. 20, 1947, p. 1009) advocates a method in which "perfectly fresh viper venom of (if possible) guaranteed potency" is required. This method, in which "it may be necessary to do twelve tests on one specimen of plasma," seems to me to be complicating the issue. With the Quick method the results are so concordant that it is rarely necessary to use more than three tubes per specimen of plasma.

My conclusions are, therefore, that the most reliable method at present for the control of dicoumarol therapy is the daily

estimation of prothrombin concentration (sometimes called prothrombin activity) by means of Quick's method, in which the source of thromboplastin is acetone-dried brain. Using this method I find that 24 hours after the administration of 300 mg. dicoumarol the majority of cases show a prothrombin concentration of 50% or lower. It is these latter figures which determine the dose to be given on the second day. Most workers will agree with your correspondents that heparin is most valuable, in certain cases, during the period when dicoumarol has not yet lowered the prothrombin concentration to the optimum range of 10 to 30%.—I am, etc.,

Manchester.

H. LEMPERT.

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- ² Davidson, C. S., and Macdonald, H. *ibid.*, 1943, 205, 24.
- ³ Allen, E. V., *J. Amer. med. Ass.*, 1947, 134, 323.
- ⁴ Quick, A. J., *ibid.*, 1938, 110, 1658.
- ⁵ ———, *The Haemorrhagic Diseases*, Springfield, Illinois, U.S.A., 1942.
- ⁶ Fullerton, H. W., *Lancet*, 1940, 2, 195.

SIR,—We have been interested in the increasing correspondence regarding the administration of dicoumarol and feel that the letter of Dr. M. J. Pivawer (Dec. 6, 1947, p. 928) calls for critical comment. First, in our experience Quick's method of prothrombin-time estimation has given satisfactory results. There are one or two practical points which are of importance. The blood required for the test should be withdrawn at the same time each day, preferably before a meal, and the time and timing of each stage of the technique should be consistent throughout. It is imperative that clean and smooth test-tubes be used for the test. We have found that the "stypven" solution (thrombokinas) requires renewal every third day, and if a new solution is made up from the same batch and overlapped with the old solution errors from this source are eliminated. We have found the first appearance of granularity to be a reliable end-point of the reaction. We have investigated the usefulness of the lecithin-accelerated method of Witts and Hobson, and, although impressed at first by the sharpness of the end-point, we now believe that this advantage is offset by the shortness of the actual time measured and the possible disadvantage of introducing one more variable element.

Unexpected minor variations of prothrombin time do sometimes occur during dicoumarol administration, but we have found that by graphing the daily results and by intelligent anticipation it is possible to maintain a patient in the therapeutic range with safety. The dosage we have employed has been 300 mg. of dicoumarol on the first day, and 200 mg. on the next two days, followed by 100 mg. daily as indicated by prothrombin time. We aim to keep the prothrombin time between two and two and a half times the result determined before therapy is begun.

Secondly, we would strongly deprecate attempts to treat patients in any circumstances which do not permit of accurate daily prothrombin-time estimation. It is generally agreed that the effect of dicoumarol on the coagulation time is less consistent than the effect on the prothrombin time. Indeed, lengthening of the coagulation time is usually not seen until quite marked increase in the prothrombin time has occurred.

Thirdly, the object of dicoumarol therapy is to prevent intravascular clotting, and if therapy is to be fully effective the coagulability of the blood must not be allowed to return to normal during the treatment.—We are, etc.,

London, E.C.1.

G. CANTL.

D. J. ROBERTSON.

German Tropical Medicine

SIR,—I want to make a comment to the leading article, "German Tropical Medicine," in the *Journal* of Nov. 1, 1947 (p. 697). You write: "Bacillary dysentery caused much trouble, particularly in Poland in 1939 and in North Africa. Treatment by sulphonamides, especially sulphapyridine, was eventually introduced, although much later than in the Allied forces."

If there is the implication that Austrian and German literature, as we are using the same language, are taken together, this statement is not correct. In fact I used "prontosil" for the treatment of bacillary dysentery much earlier than the Allied forces (see Gorlitzer, V., *Schweiz. med. Wschr.*, 1940, 70, 281; Gorlitzer, V., *Klin. Med., Wien*, 1947, 2, 862).—I am, etc.,

New Delhi.

V. GORLITZER.

H.T.S.T. Pasteurization

SIR,—In your leading article of Dec. 6, 1947 (p. 914), "High-temperature Short-time Pasteurization," the efficacy of sterilization is very clearly set forth. No reference, however, is made to the effect upon vitamins. Presumably this has been estimated and been found to be no more harmful than that of the "holder process." It would be gratifying if some assurance could be given on this point.—I am, etc.,

London, W.1.

HUMPHREY NEAME.

"Unjustified" Use of d-Tubocurarine Chloride

SIR,—Many of your readers will be well aware that the advancement and perfection of obstetric anaesthesia is a cause very near to my heart, and that in these very columns I have had to defend at least one new method against the attacks of the sceptical. It was with exceptional interest, therefore, that I studied the recent replies to my letter (Nov. 22, 1947, p. 840) from Dr. H. Vincent Corbett (Dec. 13, p. 976) and Mr. Percy Malpas (Dec. 20, p. 1009). After such impressive testimony it is obvious that I overstated my ease and I unreservedly withdraw the word "unjustified" (even when garnished with inverted commas to make it less unpalatable) and hasten to effect a remorseful retreat from the ranks of the reactionaries, where I appear temporarily to have strayed. Having met my Liverpool friends more than half-way, however, I would like to add a few comments and qualify my repentance.

Of recent years, when giving general anaesthetics for caesarean section, I have been in the habit of utilizing a very light plane of cyclopropane anaesthesia with similar results to those described by Dr. T. Cecil Gray (April 5, p. 444), with the exception that our mothers did not recover consciousness "as the last stitch was tied." They did, however, make a reasonably rapid recovery—in all senses of the word—unless they happened to be in poor shape prior to operation. I cannot see that there is any virtue *per se* in awaking while in the operating theatre so long as the patient does recover uneventfully.

As is evident from this correspondence, obstetric opinion is still divided as to the necessity for abdominal relaxation during caesarean section. My remarks on the subject were of course a quotation—as will be seen from my letter—but on thinking things over I realize that I was quoting an opinion prevalent during the height of the ethereal era, when patients were very much more upset by general anaesthetics than is now the case, and also when even a small increase in anaesthetic depth might make all the difference between a lively or a lethargic infant. Under such circumstances abdominal relaxation could only be secured at the risk of a higher rate of foetal mortality and was in consequence severely discouraged.

With regard to my theory of the stimulating action of light levels of cyclopropane anaesthesia and of thiobarbiturates upon the uterus, I feel sure that Dr. Vincent Corbett cannot seriously believe that we were naive enough to base our opinion solely upon the incident—however forcefully it brought itself to our notice—of the "eyeful of liquor." In the case of thiopentone we found it next to useless for external version, owing, as far as we could judge, to tenseness of the uterus—a condition which appeared evident also during caesarean section under the same anaesthetic. If pushed to deep planes cyclopropane could be used for external version, but in the light planes employed for obstetric anaesthesia we noted the following: a tense uterus during caesarean section (the mother not being in labour) which retracted eagerly after delivery of the foetus and placenta; fairly frequent and forceful contractions during forceps delivery; and, after delivery per vias naturales, the placenta was rapidly extruded (often within a matter of minutes) and the uterus retracted to a "hard ball," rarely required the administration of pituitrin or ergometrine, and permitted of but a very small blood loss. All this naturally makes me somewhat sceptical as to the role which curare might be thought to play when thiobarbiturates, light cyclopropane, and d-tubocurarine chloride act upon the uterus in synergistic trinity.

Before the advent of curare there is little doubt that the administration of thiopentone for caesarean section reduced the whole performance to a surgical sleight of hand. Owing to the effect of the anaesthetic upon the foetus only rapid surgeons could operate successfully, and at least one obstetrician (not at King's), with a reputation for speed, is reputed to have incised skin, linea alba, peritoneum, uterine wall, and the baby's back in one heroic sweep—a "classical" operation in every sense of the word! Dr. Gray's introduction of d-tubocurarine chloride into this type of surgery, with its known property of reducing the quantity of anaesthetic otherwise necessary, appears to single out the blessings of thiobarbiturates

without their obstetric disadvantages, and I am now quite converted to the idea. If anybody is still on speaking terms with me in Liverpool I would very much like to visit them and see this anaesthetic at work.—I am, etc.,

Epsom, Surrey.

A. H. GALLEY.

Oxygen Unit for Newborn Infants

SIR,—I was interested in Dr. P. C. D. MacClanely's account (Dec. 13, 1947, p. 970) of an oxygen unit for newborn infants. We have had in use since June, 1947, at the City Lodge Hospital, Cardiff, a unit very similar to the one described, the only important difference being that the sides are made of separate pieces of 1/4 in. or 3/16 in. (0.6 or 0.45 cm.) "perspex" cemented together, and thus can be made reasonably easily by the hospital staff. We have also a larger unit which will completely cover the whole of the normal maternity cot as used at City Lodge Hospital. Both types have a detachable airtight lid allowing free access to the infant undergoing oxygen therapy without necessitating the removal of the whole unit. These units, which were designed and made by the hospital occupational therapist with the help and advice of the medical and nursing staff, have done excellent work in the hospital premature nursery.—I am, etc.,

Cardiff.

J. GREENWOOD WILSON.

Improvised Sterilizer

SIR,—The sketch illustrates an aluminium saucepan (A) with lid (B): also a "chip-basket" (C), from which the long handle has been removed, and a copper (or other rustless metal) rod (D), with a perforated-disk base. This rod pierces a hole through a metal sleeve (E) in the centre of the lid, from which the knob has been removed. The instruments to be sterilized by boiling are placed in the basket and immersed in water in the pan. The whole is boiled over a gas-ring, or, if preferred, an electric saucepan can be used. After boiling, the rod is used to lift the lid and basket from the pan. The water is poured away and the lid and basket replaced. The pan can be then gently heated to dry the instruments.

The advantages are: (1) The instruments are lifted out of the water and can be dried and cooled without contamination. Sterile forceps are ready for assembling syringes, etc., without handling the latter with fingers. (2) The whole outfit can be bought at any hardware stores and the alterations made by any tinsmith. (3) It is cheap: this cost altogether 16s. 3d.—I am, etc.,

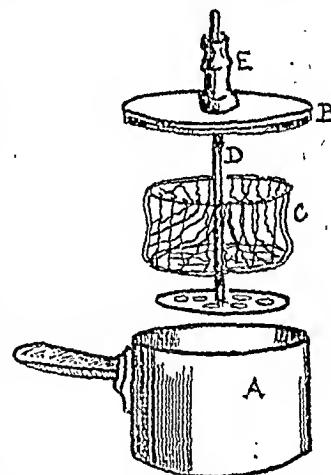
Keighley, Yorks.

WRIGHT LAMBERT.

Natives of the Tropics

SIR,—During my stay in this country I have been attending various hospitals both in London and in Edinburgh. In all these places I have often heard the senior as well as junior doctors use the word "native" when referring to Indians, Africans, or people of any other tropical country. To give an example: "The natives suffer from beriberi more often than the Englishmen." The word "native," a reference to any dictionary will reveal, applies to the indigenous race of a country. When an Englishman therefore uses the word "natives" he should by rights refer to the natives of England. But this is not the case. The word is used by him as a contemptuous reference to the tropical races.

My coloured fellow-students who hail from China, Malaya, Burma, and India and I have often discussed this matter in the institute where I am studying. It has on quite a number of occasions caused us annoyance. We would rather be called Indian, Chinese, or Malayan than just a "native." I shall of course have no objection to being called a native of India, just



as a Frenchman should have no objection to being called a native of France, an American a native of America, or an Englishman a native of England. The word "native" used by itself when referring to the tropical races rouses in the minds of the coloured people a spirit of hatred, for it naturally reveals an arrogance on the part of the individual who uses it. I am writing this letter as a plea to the European doctors here to at least respect the feelings of the "natives" who study with them.—I am, etc.,

London, W.C.1.

M. V. CHARL.

Measles Prophylactic

SIR.—Dr. Harwood Stevenson (Dec. 6, 1947, p. 928) and Dr. A. H. Morley (Dec. 27, p. 1054) have advocated the intramuscular injection in children of parental whole blood as a routine procedure in cases of measles contacts. May I suggest that a very strong warning is needed against the indiscriminate use of such a procedure, especially in girls, because of the danger of Rh sensitization? Such sensitization, produced by the injection of Rh-positive blood rather than by pregnancy, is liable to produce a severe form of congenital haemolytic disease and, what is worse, to produce it in the first infant. The general practitioner should therefore in each individual case of contact, especially if this is a girl, balance the advantage of attenuating an attack of measles against the danger of ruining for ever this girl's chances of giving birth to normal or even live infants.

That this possibility although admittedly rare is nevertheless real and not of theoretical interest only is well demonstrated in the following case taken from Wiener's paper on the "Pathogenesis of Erythroblastosis Fetalis" (*Amer. J. Dis. Child.*, 1946, 71, 25).

Case 2.—A young woman's first pregnancy resulted in an unexplained stillbirth. She was referred to us by her physician to find out whether the Rh factor had any bearing on this problem. Results of blood tests were as follows:

Blood	Group and Subgroup	MN Type	Rh Type
Husband (wife)	0	MN	Rh +
Patient (wife)	0	M	Negative

The patient's serum did not contain any anti-Rh agglutinins, but it did contain Rh-blocking antibodies of a titre of 10. This explained the stillbirth, but it was not clear how the patient had become sensitized to the Rh factor, as she had never received a blood transfusion. On being questioned further, she recalled that ten to twelve years previously she had been exposed to measles and was given an intramuscular injection of her mother's blood, the then current method of prophylaxis. The supposition that this was the source of the sensitization was confirmed when tests of the mother showed her to be Rh-positive (group O, type Rh 2). Ironically, the patient and her mother recalled that one of us (W.) had given the injection at their paediatrician's request.

If the general practitioner has strong reasons to desire the prevention or attenuation of an attack of measles he should ask for a determination of the Rh type of the donor and the recipient. With the increasing facilities for Rh-typing, the delay involved could be made quite short, perhaps a few hours only, and in view of the grave consequences this delay and the additional labour are fully justified.—I am, etc.,

Newcastle-upon-Tyne

S. A. DOXI:DIS.

Two Mongol Children in a Family

SIR.—I was very interested in Dr. G. H. Auden's memorandum (Nov. 19, 1947, p. 869), and in view of his opinion that any such cases should be put on record because of the rarity of the occurrence, I am reporting an instance I encountered recently.

As in Dr. Auden's case, both parents were young healthy country folk, both aged 29 when the first child, a girl, was born on April 10, 1936. The second child, a boy, was born on April 23, 1942. Physically they are typical cases—brachycephalic, with short buccal cavities, short terminal phalanges, slight crooking of the little fingers, and hypotonia. There is no nystagmus, but the girl has defective vision. General development is poor, and both are imbecile. Temperamentally, they differ. The girl is rather obstinate, but on the whole happy and contented. The boy is fretful and irritable. Both are fond of music.—I am, etc.,

West Herts.

HELEN M. KEITH.

POINTS FROM LETTERS

A Sign of Appendicitis

Dr. ADALBERT DESSEWFFY (Budapest) writes: In cases of chronic appendicitis, and less frequently in subacute ones in which there are, in spite of the intraperitoneal position of the appendix, but few decided intraperitoneal symptoms, we can prove the disease of the appendix under circumstances by extraperitoneal symptoms. The technique of the examination is as follows: The patient, who is lying horizontally on his back, must be called upon to lift his upper body somewhat from the base without the help of his arms, merely by his trunk muscles, and to turn in the meantime his upper body at first entirely to the right and then entirely to the left, in order to make not only a rotating movement but also a torsion of the lumbar spinal column. In order to facilitate his making these movements we must fix his pelvis by pressure against the base. Particularly the ilio-psoas, as well as the quadratus lumborum supported by the deep back muscles, are contracted in these movements. In turning the lumbar spinal column in the opposite direction—that is, to the left—it will be the psoas, and in turning it laterally—that is, to the right—it will be the quadratus, which is more contracted. A pain in the appendix region... after turning the lumbar spinal column to the opposite side—that is, to the left—is characteristic of illness of the appendix... Sign "D" must not be overestimated; it must only be valued as part of the entire diagnosis. It must occur only unilaterally on the right side. At repeated examinations the pain will appear always at the same place—that is, in the appendix region. In gynaecological diseases "D" sign will always be negative. A pain appearing on turning the lumbar spinal column laterally to the right is mostly situated somewhat above the appendix and will rather indicate a lumbago. A rather rare pain may occur in association with sign "D" in the appendix region during active movements of the right thigh bent or much adducted or turned outwards at the hip joint when we oppose these movements.

Penile Carcinoma

Mr. DAVID M. SERR (Leeds) writes: In the discussion on the relative immunity of Jewesses to carcinoma of the uterus your correspondent states (Dec. 20, 1947, p. 1010) that this immunity is almost certainly due to the circumcision of the male. This being an unsupported statement, it would be as wise, I think, to stress what may be even more important a contributory factor—namely, the Jewish laws of separation, forbidding coitus during and for seven days after menstruation. Weinberg and Rubin, when discussing the significance of the statistical figures they had collected on this subject, suggest that the immunity is due to something in the mode and habit of life of married Jewish women. Dr. Sourasky, in a paper read at the International Cancer Conference (London, July, 1928), suggests the view that the observance of the Mosaic ritual laws by the mass of Jewish women contributed to the low incidence of cancer of the uterus. While it may be fairly logical to attribute to circumcision the immunity from cancer of the penis in Jewish males. I think it is more reasonable to stress the separation laws as being the more important contributory factor in the immunity of Jewish females from uterine carcinoma. In view of Mr. Sampson Handley's observations among the Fijians it would be interesting to know if there is in their mode of life anything comparable to this to account for their immunity from the disease.

Belladonna Poisoning

Mr. I. ISAACS (Merthyr Tydfil) writes: With reference to "Per Ardua ad Asylum's" remarks on belladonna poisoning (Dec. 27, 1947, p. 1056), he surely has given concrete examples of the dangers that exist under the present Army method of allowing dispensing to be carried out by orderlies. The obvious and vital necessity of all dispensing to be done only by qualified pharmacists is striking if we are to remove the great risk to human lives that must exist under the present system....

Plebsicite

Dr. M. DOWNEY (Leicester) writes: May I, as a general practitioner, suggest that the next plebsicite paper have only one question for answering—viz., Do you agree to enter the National Health Service in its present form? Yes or No to this one question will decide whether the profession wants to become a State-salaried service or not.

Coupons for Colostomy Belt

Dr. CHARLES J. SWANSON (Aberfeldy, Perthshire) writes: It has recently been brought to my notice that the Board of Trade demand from the sufferer from colostomy three clothing coupons before he can be supplied with the belt which makes life bearable for him. This apparently trifling exaction surely displays a callous indifference to human suffering and is one of these insulting pin-pricks which display a grossly inhuman injustice....

Obituary

D. P. FITZGERALD, B.A., M.D.

Prof. D. P. Fitzgerald, emeritus professor of anatomy at University College, Cork, died in Cork on Jan. 2, aged 76.

Denis Patrick Fitzgerald was born and educated in Cork, and in 1870 he received the degree of B.A. from the Royal University of Ireland. He began his medical studies at Queen's College, Cork, in the following year, obtaining many scholarships, exhibitions, and prizes as a medical student. He graduated M.B., B.Ch., B.A.O. in 1896. In the next year he became house-surgeon to the Cork Eye, Ear, and Throat Hospital and was made demonstrator of anatomy at Cork. This was the beginning of a long academic career. In 1907 he became lecturer in osteology, and from that time onward acted as deputy to Bertram Windle, then professor of anatomy; in the same year he was appointed lecturer in anatomy at the Cork Municipal School of Art. In 1909, on the resignation of Prof. Windle from the chair, Fitzgerald was appointed professor of anatomy at Queen's College, later known as University College. He acted as a member of the Senate of the National University, and served also on its Board of Studies. He was an examiner in anatomy at the Royal College of Surgeons in Ireland for many years. In 1940 the Senate of the University recognized his long service by conferring upon him the degree of M.D. In this year also the Faculty of Medicine at Cork made him its dean, an office which he held until his retirement from the chair in 1942, when he became professor emeritus.

"D. P.," as he was affectionately termed not only by his own students but also by many in the sister colleges, will be long remembered for his quiet and gentle manners. He was essentially a dissecting-room anatomist, one of the group which laid the topographical foundation from which the first adventures in aseptic surgery were launched. His published papers were osteological, except for an account of certain abnormal ocular muscles published in the *Journal* in 1898. His interests extended beyond the walls of his department. Like most Irishmen he had a strong sense of history, and was a recognized authority on the history of his native city and county, a topic on which he wrote much. He is survived by his widow and eight children, two of whom are members of the medical profession.—R. O. R.

JOSEPH NICHOLAS SANKEY, M.B., F.R.C.S.

Surgery in the Midlands and the Birmingham Medical School in particular have suffered a severe loss in the sudden and untimely death of Joseph Sankey, whose death on Dec. 30, 1947, at the age of 47, was due to a coronary thrombosis. His busy consulting practice, which was based on the support of a wide circle of professional friends, and his hospital appointments on the staff of the Queen Elizabeth Hospital, Birmingham, and the Guest Hospital, Dudley, occupied him so completely that he was left with little time for writing or leisure, and for months before his death he was worn down by overwork. During the period of the war especially he was taxed to the limit by his preoccupation with the Facio-Maxillary Unit at Barnesley Hall, the heavy work of which he shared with Mr. Harold Round. His special interest in plastic and facio-maxillary surgery slowly emerged some years ago out of a broad basic training in general surgery, and latterly he was seeking to shed some of his general surgical work and concentrate more and more on his specialty. However, he never took a clear-cut step to achieve this. Loyalty to old practitioner friends, and a sincere attachment to the wider aspects of surgery, delayed his decision, and his professional life was over full largely because of this double burden.

Joseph Nicholas Sankey was a student at Birmingham and at the Middlesex and London Hospitals. He graduated M.B., Ch.B. in 1923, and took the F.R.C.S. in 1926. He held resident appointments at the General Hospital, Birmingham, and in London at the Samaritan Hospital and Queen Charlotte's, where he was R.M.O. After his appointment in 1932 as assistant surgeon to the Queen's Hospital, Birmingham, he went to America for a period of study leave which he spent mainly

at the Mayo Clinic, where the inspiration and example of William and Charles Mayo exercised a permanent influence on his surgical education and gave him a scientific outlook on surgery so valuable to one about to take up his duties in a medical school. Later, under the influence of Kilner, he became interested in plastic surgery, and with the impact of war he transferred his interest more and more to this aspect of his work. In his specialty he was deft and ingenious and had that touch of artistry which is essential to success in this branch of surgery; furthermore, his friendly and sympathetic approach secured the confidence and co-operation of his patients in their tedious and prolonged reconstruction operations.

Sankey had a great capacity for friendship. To run across him was always a pleasure, and though his days were full he gave the idea that he had not a care in the world and found nothing but pleasure in your company and happiness in the chance encounter. He faced life with great courage. He never intruded his troubles upon his friends and he appeared to be wholly at the disposal of any patient or friend with whom he came in contact. Many of his qualities arose out of his somewhat unusual background. Born in a Herefordshire village home, his family migrated to Canada in his childhood, and his boyhood was spent on a Canadian farm, whence, just before the 1914 war, his parents brought him on holiday to this country. Caught by the war, they had great difficulty in returning home, but eventually managed to do so, leaving the boy behind at the age of 16 at the Newport Grammar School. From this time onwards he maintained himself through his school and university days until he qualified. His experiences during this period gave him his broad outlook on life and made him very tolerant and happy in association with all classes in the community. His varied experiences during this uphill period, as a violinist in a band, as a factory worker, or as a farmhand, remained all his life as a not unhappy memory, about which he could occasionally be persuaded to speak with a whimsical humour which was a part of his charm.

The very large attendance at the Memorial Service in St. George's Church, Edgbaston, afforded a striking testimony to the widespread respect in which he was held in the community in which he worked. Sankey was unmarried, and most of his relatives are in Canada, and it was fortunate that last autumn he found it possible to visit his father in the course of a flying visit to Vancouver which gave him great pleasure and some relief from the strain of practice.—S. G. B.

Dr. H. S. Littlepage writes: "Joe" Sankey's academic career and ability as a surgeon were brilliant. His kindness to the sick and his loyalty to general practitioners were among many outstanding qualities which he possessed, and many of us will always remember him as the "G.P.'s" friend. A call for his help at any hour of the day or night, to the rich or to the poor was always answered in the same cheery way: "Sure, I'll be along." He had an amazing insight into a patient's character and any fear of the operation or the anaesthetic seemed to fade away at his reassuring smile and sincere understanding. Young residents will also miss him greatly. So will his nurses. And anaesthetists will always remember his kindness, his patience, and his understanding when they were in difficulty.

C. A. MITCHELL, M.A., D.Sc.

Dr. C. A. Mitchell, at one time editor of the *Analyst* and a former president of the Medico-Legal Society, died on Jan. 5 at the age of 80.

Charles Ainsworth Mitchell, the third son of Dr. T. R. Mitchell, was born at Thetford, Norfolk, and was educated at King William's College in the Isle of Man, and at Exeter College, Oxford. He became a Fellow of the Royal Institute of Chemistry in 1897, two years after graduating, and his early interest in chemistry led him to an unusual but useful study—that of the history and analysis of inks. His book on the subject, which is already in its fourth edition, has become a standard reference work and is consulted when questions of the authenticity of legal documents of whatever age arise. For many years he contributed articles on scientific subjects, often of legal interest, to *Chambers's Journal* and to *Discovery* and other periodicals. He was president of the Medico-Legal Society from 1935 to 1937, honorary vice-president of the Medico-Legal Society of France, and vice-president of the Royal Institute of

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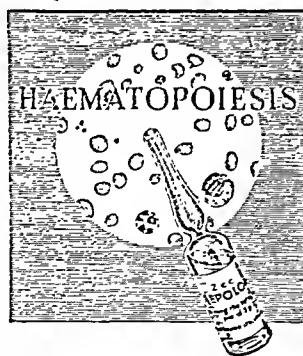
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British Medical Journal,
June 30th, 1945, p. 926.

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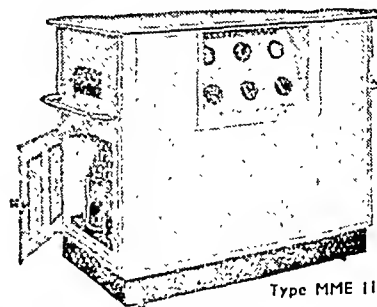
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Chemistry from 1937 to 1940. Among his other publications were *Science and the Criminal* in 1911; *The Evidence of the Casket Letters* in 1929; and *The Scientific Detective and the Expert Witness*, which appeared in 1931.

Dr. HENRY MARTIN MOGRIDGE WOODWARD, who died on Jan. 2 at his residence at Blackheath, was the son of the late Dr. Martin Woodward, of Pershore, Worcestershire. He was educated at St. Edward's School and Keble College, Oxford, and later at Guy's Hospital. In his younger days and until illness overtook him he was a keen athlete and rowed for his college. For a time he was on the stage, playing chiefly Shakespearean roles, but later he took up medicine and qualified in 1904. Soon after qualification he became house-surgeon to St. John's Hospital, Lewisham, and he devoted the rest of his life to the interests of that hospital. He was bacteriologist to the hospital for over thirty years, and although he had reached the age for retirement when the recent war broke out he continued his devoted services, attending the hospital daily, including Sundays, without any holiday. This undoubtedly had a serious effect on his health. He was not robust and had had several severe illnesses. At St. John's Hospital Dr. Woodward met and married Miss Elizabeth Thompson, and their partnership was an ideally happy one. He was consulting bacteriologist to several hospitals in South-east London and Kent, but his chief interest always remained St. John's Hospital, to the exclusion of private practice. At the time of his death he had been a governor of the hospital for more than twenty-five years and gave of his utmost in the interests not only of the patients but also his medical colleagues. On his retirement from active service with St. John's in 1946 he was elected to the consulting staff and also continued as a governor, maintaining his close interest in the hospital's affairs. He attended a board meeting a few weeks before his sudden death. Dr. Woodward was a very scholarly man and retained his interest in the classics until the end. He was a keen supporter of the Medico-Legal Society and was interested in and worked for several charities. He was indeed one of the most charitable of men and never spared himself whenever he saw an opportunity to be of help. Our deepest sympathy goes out to Mrs. Woodward, who nursed him so devotedly through several serious illnesses.—P. F. A.

Dr. ARTHUR CHARLES INGRAM died on Dec. 20, 1947, at Bournemouth. He was educated at Felsted School, Cambridge University, and Charing Cross Hospital. He qualified in 1900 and graduated in 1901, subsequently proceeding M.D. and taking the M.R.C.P. He held the Cambridge D.P.H., and he entered the Indian Medical Service in 1904, taking the gold medal for military medicine at Netley. He was at one time professor of pathology in the University of Madras. He left the Service in 1921 with the rank of major and was appointed bacteriologist to the Borough of Bournemouth in 1922, holding this appointment up to the time of his death. His sudden death came as a shock to his friends and colleagues in Bournemouth.

Dr. ELIZABETH COURTAULD, who died on Dec. 26, 1947, had been living in retirement very much crippled for some years. She started medical work at the Royal Free Hospital rather later than usual, as she had taken nursing training earlier. She was in residence at College Hall through all her medical course. After qualifying L.S.A. in 1901 she took the M.D. of Brussels in 1903, and went into general practice for a short time. She then did medical mission work in India, principally at the Church of England Zenana Mission Hospital at Bangalore. In the 1914-18 war she was attached for some time to the Scottish Women's Hospital at Abbeville de Royaumont, in France. Although frail physically, she was always at work and took practically no time off—she did not object to the other medical officers taking time off but was merely mildly surprised that they should want to do so. Her bent was medical, but she collaborated with Miss Ivens in any surgical or anaesthetic or other work that wanted doing. She had been in retirement near Halstead for some years enjoying the quiet and the opportunity to keep in touch with her family in that neighbourhood.—L. M. P.

Dr. JOHN HEWETSON WHITESIDE died at Hadlow, Tonbridge, on Dec. 31 at the age of 84. The third son of the Rev. Stephen Whiteside, he was educated at Appleby Grammar School and Edinburgh University, and graduated M.B., C.M. in 1886. He was in general practice in recent years at Armitage, near Rugeley, Staffordshire, and he was medical officer of the Rugeley Cottage Hospital, medical officer and public vaccinator for the Rugeley District, police surgeon, and divisional

surgeon to the Rugeley Ambulance Brigade. He had served as a captain in the R.A.M.C. in the 1914-18 war. He was always actively interested in the work of the St. John Ambulance Brigade and he was an expert amateur carpenter. Among other things he made an altar, which is still in use at Armitage Church.

Dr. FRANK HARRIS WHITE died in London on Jan. 2 at the age of 75. A student of the London Hospital, he took the L.S.A. in 1893, the conjoint diploma two years later, and the D.P.H. in 1900. He was at one time aural assistant to the London Hospital, and he was in general practice in the East End of London, first in Bow and later in Poplar, until 1930. He served in the R.A.M.C. in the 1914-18 war and was regimental medical officer to the 17th London Regiment, leaving the service with the rank of major. He was appointed medical officer to the Port of London Authority in 1930, which post he held until the time of his death. He leaves a widow, two sons, and two daughters.

Dr. ANNA POLLOCK MARTIN died in Southampton Hospital on Jan. 5. A daughter of the late Rev. William Martin, who was a missionary in Rajputana, she was born there and educated at the Park School, Glasgow, and at Glasgow University, where she graduated in 1903, proceeding M.D. in 1906. She was in private practice in Ayr for some time before being appointed in 1920 as a Church of Scotland missionary to the Mure Memorial Hospital, Nagpur. This is a large, well-equipped women's hospital which serves a large section of the Central Provinces. In the course of her work there Dr. Martin took a prominent part in the medical and welfare work of the community. In 1942 she was awarded the Kaisar-Hind medal for her services in this connexion.

Universities and Colleges

UNIVERSITY OF LONDON

Dr. E. Ashworth Underwood, Director of the Wellcome Historical Medical Museum, will deliver a course of six public lectures on "The Heritage of Medicine" in the Department of Physiology, University College, Gower Street, W.C., on Fridays, at 5 p.m., from Jan. 23 to Feb. 27.

A course of four public lectures on "Some Aspects of General Physiology" will be given by L. E. Bayliss, Ph.D., Reader in Physiology in the University, in the Department of Physiology, University College, on Tuesdays, March 2, 9, 16, and 23, at 5 p.m.

A course of five public lectures on "Some Aspects of Pharmacological Chemistry" will be delivered by F. Bergel, Ph.D., in the Physiology Theatre, Gower Street, W.C., on Tuesdays, at 5.15 p.m., from Jan. 20 to Feb. 17.

Admission to the lectures is free, without ticket. Students and others interested are invited to attend.

Prof. Osten Holsti, professor of general medicine in the University of Helsinki, has come to work at the Postgraduate Medical School of London in the Department of Medicine for three months as a visiting professor. Prof. Holsti has just been honoured on his sixtieth birthday by the issue of a congratulatory number of the *Annales Medicinæ Internæ Fennicæ*, written and dedicated by his pupils. He is one of the leaders of clinical medicine in Finland and has done distinguished work on arthritis, diabetes, and haematology. While he is in London he will take part in teaching and research in the Department of Medicine at the Postgraduate Medical School.

The following candidates have been approved at the examinations indicated:

M.D.—BRANCH I (Medicine): D. W. R. Ashby, W. J. Atkinson, T. P. Blanshard, F. E. de W. Cayley, A. H. C. Couch, H. D. Crosswell, E. M. C. Dunlop, C. G. Fagg, J. H. Friend, T. Hanley, S. W. Hinds, E. A. Hunter, S. L. Kaye (Gold Medal), P. M. McAllan, Catherine A. Neill, T. Partington, C. E. Quinn, H. W. Salmon, G. Shennerson, Esther E. Simpson, Jean V. Simpson, W. F. T. Tatlow, J. W. Thompson, P. A. Thorn, A. S. Watts, D. Weitzman, P. E. D. S. Wilkinson, Judith C. M. Yuill. BRANCH II (Pathology): D. B. Brewer, G. Discombe, B. P. Marmion, H. C. Moore, K. B. Rogers. BRANCH IV (Midwifery and Diseases of Women): S. F. Hans. BRANCH V (Hygiene): J. J. A. Blakely, W. C. D. Lovett, C. D. L. Lycett, C. Seelye. BRANCH VI (Tropical Medicine): K. P. Hare (Gold Medal), V. G. Patel, A. J. Walker.

UNIVERSITY OF BRISTOL

George Lionel Alexander, F.R.C.S., has been appointed Director of the Neuro-Surgical Unit in the University.

The following candidates have been approved at the examinations indicated:

M.D.—D. N. Walder.
FINAL M.B., Ch.B.—Margaret J. Andrews, D. H. Bowden, D. McL. Cunningham, Eudora M. R. Davies, N. M. Gibbs, Pamela H. L. Hamilton, S. P. Iles, Jean E. Mortell, Josephine C. Mulcahy, J. P. Norris, P. W. Seacrest. In Group I, completing the examination: Catherine M. Hyle. In Group II completing the examination: C. E. Halliday, Kathleen C. Iles.
DIPLOMA IN PSYCHOLOGICAL MEDICINE.—Part II: L. B. Thomas

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Dec. 27.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1947					1946 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	26	4	16	1	—	38	3	23	2	1
Deaths	—	1	1	—	—	—	1	—	—	—
Diphtheria	157	18	65	8	5	180	10	71	56	10
Deaths	6	—	—	—	—	5	1	1	—	—
Dysentery	53	6	27	—	—	55	4	12	2	—
Deaths	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica, acute	—	—	—	—	—	—	—	—	—	—
Deaths	—	1	—	—	—	—	1	—	—	—
Erysipelas	—	—	33	6	1	—	—	38	19	3
Deaths	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years	—	—	—	—	—	—	—	—	—	—
Deaths	52	5	6	13	1	104	15	15	46	3
Measles*	2,583	115	278	93	7	7,068	229	224	67	325
Deaths	2	—	2	1	—	5	—	2	—	1
Ophthalmia neonatorum	30	2	13	—	1	41	2	11	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever	22	1	1(A)	—	—	6	2	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal	690	38	13	3	14	760	41	16	10	6
Deaths (from influenza)†	20	4	—	—	—	33	5	6	1	—
Pneumonia, primary	—	—	372	11	—	—	—	389	51	—
Deaths	—	37	—	8	4	—	63	—	—	10
Polio-encephalitis, acute	4	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Poliomyelitis, acute	44	2	3	1	2	1	—	—	18	—
Deaths	—	—	—	—	—	—	—	—	—	—
Puerperal fever	—	—	7	—	—	—	1	10	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia†	68	6	10	—	—	90	4	7	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	1,469	104	297	18	21	943	67	299	44	33
Deaths	3	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid fever	2	—	2	1	1	3	—	—	10	2
Deaths	—	—	1	—	—	1	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough*	1,141	67	14	27	5	1,149	82	146	80	36
Deaths	5	1	—	—	—	4	—	—	1	1
Deaths (0-1 year)	336	38	77	15	12	590	78	83	23	11
Infant mortality rate (per 1,000 live births)	—	—	—	—	—	—	—	—	—	—
Deaths (excluding still-births)	4,577	706	650	150	111	6,260	1031	758	202	166
Annual death rate (per 1,000 persons living)	—	—	13.5	9.5	—	—	16.7	—	—	—
Live births	5,351	751	880	156	184	7,548	1018	1127	207	191
Annual rate per 1,000 persons living	—	—	17.7	9.8	—	—	22.7	—	—	—
Stillbirths	145	18	26	—	—	220	22	38	—	—
Rate per 1,000 total births (including stillbirths)	—	—	29	—	—	—	33	—	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore in approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Paratyphoid at Ipswich

Since Dec. 20, 1947, there have been 22 cases of paratyphoid B notified in Ipswich, with one death, and 8 carriers have been isolated among the contacts. In the county of Suffolk within a radius of a few miles 26 cases have appeared, and there have been 3 cases in Essex.

Dec. 4 and 6 were outstanding dates of presumptive infection in the Ipswich cases up to Jan. 6. The three cases in Essex are not yet linked up with the Ipswich outbreak. Organisms cultured from 35 infections in this outbreak are reported to belong to phage type I.

Investigation of the cases suggested confectionery as the vehicle of infection, the most common reference being to cream-filled buns or cakes. Within a few days an infected person was found who had been handling such foodstuffs for the first three weeks of December. It has not, however, been possible to isolate the organism from samples of such food taken after Dec. 20.

Poliomyelitis in Scotland

The number of suspected and confirmed cases intimated by medical officers of health to the Department of Health for Scotland between June 1, 1947, and the end of the year was approximately 1,675—the highest number ever recorded in Scotland. In June and July together, about 100 cases were notified. Approximately 520 cases were reported in August, and 590 in September. Thereafter the numbers fell to 325 in October, 100 in November, and 48 in December. Suspected cases were reported in every county except Orkney and Ross and Cromarty and in every large burgh except Inverness.

The greatest number of cases reported in any one area was 483 in Glasgow; 138 cases were reported in Edinburgh, 51 in Aberdeen, and 39 in Dundee. In the county areas the greatest number of reported cases was in Ayrshire, with 108 cases. Lanarkshire had 105 cases, and Morayshire and Fife 56 each. No other county or large burgh had more than 50 cases.

The deaths from poliomyelitis usually amount to about 5 to 10% of the cases, and in the 1947 epidemic the total number of deaths recorded in the 16 principal towns in Scotland between June 1 and the end of the year was 69 out of 865 cases.

Poliomyelitis in England and Wales

Notifications of poliomyelitis 59 (44) for the week ended Jan. 3 showed a slight rise on those of the previous week, and those of polio-encephalitis are the same 4 (4). Figures for the previous week are shown in parentheses. It is possible that the Christmas holiday may have led to some delay in notification and that the slight rise may be more apparent than real.

Discussion of Table

In England and Wales a large decrease was recorded in the notifications of all infectious diseases except paratyphoid fever, which increased by 16. There were falls in the incidence of measles 626, whooping-cough 558, scarlet fever 594, acute pneumonia 151, and dysentery 30.

The largest falls in the notifications of measles were Lancashire 111, Nottinghamshire 81, Derbyshire 75, Northamptonshire 47. For scarlet fever the most marked declines in incidence were Staffordshire 70 and London 55 and for whooping-cough Lancashire 71 and Middlesex 61.

The fall in the incidence of acute pneumonia was confined to the southern and midland counties. The chief features of the returns for diphtheria were decreases in Lancashire 18 and Essex 15.

Of the 22 notifications of paratyphoid fever 17 were recorded in five administrative areas of Suffolk. In Surrey, Epsom and Ewell M.B., 8 further cases of dysentery were notified, and the only other large return was Lancashire 21. The largest returns of poliomyelitis were Cheshire 4 and Lancashire 4.

In Scotland a decreased incidence was recorded for every infectious disease except diphtheria, which increased by 8. There were falls in the incidence of measles 223, acute primary pneumonia 32, whooping-cough 18, and acute poliomyelitis 10. The increase in the incidence of diphtheria was mainly in the western area, where the notifications rose from 40 to 51. Only 3 cases of poliomyelitis were notified, 2 in Glasgow and 1 in the county of East Lothian.

In Eire a decreased incidence of infectious diseases was also recorded. The notifications declined for measles 46, scarlet fever 26, and diarrhoea and enteritis 17.

In Northern Ireland the chief features of the returns were falls in the notifications of scarlet fever 35, measles 12, and diphtheria 8.

Week Ending January 3

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,786, whooping-cough 1,891, diphtheria 225, measles 4,490, acute pneumonia 1,098, cerebrospinal fever 55, acute poliomyelitis 59, dysentery 86, paratyphoid 39, and typhoid 5.

Medical News

More Beds for Streptomycin Treatment

The total number of beds available at hospitals in the United Kingdom for the treatment of patients with streptomycin has been increased from 150 to about 200, and the following additional hospitals are now able to provide treatment:

- University College Hospital, London.
- Addenbrooke's Hospital, Cambridge.
- Radcliffe Infirmary, Oxford.
- King's Cross Hospital, Dundee.

All the hospitals concerned have been asked to continue restricting treatment with the drug to cases of tuberculous meningitis and miliary tuberculosis. Medical practitioners who have such cases should get into touch with the nearest convenient hospital with beds reserved for streptomycin treatment, or, in the case of hospitals in the London area, with the Emergency Bed Service (telephone, Monarch 3000). Other hospitals at which this treatment is available were listed in our issues of Sept. 6, 1947 (p. 399), and Oct. 4, 1947 (p. 555). The Ministry of Health emphasizes that despite these additional beds it is unlikely that all cases of these two types of disease can be accommodated at present.

Dr. Voeller and Parkinson's Disease

The Information Services Directorate of the Foreign Office (German Section) issued the following statement on Jan. 7: "Some publicity has recently been given to reported cures of Parkinson's disease (paralysis agitans) effected by a Dr. Voeller, of Kassel (U.S. Zone of Germany). The story originated from a recommendation alleged to have been made by the notorious Dr. Karl Brandt to a British soldier. Dr. Voeller once owned a private nursing-home in Kassel where he specialized in the treatment of this disease, and where, with close attention to the well-being of his patients, he appeared to obtain some good results. According to Public Health Branch of the Control Commission for Germany (B.E.), there is no truth in the report that Dr. Voeller has discovered a specific cure for Parkinson's disease. It is emphasized that periods of apparent improvement are a characteristic of the development of the disease. Dr. Karl Brandt, Reich Commissioner for Health under Hitler, was sentenced to death by hanging on Aug. 20, 1947, by a United States Military Court at Nuremberg after being found guilty of crimes against humanity and sadistic experiments on human beings in German concentration camps."

M.R.C. Dental Research Committee

The Medical Research Council have recently reconstituted the Dental Research Committee. The secretary of this committee is Prof. M. A. Rushton, Department of Dental Medicine, Guy's Hospital.

Irish Postgraduate School

The Eire Minister for Health has appointed a committee to examine the facilities at St. Kevin's Hospital, Dublin, and to make recommendations about measures needed to establish there a post-graduate medical school for medical-officers employed by local authorities.

Psychiatric Committee

The Representative Psychiatric Committee of the North-east Metropolitan Area consists of elected representatives of the medical staffs of the mental hospitals, the mental deficiency institutions, and the psychiatric departments of the teaching and non-teaching general hospitals in the area. It has been in existence since June, 1947, and has as its terms of reference: "To consider and to concern itself with every aspect of the psychiatric services in the region." The committee is under the chairmanship of Dr. Henry Wilson.

Illustrating Pathology

A number of students have been trained at the St. Martin's School of Art in the technique of drawing pathological and surgical specimens. Part of their experience has been gained in operating theatres in London hospitals. Their services are now available for employment by surgeons or hospitals. Inquirers should write to the principal of the school, 109, Charing Cross Road, W.C.2.

Scabies Order

Under the Emergency Laws (Transitional Provisions) Act, 1946, and the Emergency Laws (Miscellaneous Provisions) Act, 1947, Regulation 33A of the Defence (General) Regulations, 1939, expired on Dec. 31, 1947, and the Scabies Order, 1941, which was made under that Regulation, accordingly ceased to be operative after that date. The Regulation and the Scabies Order were introduced as an emergency wartime measure to combat an exceptional increase of scabies. The time has now come, in the view of the Minister of Health, to revert to reliance on normal statutory powers, as contained in the Public Health Acts, for dealing with verminous conditions.

Demand for Blood Increases

During the June quarter 27,546 new donors joined the National Blood Transfusion Service, reports the Ministry of Health. This is about twice as many as in the first quarter. Blood was given by 66,557 donors. The estimated donor panel strength is now about 350,000. To provide for further increases in the demands for blood and plasma, and to ensure that donors are not asked to give blood more often than once every six months, some 168,000 new volunteers are required in England and Wales.

Prof. G. Grey Turner

George Grey Turner, M.S., F.R.C.S., Emeritus Professor of Surgery in the University of London, has been elected an Honorary Member of the Greek Surgical Society and a Corresponding Member of the Royal Academy of Medicine of Belgium.

Freedom of Kirkcudbright

John MacMyn, M.D.Ed., has been given the freedom of the Royal Burgh of Kirkcudbright.

Appointments for War Service

William Archibald Balheicht, L.M.S., Medical Officer, Malayan Medical Service, has been appointed O.B.E. (Civil Division), and Yeoh Bok Choon, L.M.S., Tutor in Surgery, College of Medicine, Singapore, has been appointed M.B.E. (Civil Division), for services at the Tan Tock Seng Hospital, Singapore, during the enemy occupation.

Wills

Mr. Louis Carnac Rivett, the well-known obstetrician and gynaecologist, who died on Sept. 5, 1947, left £17,793. Dr. Isabella Macdonald Macdonald, formerly consulting physician to the Elizabeth Garrett Anderson Hospital, left £17,590. Dr. Herbert William Allan, late M.O.H. for Wells, left £1,333. Dr. Sidney Herbert Daukes, formerly curator of the Wellcome Museum, who wrote novels under the pseudonym of Sidney Fairway, left £6,490.

COMING EVENTS

Ophthalmological Society of the United Kingdom

The annual congress of the Ophthalmological Society of the United Kingdom will be held at the Royal Society of Medicine, 1, Wimpole Street, London, W., on Thursday, Friday, and Saturday, April 8, 9, and 10, when the subject for discussion will be "Subjective Disorders of Vision (excluding those due to local ocular disease)," to be opened by Dr. Macdonald Critchley, Prof. Henry Cohen, and Mr. J. H. Doggart. The Bowman Lecture will be delivered by Prof. Marc Amsler (Zurich). Members who wish to read papers are asked to send the titles to Mr. T. Keith Lyle, F.R.C.S. (honorary secretary for congress business), 42, Charles Street, Berkeley Square, London, W.1, as soon as possible. Abstracts of papers, which will be circulated at the congress and subsequently to the leading ophthalmological journals abroad, should be submitted by Jan. 31. On Friday afternoon (April 9) there will be a joint clinical meeting with the Ophthalmological Section of the Royal Society of Medicine at the Ophthalmic Institute, Central London Ophthalmic Hospital, Judd Street, London, W.C. Those who wish to show cases are asked to communicate with the registrar-tutor, Mr. H. Ryan, at the hospital. The annual dinner will be held at the Royal College of Surgeons of England (Lincoln's Inn Fields, London, W.C.) on Thursday, April 8. Owing to official restrictions the numbers on this occasion will be limited to 100, and it is regretted that it will not be possible to allow members to bring guests.

Association of Clinical Pathologists

The 39th scientific meeting of the Association of Clinical Pathologists will be held at St. Mary's Hospital, London, W., on Friday and Saturday, Jan. 30 and 31. The programme is as follows: Jan. 30, 9.30 a.m., Prof. R. J. V. Pulvertaft, Stabilization of penicillin solutions by phosphates; 9.45 a.m., Dr. J. Ungar, Comparison of penicillin blood levels after aqueous solutions and oily suspensions of penicillin; 10.5 a.m., Dr. M. Daniels, The value of streptomycin; 10.35 a.m., Dr. Tullio de Sanctis Monaldi, Modification du liquide céphalo-rachidien dans la méningite tuberculeuse, traitée par la streptomycine; 11.25 a.m., Dr. G. B. Forbes, Relative merits of laryngeal

swabs and fasting stomach contents in the detection of tubercle bacilli; 11.50 a.m., Dr. A. F. S. Sladden, A convenient technique for the Aschheim-Zondek Test; 12.15 p.m., Mr. R. E. Glover, Supply of laboratory animals; 12.35 p.m., Dr. Georgiana M. Bonser, Pigmented tumours of the skin; 4.30 p.m., Presidential address by Dr. C. E. Duke, Human relationships in clinical pathology; 5.10 p.m., presentation to Dr. S. C. Dyke (Founder of the Association); 5.15 p.m., Reply by Dr. Dyke with an address entitled "Genesis." Jan. 31, 9.30 a.m., Dr. K. S. Thompson, Evolution of an antiseptic lubricant; 9.55 a.m., Dr. R. M. Haines, Observation on the histology of tuberculous endometritis; 10.15 a.m., Mr. J. T. Duncan, Histoplasmosis; 10.40 a.m., Dr. J. R. O'Brien, Significance of the bleeding time; 11.30 a.m., Dr. J. V. Joossens, Reticulocyte counts by fluorescence microscopy; 11.50 a.m., Dr. G. Discombe and Mr. H. Meyer, Capillary method of rhesus grouping; 12.10 p.m., Dr. J. Harkness, Significance in clinical pathology of the variations in the hypothetical equilibrium of the plasma proteins; Dr. W. W. Payne, Biochemical aspects of gastro-enteritis; 2.30 p.m., Dr. J. C. Colbeck, Air embolism and the method of post-mortem diagnosis; 2.55 p.m., Dr. C. J. Lind, Blood alcohol, its determination and interpretation; 3.15 p.m., Dr. F. E. Camps, Medico-legal problems of the newborn child; 3.40 p.m., Mr. H. S. Holden, Laboratory aspects of drowning. Demonstrations will be given from 2 p.m. on Jan. 30 to 12 noon on Jan. 31. The honorary secretary of the association is: Dr. W. H. McMenemey, Royal Infirmary, Worcester.

Services Hygiene Officers' Dinner

A reunion dinner of the Navy, Army, and Air Force Hygiene Group of the Society of Medical Officers of Health will be held at Stewart's Quadrant Restaurant, 74, Regent Street, London, W., on Friday, Jan. 30, at 6.45 for 7.15 p.m. Any serving or former hygiene officers in any of the Services will be welcome. Early applications for tickets should be made to the honorary secretary, Dr. H. D. Chalke, O.B.E., Public Health Department, 33-5, Lancaster Grove, London, N.W.3, enclosing remittance for 16s. 6d. (which includes coffee and tips but not wines or spirits). The chair at the dinner will be taken by the Group's president, Brigadier A. E. Richmond, C.B.E., Director of Hygiene, A.M.S., who at 5.30 p.m. the same day will deliver his presidential address on "The Army's Health in 1947" at B.M.A. House, Tavistock Square, London, W.C.

American Group Therapy Association

The annual meeting of the American Group Therapy Association will be held at Hotel Commodore, New York City, on Sunday, April 11, 1948. The programme will include case presentation and discussion and an evening session devoted to reports and evaluation of current practices and trends in group therapy. A copy of the preliminary programme and further information may be obtained from the association at 228, East 19th Street, New York 3, N.Y., U.S.A.

SOCIETIES AND LECTURES

Monday

HUNTERIAN SOCIETY.—At the Mansion House, London, E.C., Jan. 19, 8.30 p.m. "Recent Improvements in the Diagnosis and Treatment of Vascular Obstruction." Hunterian Lecture by Prof. J. Cid Dos Santos (Lisbon).

Tuesday

EUGENICS SOCIETY.—At Royal Society's rooms, Burlington House, Piccadilly, London, W., Jan. 20, 5.30 p.m. "Sex Limitation in Human Genetics." Dr. H. Harris.

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C., Jan. 20, 5 p.m. *Pathological Demonstrations.* Dr. I. Muende

SOCIETY FOR THE STUDY OF ADDICTION.—At Medical Society of London, 11, Chandos Street, W., Jan. 20, 4 p.m. "Economic Aspects of Tobacco Addiction." Mr. V. Zachary Cope. Followed by discussion.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHARMACOLOGY.—Jan. 20, 5.15 p.m. "Introduction: Pharmacology and the Chemical Sciences." Mr. F. Bergel.

Wednesday

ROYAL MICROSCOPICAL SOCIETY.—At B.M.A. House, Tavistock Square, London, W.C., Jan. 21, 5 p.m. for 5.30 p.m. "Relation between Cellular Structure and Functional Activity." Presidential Address by R. J. Ludford, Ph.D., D.Sc.

ROYAL SANITARY INSTITUTE.—At Town Hall, Colchester, Jan. 21, 2 p.m. "The Implementation of the National Health Service Act in County Districts." Dr. J. D. Kershaw.

Thursday

MEDICO-LEGAL SOCIETY.—At 26, Portland Place, London, Jan. 22, 8.15 p.m. "The Office and Duties of the Director of Public Prosecutions." Sir Theobald Mathew, Director of Public Prosecutions.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, London, S.W.—Jan. 22, 4.30 p.m. *Neurological lecture-demonstration.* Dr. A. Feiling.

Friday

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS, 58, Queen Anne Street, W.—Jan. 23, 5 p.m. "Primary Carcinoma of the Vagina." William Blair-Bell Memorial Lecture by Dr. Stanley A. Way.

LONDON CHEST HOSPITAL, Victoria Park, E.—Jan. 23, 5 p.m. "Radiological Diagnosis in Trauma of the Lungs." Dr. C. J. Hodson.

MIDDLESEX COUNTY MEDICAL SOCIETY.—At Hillingdon County Hospital, near Uxbridge, Jan. 23, 3 p.m. Agenda: Demonstration of clinical cases and pathological material, including cases of congenital disease of lungs, heart, and aortic arches. The Department of Physical Medicine is open and there will be demonstrations of cases and treatment. "Physical Methods in Rehabilitation." Short paper by Dr. Talbot; "Value of Radiology in Diagnosis of Acute Abdomen." Short paper by Dr. Maddocks.

ROYAL MEDICAL SOCIETY, 7, Melbourne Place, Edinburgh.—Jan. 23, 8 p.m. "Body and Mind." Address by Mr. K. M. Walker.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—At South Kensington Hotel, 41, Queen's Gate, S.W., Jan. 23, 8.30 p.m. "Modern Surgical Treatment of Chronic Peptic Ulcer." Opening speakers, Dr. A. Morton Gill and Mr. I. M. Orr. Discussion.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHYSIOLOGY.—Jan. 23, 5 p.m. "The Fabric of the Human Body." Dr. E. A. Underwood.

Saturday

BIOCHEMICAL SOCIETY.—At British Postgraduate Medical School, Ducane Road, Hammersmith, London, W., Jan. 24, 11 a.m. 263rd meeting.

BRITISH ASSOCIATION OF ALLERGISTS.—At Wright-Fleming Institute of Microbiology, St. Mary's Hospital, Paddington, London, W., Jan. 24, 2.30 p.m. First general meeting. "Forty Years of Allergy." Dr. John Freeman; "Advancing to the Future in Allergy—A Brief Survey." Mr. Frank Coke.

MEDICAL SOCIETY FOR THE STUDY OF VENEREAL DISEASES.—At 11, Chandos Street, London, W., Jan. 24, 2.30 p.m. "Treatment of Neurosyphilis with Penicillin." Dr. J. Purdon Martin. Discussion.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Ancombe.—On Dec. 28, 1947, at Crumpsall Hospital, Manchester, to Maureen (née Macandrew, M.B., Ch.B.), wife of Dr. A. R. Ancombe, a son.

Aspin.—On Jan. 5, 1948, at The Willows Nursing Home, Bramley, Leeds, to Alice and Dr. John Aspin, a daughter.

Gifford.—On Jan. 3, 1948, at Mill Road Hospital, Liverpool, to Gwen (née Hayes), wife of Dr. J. Hamilton Gifford, a daughter—Valerie.

Hay.—On Dec. 15, 1947, at Sunderland, to Vera (née Brown), and Dr. Arthur W. Hay, a daughter—Vivienne Margaret.

Maughan.—On Jan. 10, 1948, at Newcastle-upon-Tyne, to Rebe Monica (née Hastings), M.A., D.Th.P.T., wife of John H. Maughan, M.B., B.S., C.P.H., a son.

Pickard.—On Dec. 15, 1947, at West Kent General Hospital, Maidstone, to Joan and Brian Pickard, of Priory Tower, Priory Park, Blackheath, a second daughter—Celia Jane.

DEATHS

Audré.—On Jan. 5, 1948, James Edward Felix André, M.R.C.S., L.R.C.P., of Highleigh, Sidlesham, Chichester, aged 83.

Chandler.—On Jan. 7, 1948, at a nursing home in Sidmouth, Francis William Chandler, M.B., B.S., late of Woodseals, Sheffield, aged 79.

Eales.—On Jan. 5, 1948, at St. Andrews, Bronhill Road, Torquay, George Young Eales, M.R.C.S., L.R.C.P., aged 88.

Firth.—On Jan. 9, 1948, Arthur Charles Douglas Firth, M.D., F.R.C.P., of 236, Hills Road, Cambridge.

Gleeson.—On Jan. 7, 1948, Olaf Gleeson, M.R.C.S., L.R.C.P., of 10, Harley Street, London, W.

Hulbert.—On Jan. 4, 1948, at Hartley Witney, Joseph George Hulbert, M.B., B.Ch., Lieutenant-Colonel, late I.M.S., aged 80.

Jenner.—On Jan. 7, 1948, at 20, Birchwood Road, Petts Wood, Kent, Wesley John Jenner, M.D., F.R.C.S.Ed., aged 77.

Jones.—On Jan. 9, 1948, at Monkreddan House, Prestwlek, Ayrshire, Arnold Ernest Jones, M.B., Ch.B.

Martin.—On Jan. 5, 1948, at Southampton, Anna Pollock Martin, M.D., M.R.C.O.G., late of Nagpur, India.

Pope.—On Jan. 5, 1948, at 11, Albert Road, Southport, Adolphe Joseph Pope, M.R.C.S., aged 93.

Reade.—At "Riversley," Banbridge, Northern Ireland, Thomas Edwards Reade, M.B., B.Ch.

Selkirk.—On Jan. 5, 1948, at a nursing home, Edinburgh, Elizabeth Thompson Selkirk, M.B., Ch.B.

Stich.—On Jan. 6, 1948, at Kent County Hospital, Pembury, Alexander Benham Stich, M.B., Ch.B., aged 58.

Swan.—On Jan. 7, 1948, at Highgate Hospital, James Herbert Swan, L.R.C.P.I.&L.M., D.P.H., of 22, Dartmouth Park Hill, London, N.W.

Wigmore.—On Jan. 3, 1948, at Hereford, Alfred James Wigmore, M.R.C.S., L.R.C.P., aged 71.

Woodman.—On Dec. 29, 1947, at The Cottage, Avonmouth, Mandeville, Jamaica, B.W.I., William James Woodman, M.R.C.S., L.R.C.P., Colonial Medical Service, retired, aged 75.

Woodward.—On Dec. 29, 1947, at 35, Roker Park Road, Sunderland, Alexander Taylor Woodward, M.B., Ch.B., aged 52.

Woodward.—On Jan. 2, 1948, Henry Martin Mogridge Woodward, M.R.C.S., L.R.C.P.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Treatment of Warts

Q.—*What treatment is suggested for warts on the fingers? Silver nitrate and podophyllin have been unsuccessful.*

A.—Treatment may be radical, by curettage. Many warts are radio-sensitive and clear up with a fractional dose of x rays. Other measures commonly employed may be effective by suggestion. Podophyllin is not helpful in this type of wart.

Hyperplasia of Tonsils

Q.—*What are the pathogenesis, nature, significance, and treatment of the fluid, or cheesy material, often offensive, frequently found in the crypts of the tonsils? There does not seem to be any evidence of inflammation in these cases, but a history of tonsillitis is often elicited. Do such tonsils have a toxic influence? Massage, syringing, and suction of the tonsils do not seem to cure, but a diet poor in starch is helpful. Is there any other treatment short of removal of the tonsils, which the patient wishes to avoid?*

A.—The cause of this condition is hyperplasia of the tonsil, leading to the formation of deep crypts, the orifices of which are narrow or actually occluded. The material which accumulates in these crypts consists chiefly of shed epithelial cells, together with a variety of bacteria, the growth of which causes decomposition of the material. Such bacteria are not necessarily pathogenic, but carriers harbour haemolytic streptococci and diphtheria bacilli in the same inaccessible situation, which accounts for the difficulty of abolishing the carrier state by any means short of tonsillectomy. It seems improbable that the absorption of the contents of such crypts could cause toxic effects; in so far as these are observed they are more likely to result from actual infection of the substance of the tonsil, with or without the acute exacerbations to which these patients are subject.

Tonsils exuding thin pus containing pathogenic organisms may be considered a source of toxæmia; those exuding cheesy material are probably not, in spite of the unpleasant symptoms they produce. In both cases the only effective treatment to secure a permanent cure is tonsillectomy.

Drug Addiction

Q.—*(a) What procedure—therapeutic and/or statutory—should a general practitioner follow when confronted with a case of addiction to a scheduled drug? Can any compulsion be brought to bear on patient or relatives to secure either treatment or responsible supervision?*

(b) A woman aged 30, with three children, has become addicted to pethidine since having injections for attacks of trigeminal neuralgia a year ago. What treatment would you suggest?

A.—*(a)* Addiction to drugs usually implies a morbid craving for one of the opium alkaloids or similar synthetic preparations, or for cocaine or one of its derivatives. This seldom occurs except in persons of abnormal mentality, so that treatment usually requires the services of an expert psychiatrist. It is almost always impossible to treat the patient satisfactorily except in an institution with special arrangements for strict control, to prevent surreptitious supplies of the drug continuing to reach the addict. The general practitioner is seldom called upon to do more than persuade the patient to enter a suitable institution for detoxication and the first steps towards mental and physical rehabilitation. After these steps have been taken a great deal remains to be done to prevent relapse, and here a wise family physician with a strong, sympathetic personality can do more than any specialist. The details of the treatment in the early stages must be adapted to the individual case, and

cannot easily be summarized in a short article—the subject is well dealt with in standard books of reference.

If the patient proves completely uncooperative it may be necessary to invoke the aid of the law to apply compulsion. Since most of the drugs concerned are included in the scope of the Dangerous Drugs Acts, 1920–5, it is often possible to prove an offence against these Acts for which the patient may be summoned before a magistrate. If this be done, and the facts proved, it is open to the Court to bind the defendant over on condition that he enters a suitable institution and follows a prescribed course of treatment, failing which he becomes liable to the heavy penalties, including fine or imprisonment, provided under these Acts.

(b) As in every case of drug addiction, the patient must be admitted to a hospital or nursing-home for the treatment. Withdrawal symptoms of pethidine are, so far as is known, slight and harmless compared with those of morphine. The drug should be reduced by 20% of the addiction dose daily, so that at the end of five days it is discontinued. This should be followed by remedial exercises aiming at producing bodily fatigue. A psychiatrist should be asked to deal with his side of the problem. Return home should not be before three months. Pethidine is now subject to the Dangerous Drugs Acts.

Fat Atrophy due to Insulin Injections

Q.—*In a diabetic woman who has been having 20 units of protamine insulin a day for the past year all the usual sites for injection have become impossible owing to absorption of subcutaneous fat. Has this condition been recognized before, how is it brought about, and what can be done to prevent it?*

A.—The condition was recognized soon after the use of insulin began. The only way of preventing it is to change the type of insulin as soon as the fat atrophy appears and choose the one which causes least damage. The site of injection should always be varied as much as possible, even though the patient is not sensitive to the insulin. Even after fat atrophy has occurred the insulin seems to be well absorbed.

Treatment of Alopecia

Q.—*Is p-aminobenzoic acid effective in the treatment of alopecia? What is the accepted modern treatment?*

A.—There are almost certainly many causes of alopecia, and one may be a deficiency of p-aminobenzoic acid. But there is no indication that p-aminobenzoic acid has any effect on growth of hair, and the evidence that it affects the colour of the hair is contradictory. Alopecia areata is an individual or sometimes a family pattern of reaction to disturbances of health or tone, and treatment turns upon the restoration of health and readjustment. Any general medical treatment is symptomatic, and local treatment is essentially directed towards stimulation of regrowth by counter-irritation, which can be effected by a variety of local applications as detailed in textbooks.

Vitamin B Content of Yeast

Q.—*(a) Does yeast contain all the vitamin B requisites for the body? (b) What quantities should a 10-stone (63.5-kg.) man take daily? (c) Is autolysed yeast better than yeast not so treated? Can I autolyse it myself? (d) Is yeast bought at the local baker's as good as that prepared by adding a pinch of hops and a dessertspoonful of flour to half a pint (284 ml.) of water, sealing, and leaving in a warm place for three days? (e) Should the taking of yeast have any relation to meal-times?*

A.—*(a)* The only vitamins of the B complex that are known to be essential for man are thiamine, nicotinic acid, and riboflavin. Others may be necessary, but there is no clinical evidence of this at present. Yeast contains thiamine, nicotinic acid, and riboflavin. *(b)* It is impossible to say what dose a 10-stone male should take. The vitamin potency of yeast is extremely variable, depending on the source, the strain of the yeast, the medium in which it grows, and its age. The writer has noted only one type of commercially available yeast of declared potency, and this contains approximately 25 mg. aneurin, 7 to 9 mg. nicotinic acid, and 1.4 mg. of riboflavin per ounce (28 g.). Thus 1 ounce daily with the food would provide enough of all the B vitamins, and actually ten times

as much aneurin as is needed. Such yeast can also be obtained in tablet form. (c) Autolysed yeast is best, because only about 20% of the vitamins are available in live yeast. The best plan is to pour boiling water on the yeast to kill the cells before it is eaten. (d) Yeast bought at the local baker's is unsatisfactory as a source of B vitamins, as it is of unknown potency. Thus the aneurin content may vary from 0.03 to 2 mg. per ounce. For the same reason home-made yeast is unsatisfactory. Incidentally yeast cannot be prepared by the method described, which would encourage the growth of many moulds and organisms. (e) From the point of view of absorption of the vitamins, it does not matter whether yeast is taken with meals or not.

Removal of Naevus

Q.—My daughter, aged 11 months, has a naevus about the size of a sixpence on her forehead at the junction of hair and skin. It is slightly raised and rather disfiguring. What is the best treatment?

A.—The naevus would appear to be a superficial cavernous angioma, a strawberry mark, and is likely to disappear spontaneously in the course of a few years. It should readily clear if frozen with a pencil of carbon-dioxide snow for twenty seconds. Unfiltered x rays, 600 r units (60 kV, 4 mA), would also favour gradual resolution, and neither treatment should produce scarring to interfere with hair growth.

Irregular Menstruation

Q.—Is it possible to use stilboestrol in the case of a woman nearing the menopause whose periods are becoming irregular? If so, what is the optimum dosage, and would prolonged administration be dangerous? Is there any risk if the delay is due to pregnancy?

A.—If the only "menopausal" symptom is irregularity of menstruation, treatment with stilboestrol or other oestrogens is rarely, if ever, indicated. If the irregularity takes the form of periods of amenorrhoea, no attempt should be made to re-establish menstruation; whereas if it is characterized by prolonged or heavy bleeding, diagnostic curettage should be carried out. The only possible indication is in those cases where prolonged bleeding has been shown (by histological examination of the endometrium) to be of the "threshold" type. The indiscriminate and prolonged use of stilboestrol at the menopause has real disadvantages. Unless the dose is controlled very carefully it is likely to cause endometrial hyperplasia and heavy bleeding, and in theory at any rate might cause carcinoma of the uterus. Moreover, if such treatment is suspended suddenly, flushes and other manifestations of the menopause may be precipitated. Stilboestrol even in large doses will not disturb a normal pregnancy.

Mixed Diphtheria Toxoid and Pertussis Vaccine

Q.—In inoculation with mixed diphtheria A.P.T. and pertussis vaccine (alum-precipitated) it is recommended that three injections be given at intervals of four weeks. When the patient is not brought up to time, should one anticipate any severe reaction, and is protection adequate with a longer interval between the first and second injections? If a fresh course should be started, what interval should elapse between the first injection of the new course and the first injection of the abandoned course?

A.—It has been well established experimentally that in immunization against diphtheria with A.P.T. the second injection, even if it is given six to twelve months after the first injection, will still elicit a good antibody reaction provided the first dose has been adequate to sensitize or prepare the tissues for response to the secondary stimulus. The risk of any severe reaction is not increased by a long interval between first and second doses, but of course if the second injection is delayed unduly the child in the meantime cannot be regarded as having been effectively immunized against diphtheria. The same principles presumably apply to the use of a mixed antigen of diphtheria toxoid and pertussis vaccine; there is no objection to combining these two antigens, provided each has been shown to be effective separately.

NOTES AND COMMENTS.

Enuresis in Young Adults.—Mr. H. P. WINSBURY-WHITE (London, W.) writes: In the *Journal* of Dec. 20, 1947 (p. 1016), a question is asked in these words: "Can anything be done to benefit chronic enuresis in young adults? In the case I have in mind full neurological and urological examinations have proved negative." The points of fundamental importance in this matter are that what is called a full urological examination commonly omits a urethroscopy, and that young adults with enuresis frequently have a lesion in the urethra, and the appropriate treatment of such a lesion generally results in a marked improvement or a cure of the enuresis. Let me recount the facts of a recent case, a male of 19 years.

At the age of 14 he started bed-wetting two or three times a week, and had one-hourly frequency during the day. At the age of 16 a full urological examination, which included urethroscopy, had been carried out, when the only abnormalities to be found were granulomatous changes on the verumontanum and in the prostatic sinuses, and there was slight narrowing of the whole urethra. As a result of a single urethral dilatation the patient had only two wet beds in the course of the first three months after this treatment. Then he went for the next twelve months without a single wet bed; no further treatment was given during that time. He then began to relapse slowly and further urethral dilatations did not help him. Urethroscopy at the age of 19 showed granulomata still present as before. These I fulgurated two months ago, with immediate benefit the frequency being reduced from one to three hours, and the enuresis to no more than three occasions in five weeks; whereas previous to operation he had been having one or two wet beds every week.

The benefit to the patient's mental state from the improvement he again experienced was certainly a gratifying and interesting feature of the case. This patient will certainly need further supervision and probably more treatment, in which circumstances I consider the prospects good.

Corrections

In our report (Dec. 27, p. 1049) of a meeting of the Section of Otolaryngology of the Royal Society of Medicine, the statement "Mr. Gavin Young said that formerly cases of acute mastoiditis were met with once or twice a year," should have read "cases of latent acute mastoiditis."

In reporting a meeting of the Section of Psychiatry of the Royal Society of Medicine (Dec. 27, p. 1048) some remarks made by the previous speaker were erroneously attributed to Dr. Melanie Kleir. What Dr. Klein actually said was: "In considering the importance of aggression in the emotional life of the infant, we have to give full weight to the fact that aggression, since it is primarily directed against loved people—first of all the mother—gives rise to feelings of guilt and to the drive to make reparation. The tendency to make reparation enters into all sublimations and influences feelings of love and the relation to people. In these ways aggression forms a bridge between hatred and love. Freud pointed out many years ago the importance of the sublimation of aggression and the social effects of these processes. Further work, particularly carried out in the British Psycho-Analytical Society over the last twenty years and based on the psycho-analysis of children, has led to the recognition of the importance of the tendency to make reparation for aggressive impulses and phantasies."

In our obituary notice of the late Mr. G. F. Stebbing (Jan. 2, p. 28) it was stated that he had been "a member and honorary secretary of the Radium Commission from its formation in 1929. We are now informed that this was not the case. Prof. Sidney Rus was Scientific Secretary of the National Radium Commission from 1929 until 1935.

Dr. R. T. BRAIN points out that in his note on "Ringworm of Scalp" (Jan. 10, p. 86) thorium X was written in error for thallium acetate.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Atiology, Westcent, London*. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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B.M.A. SECRETARY GENERAL: DR. J. H. G. ...

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY JANUARY 17 1948

British Medical Association SPECIAL REPRESENTATIVE MEETING

A LEAD TO THE PROFESSION THE IMPENDING PLEBISCITE

On the requisition of the Council a Special Representative Meeting was held in the Great Hall of B.M.A. House on Thursday, Jan. 8. It was attended by 357 representatives of all Divisions and Branches in Great Britain and Northern Ireland, and by some 30 members of Council who were not representatives.

The principal purpose of the meeting was to decide the form of the forthcoming plebiscite, and the greater part of the day was taken up with "procedure" discussions concerning the phrasing of the instructions on the plebiscite form, the shape of the questions, and the size of the majority which should be taken as determining the issue. At the same time, a strong lead was given to the profession in the shape of a "solemn declaration," passed without a dissentient voice, that the Act in its present form "is so grossly at variance with the essential principles of our profession that it should be rejected absolutely by all practitioners."

The documents before the meeting were the Negotiating Committee's statement and the Minister's reply, published in the *Supplement* of Dec. 20, and the Council's statement in rejoinder, published in the *Journal* of Dec. 27.

The Form of the Plebiscite

The Chairman of Council (Dr. Dain) moved that, prior to the issue of the plebiscite, the Representative Body should indicate to the profession the minimum size of majority which would justify the Association in recommending the profession not to accept service under the Act in its present form. He said that it was desired to avoid argument afterwards as to whether the majority obtained justified the taking of action. If it was known beforehand that a substantial majority was required—a majority of a stated size—each member of the profession would have more certainty in casting his vote. An amendment was moved by North-east Essex that no plebiscite should be taken until the terms of service were fully known. The chief reason behind the amendment was that consultants as yet did not know on what basis they would be expected to work; general practitioners, too, desired more knowledge.

Many representatives spoke in opposition to the amendment, and when it was put to the meeting scarcely a vote was given in its favour. The Council's recommendation was carried. The meeting then turned to the discussion of the effective majority. The Council's recommendation was as follows:

That it be made clear on the plebiscite form: (1) That if in the aggregate of the votes of consultants and specialists (not holding whole-time salaried posts) and general practitioners there is a majority against accepting service under the Act, and this majority includes approximately 13,000 general practitioners (this represents 63% of all general practitioners), the Association will advise the profession not to enter into any contract under the Act in its present form, but to continue their services to patients or other professional

work. (2) That, if these majorities are not achieved, practitioners who undertake not to enter the Service will be released from such undertaking.

The Chairman of Council said that this had been considered at great length by the Council. The votes of those directly implicated—chiefly the clinical people, namely, consultants and specialists and general practitioners—would be counted separately, and a majority would be required in the aggregate of those groups. Further, before action was taken a certain specified majority of general practitioners would be required. The Minister could not possibly set up a service for the whole country with fewer than 8,000 practitioners, and it was felt that if a minimum of 13,000 general practitioners voted against service the majority should be considered sufficient.

A long discussion then ensued on the question of the different categories in the profession who might be requested in the plebiscite to say, not only whether they approved or disapproved of the Act in its present form—a question which every member of the profession is expected to answer—but also whether they were or were not in favour of accepting service and whether they agreed or did not agree to abide by the decision of the majority not to undertake service if the requisite majority was obtained and if so advised by the B.M.A. It was pressed by Marylebone that in addition to general practitioners and consultants and specialists who did not hold whole-time salaried posts, a number of whole-time people should be included in the aggregate.

The Secretary (Dr. Hill) pointed out that the important thing was to know the proportions of those in the various branches of the profession who would be confronted with the personal issue of joining the Service. Apart from consultants and specialists in private practice and general practitioners, the most important group seemed to him to be the voluntary hospital residents, and the case for including them seemed to be fully established.

After further debate it was agreed that those who should be requested to answer the second and third questions in the plebiscite relating to acceptance of service, and whose votes would count in the aggregate mentioned in the motion, should be extended to include consultants and specialists holding whole-time salaried posts and the holders of whole-time appointments in voluntary hospitals.

The Effective Majority

Several proposals were on the paper to increase the percentage majority required to justify advising the profession not to enter into any contract under the Act in its present form. It was pointed out that the higher the percentage aimed at the more likely was it to be achieved. The Isle of Wight representative (Dr. Howie Wood) said that the first reaction of the four study groups in his Division was that 63% was too low a figure, but later they began to feel that the Council, with all the information at its disposal, would not have chosen a figure without a good basis for it, and that 63% must have been selected with a full understanding of many factors of which nothing was known at the periphery.

The Chairman of Council hoped that the meeting would not be led into altering the figure the Council recommended, but

it must not be assumed that the Council wanted only 13,000 general practitioner votes; it wanted 20,500. The figure 13,000 was a minimum, the result of taking all the circumstances into consideration. It represented roughly 63% of the whole field, and if there was an 80% vote—he hoped for a much higher vote—the 13,000 would represent 80% of the vote. He went on to remind the meeting that action did not begin or end with the signing of a plebiscite form. He had had a number of letters suggesting that there be embodied in the form a legally binding document pledging the signatory not to accept service in certain eventualities. This, however, could not be done consistently with the undertaking that the individual vote would not be divulged. But when the figures were known it would be for the doctors themselves to make agreements, not with the B.M.A. or with the profession but with each other in their own neighbourhoods.

The Council's figure of 13,000 general practitioners was agreed to, but it was agreed also to delete any reference to a percentage, which might confuse the minds of some people, from the plebiscite form, and to relate the figure of 13,000 to the present total general practitioner strength of 20,500.

The effect of these modifications of the Council's recommendation is that it will be made clear on the plebiscite form

(1) that if in the aggregate the votes of consultants and specialists, general practitioners, and whole-time voluntary hospital staffs show a majority against accepting service under the Act and this majority includes approximately 13,000 general practitioners (out of a present total general practitioner strength of 20,500), the Association will advise the profession not to enter into any contract under the Act in its present form, but to continue their services to patients or other professional work;

(2) that if these majorities are not achieved, practitioners who undertake not to enter the Service will be released from such undertakings.

The Vote of the Consultants

An amendment from Sunderland was proposed, the effect of which would have been to make action on the plebiscite dependent on the votes of general practitioners alone, leaving out consultants and specialists. The mover (Dr. D. R. Cramb) said that, in the northern area at any rate, consultants and specialists were rather unhappy because they did not know where they stood. To ensure a good plebiscite return the danger of leaving any section of the profession in a state of uncertainty must be avoided. Until consultants and specialists were in a position to make a firm decision they should not be asked to vote—certainly not to vote alongside general practitioners, who had so much more material for arriving at a decision.

In reply it was pointed out that the mandate to the Council from the Representative Body was to take a plebiscite of the whole profession; that this amendment, if accepted, would weaken the resistance of consultants and specialists, and one speaker described it as a "tinker's cuss" amendment, which said in effect that they should concentrate on general practitioners and not care "two hoots" about the rest. Two representatives from Marylebone spoke emphatically against it. Mr. Lawrence Abel: "If the consultants cannot stick by their general practitioner colleagues and realize the implications of this Act, then their blood be upon their own heads." Mr. Dickson Wright: "To leave out the consultants and split the profession into two groups would make it all the easier for the Minister and all the harder for the profession." The amendment was withdrawn.

Certain variations in the proposed wording of the instructions and questions on the plebiscite were put forward with a view to obtaining greater clarity; some were rejected, and others referred to the Council for consideration. Some representatives wanted such advice included as "Attend a meeting in your Division before voting," or "Consult your colleague before voting," but these were turned down. It was felt that the instructions should be as formal as possible. It was mentioned that there would be sent out to members of the profession, separately from the forms, a statement containing full information on the position, and also another document setting out the points in disagreement and the arguments concerning them.

A Solemn Declaration

The procedural business having been disposed of, the following resolution was proposed by Dr. A. C. E. Breach (Bromley) and accepted by the Chairman of Council:

The elected representatives of the medical profession in Great Britain and Northern Ireland meeting in London this eighth day of January, 1948, solemnly declare that in their considered opinion the National Health Service Act, 1946, in its present form is so grossly at variance with the essential principles of our profession that it should be rejected absolutely by all practitioners.

This was carried immediately and without discussion, and no hand was raised against it. It was understood that this declaration would appear on the documents, other than the plebiscite form itself, sent out to the profession.

The passing of this declaration made unnecessary a motion by Marylebone calling for the strongest possible lead to the profession not to accept service under the Act, but the motion was briefly discussed.

Continuance of Medical Services

The Gateshead Division asked that immediate consideration be given to the steps to be taken to continue medical services should service under the Act be refused on July 4. The mover, Dr. J. C. Arthur, said that in his Division there would be no difficulty because they had a large and efficient Public Medical Service, but all areas were not so fortunate. The Chairman of Council said that this problem had given the Council serious thought. Where there was a public medical service it should be offered, though, of course, there could be no compulsion on patients. It was well to remember that the crisis was not likely to be long drawn out, and he could not foresee any great difficulty in the way of most practitioners carrying on their practice as they did to-day. He thought there was no alternative except to go on doing what they were doing as the preamble on the plebiscite form said, they would "continue their services to patients or other professional work."

The Gateshead motion was carried. In reply to the representative of North Staffordshire, the Chairman of Council said that if and when they came to an agreement with the Government they would, of course, insist that there must be no victimization. In reply to the representative of Darlington he said that the Executive Committee was meeting before the end of the month to decide on forms and methods whereby a practitioner might refuse service and remain confident that he would not be "let down" by other practitioners.

The meeting concluded with enthusiastic votes of thanks to the Chairman of Council and to the Chairman of the Representative Body (Dr. J. B. Miller), who had presided with his customary skill and humour throughout the day.

NORTHERN IRELAND HEALTH BILL

The Minister of Health and Local Government in Northern Ireland, Mr. William Grant, M.P., gave a Press conference this week during his short stay in London, where he has been visiting Mr. Bevan and other Ministers. Mr. Grant said that it was the declared policy of his Unionist Government to maintain the social services of the country on the same level as that obtaining for the rest of the United Kingdom. In pursuance of that policy a Bill was now passing through Parliament to provide a comprehensive health service available for all sections of the community. When the proposals came into operation—which he hoped would be on July 5—the people of Northern Ireland would be entitled to the same health service benefits as those provided in Great Britain under the recent Act. The Bill had passed through all its stages in the House of Commons and would be before the Senate this week. Notwithstanding 500 amendments on the paper a fairly good agreement had been reached between the different parties.

Asked whether the Bill had the support of the medical profession in Northern Ireland Mr. Grant said he would not claim that it had their entire support, but they were friendly with his Ministry, and he thought, by and large, that the Bill had their general approval. The hospital position, too, with the

proposed co-ordination of voluntary and local authority hospitals, was satisfactory, and the Cabinet had even received a letter of thanks from the representatives of the hospitals. In reply to a question as to how the Bill compared with the Act already passed by the British Parliament, Mr. Grant said: "We are not going up the same street, but we shall arrive at the same place, I hope, in the end."

Freedom of Doctors

In the arrangements with practitioners no basic salary was proposed, except in rural districts where the numbers on a doctor's list might not afford him a reasonable income. The capitation method of remuneration was the Government's policy, but of course rates of payment had not yet been discussed. There was no direction of doctors. "We fought for liberty, and we maintain it." The Bill provided for appeal to the courts against dismissal from the Service. "As Minister I do not want any trouble I can avoid." He added that there was provision in the Bill for health centres, but this was a question of obtaining building material, which is scarce in Northern Ireland even for ordinary houses.

Mr. Grant said that his country suffered from a nursing shortage; it had not been necessary to close down any hospital wards for lack of nurses, but the opening of extensions had been held up. The Ruschcliffe scale had been adopted. He spoke with pride of the creation in 1946 of the Northern Ireland Tuberculosis Authority, which replaced the former eight county committees. The authority consisted of thirteen representatives of local authorities and four nominees of the Minister, and had power to co-opt. Its duties covered the whole field of tuberculosis from prevention to after-care. The Act under which the authority operates is regarded in some quarters as the foremost piece of legislation on tuberculosis in the United Kingdom. Maternity and child welfare, blood transfusion service, and health education are in the Ministry's general programme of reorganization and improvement.

has been suggested which it is thought will materially reduce the number of such examinations and to that extent relieve the doctor of the necessity for visiting the proposer.

This procedure, which has been accepted for a trial period of twelve months, and which will take effect as from Jan. 1, 1948, is as follows:

- (i) That it shall be an instruction to Agents and District Managers of the Industrial Assurance Offices that, whenever possible, arrangements shall be made for the examination to take place at the practitioner's surgery.
- (ii) That, where this is impracticable, authority for the practitioner to be requested to make a domiciliary examination must be obtained from the Head Office or Regional Office of the Company or Society.
- (iii) Where such authority is obtained, mileage shall be paid at the rate of 1s. per mile or part of a mile, each way, beyond a radius of two miles from the practitioner's surgery.

B. Commencement

The terms of the new Agreement supersede those of the Agreement of 1920.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

County Borough Councils.—Gateshead.

Metropolitan Borough Councils.—Fulham, Hackney, Poplar.

Non-County Borough Councils.—Dartford, Leyton, Radcliffe (limited to future appointments), Tottenham, WallSEND.

Urban District Councils.—Denton, Droylsden, Houghton-le-Spring, Huyton-with-Roby, Portslade, Redditch (restricted to new appointments), Stanley (Co. Durham), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

HEARD AT HEADQUARTERS

FEES FOR LIFE ASSURANCE MEDICAL EXAMINATIONS

The attention of members is drawn to the terms of the new agreement in regard to fees for life assurance medical examinations which has been reached as the result of discussions with the Life Offices' Association, the Associated Scottish Life Offices, and the Industrial Life Offices' Association.

A. Forms Used for Medical Examination

There will be two types of form, as follows, both of which will bear a note of the appropriate fee payable.

1. *An Office's Ordinary Form.*—This will be used in all cases where the amount of the proposed sum assured exceeds £300, and may be used for smaller cases if the Office so desires. The fee for the examination and report on this form will be £1 11s. 6d.

2. *A Short Form.*—This may be used in all cases where the amount of the proposed sum assured does not exceed £300, as stated on the form. The fee for the examination and report on this form will be 10s. 6d. This special short form has been standardized and, apart from the questions answered by the Proposed in the Doctor's presence, will contain the following questions:

- (a) Does the Proposed appear in good health? Is his/her appearance consistent with the age stated?
- (b) Is there any reason to suspect irregular or intemperate habits?
- (c) Are there any abnormalities of the heart or lungs or pulse?
- (d) Are there signs or symptoms of kidney disease? Result of urine examination. Albumin..... Sugar.....
- (e) Height of the Proposed. Weight of the Proposed. (If possible the Proposed should be weighed and measured by the Examiner.)
- (f) Are there any other circumstances not covered by the questions with which the Company should be acquainted? (e.g.: In female cases, is she in an obvious state of pregnancy?)
- (g) In which of the following classes would you place the risk—First, Second, or Third?*

Domiciliary Examinations.—The more usual practice is for examinations to be made at the surgery, but circumstances arise where this is not convenient to the proposer and certain procedure

* Classification: First Class, lives acceptable on ordinary terms; Second Class, assurable, but only on special terms; Third Class, unassurable.

The Octopus

The Public Relations Department of the Association has got out a most effective folder, the principal feature of which is a pictorial design illustrating the arrangements under the new Act. The picture, which is in colours, admirably done by F. K. Henrion, the distinguished poster artist, well conveys the strong jaws and unattractive countenance (officially, of course, not personally) of the Minister of Health, while his sucker-bearing arms hold all the things which he can determine—by regulation, appointment, provision, control, approval, whatever it is—in relation to hospitals, general practice, and local authority services. For example, in general practice it is shown that he controls entry into the public medical service through the Medical Practices Committee; that he regulates the Executive Council, which consults the Local Medical Committee, and contracts with the general practitioner; also that he appoints the Central Health Services Council and controls dismissal from public medical practice through a tribunal. There is more in the design than meets the eye—and the eye has quite a lot to meet it. It is said that on occasion the octopus will devour its own arms, which may, for anything we know, be the fate of these appointed or approved bodies. The folder, which includes a number of other facts tersely set out, is being sent to every member of the profession, and in a larger size it is available on application for exhibition at divisional or other meetings.

First Shots

Dangerous as it is to infer too much from mass meetings, no one could have gone away from the first such meeting in London or the one held a day or two later for Surrey practitioners at Wimbledon without feeling strongly that the profession was of one mind. The Great Hall of B.M.A. House, had it been twice as large, would still have been comfortably filled. The meeting was with the speaker, the Secretary of

the Association, and advanced with him from point to point in his devastating analysis of the Minister's reply. Perhaps it was a pity that it was a case of preaching to the converted (no sign of dissent was perceptible, except perhaps in the tenor of one question), but the converted were sufficient in number to do some useful converting on their own account if such is needed. The unanimity of feeling was impressive. Perhaps this time the oratorical advantages are with the profession; last time, with Lloyd George as spellbinder, they were on the other side.

Misleading Parallels

Reference to Lloyd George reminds one who in a very humble capacity went through all that controversy thirty-five years ago that history, when all is said and done, never repeats itself. There are points of coincidence, but when the pattern is examined the points of difference far exceed them. Take, for example, the voting of the profession in 1912 on the question of accepting service under National Health Insurance (it was not called a plebiscite in those days). In 1911 there were 27,400 signatories to the B.M.A. pledge, but when, in December, 1912, another vote was taken, although there was an overwhelming majority against acceptance of service—something like 11,200 to 2,400—only half the previous signatories voted at all. And why? Simply because in the meantime the Chancellor had threatened that if the profession refused service he would institute a whole-time salaried State medical service. This time no practitioner will withhold his vote because of that fear. A whole-time State medical service is not threatened, it is at the very door, and the only thing that can avert it is a vote in the plebiscite.

Principles Not Conceded

The circumstances of 1912 are very different from those of 1948 in other respects. For one thing, the agitation against National Health Insurance was supported by noisy and often ill-advised demonstrations by other sections of the community. Servant girls twice packed the Albert Hall to protest against their mistresses being compelled to lick stamps. Farmers and dockers were aroused. It was made a party political matter. The Government suffered at by-elections. The popular press, for various reasons, ranged itself against the measure. The doctors, in spite of their good case, found themselves in some rather unusual company. This time, while it is believed that the profession can count on the sympathy of the public, it is the profession's fight, and that is all to the good. Most important of all, last time, when it came to the point, the profession had already gained its principles, and practically the only matter that remained was a quarrel over the size of the capitation fee. Free choice of doctor and other things had been conceded. Perhaps that also helped to swell the 50% of non-voters. This time no one will withhold his vote on the ground that anything has been conceded. There may be a certain amount of argument about the adequacy of remuneration, but the real fight is on principles not one of which, in spite of months of patient argument, has been conceded. Indeed, events are not running parallel with 1912; they are running in the opposite direction.

Quieter Problems

While the energies of the Association are occupied with medico-political questions other work continues. Two committees in particular have been busy as the New Year opens. One is the newly appointed committee on nutrition, which has a bulk of literature in front of it enough to occupy it for a month, and has split up into subcommittees to study the material. The other is the committee on nursing, which at its second meeting received a report from its subcommittee on the training of nurses. The subcommittee, which like the main committee has as its chairman Dr. Mary Esslemont, of Aberdeen, has brought forward a training scheme which will go as a recommendation to Council. The scheme would require all candidates for nursing training to complete a pre-clinical course before undertaking hospital training. The two periods—the preclinical and the basic hospital training of a practical character—would together cover a period of two

years. For students proceeding beyond the basic hospital training there would be a third year's course leading to a qualifying examination for State registration. Students who complete the basic training but do not undertake the third year's course would, after a practical examination, be given a status with some such name as "auxiliary nurse." The term "assistant nurse," because of its present connotations, will be avoided.

Correspondence

Medical Records

SIR,—I note in the report of the meeting of the Insurance Acts Committee (Dec. 27, 1947, p. 168) that the Ministry of Health is seeking to destroy the medical records of all who have ceased to be entitled to N.H.I. medical benefit. Presumably one can expect no better from such an organization and must conclude that housewives and those whose income has been raised above N.H.I. limits are among those who do not matter "a tinker's cuss" to His Majesty's Government. I had, however, expected better of the Insurance Acts Committee and was horrified to read that "several members of the committee expressed the view that an effort should be made to prevent the destruction of these records, but eventually it was decided to ask that current records should not be withdrawn from doctors, the Ministry being left to make the decision regarding old records."

May I point out to the majority of the Insurance Acts Committee responsible for this decision that whatever may be their own practice it is the custom of some doctors to keep full and accurate clinical records. If they are sent for pulping *en masse* it will be an act of the grossest negligence by those who have assumed responsibility for the health of the nation, and we shall have acquiesced in it. It is essential for the efficient running of the new Service that the records in question should remain available, and I submit that this is a point of far more importance than many on which the B.M.A. is ready to take issue with the Minister. In this connexion it would be interesting to know what is the policy of the Ministry of Health with regard to its own records. I think it will be found that the Ministry regards its most trivial administrative communications as more important than the entire medical history of any patient.

Since the I.A.C. have failed us I must ask the profession as a whole to take some notice of the danger which threatens. The matter must be put most forcibly to the Minister, and if no satisfactory reply is received the profession itself must arrange to care for the records. Micro-filming is a possibility which would at least avoid permanent loss, but far better would be the retention of the actual record until it could be incorporated in the N.H.S. record.

It seems that the B.M.A. as a whole might undertake a service of this nature, and that it should not be restricted to N.H.I. notes but should extend to any medical records which are presenting a problem in storage to their present custodians—e.g., the private records of deceased or retired doctors, mass radiography films, completed school medical records, etc. The filing service would issue any record to the practitioner in charge of the patient on condition that it was not destroyed by him and that it was returned to the filing service or made available to any succeeding doctor when no longer required. With certain safeguards they could also be made available to research workers.

All this would cost money and take up office space and clerical labour, but not nearly as much as is used for many much more trivial purposes. And it would be well worth doing if it could answer such questions as, "Was the tumour removed ten years ago proved histologically to be malignant?"

—I am, etc.,

Silver End, Essex.

J. W. NICHOLAS.

Joint Tuberculosis Council

SIR,—Few will be likely to disagree with the views expressed by Drs. D. P. Sutherland and N. J. England in their letter (Dec. 27, 1947, p. 171) concerning the necessity for clinical teams and for a regional administrative tuberculosis officer to co-ordinate the services provided. Many will welcome the

recommendations (Nov. 1, 1947, p. 100) that tuberculous patients should be looked after by specialists (physicians) in charge of clinical teams and sanatorium physicians of a "status identical with that of other consultants." But a point not explained is how such specialists will in fact be of the status described and yet subordinate to a regional tuberculosis physician—a higher specialist officer—unless of course the Joint Tuberculosis Council considers that all consultants will be expected to work under the regional consultant officer of their specialty. It may all depend on what is meant by "identical status," but surely these words have a very definite meaning.—I am, etc.,

Kenton, Middlesex.

H. J. TRENCHARD.

Working Conditions for the General Practitioner

SIR,—May I as a very junior G.P. be allowed to support Dr. W. E. R. Branch's very apt remarks (Dec. 27, 1947, p. 171)? I took over this single-handed practice of medium size 12 months ago, and if I was not deeply committed I would gladly forsake it as soon as possible. It has been 12 months of near slavery for both my wife and myself, and no matter how difficult things were 30 years ago the previous generation of G.P.s had few of our present difficulties to face.

There are in this small town some 10 medical practices—all well established and all, bar two or three, have partners or assistants, mine being the only practice where there is no arrangement for off-duty, not even one day per month. My opposite number has both a partner and an assistant, but I can come to no definite agreement with him. You may say that this is due to lack of personality on my part, but even if this is so it is the patient who suffers if the doctor is tired and has no opportunity for relaxation.

I feel as Dr. Branch does that the fear of competition prevents co-operation. Any health service that is truly nationalized must prevent such an anomaly. If all the doctors in this area had an equal number of patients and received an adequate basic salary plus extra for age and experience, then the problem would be near solution. If one's professional career is to be based on the number of patients one can cram into the day, then the outlook is pretty dull.—I am, etc.,

WORKMAN.

Regional Hospital Association

SIR,—At a meeting held in Liverpool on Dec. 21, 1947, which was attended by 64 doctors from all parts of the region that is to be covered by the Liverpool Regional Hospital Board, it was decided to form a Liverpool Regional Hospitals Medical Association.

The objects of this newly formed body are: (1) The establishment and maintenance of high standards of efficiency in the hospitals of the Region. (2) The promotion of the professional interests of the members.

The members shall be registered medical practitioners who hold, or have held, positions above the rank of house officer in hospitals and whose main professional interest is centred in hospitals to be administered by the Regional Hospital Board.

The following committee was elected: Chairman, Dr. H. H. MacWilliam; Vice-chairman, Dr. D. W. C. Tough; Secretary, Dr. V. Cotton-Cornwall; Treasurer, Dr. O. F. Thomas. Committee: Drs. R. L. D. S. Derham, R. J. Keating, D. Osborne Hughes, G. Williamson, H. Alstead, R. E. Kemp, T. Stanley Rogers, W. N. Chisholm, L. Findlay, D. Shute, C. M. Vaillant. Messrs. J. A. Martinez, H. L. Davies, L. J. Temple, P. N. Simons.

The Secretary was instructed to inform the B.M.A. and other medical societies concerned, and also the medical press, of the formation of this association. The subscription is 10s. per annum. It is hoped that all who are eligible and were unable to attend will join at once, and that other Regions will organize along similar lines.—I am, etc.,

Liverpool.

V. COTTON-CORNWALL.
Hon. Secretary

Mrs. H. Evans, J.P., member of Cardiff City Council, has been appointed to the Welsh Regional Hospital Board to fill the vacancy caused by the resignation of Alderman T. J. Kerrigan owing to ill-health.

B.M.A. LIBRARY

The following books have been added to the Library:

- Abderhalden, E.: *Spuren von Stoffen entscheiden über unser Schicksal*. Zweite Aufl. 1946.
— *Die Grundlagen unserer Ernährung und unseres Stoffwechsels*. Fünfte Aufl. 1946.
Baldwin, E.: *Dynamic Aspects of Biochemistry*. 1947.
Barkoff, G.: *The Conquest of the Unknown*. 1947.
Beaumont, G. E., and Dodds, E. C.: *Recent Advances in Medicine*. Twelfth edition. 1947.
Brun, R.: *Allgemeine Neurosenlehre*. 1946.
Cantor, A. J.: *Ambulatory Proctology*. 1946.
Capuani, G.: *Allergia e Malattie Allergiche*. 1945.
Clay, H. H.: *The Sanitary Inspector's Handbook*. Sixth edition. 1947.
Delmas, J., and Delmas, A.: *Voies et Centres Nerveux*. 1946.
Fearon, R. W.: *An Introduction to Biochemistry*. Third edition. 1947.
Fiessinger, N.: *Clinique et Investigations*. 1946.
Fleisch, A.: *Ernährungsprobleme in Mangelzeiten*. 1947.
Goldberg, B. (Editor): *Clinical Tuberculosis*. Fifth edition, two vols. 1947.
Granit, R.: *Sensory Mechanisms of the Retina*. 1947.
Hadfield, G., and Garrod, L. P.: *Recent Advances in Pathology*. Fifth edition. 1947.
Hill, H., and Dodsworth, E.: *Food Inspection Notes*. 1947.
Houghton, M.: *Aids to Practical Nursing*. Fifth edition. 1947.
Houlston, M.: *The Practice of Mental Nursing*. 1947.
Jamieson, E. B.: *Illustrations of Regional Anatomy*. Seventh edition. 1947.
Jorpes, J. C.: *Heparin in the Treatment of Thrombosis*. Second edition. 1946.
King, A. C.: *Principles of Gaseous Anaesthetic Apparatus*. Second edition. 1946.
Ludwig, H. (Editor): *Repertorium pharmazeutischer Spezialpräparate, Sera und Impfstoffe*, 1 Ausgabe. 1946.
McCrea, L. E.: *Clinical Cystoscopy*. Two vols. 1946.
McGrath, B. J.: *Nursing in Commerce and Industry*. 1946.
Roger, H.: *Éléments de Psycho-physiologie*. 1946.
Samuels, J.: *Endogenous Endocrinotherapy*. 1947.
Spain, Ministerio de Trabajo: *Legislación sobre Seguridad e Higiene del Trabajo*. 1946.
Spivack, J. L.: *The Surgical Technic of Abdominal Operations*. Fourth edition. 1946.
Thompson, C. J. S.: *Magic and Healing*. 1947.
Treves, Sir F.: *Surgical Applied Anatomy*. Eleventh edition revised by Lambert Rogers. 1947.
Trueta, J.: *Studies of the Renal Circulation*. 1947.
Warkentin, J., and Lange, J. D.: *Physician's Handbook*. Fourth edition. 1946.
Williamson, B.: *Handbook on Diseases of Children*. Fifth edition. 1947.

H.M. Forces Appointments

ROYAL NAVY

Surgeon Rear-Admiral A. E. Malone, C.B., K.H.P., has been placed on the Retired List.

Surgeon Captain A. W. North, O.B.E., has been placed on the Retired List.

Surgeon Commanders S. G. Weldon, E. B. Pollard, and R. G. Anthony to be Surgeon Captains.

Surgeon Lieutenant-Commander S. D. Mosse (R.N.V.R.) has been transferred to the Royal Navy in the rank of Surgeon Lieutenant.

Temporary Surgeon Lieutenant T. A. O'Halloran (R.N.V.R.) has been transferred to the Royal Navy.

ROYAL NAVAL VOLUNTEER RESERVE

Surgeon Commander G. McCoull, O.B.E., V.R.D., to be Surgeon Captain.

Surgeon Lieutenant-Commander P. G. C. Martin, V.R.D., to be Surgeon Commander.

T. S. Eimerl, D.S.C., to be Surgeon Lieutenant-Commander.

Temporary Surgeon Lieutenant J. M. Lees, has been transferred to List 1 of the permanent R.N.V.R.

Temporary Acting Surgeon Lieutenants J. D. Wallace, J. L. Pring, R. M. L. Weir, R. D. Price, P. I. Rutherford, H. F. Hills, R. M. Dooley, J. E. Pitts, J. M. Cliff, C. M. Flood, C. F. G. Prudeaux, T. A. O'Halloran, A. A. R. Meek, A. J. Ogg, D. A. N. Druy, K. A. Newton, T. D. Hanratty, P. H. Hewitt, P. K. A. Andrews, and H. M. Rodger to be Surgeon Lieutenants.

Temporary Acting Surgeon Lieutenant P. T. Clover to be Temporary Surgeon Lieutenant.

Probationary Temporary Acting Surgeon Lieutenants D. J. Rodger, D. A. Arthur, J. L. F. Wyllie, G. A. Carnahan, J. Watt, R. N. Andrew, R. H. Etherington, J. M. Wilks, T. Stratton, M. K. Quinn, W. R. R. Thurstfield, R. H. B. Mills, J. M. O'Brien, P. D. A. Durham, W. A. Heaton Ward, and D. G. Dalglish to be Surgeon Lieutenants.

ARMY

Colonel (Acting Major-General) (now Major-General) W. E. Tyndall, C.B., C.B.E., M.C., late R.A.M.C., to be Temporary Major-General.

Colonel (Temporary Major-General) J. R. N. Warburton, M.C., late R.A.M.C., having reached the age for retirement is retained on the Active List supernumerary to Establishment.

Colonel R. F. Walker, C.B.E., M.C., late R.A.M.C., has retired on retired pay and has been granted the honorary rank of Brigadier.

Colonel F. C. Chandler, M.C., late R.A.M.C., having attained the age for retirement is retained on the Active List supernumerary to Establishment.

Colonel C. Popham, O.B.E., late R.A.M.C., has retired on retired pay.

Lieutenant-Colonel V. J. Bonavia, late R.A.M.C., to be Colonel.

Lieutenant-Colonel W. C. Mackinnon, R.A.M.C., to be Colonel.

Lieutenant-Colonel J. C. Collins, O.B.E., from R.A.M.C., to be Colonel.

ROYAL ARMY MEDICAL CORPS

Lieutenant-Colonel G. G. Drummond has retired on retired pay and has been granted the honorary rank of Colonel.

Lieutenant-Colonel T. E. B. Beatty has retired on retired pay on account of disability.

Lieutenant-Colonel H. P. Rudolf, M.C., has retired on retired pay. Major (War Substantive Lieutenant-Colonel) C. W. Crimmin, O.B.E., to be Lieutenant-Colonel.

Majors R. St. J. Lyburn, J. W. A. McIver, and R. T. Shipman to be Lieutenant-Colonels.

Major J. L. O'Neill, from I.M.S./I.A.M.C., to be Major.

Major C. E. L. Harding, retired and re-employed, has been restored to the rank of Lieutenant-Colonel, on ceasing to be re-employed.

Captains D. J. R. McConvell, W. M. McCutcheon, and J. P. Baird to be Majors.

Short Service Commission.—Lieutenant J. Batchelor to be Captain.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

Colonel R. I. Poston, T.D., to be Honorary Colonel No. 7 (Western) General Hospital.

Captain (War Substantive Major) A. M. Robertson, O.B.E., to be Major.

St. Andrew's University Contingent, Medical Unit.—Second-Lieutenant J. J. A. Reid, from Senior Training Corps, Infantry Unit, to be Lieutenant (supernumerary).

TERRITORIAL ARMY RESERVE OF OFFICERS: ROYAL ARMY MEDICAL CORPS

Majors A. M. Robertson, O.B.E., and W. E. Orchard, T.D., from Active List, to be Majors, retaining their present seniority, and have been granted the honorary rank of Lieutenant-Colonel.

Major A. C. M. Savage has relinquished his commission on account of disability.

Captain O. C. Wilkinson, from Active List, to be Captain, retaining his present seniority, and has been granted the honorary rank of Major.

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Substantive Captains J. E. Lovelock, H. R. Heldt, A. Lederman, D. Jerome-Newman, and D. M. Thomson have relinquished their commissions and have been granted the honorary rank of Major.

War Substantive Captain M. G. Sanyal has relinquished his commission on appointment to a permanent commission in the I.A.M.C.

War Substantive Captains A. F. Shpetner, F. M. Liebmann, E. Rosenbaum and M. H. Kerby have relinquished their commissions and have been granted the honorary rank of Captain.

Short Service Commission, Specialist.—War Substantive Captain A. A. Shcin has relinquished his commission and has been granted the honorary rank of Major.

Lieutenant J. Corbett to be Captain.

War Substantive Captains B. B. Jacobs and S. A. Hossain have relinquished their commissions on account of disability and have been granted the honorary rank of Captain.

Lieutenants A. G. Leatham, M. A. Caldwell-Nichols, W. Stevenson, D. Rivers, K. M. Chalmers, W. Frain-Bell, A. C. Connell, R. P. Bradshaw, P. G. S. Beckett, K. F. Barrett, J. H. Bruce, A. V. G. Bibby, D. J. Dooley, H. W. Donaldson, W. M. Foreman, E. A. Fairburn, J. Flint, J. G. Gould, I. W. Kerr, P. Jewsbury, T. Menzies, D. B. Price, A. E. P. Swinson, J. W. Stewart, P. H. Tribe, G. J. E. Wood, E. C. J. Millar, J. I. Wand-Tetley, A. Feldman, A. Ansell, T. P. Burton, C. Brown, E. Burman, A. R. Cini, J. Cran, R. A. Denham, B. V. I. Greenish, L. S. Goodhardt, J. G. P. Hutchison, E. H. Heilpern, J. H. Johnston, D'A. Kok, D. Lawrence, W. Niman, E. T. O'Dwyer, W. R. Probert, W. L. G. Quintilian, L. L. Ralph, G. Robins, E. W. N. Trounson, M. P. Winstanley, W. Whiakier, J. P. Smith, A. D. Bingham, J. R. G. Bastable, K. R. Brookes, K. B. Chambers, J. I. Cohen, D. J. Crockett, P. L. H. Davey, P. J. Dwyer, J. B. Eades, D. J. Gardner, J. P. Graham, K. C. R. Halliday, R. H. Hansell, R. E. A. Hansen, J. M. Holmes, D. A. L. Jones, O. G. Jones, D. W. W. Jones, H. Keidan, I. A. Kellock, R. J. Kleinclass, A. H. Levy, F. D. Lumb, H. Mackenzie, A. MacLennan, P. M. C. Mark, D. G. Maurice, K. R. Ogilvie, H. Reiler, A. R. Semner, W. A. L. Thompson, J. C. Whildam, R. Wolfson, and D. L. Woolf to be Captains.

Lieutenant R. F. C. Van Cauwenberghé has relinquished his commission.

To be Lieutenants: J. K. Baird, H. Baker, E. Barnett, F. A. Beak, T. L. Begg, J. Black, P. S. Brown, G. O. Clark, B. O. Clements, D. C. Cockburn, J. T. Crean, R. R. De-Mowbray, J. H. Fox, E. J. Gow, P. Hampson, D. G. Hardy, G. Hird, J. B. Howard, D. A. Jack, E. Jones, S. Kalinsky, J. L. Kilgour, J. B. Lawson, C. Levin, J. M. Loughran, G. I. Lumsden, D. H. McMillan, A. W. Morrow, C. D. R. Pengelly, R. L. Richards, J. B. Ritchie, M. J. Roper-Hall, B. Ruebner, I. W. Sinclair, C. R. B. Stewart, R. G. Stewart, T. Symington, B. Towers, J. K. B. Waddington, R. J. S. Weir, H. M. White, and E. E. Vella.

Association Notices

Branch and Division Meetings to be Held

DERBY DIVISION.—At Derbyshire Royal Infirmary, Tuesday, Jan. 20, 8.15 p.m. Mr. R. L. Flett: Ear, Nose, and Throat Cancer. Mr. F. G. Hollands: Genito-urinary Cancer.

GREENWICH AND DEPTFORD DIVISION.—At Miller Hospital, Greenwich Road, S.E., Wednesday, Jan. 21, 9 p.m. Discussion on the Plebiscite.

HYDE DIVISION.—At Dukinfield Town Hall, Wednesday, Jan. 2, 8.30 p.m. Dr. J. S. Parkinson: Recent Advances in Neurology.

WESTMINSTER AND HOLBORN DIVISION.—At City Hall, Chancery Cross Road, London, W.C., Thursday, Jan. 22, 8 p.m. Mr. P. I. Mitchiner: Recent Advances in Surgery.

WINCHESTER DIVISION.—Sunday, Jan. 25, 11 a.m. General meeting. Dr. D. P. Stevenson (Assistant Secretary, B.M.A.) will speak. A medical practitioners in the area of the Division are invited.

WORCESTER AND BROMSGROVE DIVISION.—At Worcester Shire Hall, Sunday, Feb. 1, 2.30 p.m. Address by Dr. H. Guy Dain: The Plebiscite. Open to all members of the medical profession.

Meetings of Branches and Divisions

DUMFRIES AND GALLOWAY DIVISION

At a meeting held in Dumfries on Dec. 21, 1947, Dr. Rob McWhirter, Director of the Radiotherapy Department of the Royal Infirmary, Edinburgh, gave an address on "The Scope of Radiotherapy in Malignant Disease." He pointed out that the use of radiotherapy in the treatment of malignant disease had been greatly extended in recent years. If only cases, which cure was attempted were considered, radiotherapy could alone or in combination with surgery was used in approximately 85% of cases. The incidence of malignant disease was 24 new cases per annum per million of the population, and this number approximately 1,700 died from malignant disease. Differential diagnosis, while easy in the late stages, was of impossible in the early stages unless special methods of examination (histological, radiographic, biochemical, etc.) were employed. An appropriate special method of examination could often be selected only by the specialist. Closer liaison between the specialist and general practitioner was essential, and it was to be hoped that establishing regional medical services provision would be made this.

KENT BRANCH

The Branch Council met at Maidstone on Jan. 2. A full and useful discussion on the proposals under the National Health Service Act, the B.M.A. statement, and the Minister's report took place. The circumstances and action to be taken in relation to the approaching plebiscite were given detailed consideration. Reference was made to the fact that many alien doctors (of whom it was understood there were some 3,000) might apply to enter the Service, but there was the possibility that the majority would decide to accept the final decision of the B.M.A.

MORPETH DIVISION

A meeting of the Morpeth Division was held on Dec. 12, 1947. The Secretary reported that the Branch Council had approached the National Coal Board in connexion with the question of insurance certificates, and a courteous reply had been received, but the decision of the Board had not yet been made known to the Council.

Prof. F. H. Bentley then addressed the meeting on "Changes in Trends in Modern Surgery." His talk, which was particularly interesting and informative, was illustrated with lantern slides and gramophone record. Dr. Stephenson proposed the vote of thanks to Prof. Bentley, and this was most heartily given.

WEST BROMWICH AND SMETHWICK DIVISION

A meeting of this Division, to which all practitioners in the area were invited as well as members of the Dudley Division and Walsall Division, was held on Jan. 4. General practitioners, public health officers, members of hospital staffs, consultants, and others were present. Dr. A. Ward addressed the meeting, and there was a prolonged discussion. Member after member severely criticised Mr. Bevan's scheme, and at last Dr. Ward asked if any member would speak in its favour. No one did so. It had not been intended to take a vote, but someone suggested it and the meeting decided to do so. There were 91 practitioners present, and everyone voted against entering the National Health Service as it now stands.

LONDON SATURDAY JANUARY 24 1948

THE TRAINING OF SPECIALISTS

THE PLACE OF POSTGRADUATE INSTITUTES*

BY

Sir FRANCIS FRASER, M.D., F.R.C.P.

Director of the British Postgraduate Medical Federation

The experience of the war years suggests that the average level of hospital treatment will be raised, but it is not so clear that the standard of the specialist and expert will also be raised, as a result of the new powers and responsibilities of the Minister of Health. There is danger that the effect will be in the reverse direction through too much dependence on the State and the expectation that the Ministry will regulate matters of which it has no experience and for which it may not be willing to accept direct responsibility. It is for the educational bodies to provide the training of a specialist, and the recognition of a specialist should be determined by the profession itself. For the protection of the public it may be wise to state the minimal requirements for recognition, but the standards required by the profession and the public will, it is to be hoped, have little relation to minimal requirements.

In the past the recognition of a medical man as a specialist has depended on his acceptance by his professional colleagues, and I trust that no action by the State will alter this, either directly or indirectly. In the future, under the National Health Service, there will be many more hospital appointments for specialists than there have been in the past, and whatever may be decided about the method of their selection it should ensure that no applicant is appointed who is not accepted by his professional colleagues to be of the standard they require for the post question. A considerable number of memoranda have been prepared recently by the Royal Colleges and the associations of specialists on the experience and training which they recommend, and these confirm and amplify the valuable report of the Interdepartmental Committee on Medical Schools.

Length of Training

In general they advise that following qualification and registration a period of five years' postgraduate experience is required before recognition as a specialist should be granted and that longer is necessary in the more specialized branches of medicine and surgery. In the past the successful candidates for appointments to the senior staffs of voluntary hospitals have as a rule had a considerably longer period. This is clearly desirable, and the training programmes that have been recommended should be regarded as indicating the necessary essentials only. The plan should not be rigid and should permit of considerable variation to suit differences in intellectual capacity, previous education, and experience.

The years of training can be divided into a first period of one to two years of further junior clinical appointments

*Annual address given at the Institute of Laryngology and Otology, Gray's Inn Road, London, on Oct. 10, 1947.

in general medicine and surgery following registration to practise, and a second period of three years and more devoted to training in the selected specialty. At least a year of postgraduate scientific education and laboratory discipline is also advised, which could be associated with the first period and spent in one of the preclinical sciences or associated with the second period and spent in laboratory investigations or research directly connected with the specialty. The programmes recommended include, as a rule, the passing of an examination for a higher degree or diploma as a test of the candidate's progress, but this alone should never be regarded as indicative of fitness to hold a responsible appointment as a specialist on the staff of a hospital.

General Training

The undergraduate curriculum is designed to give the graduating student the principles of the practice of medicine, and to teach method, as the Planning Committee of the Royal College of Physicians points out; and the State may now require a period of twelve months in junior resident appointments in approved hospitals before registration to practise can be granted. While holding these appointments the graduate will obtain practical experience with responsibility for the management of patients, and learn to carry out the technical procedures for diagnosis and treatment that he will be required to perform in the practice of his profession. For a specialist in any of the clinical branches twelve months of practical experience as a resident house-officer is insufficient to provide the wide knowledge of patients and their ailments upon which can be built a wise understanding of any special group of patients and diseases. Until, therefore, the graduate can obtain further junior hospital appointments that provide general experience he should not be encouraged to concentrate on a special subject. These appointments will be normally at an undergraduate teaching hospital or a hospital approved by a medical school and will be of the senior house-officer type. They will be obtained in competition with other candidates for specialist careers, and in this way selection will be exercised. This selection will be progressive, as the graduate competes at each stage for the diminishing number of further appointments suitable for the more advanced stages in his training and, finally, for a specialist appointment on the staff of a hospital.

Special Training

At the end of the further period of one to two years in resident appointments after registration, when the graduate has obtained a wide and practical experience of sick persons and of the routine methods used in diagnosis

and treatment, he will be ready for education in the basic principles of the specialty as an advanced student. For general physicians and general surgeons this advanced education should be progressive over a period of three years at least and be combined with clinical responsibility. For those intending to practise in one of the special branches of medicine or surgery, training as a general physician or general surgeon should be required first, though the period may be somewhat shortened, and a longer total period will be necessary.

Graded Hospital Appointments

This period of special training has not been well organized in the past but has been regulated largely by individual preferences and initiative, and by local circumstances and opportunities. The customary programmes, however casually they have been devised, show much that is common in their patterns, and it is important that this characteristic should be retained to form the basis of the schemes for improvement which are now possible with increased grants for medical education and the institution of a National Health Service. The basis of training has been the holding of a hospital appointment of the registrar type in the appropriate department of a general hospital or, in the case of some special branches, in a special hospital. In the United States of America this type of appointment is generally known as a residency, and in their teaching hospitals has been planned and developed for the education and training of specialists. Stress is laid on the progressive character of the appointment, so that the holder is given increasing responsibilities as his education proceeds, and in its final stage the appointment might be described as that of a resident assistant physician or surgeon. The comparable appointments in this country, known as resident medical or surgical officer, registrar, chief assistant, tutor, etc., vary greatly in the nature of their responsibilities and opportunities, and the duties have as a rule occupied so fully the time of the holder that there has been little opportunity for study and reflection, and the supervision required to make the period one of advanced education has been seldom provided.

It would be a mistake to lay down any rigid programme of training because of the different careers which specialists ultimately follow. The great majority will be fully occupied in the care and treatment of patients, a few will obtain appointments as teachers in the medical schools in addition to clinical appointments in teaching hospitals, and only a very few will follow careers in experimental work or laboratory research. All should, however, be trained to use their opportunities for clinical observation to advance knowledge, and all should reach such a standard of general education and culture as befits the leaders of a learned profession.

The first stage of the registrarship should if possible be held in a *general teaching hospital* and medical school. There the graduate will be in contact with many others in a similar stage of training, though aiming at specialization in other branches and holding appointments in other departments, and in contact also with experienced practitioners and teachers in his own and in other specialties. The staffs of the pathological and pre-clinical departments will be ready to help and advise, and their laboratories will be open to him. Library facilities and a museum will be available and he will have opportunities for teaching undergraduates and house-officers. Teaching of this kind and discussions with their contemporaries and seniors should be arranged for the registrars, as these are as important in their training and development as responsibility for the care and treatment of patients. A considerable increase in the number of registrar posts in teaching hospitals is proposed, and this should make it possible in most instances for at least the first year of training to be spent in this way, and at the same time enable the holders of these posts to have more time for study, discussion, and reflection than has been usual in the past.

The clinical material at an undergraduate teaching hospital is regulated by the needs of undergraduate education and, except in general medicine and general surgery, there will seldom be enough patients to provide the registrars with the wide practical experience they require in the technical aspects of their specialties. The second stage in their training might well be arranged to provide this by an appointment for a year or longer in a *regional hospital centre* with a large department for the particular specialty, where the training will be more practical and where the registrar will have opportunities for gaining experience the skill in diagnosis and treatment which he will require. The hospital or special department should be approved for the purpose by the regional postgraduate committee, for his training must still be closely supervised.

The third stage should vary according to the progress made during the earlier stages and to any aptitudes which the candidate has displayed. If he is a promising undergraduate teacher he might return to his original or some other teaching hospital, and if he has shown ability for original research he might be appointed to a professorial department. On the other hand, if his inclinations and abilities point to a life devoted to the treatment and management of patients a further period in a non-teaching hospital might be best to equip him for a career as a regional specialist and consultant. At some period in his training, no matter what his eventual career may be, he should be given opportunities to see the practice of his specialty in other centres, either by a hospital appointment, another part of the country or by a period of study abroad. London there are peculiar advantages in an appointment at one of the *special postgraduate hospitals* with the visiting staff representative of the practice and teaching of the general medical schools, for the graduate will be able to obtain there a wider view of the specialty and to form his own opinion on the comparative values of different methods.

Courses of Instruction

In most subjects organized courses of postgraduate instruction are available, consisting of lectures and demonstrations, with varying opportunities for practical work in the wards and out-patient departments. In the training of a specialist these courses cannot take the place of graded hospital appointments with increasing responsibilities. They can, however, play a part. It is doubtful if the best type of graduates who obtain appointments of the registrar type at teaching hospitals and hospitals associated with medical school over a period of three years or more get much from an organized course, but there are graduates who lack the ability to generalize from their experience. For them a well-planned course can be of great value, enabling them to appreciate the principles underlying the practice, to synthesize their knowledge, and to clear their minds of doubts and difficulties. For those who have been unfortunate in their hospital appointments a good course can fill the gaps in their knowledge and compensate to some extent for the deficiencies of their earlier training. Such a course should be of the advanced revision type, needs skilful planning, and for its success requires a group of able instructors who are keen and experienced teachers as well as experts in their specialties. Only a few courses of this type are available at present.

The usual type of organized course is more suitable as an introduction to a specialty and provides a background for further training by means of hospital appointments. Unfortunately they often enable candidates to obtain diplomas and thus to appear qualified to practise a specialty in which they have not been adequately trained. Success in passing the examination for a special diploma is evidence of progress, not of completion of training as a specialist.

Lectures.—Lectures designed to supplement responsible work with patients are available in most of the specialties. Given by experts each on the subject in which he is specialist.

interested, with no attempt to cover the field systematically, they can be of considerable value by indicating the directions in which progress is being made, the gaps in current knowledge, and the literature that should be studied. When the lecturers are drawn from all the medical schools in the country such a series can be of great educative value and a stimulating experience.

Research.—There are a relatively small number of graduates whose intellectual capacity and earlier education enable them to develop as fast as their teachers can take them and whom it is a joy to teach. If given the appropriate opportunities and encouragement during their training they are likely to contribute to the advance of knowledge in the specialty. They should be watched for continually and be attached to individual members of the clinical or laboratory staffs to assist them in their investigations and in experimental research. Hitherto there have been very few departments with staff, accommodation, and equipment of university standard in the clinical subjects, except general medicine, general surgery, and obstetrics, and opportunities for higher education and research in the special clinical branches have been difficult to obtain. This has been a serious drawback to specialist education in this country, and the increased financial grants which the Government is now giving for medical education will, it is hoped, improve the position and provide opportunities for this the highest form of medical education and the essential inspiration in the training of specialists.

Graduates from Overseas

This scheme of progressive training, based on competitive selection for hospital appointments and supplemented by courses of instruction, has been outlined with particular reference to the graduates of our own medical schools, and it is necessary to consider how the graduates from overseas can be welcomed and fitted into it in accordance with their requirements. They visit us at various stages in their postgraduate education; they remain here for a few months or for two or three years; they may aim at obtaining the best training we can provide or they may plan to return to their own countries before reaching the standards that we regard as essential.

There are those who have spent several years in graded hospital appointments in their own country and come here for a few months in order to see something of the practice and listen to the teaching of our eminent specialists. An advanced revision course covering two or three months and attendance at a series of lectures by experts from the different centres fulfil their first needs and help them to make those personal contacts that add so much to the educational value of their visit. The remainder of their time can be used to advantage by attachment to individual teachers whose methods and philosophy can be studied only by close association.

For those who visit us at an early stage in their training a longer course of basic instruction, with clinical work, demonstrations, and lectures, is required in order that they may acquire sound principles and technical skill. They may then return to their own countries to continue their training by further hospital appointments. Some will obtain them here and remain for several years, sharing with our own graduates the system of registrar appointments with progressive responsibilities.

Most of the graduates from overseas come to London for part at least of their time in this country, though many obtain what they require at other centres in the first instance, and the opportunities provided in Edinburgh are a notable contribution. The majority of the graduates who come to London come with the intention of acquiring one or more special diplomas. In the minds of many of those from overseas the acquisition of a diploma is more important than experience in the specialty, and they are content to spend the whole of their time here in reading books and listening to lectures. The special diplomas vary greatly in their standards; some should be regarded as little more than qualifying the successful candidate to enter on a period of proper training; few can be accepted as indicative that the candidate is fit for the responsibilities of a specialist and that his training is completed. Few persons, apart from those directly concerned, appreciate the standards of the different diplomas; and there is much misconception of their

values in the minds of the public and of the non-medical members of hospital boards even in this country, and they are often given entirely false values by official bodies overseas. Most of the special diplomas are awarded by the Royal Colleges, which arrange series of lectures of considerable educative value, for they indicate the standards of learning which a specialist should possess, without attempting to cover the subjects systematically, but they cannot themselves provide the clinical work essential for the training of a specialist. There is, I believe, a real danger that London may come to be regarded as a purveyor of diplomas, a reputation that might interfere seriously with its development as a great centre of postgraduate education. Closer co-operation between the Royal Colleges, the associations of specialists, and the medical schools is clearly desirable to ensure that the special diplomas take their proper place in the education of specialists.

The number of clinical appointments suitable for specialist training at the general teaching hospitals associated with the undergraduate medical schools has hitherto been insufficient for the training of our own graduates, and only rarely has it been possible for them to provide posts for visitors from overseas. The staffs of the undergraduate teaching hospitals have been fully occupied with the education of undergraduates and they have been unable to contribute to any great extent to the training of the large and increasing numbers of visitors. The experience of the post-war years and the need for additional or supernumerary appointments to provide for medical officers released from the fighting Services have shown that in general medicine and general surgery opportunities eminently suitable for the training of specialists can be provided at the general teaching hospitals to a considerably greater extent than has been the practice in the past. If a few appointments of this type could be allotted at each of the teaching hospitals to selected graduates from overseas it would make a most welcome contribution to the training of specialists for the Commonwealth and Empire. In the special branches of medicine and surgery, however, the undergraduate medical schools, maintaining a proper balance between their general and special departments, cannot as a rule be expected to develop departments with the staff, accommodation, and equipment required for advanced education and research. Appreciating the increasing demand for postgraduate education in London and the peculiar opportunities for creating university departments in the special branches in association with London's famous special hospitals, the University of London has embarked on a policy of developing postgraduate institutes for higher education in the major clinical specialties.

The Postgraduate Institutes

The institutes are being developed from the postgraduate teaching that has been carried on for many years at certain of the special hospitals of London. In addition to resident hospital appointments and the very important training which they provide, the instruction has varied considerably in standard, and has consisted for the most part of clinical demonstrations and lectures, planned in some instances to suit the requirements of candidates for diplomas. In only a few instances was it possible to provide the advanced education that should be regarded as essential for a specialist and consultant, and it is, I think, significant that the standard of education has been generally higher in those special branches in which there are no diplomas.

The aim of the University of London, and of the British Postgraduate Medical Federation acting on behalf of the University, is to provide opportunities for research and higher education in each of the major clinical specialties, with staffs appointed to advance knowledge not only in the clinical field but also in the sciences upon which the practice of each is based. Each institute should be the centre in London of thought and practice to which the specialists will look for help and above all for inspiration. The staff of each institute should be representative of the special departments of the undergraduate medical schools and the general teaching hospitals, and the University will

look to the institute for advice on academic matters concerning the specialty.

As soon as practicable the University will be asked to appoint professors or readers at each of the institutes. Their assistants should be the best of the younger men available from all sources for advancing their subjects by research and experiment, and it should be possible to offer accommodation at each of them to specialists established elsewhere, either at home or abroad, to enable them to work on approved problems. Clearly it will take some time to provide at each institute the laboratory accommodation and equipment, the libraries and museums, that are required, but until this is done the institutes cannot fulfil their main purpose; for teaching must always be dull, uninspired, and lacking in the essential element of excitement unless there is an atmosphere of investigation and progress. This is especially necessary in advanced or postgraduate education.

The number of appointments of the house-officer and registrar types at the teaching hospitals associated with the institutes should be regulated by the recognition that these are training appointments and that leisure for study and reflection is required. In most of the postgraduate teaching hospitals they could be increased in number. These appointments represent the principal method of practical training in the specialty and should be graded to provide progressively increasing responsibilities. The postgraduate teaching hospitals have a peculiar responsibility for graduates from overseas, and they will, I hope, agree to reserve some proportion of their appointments for candidates sponsored by the universities of the Dominions and selected by the representative committees being formed for this purpose.

As a result of interviewing large numbers of graduates coming to London from other universities in this country and of graduates from overseas seeking specialist training here, I believe that to meet their requirements there should be two types of courses of instruction in each specialty. One type should be designed to serve as an introduction to the specialty, to provide training in its basic principles and technical skills, and to give a sound educational basis to the subsequent periods of training by hospital appointments, either here or on the return of the graduate to his own country. With practical work in wards, out-patient departments, and laboratories, supplemented by group discussions, lectures, and demonstrations, such a course can, if organized to cover a period of six months or so, contribute materially. It cannot replace responsible appointments, and the object of the course should be preparatory and educative rather than vocational. In connexion with the course each institute will arrange a series of lectures on the applications of anatomy, physiology, biochemistry, pharmacology, and pathology to its special subject; but there is much, I would suggest, in the application of these sciences that is common to all the special branches of medicine and surgery, and it should be possible to arrange also a central series of lectures in the basic sciences which candidates in all the specialties might attend. The lecturers would be drawn from the medical centres throughout the country, and the series might be organized with the co-operation of the Royal Colleges. There is a philosophy inherent in every specialty which it is the duty of the institutes to foster and impart, and the history of the specialty, its contributions to medicine, to culture, and to the life of the community should be stressed.

The other type of course should be designed to co-ordinate and systematize the practical experiences of the graduate who has completed his training and his hospital

appointments either in this country or abroad, to indicate the frontiers of knowledge and lines of progress, and to renew his enthusiasm. Advanced revision courses of this kind are peculiarly exacting on the teaching staff. They should be based on the examination, investigation, and demonstration of selected cases by the graduate students themselves, followed by group discussions of the subject and its literature. Only those graduates who are sufficiently advanced in their training to make good use of these opportunities should be accepted, and the class should be strictly limited in size and divided into small groups for much of the work. Such courses need not extend over more than eight to ten weeks, and they would be most suitable also for established specialists from the regional hospitals of the National Health Service or from overseas who will return to London from time to time for the continuation of their education. They would preferably be part-time, to allow of attendance at other hospitals and institutions and for the study of more general subjects, and a series of lectures on the clinical aspects of the specialty by its eminent practitioners drawn from all the centres in this country might be arranged, with the co-operation of the Royal College especially concerned, to take place at the same time.

Present-day Difficulties

This programme of research, clinical experience, basic training, and advanced revision cannot be fully carried out until considerable increases in accommodation are provided and until suitable staffs can be appointed. Much can be done and is being done now with improvised accommodation and the eager co-operation of existing staffs and hospital authorities. Further progress depends largely on finding suitable persons to direct research and organize the teaching who are able to devote their time to these duties, as well as on the new Boards of Governors of the teaching hospitals that are to be appointed by the Ministry of Health.

During the immediate post-war years there has been a heavy demand for postgraduate education, and the plan for a National Health Service in this country and of similar services in the Dominions and elsewhere have created an unprecedented pressure on our provisions for specialist training. The postgraduate teaching hospitals and medical schools throughout the country have met this pressure by increasing the numbers of students accepted for courses and of appointments of the registrar type, and this has put a heavy burden on their teaching staffs. With the establishment of the National Health Service and the appointment of postgraduate committees in each of the regions it is hoped to extend the opportunities for specialist training and to use the hospital centres in the regions for postgraduate education. This will enable the institutes of the University to be more selective in their acceptance of applicants. For many visitors from overseas instruction of a practical type would be more appropriate than the advanced education which the institutes will provide, and there are some whose training in general medicine and general surgery has not been sufficient for them to make use of the opportunities which the institutes will offer. Others come to London to attend a course in one or more of the specialties in order to add to their equipment for general practice. It should become possible, in due course, suitably to place postgraduates of all types and leave the institutes free to develop as departments of the University and to become focal points of postgraduate education in their specialties. They should be institutions for higher education and research, but they should also be responsible for the co-ordination of training in their subjects in the London area.

Much has been accomplished, and the start is a promising one.* At other universities plans are being developed which will contribute to the same end. Differing in detail and shaped by local conditions, they will provide a welcome stimulus through rivalry. There is still a long way to go before the aim of the University of London is realized and before the peculiar opportunities present here in London are developed fully. When that time comes the postgraduate institutes will send out the future leaders of medical thought and practice, and will be able to welcome those who seek to advance knowledge by research and to improve their skill for the relief of suffering.

SMALLPOX IN STAFFORDSHIRE, 1947

OUTBREAK AT BILSTON

BY

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The following report covers the outbreak of smallpox which occurred in the borough of Bilston and in the neighbouring areas of Coseley U.D.C., Willenhall U.D.C., and Dudley C.B., as it is assumed that all the cases were from the same source. Thirty cases were confirmed by the Ministry of Health and seven others were removed to hospital as suspects. One associated case occurred in the Birmingham area—a medical student who had visited the smallpox hospital; this is not included in the present series. Six cases were fatal—five haemorrhagic and one confluent smallpox.

History of the Outbreak

An Army sergeant aged 23 was granted compassionate leave from India. He left Agra by train on Feb. 17, 1947, boarded a plane at Karachi on the 20th and, flying via Basra, Cairo, Malta, and Marseilles, arrived at Heathrow Airport on the 23rd. Next day he travelled to his home in Bilston. He had been vaccinated in infancy and again on Nov. 3, 1944, and Feb. 15, 1946.

On March 1 he felt slightly ill, but remained ambulant until he developed a rash on March 6, when he said he felt as if he had "flu." The local medical officer of health, Dr. B. C. Haller, did not feel happy about the case and attempted to obtain the opening of the smallpox hospital. However, further opinion was sought through the regional office of the Ministry of Health, and a confident diagnosis of chicken-pox was made on March 8.

The patient remained at home, and his mother developed a rash on March 21. A diagnosis of chicken-pox was again made. An unvaccinated man of 21 years, who had visited the soldier on March 6, developed a more severe rash on March 25. Further consultations took place and specimens were sent from the two later cases for laboratory investigation. A preliminary report on April 1 suggested that the condition was variolous. Further experts were called in and a conference took place on April 3, at which time "reliable clinical opinion still regarded the Bilston cases as chicken-pox" (Regional Ministry Circular).

On the 4th the mother and brother of Case 3 were taken ill and developed rashes on the 8th. By this time confirmatory reports on the laboratory investigations left no doubt that Cases 2 and 3 were smallpox, and the hospital was opened on the 9th, the first two cases having by this time recovered. The outbreak was regarded as variola minor (*Med. Off.*, 1947, 77, 152), but subsequent events proved the infection to be of the major variety.

*In addition to the Postgraduate Medical School of London, institutes have been established, or are in process of development, in child health, neurology, laryngology and otology, ophthalmology, psychiatry, diseases of the chest, cardiology, dermatology, orthopaedics, urology, and dental surgery.

From Case 1 three further cases originated: the grandmother developed haemorrhagic smallpox and died before removal, and the father and sister developed modified eruptions. No further cases were reported from the known source, but ample opportunity for spread of the infection had been afforded in the 34 days which elapsed between the appearance of the rash in the soldier and the opening of the hospital. One case was known to have travelled from Bilston to Coseley by bus in the late prodromal stage.

Subsequent groups of cases developed in which no apparent origin could be traced, despite vigorous detective work on the part of the staff. The last case was admitted to hospital on July 9 with a confluent rash after being ill at home for six days; an initial diagnosis of measles had been made. This patient lived some four miles from the original focus and her source of infection remains unknown. She had numerous visitors during her period at home, but no contact cases were reported. The 30 cases are classified in Table I and their histories given in Table II.

TABLE I.—Summary of Confirmed Cases

	Severe Cases (15)	Mild Cases (15)	
Haemorrhagic	5 (all fatal)	Copious discrete	1
Confluent	8 (1 fatal)	Moderate discrete	1
Semi-confluent	2 (none fatal)	Mild discrete	6
		"A few spots"	7

Commentary

Cases were seen before admission by experts of the Ministry's Regional Panel, and where doubt existed further examinations were made after admission.

In the *Monthly Bulletin of the Ministry of Health and Public Health Laboratory Service*, July, 1947, special attention was drawn to the fact that the three contacts of Case 9 who developed the disease had been unsuccessfully vaccinated on May 17, 1947, and revaccinated on May 23. This was later found to be incorrect. When examined on the 23rd the reaction to the incisions performed on the 17th was very indefinite and further incisions were made. By the 25th, however, the vaccination of the 17th showed a good reaction.

Group 7 (Bilston).—Opinion was sought in regard to Case 22, aged 7, who was gravely ill. As the other children in the household presented minor lesions they were admitted to hospital. Cases 21 and 23 were regarded by the Ministry expert as confirmed smallpox, but an infant aged 10 months and an older sister, both vaccinated, were not confirmed. When Case 21 was seen in hospital on June 30 a scar was noted on his ankle, and it was suggested that he might have been the original source in the household. No other lesions were then present. Local opinion considered that the scar was due to an old infection caused by a protruding nail. Further opinion on July 7 doubted if the case ever was smallpox. Case 23 was very fretful and obviously ill on removal, but the rash failed to develop beyond the macular stage. She was vaccinated after admission to hospital.

Case 24.—This boy had papules on the forehead only, which soon scabbed and left depressed scars showing staining. The laboratory results were negative, but his was regarded as a highly modified case when seen on July 7. His sister was removed to hospital as a suspected case, but her condition soon subsided and she was regarded as suffering from a vaccinial lichen. It is possible that the boy also was suffering from an eruption of this type.

Case 30 (Dudley).—Clinically this was the most interesting case of the whole outbreak. The prodromal phase was marked with headache, chill, malaise, and backache. The rash appeared on June 19 and streptococcal septicaemia was diagnosed. The patient was removed to the infectious diseases hospital on June 21 by ambulance and before being sent to the ward he was seen by a medical officer who had seen Case 9. As Case 30 presented a similar picture he was transferred to the smallpox hospital. He had a marked

TABLE II.—Case Histories

Case No.	Sex	Age	Source of Infection	Vaccinal State	Final Diagnosis	General Remarks
BILSTON CASES						
<i>Group 1 (8 cases)</i>						
1	M	23	India	Infancy 3/11/44	Mild discrete	Prodromal phase 1-6/3/47, "like 'flu.'" Rash on palate, face, back, shoulders, and chest. Quick maturation and slight depth
2	F	50	Son (Case 1)	15/2/46 Infancy	"	Febrile 19-21/3/47. Rash on 21/3/47: palate, face, trunk, forearms, legs. Well-marked vesicular stage. Laboratory confirmation
3	M	21	Case 1	Unvaccinated	Semi-confluent	23/3/47, severe malaise; 25/3/47, rash profuse on face, forearms, palms, legs, and soles. Laboratory confirmation
4	F	48	Son (Case 3)	Infancy 3/4/47	Confluent	Onset 4/4/47: marked rigors. Rash 8/4/47: profuse, typical distribution. Penicillin given from 14/4/47. Laboratory confirmation
5	M	17	Brother (Case 3)	3/4/47	"	Onset 4/4/47: prodromal phase marked. Rash 8/4/47. Penicillin given from 14/4/47
6	M	51	Son or wife (Case 1 or 2)	1914-18 10/4/47	Mild discrete	Onset 8/4/47: malaise. Rash 11/4/47. 20 lesions: forehead, arms, scapulae. Laboratory confirmation
7	F	19	Brother or mother (Case 1 or 2)	Infancy 10/4/47	"A few spots"	Onset 8/4/47: slight malaise. Rash 11/4/47. 9 lesions in all. Laboratory confirmation
8	F	79	Grandson (Case 1)	? Infancy	Haemorrhagic	Onset 8/4/47: gravely ill. Petechial rash 10/4/47. Died 11/4/47
<i>Group 2 (4 cases)</i>						
9	M	70	Unknown	Unknown ? Infancy	Haemorrhagic	Onset 26/4/47: headaches. 29/4/47: rash; petechial on trunk and extremities. Bruising on arms, hands, and feet. Blood p.r. Penicillin given. Died 2/5/47. Laboratory confirmation
10	F	64	Husband (Case 9)	2/5/47 (primary reaction)	Confluent	Onset 7/5/47: prodromal phase slight. Rash on 11/5/47. Penicillin given from admission on 11/5/47
11	M	30	Case 9	3/5/47 (primary reaction)	"	Onset 7/5/47: severe pain in abdomen. Rash on 11/5/47. Penicillin given
12	F	41	Case 9	2/5/47 (primary reaction)	"A few spots"	Onset 11/5/47: symptoms slight. Rash on 13/5/47: 7 pustules in all. Positive laboratory culture
<i>Group 3 (4 cases)</i>						
13	F	27	Unknown	Unvaccinated	Haemorrhagic	Onset 9/5/47: severe sickness, headache. Rash on 12/5/47; diagnosed as scarlet fever. Admitted 16/5/47. Petechial rash: confluent on face, neck, and throat; discrete on back, abdomen, and limbs. Palms and soles clear. Blood from all orifices. Died 16/5/47
14	F	49	Daughter (Case 13)	Infancy 17/5/47 23/5/47	"	Onset 29/5/47: intractable headache, abdominal pain. Rash first appeared 31/5/47. Confluent petechial rash by 2/6/47. No maturation. Died 5/6/47
15	F	14	Sister (Case 13)	Infancy 17/5/47 23/5/47	Mild discrete	Onset 30/5/47: no symptoms, but acneiform rash which was vesicular on 31/5/47
16	F	12	Sister (Case 13)	Infancy 17/5/47 23/5/47	"	No prodromal stage. Rash on 1/6/47. Vesicular. Ambulant throughout.
<i>Group 4 (1 case)</i>						
17	F	11	Unknown	Unvaccinated	Confluent	Onset 16/5/47: abdominal pain. Rash 19/5/47. Treated with penicillin from 19/5/47
<i>Group 5 (1 case)</i>						
18	F	39	Unknown	Infancy 4/6/47 (successful)	Moderate discrete	Onset 1/6/47: rigors, etc. Rash 4/6/47; maculo-papular, mainly on legs and arms. None on face. Treated with penicillin
<i>Group 6 (2 cases)</i>						
19	M	61	Unknown	Infancy	Copious discrete	Onset 9/6/47: backache. Atypical rash on 13/6/47; papular on forehead and scalp, acneiform on body. Specimens reported "presumptive negative." Quick maturation and removal on 17/6/47. Later material positive. Treated with penicillin
20	F	61	Husband (Case 19)	Infancy 16/6/47	"A few spots"	Vague onset 26/6/47. Rash appeared 28/6/47. Scattered papules on body and extremities. None on face. Laboratory confirmation
<i>Group 7 (3 cases)</i>						
21	M	11	Unknown	May, 1947	"A few spots"	Removed to hospital with Case 22. A few indeterminate lesions. Laboratory negative
22	M	7	Unknown. ? Case 21 (brother)	Unvaccinated	Confluent	Onset 18/6/47: pains in back, severe diarrhoea. Rash 20/6/47; confluent. Treated with penicillin. Died 2/7/47
23	F	2	? Case 21 (brother)	"	"A few spots"	Onset 20/6/47. Removed same day with macular rash which did not mature. Laboratory-negative
<i>Group 8 (1 case)</i>						
24	M	10	Unknown	23/6/47	"A few spots"	Onset 30/6/47: little discomfort. Rash on 3/7/47, forehead only. Laboratory negative
COSELEY CASES						
<i>Group 1 (2 cases)</i>						
25	F	78	Unknown	Infancy	Haemorrhagic	Source probably indirectly from original Bilston case. Onset obscure (patient an invalid). Rash on 7/5/47; petechial. Died 15/5/47
26	M	72	Sister (Case 25)	10/5/47	"A few spots"	Onset 22/5/47: slight symptoms. Two lesions on wrist on same day, positive for variola. No other lesions
<i>Group 2 (2 cases)</i>						
27	F	18	Possibly Group 2 (Bilston)	6/5/47	Confluent	Onset 13/5/47: prodromata fairly severe. Rash 16/5/47; initial diagnosis "measles." Admitted 19/5/47. Penicillin given
28	F	52	Daughter (Case 27)	20/5/47	Semi-confluent	Onset 27/5/47: headache. Rash 29/5/47, papular on admission on face, neck, trunk, limbs, and in the axillae
WILLENHALL AREA (1 case)						
29	F	19	Unknown	Unvaccinated	Confluent	Onset 3/7/47: dysphagia. Rash developed 6/7/47: original diagnosis "measles." Removed 9/7/47. Gravely ill. Penicillin given
DUDLEY AREA (1 case)						
30	M	45	Unknown	Infancy 25/6/47	Mild discrete	Onset 16/6/47. Original rash 19/6/47. Later crop 1/7/47

vesicular rash on the forehead, face, neck, and thorax; pronounced excretion of the skin in the neck area; a papular rash on the arms and legs but none on the palms and soles; a haemorrhagic rash on the lower thorax and abdomen; and some lesions in the mouth. He complained of severe abdominal pain. His was suspected to be a haemorrhagic case, and penicillin was administered. The rash continued to extend and the haemorrhagic areas became brighter until June 24, when the rash faded quickly, although the tempera-

ture remained raised and the abdominal pain persisted. Laboratory findings at this stage were negative. By June 30 the rash had completely faded, and a Ministry expert expressed the opinion that it might have been erythema multiforme. There were never any bullae, severe stomatitis, or pseudomembrane in the mouth. On July 1 a new crop of lesions appeared, beginning as a vesicle on the abdomen within a previously haemorrhagic area. Specimens gave a positive culture for variola. By July 4

there were more papules present on the hands and chest, the temperature became normal, albumin disappeared from the urine, and the patient felt better. On July 7 an expert confirmed the rash as being a modified smallpox of some six days' duration. Further progress was uneventful. While for record purposes this case was classified as mild discrete smallpox the possibility remains that it was a haemorrhagic case, with a prolonged prodromal period and slow maturation, which recovered.

Suspected Cases

The following four suspected cases were removed to hospital but were not confirmed as smallpox.

An unvaccinated child of 7 years had severe vomiting and epistaxis. Next day a provisional diagnosis of " ? varicella, ? variola " was made and she was admitted to a special isolation unit. On admission she was delirious, with a profuse macular rash on the face, trunk, and palms of the hands. By the following day she had developed post-occipital glands and the rash was fading. Subsequent progress proved the condition to be rubella.

A woman aged 27 developed a profuse papular rash on the hands, shotty to the touch, with a few vesicles, 16 day after vaccination. Laboratory evidence was negative and the lesions soon cleared, leaving considerable brown staining. This was probably a vaccinal eruption. There was no previous history of urticaria.

A girl aged 22 who had been vaccinated in infancy and again on May 17, 1947, developed a rash on June 14 after a well-marked period of sickness, abdominal pain, back-ache, and conjunctivitis. She had three papules on the forehead, one on the chin, and one on the right leg which became vesicular. Opinion was divided, but she was removed to hospital, where laboratory evidence was negative. The scarring from the lesions was depressed and showed staining.

A man aged 31 who worked in Bilston was vaccinated on May 21, 1947, and developed a rash on June 17 with no initial prodromata. He was removed to hospital with a generalized rash, which gave negative laboratory evidence.

It is suggested that the last two cases may possibly have been late effects of the vaccination.

General Measures Taken in Bilston

Contacts.—All possible steps were taken to obtain lists of contacts, who were kept under surveillance for a period of 21 days to cover any possibility of a prolonged incubation period in vaccinated or modified cases. In the later stages of the outbreak considerable help was given by the Army authorities, a field hygiene unit being drafted in to help in the daily visitations, which then numbered several hundreds.

Vaccination.—Vaccination was offered to all known contacts, and a special clinic was opened to facilitate the work of the public vaccinators. All contacts received three incisions. No endeavour was made to advocate mass vaccination, as it was felt that the protection of the known contacts was the important factor. However, by the middle of May the public panicked at the continued incidence of cases, and the demand for vaccination became so great that assistant medical officers of Staffordshire County Council had to be called upon to act as deputies for the public vaccinators. It is estimated that over half the population of Bilston were vaccinated at the clinics and works or by the practitioners. No cases of encephalitis following vaccination were reported in the Bilston, Coseley, and Willenhall areas.

Chicken-pox.—Section 147 (1) Public Health Act, 1936, was brought into operation and chicken-pox was notifiable from May 19. All cases were visited by the medical officer of health, and several adult cases remained suspect until proved negative.

Staff.—All staff in any way connected with the cases were revaccinated at six-weekly intervals, as it was felt that a virus of very high virulence was responsible for the outbreak.

Hospital Arrangements.—A small disused infectious diseases hospital was opened by the Smallpox Board and staffed by volunteers. Although the hospital was situated in Bilston the distribution of the cases gave no evidence of aerial spread.

Treatment of Patients

General.—Patients were nursed until the crusting stage in darkened rooms. The eyes were treated with boric lotion and sulphacetamide drops. Frequent mouth-washes were given. Lesions occurring on the face and neck were treated with hot sodium bicarbonate compresses, as they were found to be very soothing.

Sedatives.—"Nembutal," $1\frac{1}{2}$ – $4\frac{1}{2}$ gr. (0.1–0.3 g.), was administered according to the age and condition of the patient.

Use of Penicillin.—As already indicated, penicillin was administered to most of the severer cases. In the first two to receive it it was started in the pustular stage, 20,000 units being given intramuscularly at three-hourly intervals, then being changed to 100,000 units six-hourly. It was later suggested that a dose given twice daily would maintain an effective concentration and cause less disturbance to the patients. Later cases received 1,000,000 units twice daily from admission to the crusting stage. The dosage was purely empirical. This is a greater dose than has previously been noted in the treatment of smallpox (Easton, 1945; Foulis, 1945; Pierce, 1947). One cannot claim too much from the small series, and it is not suggested that penicillin influenced the course of the virus infection. In the pustular stage there was much less photophobia and pus formation, and the nursing staff noted agreeably the great diminution in the quantity of soiled linen. Cultures taken during the pustular stage grew only penicillin-resistant *Staphylococcus aureus*.

The mortality rate compares favourably with other recent epidemics, only one confluent case being fatal—that of a previously debilitated child.

TABLE III.—Comparison with Other Recent Outbreaks of Smallpox

Outbreak	Total Cases	Deaths	Haem. and Haem. Confl.	Confluent	Semi-Confl.	Mild	Severe Cases*	
							%	Mort. %
Glasgow, 1942	36	8 (22-2%)	3 (3)	9 (5)	2	22	38.8	57
Edinburgh, 1942	36	8 (22-2%)	6 (6)	5 (2)	3	22	38.8	57
Middlesex, 1944	11	3 (27-3%)	1 (1)	2 (2)	8	27.3	40.9	50
Middle East, 1944	48	13 (27-5%)	11 (10)	5 (3)	10	22	54.1	75
Merseyside, 1946	31	9 (29-0%)	8 (5)	7 (4)	2	19	38.7	50
Bilston, 1947	30	6 (20-0%)	5 (5)	8 (1)	2	15	50	40

* Severe cases comprise the haemorrhagic, confluent, and semi-confluent. The bold figures in parentheses indicate the number of fatal cases.

Lessons of the Outbreak

Once again an outbreak of smallpox followed a confident diagnosis of chicken-pox by competent experts. This also occurred in 1947 at Scunthorpe (*Medical Officer*, 77, 152), in the Middlesex outbreak of 1944 (Bradley, Davies, and Durante, 1946); the Edinburgh outbreak of 1942 (*B.M.J.*, 1944, 2, 54); and at Birkenhead in 1946 (Pierce, 1947). Had the original case at Bilston been removed to complete isolation it is probable that the outbreak would have terminated in the original group. One can but echo C. K. McKillop (1947): "Chicken-pox in adults should always be regarded with suspicion."

The possibility of a modified attack of variola should always be borne in mind when suspicious rashes occur in vaccinated persons who have recently arrived in this country by air. The impact of such a case on a comparatively unvaccinated population was well demonstrated in the Bilston outbreak. One would have expected further cases to arise, especially in the overcrowded conditions prevailing in the area, and the early removal of the patients, with vaccination and close surveillance of the contacts, must have been contributory factors in limiting the spread. Mild missed cases in vaccinated persons must account for the missing links in the spread of the outbreak, the termination of which can be described only as natural or spontaneous.

Laboratory investigations have been of great help in confirming some cases, especially in the original group and in highly modified attacks such as Case 26. However, time must elapse before the receipt of the reports and of negative results in cases showing definite clinical signs.

As in previous outbreaks, vaccination did not fully protect within the first week of the vaccination period. Many contacts were vaccinated too late in the incubation period, owing to delay in diagnosis or even in sufficient suspicion of the true nature of the case. Confluent cases occurred where successful vaccination had been carried out nine and eight days before the appearance of the true smallpox rash, and in one haemorrhagic case successful revaccination had been carried out 12 days before, yet the case had a fatal termination. Modified cases occurred where vaccination had been carried out 12 days before the rash appeared. Many individuals vaccinated in the Services during the recent war years gave reactions which indicated absence of immunity.

An important administrative point in dealing with vaccination of school-children is the necessity for obtaining the written consent of the parents. In the rush of children coming for vaccination from the schools it was assumed that parental consent had been given. Later it was found that some children had been vaccinated "to be in the fashion," without parental consent.

Summary

An outbreak of smallpox is described originating in a soldier who travelled from India by air and was at home for some days before he developed a modified attack of variola which was regarded as chicken-pox.

Of the 30 confirmed cases, 15 were severe, with 6 deaths—5 from haemorrhagic smallpox and 1 in an unvaccinated confluent case.

I wish to express my appreciation of the very great help given to me by Dr. B. C. Haller, medical officer of health for Bilston, during my period of special duty in the area and for his permission to utilize the various records and reports. My thanks are due to his staff for their ready co-operation at all times. I am greatly indebted to Dr. F. Asker, medical officer of the Joint Infectious Diseases Board, and to Miss Marian Curtin, the matron of the Moxley Hospital and Bilston Smallpox Hospital, for their help in giving me access to the cases and treatment records and for permission to use the records in collating this report. I also wish to record my thanks to Dr. G. Ramage, medical officer of health for Staffordshire, for his permission to publish this report.

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ABSORPTION OF VITAMIN D IN STEATORRHOEA

BY

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AND

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Osteomalacia, though rare in this country, may sometimes be seen as a complication of steatorrhea. Ryle (1924) and others have suggested that the formation of insoluble calcium soaps in the fatty intestinal contents inhibits calcium absorption in this condition. Although unabsorbed fat in the bowel does affect calcium absorption (Telfer 1926-7), soap formation cannot entirely explain the failure to absorb calcium, otherwise the patients should absorb calcium normally on a fat-free diet. In fact, restriction of fat intake alone does not improve calcium absorption (Bauer and Marble, 1932; Bassett *et al.*, 1939), but vitamin D rapidly restores it to normal even with a normal fat intake, indicating that the patients are vitamin-D-deficient. It was suggested that this was due to a failure of absorption of the vitamin, but no direct evidence of such an effect has been given. In three cases successfully treated with vitamin D, Bassett *et al.* (1939) used large doses (225,000-900,000 i.u. daily) by mouth, these doses being similar to those required in cases of vitamin-D-resistant rickets (McCance, 1947); they obtained equivocal results when smaller doses (10,000 i.u. daily) were given parenterally to another patient. Bauer and Marble (1932) obtained an immediate response with 10 mg. of ergosterol daily by mouth.

When a woman with osteomalacia due to steatorrhea recently came under our observation the absorption of vitamin D was investigated by comparing the responses to oral and parenteral administration, using doses known to be adequate for treatment of osteomalacia of dietary origin (Liu *et al.*, 1935).

Case History

The patient, a nun aged 61, had worked in Poona from 1933 to 1937. In 1938 a right hemicolectomy, including resection of the last 4 in. (10 cm.) of the ileum, was performed for carcinoma of the caecum; healed tuberculous mesenteric glands were found at operation. After this operation she had diarrhoea, and in July, 1944, she was admitted to this unit for anaemia. Steatorrhea with megaloblastic anaemia was then found. A sternal puncture showed the sternum to be soft; plasma phosphatase was 14 King-Armstrong units but serum calcium and phosphate were not estimated and osteomalacia was not suspected at that time.

Treatment was begun with a low-fat diet with extra meat weekly liver injections, and added vitamins A and D (1,500 units daily), and this regime was continued after discharge. The anaemia and diarrhoea responded fairly well, but in the spring of 1946 she had severe pains in the spine, round the trunk, and in the sacro-iliac joints. Radiographs revealed generalized osteoporosis, and calcium sodium lactate (6 g. daily) was prescribed. This helped to control the diarrhoea, but produced little change in the bone pains. These were rather better after a summer holiday, but this improvement may be ascribed to sunlight rather than to the treatment, for in the spring of 1947 her condition had again become much worse. Every movement of the trunk was very painful; from the lying position she could not sit up without pulling herself up by her arms; her muscles felt weak and she was getting involuntary spasms of the abdominal muscles. Her ribs were very tender. Chvostek's sign was positive, Trousseau's sign

negative. She was admitted to hospital, where the presence of steatorrhea was confirmed, although the anaemia had improved (Hb, 11.7 g. %; R.B.C., 4,400,000 per c.mm.; M.C.V., 91 cu. μ).

The report of biochemical investigations was as follows: blood urea, 35 mg. per 100 ml.; plasma chloride, 464 mg. per 100 ml. (79.5 m.eq./l.); blood bicarbonate, 50 vols. per 100 ml. (22.2 m.eq./l.); blood phosphate, 2.77 mg. per 100 ml. (1.62 m.eq./l.); serum calcium, 8.8 mg. per 100 ml. (4.4 m.eq./l.); plasma phosphatase, 58 King-Armstrong units; plasma proteins, total 4.7 g. per 100 ml.; albumin, 2.75 g. per 100 ml.

Radiographs of the bones revealed considerable decalcification and multiple fractures of the ribs on the right side. These defects, together with the low blood calcium and phosphate and the high phosphatase, confirmed a diagnosis of osteomalacia. The condition had progressed despite the low-fat diet with added vitamin D for nearly three years, and had not responded to the extra calcium intake. During a preliminary period of

mouth was continued, but for the next four periods the same dose was given parenterally. Finally, to determine the effect of the added calcium on fat absorption, fat excretion was measured during a further two four-day periods without any added calcium; calcium balances were not determined for these last two periods.

Calcium intakes were calculated partly from food tables (McCance and Widdowson, 1946), but the calcium contents of calcium lactate and milk were measured direct. These sources accounted for about 4.5 g. of the total daily intake of about 4.6 g., so that the probable error of 10% due to using food tables represented a negligible error in estimating the total calcium intake. With the exception of milk, no foods rich in calcium or which contained much oxalate were given. The bread intake was kept constant. All fat intakes were determined from food tables.

For the four-day collection periods carmine (0.6 g.) was used as a faecal marker, and a rectal washout of distilled water was given to complete each collection. Calcium was determined by titration—in the faeces by the method of McCrudden (1911–12), in the urine by that of Sbohl and Pedley (1922)—while the inorganic phosphate of urine was estimated colorimetrically, using the method of Berenblum and Chain (1938). Faecal fat was estimated gravimetrically after extracting with petroleum ether an aliquot of wet faeces previously treated with hydrochloric acid and dried with plaster-of-Paris.

Results

During the time of the balance observations there was no significant rise in blood calcium or phosphate (see Fig.), despite apparently effective treatment (cf. Bauer and Marble, 1932; Liu *et al.*, 1935). In periods 1–4, with oral vitamin D, 1.9 g. of calcium was retained, while in periods 5–8, with parenteral therapy, 6 g. was retained (see Table). Marked calcium retention began only during the second four-day period after the

Table showing Four-day Calcium and Fat Balances with Oral and Parenteral Vitamin D Therapy

4-day Period		Calcium				Phospho- phate in Urine (g.)	Fat (g.)		
		Intake (g.)	In Faeces (g.)	Absorbed (g.)	In Urine (mg.)		Intake	In Faeces	
Vitamin D (12,000 I.u. daily)	By mouth :								
	1	.. ..	19.2	17.6	1.6	130	1.36	278	244
	2	.. ..	18.3	16.7	1.6	130	1.05	263	212
	3	.. ..	19.2	19.9	-0.7	90	1.60	289	238
	4	.. ..	18.9	19.5	-0.6	10	1.53	281	240
	Total (16 days)		75.6	73.7	1.9		5.54	1,111	934
	Intramuscularly :								
	5	.. ..	18.0	20.0	-2.0	7	1.32	266	266
	6	.. ..	18.7	15.7	3.0	4	1.56	273	200
	7	.. ..	18.2	16.3	1.9	3	1.43	279	284
	8	.. ..	18.4	15.3	3.1	4	1.89	280	282
Total (16 days)		73.3	67.3	6.0		6.20	1,098	1,032	
9 } 10 }		Approx. 6.0					276	128	
							280	144	

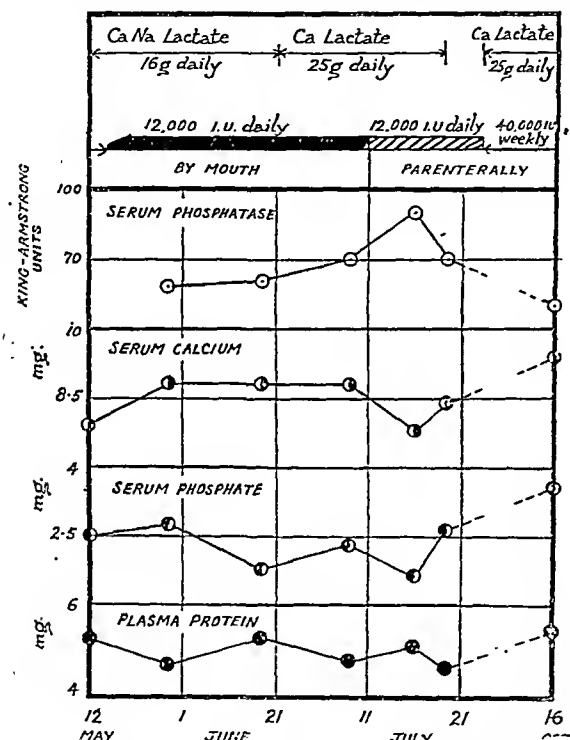


Chart showing the blood findings during treatment with vitamin D.

observation the calcium sodium lactate was increased to 16 g. daily, and the vitamin D to 12,000 units daily by mouth. A low-fat diet (30 g. of fat daily) and liver injections were continued as before. Her pains slowly disappeared, but she remained too weak to get up. Blood findings were practically unchanged (see Fig.). This treatment was continued for five weeks prior to the observations on calcium absorption.

Experimental Observations

The object of the calcium balance observations was to obtain evidence on the absorption of vitamin D. The experiment was begun with a relatively high fat intake (70 g. daily), but time did not permit us to continue the observations on a lower intake. Preliminary tests had shown that 40–50% of the dietary fat was excreted, so that during the experiment 25 g. of calcium lactate was given daily, the diet thus containing more calcium than would combine with this amount of fat in the stools. Observations were made over ten four-day periods, beginning three days after the start of the experimental regime. The fat intake was almost constant throughout the experiment, and the total fat excretion in each period was measured. During the first four four-day periods vitamin D (12,000 units daily) by

start of parenteral therapy. Bauer and Marble found an immediate response to treatment, but Liu *et al.* (1935) and Linder and Harris (1930) also found a negative calcium balance immediately after beginning treatment. The latter authors attributed this to the parathyroid-like action of vitamin D, but the absence of an associated rise in urinary phosphate excretion makes this explanation unlikely (Albright *et al.*, 1946).

The greatly improved calcium balance after parenteral therapy cannot be due to collection errors, for these would affect the results for fat excretion similarly. In fact, fat excretion rose during the second experimental period, when fat absorption was apparently less than 10%. The excessive loss of fat in the faeces was partly due to the high calcium intake: thus the mean daily fatty acid loss in periods 7 and 8 was 71 g., in periods 9 and 10, when no supplementary calcium was given, 34 g.—a difference of 37 g. This amount of fat, assuming an average molecular weight of 271 for fatty acids, would combine with 2.78 g. of calcium. The actual supplementary calcium intake was 3.15 g. This effect of calcium in preventing fat absorption was much more pronounced than in normal people (Fourman), and similar findings in steatorrhea have been

reported by Bassett *et al.* (1939). On the other hand, the results show that once vitamin D was made available the excess of fat in the faeces did not prevent calcium absorption by soap formation. There may be two reasons for this: first, soap formation possibly does not occur until the calcium and fatty acids come together in the colon (Ingelfinger, 1943); secondly, calcium soaps can be utilized, though poorly (Boyd *et al.*, 1932).

Progress Note.—Ten weeks after the conclusion of the experiment blood calcium and phosphate values had risen to normal with continued parenteral vitamin D therapy, but the phosphatase remained high (see Fig.).

Discussion

The response to the parenteral injection of a dose of vitamin D which was ineffective by mouth indicates failure of absorption of vitamin D in our patient. This failure was not due to the increased steatorrhoea produced by the experimental conditions, since these conditions did not obtain before the experiment was begun, when the patient had been receiving the same dose of the vitamin while on a low-fat diet. Absorption of the vitamin at this time would have affected calcium absorption during the experimental period, since the action of vitamin D even in small doses is a prolonged one (Hannon *et al.*, 1934), so that apparently even without massive steatorrhoea absorption of the vitamin was defective. We were not able, as originally planned, to determine whether absorption of the vitamin occurs in the absence of fat in the bowel.

On the basis of our observations certain recommendations may be made. Ordinary doses of vitamin D may be ineffective in the prevention of osteomalacia in steatorrhoea. In the treatment of this condition parenteral therapy with ordinary doses of the vitamin is effective; oral therapy requires very large doses and is at best uncertain. Large amounts of calcium are necessary to replenish the stores. The patient may absorb 1 g. of calcium daily, equivalent to 7.7 g. of calcium lactate, and may even absorb much more (Starr and Gardner, 1930). It should be remembered, too, that approximately 13.5 g. of fatty acids combine with 1 g. of calcium, and it is possible that some calcium becomes unavailable by forming calcium soaps, so that, though the fat intake need never be severely limited except for diarrhoea, it should be as low as is compatible with a palatable diet when steatorrhoea is complicated by osteomalacia. Possible deficiencies of other fat-soluble vitamins need also to be treated.

Summary

A case of osteomalacia secondary to steatorrhoea is described. The bone disease progressed despite treatment with a low-fat diet and vitamin D and calcium supplements. On a daily intake of 70 g. of fat, 4.6 g. of calcium, and 12,000 i.u. of vitamin D orally the patient retained 1.9 g. of calcium in 16 days. With the same dose of vitamin given intramuscularly she retained 6 g. of calcium in 16 days. Apparently a failure to absorb vitamin D occurs in osteomalacia due to steatorrhoea.

We are indebted to Mr. J. R. P. O'Brien and the Nuffield Department of Clinical Biochemistry for the blood and faecal fat analyses and to the nursing staff of Collier Ward for their willing co-operation. We wish to thank Miss Sheila V. Haddacks for arranging the diets during the experimental periods.

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SUPERIOR MESENTERIC ARTERIAL OCCLUSION

RECOVERY WITHOUT RESECTION

BY

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In the pre-heparin era Whittaker and Pemberton (1938), in a discussion of 60 cases of superior mesenteric arterial occlusion, cited only one case with spontaneous recovery which later, coming to necropsy from an unrelated cause, was proved to have obliteration of the superior mesenteric artery. They also quoted Dye as having had three cases clinically diagnosed as mesenteric thrombosis, in which, on death from unrelated causes, obliteration of that artery was found at necropsy. However, since the introduction of heparin therapy, Jorpes (1946) quotes Ravdin as having two spontaneous recoveries, and Rudberg as having one in which the intestine looked viable and was not resected.

Spontaneous Recovery in Case Management.—The incidence of spontaneous recovery is impossible of assessment from the data available, as a number of cases undiagnosed and untreated will recover; but that a definite percentage do recover is certain, and this should be borne in mind when one is confronted with haemorrhagic infarction of the small gut that is still apparently viable. Especially is this so now, for while in the past the mortality rate of resected cases was 84.2% (Whittaker and Pemberton, 1938) and 83% (Cokkinis, 1926), the rate has no doubt dropped considerably in early cases since the introduction of heparin. —for example, Jorpes (1946) quotes Murray and McKenzie as having six resections with four recoveries.

Aetiology.—Cases of arterial occlusion can be immediately divided into embolic and thrombotic, and most of those in the literature would seem to be due to the latter phenomenon in local arterial disease—a very common condition, whether it be an atheroma, an arteriosclerosis, or a thrombo-angiitis obliterans. Even in cases of degenerative heart disease a thrombosis from associated arterial disease is more likely than an embolism, though in valvular disease of the heart embolism of course does occur. In the following case, with no evidence of embolism and with widespread peripheral arterial degeneration, thrombosis is very probably the correct diagnosis.

Addendum to Accepted Pathology

It is puzzling that a part with so much collateral circulation is so readily subject to infarction, and it has been suggested (Boyd, 1946) that the intense spasm of the gut in response to the local anaemia isolates the segment from the neighbouring circulation, while Cokkinis (1926) avers that infarction takes place when the secondary spreading thrombosis reaches the distal arterial arcade and blocks the vasa

recta. It would seem to be more in line with vascular pathology to suggest that in response to a local thrombosis a state of severe arterial spasm or "stupor" results in the distal arterial tree from a local vasoconstrictor reflex. This would at once place emphasis on treatment by such measures as restoration of the blood pressure by replacement of circulating fluid, moderate heat, and adequate morphine—in themselves powerful methods of overcoming the generalized vasospasm associated with the profound shock found in this condition. Locally, in the viable cases under discussion, an excision of the thrombosed segment of artery should be undertaken, or, if this is impracticable, a periarterial sympathectomy of the main trunk of the superior mesenteric artery. In post-operative care heparin, of course, will always be added to minimize the extent of the secondary thrombosis.

It is perhaps relevant, before leaving this subject of arterial spasm, to refer to the exhaustive account by Cohen (1944), who, studying peripheral vessels, could find no evidence of a sympathetic reflex and little evidence that periarterial sympathectomy has any effect on vascular spasm; nor did he find that arteriectomies had any dramatic effect on the return of distal pulses—in fact, he pointed out that no vasoconstriction occurs in the deeper vessels of an extremity on stimulation of the sympathetic nerve. However, in the case of the splanchnic area, conditions are very different, and the importance of vasoconstrictor fibres is very great; in fact, the splanchnic bed forms the most important part of the peripheral resistance (Wright, 1945).

Case History and Course

The patient, a retired bank clerk, aged 64 years, was admitted at 4 p.m. on Aug. 19, 1947. There was no previous history of illness of note. The patient had always been a healthy man, but had been on a pension for several years on account of "gout." The family history revealed nothing relevant. He was awakened at 5 a.m. on Aug. 19 with abdominal colic which made him roll about the bed. He had breakfast at 8 a.m., when the pains became worse, and he vomited at 10 a.m. and again at midday, since when he had been retching. His bowels had not opened since the onset of the pain, but previously they had been quite regular. General interrogation revealed that he had had palpitations both at rest and on exertion and that for several years he had noticed shortness of breath on stair-climbing. There was no swelling of the ankles. He had had frequent severe frontal headaches and some frequency and difficulty of micturition.

On examination the patient was seen to be a rather pale elderly man with slightly cyanotic lips; he was not in obvious pain. The temperature was 95° F. (35° C.), pulse 120, with very poor volume; the tongue was very dry, and the breath faecal-smelling. The central nervous system revealed nothing abnormal. The lung fields were clear. The heart was not clinically abnormal. The blood pressure was 70/50. The peripheral arteries were tortuous and thickened in both upper and lower extremities. The abdomen moved freely on respiration; there was no rigidity or distension, but a generalized ill-defined tenderness was present. There was a distinct rebound tenderness even though the patient was well under the influence of morphine. Shifting dullness could be elicited, and auscultation revealed vigorous widespread audible peristalsis. Per rectum the prostate was felt to be somewhat enlarged, but there was no rectal tenderness at the tip of the finger. The urine contained a trace of albumin and of blood. A first enema produced a few flecks of faeces and no flatus. A second enema after half an hour gave a good faecal result, and the enema fluid looked as though it was blood-stained. Two hours after admission the patient vomited a faecal-smelling light-coloured vomit. A plasma drip was started and operation was decided upon.

Operative Findings (Cyclopropane-oxygen anaesthesia).—A right lower transverse abdominal incision revealed a normal appendix and 2 to 3 pints (1.1 to 1.7 litres) of

blood-stained free fluid which was *spontaneously coagulable*. In the upper abdomen two upper loops of jejunum were markedly engorged and contracted, with a mesentery grossly oedematous right up to the border of the intestine. The mesentery was at least 1 in. (2.5 cm.) thick. The bowel was in a condition of haemorrhagic infarction and seemed still viable, so the abdomen was closed without intervention, as it was considered that a patient with a systolic blood pressure of 70 mm. Hg was unfit to withstand any extensive intra-abdominal procedure.

Post-operative Course.—Continuous gastric suction was started and fluids were given by mouth from the first day. Slow intravenous glucose-saline was given to attain rehydration. In addition intravenous heparin, "liquemin" (Roche), 5 ml. (50 mg.), was given every five hours, which kept the capillary coagulation time between 10 and 20 minutes. This was continued for five days. On the first day the blood pressure was 114/64 and the suction fluid dark and foul-smelling. The intravenous fluids were continued. On the second day the blood pressure was 138/84, the suction fluid was clearing, and the intravenous fluids were still being given. On the third day the blood pressure was 138/84, and the suction and intravenous fluids were discontinued. On the fourth day the blood pressure was 152/90; there was no gastric residue and the patient was beginning to feel hungry. Nourishing fluids were started and the bowels opened normally. On the fifth day the blood pressure was 156/98; the patient was now feeling quite well and was taking a normal diet. Heparin was discontinued. From then on convalescence was uninterrupted, and the blood pressure finally remained at 150/90.

Comment

Diagnosis.—In retrospect I feel that the diagnosis could have been made with some confidence, for here was a patient presenting the picture of (a) really profound shock, (b) partial intestinal obstruction with repeated and progressive vomiting but with good peristalsis and an adequate result from two enemas, and (c) peritoneal irritation evidenced by marked rebound tenderness and the presence of clinical free fluid. The blood-stained second enema should really have clinched matters, and is of interest as denoting that the vigorous peristalsis had propelled blood-stained contents of the small intestine into the colon sufficiently to be evacuated with the enema. This picture in a man with obvious peripheral arteriosclerosis was very suggestive indeed.

Differential Diagnosis.—Such profound shock is likely only in the following conditions: (1) *Coronary thrombosis*, which was ruled out in this case as all the signs were so obviously abdominal; (2) *Acute pancreatitis*, which would not be associated with progressive vomiting or with a blood-stained enema and in which the pain is much more severe and constant in character; and (3) *Long-loop strangulation*, which would present a very similar picture but in which some previous operative intervention would probably be noted and the second enema would be unlikely to produce any result, but certainly not a blood-stained one.

The Causation of Shock.—In this case there is little doubt that the shock was due to the escape from the circulating blood of a large quantity of plasma by transudation from damaged intestinal and mesenteric capillaries, and approximately 3 pints (1.7 litres) of spontaneously coagulable fluid was evacuated from the abdomen.

According to the literature, shock and blood-stained intra-peritoneal fluid are common findings in these cases. I would suggest that really massive plasma infusions of 2 to 3 pints (1.1 to 1.7 litres) should be given immediately and be continued till the blood pressure reached a satisfactory level and haemo-dilution to 110% Hb was obtained, as the condition of this patient was certainly closely allied to the condition of shock in burns.

Summary

The aetiology and pathology of superior mesenteric arterial occlusion are discussed, and arterial "stupor" is suggested as being of importance.

The history, clinical findings, and course of a case of "spontaneous recovery" are detailed and the diagnosis and differential diagnosis noted.

The causation of shock is discussed and suggestions are made as to its treatment.

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CHEMOTHERAPY OF INFECTED URINES IN PARAPLEGIA

BY

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During the routine bacteriological examination of urines from patients with complete transverse lesions of the spinal cord and suffering from chronic cystitis it was noticed that a large percentage of the lactose-fermenting colonies grown, which on staining were seen to be composed of Gram-negative bacilli, were distinctly mucoid in appearance. They occasionally contained a bubble of gas trapped in the substance of the colony, which suggested that the organisms were *Bact. aerogenes* rather than *Bact. coli*. This observation, together with the increasing interest in the treatment of urinary infections with streptomycin and penicillin, prompted this investigation. Fifty strains of coliform organisms from the above-mentioned paraplegic patients were tested to determine the incidence of *Bact. aerogenes* and their sensitivity to penicillin, streptomycin, and sulphathiazole.

Materials and Methods

Fifty strains of these Gram-negative organisms, which produced acid and gas from a fluid medium containing 1% lactose, were primarily isolated from the routine litmus-lactose-agar plate cultures of paraplegic patients' urines. These were either the predominating or the only organisms grown. A single colony was picked off the plate, spread on a second plate, and reincubated; after incubation overnight at 37° C. a single colony was picked off the second plate and inoculated on a broth-agar slope in a cotton-wool-plugged centrifuge tube (4 in. × 5/8 in. —10.2 cm. × 1.6 cm.). After incubation overnight the slopes were covered with sterile liquid paraffin as described by Morton and Pulaski (1938), who showed that organisms kept under such conditions did not alter their characteristics. After six months at room temperature all cultures were viable. During this period the organisms were subcultured and subjected to biochemical tests for identification and tests for sensitivity to streptomycin, penicillin, and sulphathiazole.

The stock cultures were subcultured on to litmus-lactose plates to check purity. The following day one colony was picked off into peptone water. The peptone water was

then incubated at 37° C. for 4 to 6 hours, when subcultures were made into the following media: (1) Clark and Lubs's glucose phosphate medium, (2) Koser's citrate broth, (3) McConkey's broth. The first two were incubated at room temperature and the latter at 44° C. The peptone-water cultures were retained and incubated at 37° C.

Indole Test.—This was performed on the original peptone-water cultures with equal parts of culture and Ehrlich's reagent and one drop of saturated potassium persulphate. The test was performed at 3, 5, and 10 days. All positive reactions were obtained on the third day and remained positive on the fifth and tenth days.

Voges-Proskauer Reaction.—Glucose-phosphate medium was used and incubated at room temperature, and the α-naphthol test of Barritt (1936, 1943) was used. The test was performed at 48 hours.

Methyl-red Test.—Glucose-phosphate medium was used and incubated at room temperature. The test was performed at 3 days.

Growth in Citrate.—Koser's citrate was inoculated with a straight wire from the peptone-water culture and incubated at room temperature. The cultures were not discarded for 10 days, but if growth occurred it was evident in the first 48 hours.

Gas at 44° C.—McConkey's broth was inoculated after being warmed to 44° C. The cultures were incubated in a water-bath running at 44 ± 1° C.

In the case of four anomalous cultures the tests were repeated; the ability to grow in citrate was also tested at 37° C., with a normal as well as a large inoculum, all with the same results.

Penicillin and Streptomycin Sensitivity Tests.—The appropriate concentration of the drug was diluted in infusion broth and approximately 1 ml. of this solution transferred to sterile cotton-wool-plugged tubes, 3 in. × 1/4 in. (7.6 cm. × 1.25 cm.). These were inoculated with a drop of broth culture of the organisms under test and incubated overnight. The following morning the tubes were examined with the naked eye for growth.

Sulphathiazole Sensitivity Tests.—Poured-broth-agar plates were used with the appropriate concentration of sulphathiazole added and containing laked horse's blood to neutralize sulphonamide antagonizers, as described by Harper and Cawston (1945).

Results

Table I shows the incidence of the different types of organisms and their biochemical reactions. Table II shows the results of the sensitivity tests. Those organisms which were resistant to 500 units of penicillin per ml. were subjected to a further series of tests for sensitivity to penicillin; the results of these and of the tests for sensitivity to sulphathiazole are shown later.

The results of the streptomycin-sensitivity tests show that 9 out of 12 (75%) of the strains of *Bact. coli* are sensitive

TABLE I

Organism	No. of Strains in Each Group	Per cent Incidence	Gas at 44° C.	Methyl-red Test	Indole Production	Voges-Proskauer Test	Utilization of Citrate
<i>Bact. coli</i>	12	24	+	+	+	—	—
Irregular <i>Bact. coli</i> type I*	2	4	—	+	+	—	—
<i>Bact. aerogenes</i>	32	64	—	—	—	+	+
Unclassified	4	8	—	—	—	+	—
Total	50	100					

TABLE II

Organism	No. of Strains in Each Group	μ g. of Streptomycin per ml. Inhibiting Growth				Units of Penicillin per ml. Inhibiting Growth					
		<1	1-8	8-16	16-32	50-75	75-100	100-200	200-500	>500	
<i>Bact. coli</i> ..	12	4	5	0	3	1	9	0	2	0	
Irregular <i>Bact. coli</i> type I ..	2	0	0	0	0	1	1	0	0	0	
<i>Bact. aerogenes</i> ..	32	18	14	0	0	0	0	0	2	30	
Unclassified ..	4	2	2	0	0	0	0	0	0	4	
Total ..	50	24	22	0	4	2	10	0	4	34	

to less than 8 μ g., and 3 out of 12 (25%) of the strains to between 16 and 32 μ g. of streptomycin per ml.; 46 out of 50 (92%) of all the organisms are sensitive to less than 8 μ g., and the remaining 8% to between 16 and 32 μ g. per ml. Out of 32 strains of *Bact. aerogenes* 30 (94%) will grow in a concentration of 500 units of penicillin per ml.; whereas 10 out of 12 (83%) of *Bact. coli* strains are inhibited by 100 units of penicillin per ml. Seventy-six per cent of all strains grow in 200, 68% grow in 500, and 24% are inhibited by 100 units of penicillin per ml.

Forty-six (92%) of the strains resisted 50 mg. of sulphathiazole per 100 ml.; 4 (8%) were sensitive to 1 mg. per 100 ml. Of the 4 that were sensitive 2 were *Bact. aerogenes* and 2 *Bact. coli*.

The 34 strains (30 *Bact. aerogenes* and 4 unclassified) which were resistant to 500 units of penicillin per ml. were tested in 11 higher concentrations to a maximum of 100,000 units per ml. Twenty-five were inhibited by concentrations of between 1,000 and 5,000 units per ml., but 6 were resistant to 50,000, and 1 strain to 100,000, units per ml.

Discussion

It is generally agreed that *Bact. aerogenes* is found most commonly in soil and on vegetation and when encountered in public-health work is not necessarily considered indicative of recent excretal contamination of water and foodstuffs. But Cruickshank (1931) states that it can be isolated from the stools of the majority of normal people if enrichment methods are used, and Gray (1932) found it in 37 out of 40 samples of faeces from 10 normal people. Other workers give figures from 0 to 26%.

However, *Bact. aerogenes* is not infrequently found in urinary infections. This organism has been reported as constituting 63% (Burke-Gaffney, 1932) and 52% (Burke-Gaffney, 1933) of urinary coliform organisms in Tanganyika territory, 50% of urinary Gram-negative bacilli (Hill *et al.*, 1929) in the U.S.A., and 39% of all urinary organisms from patients with "neurogenic" bladders (Petroff and Lucas, 1946) also in the U.S.A. The latter workers, however, do not mention *Bact. coli* in their list of percentage incidence of organism although it does appear in their tables, so it is impossible to calculate the proportion of *Bact. aerogenes* to *Bact. coli* in their series of 87 cases. It thus appears that the incidence of *Bact. aerogenes* in the series of patients reported in this paper is of the same order as that in groups of patients with urinary infections described by other workers.

The organism called "Irregular type I" resembles *Bact. coli* in its primarily intestinal origin and biochemical characteristics, differing only in that it does not produce gas from McConkey's lactose broth. It also resembles *Bact. coli* in being comparatively sensitive to penicillin (see Table II). The group labelled "unclassified" in the tables resembles *Bact. aerogenes* biochemically except that it does not utilize citrate. The resistance of this group to penicillin and streptomycin is of the same order as that of *Bact. aerogenes*.

It is clear from the results of the sensitivity tests (see Table II) that all the organisms examined here are fairly susceptible to streptomycin irrespective of their type. However, all the *Bact. aerogenes* and the unclassified organisms are sensitive to 8 μ g. or less per ml., whereas 3 out of 12 *Bact. coli* strains and 1 out of 2 of the related irregular types are insensitive to 16 μ g. but sensitive to 32 μ g. per ml. Thus perhaps *Bact. coli* is less sensitive to streptomycin than is *Bact. aerogenes*. In any event 46 (92%) of the strains of coliform organisms lie within, and the remaining 8% are doubtfully within, the therapeutic range of streptomycin.

It is difficult to foretell from these *in vitro* tests how successful streptomycin is likely to be in treatment, because the failures in these cases appear at times to be due to the rapid development of resistance by the organism to the drug. Despite this complication, however, Petroff and Lucas (1946) consider that their paraplegics with "neurogenic" bladders benefited from treatment with the drug, although their paper in some respects is not altogether conclusive. It may well be that streptomycin will become a valuable weapon in these infections, but from my experience it is obvious that as high dosages as possible should be tried. Starting the course with a dose considerably greater than the subsequent ones should be borne in mind. The purpose of these precautions is to ensure that the responsible organism is never subjected to a concentration of streptomycin below the bactericidal or bacteriostatic level—that is to say, to those conditions that are likely to increase its resistance to the drug. We are assuming that the development of resistance is the result of contact with the drug and not due to the presence of a small percentage of naturally resistant strains. This point has not been decided, and no convincing evidence exists for either view.

Since Peeney (1947) advocated the use of penicillin in Gram-negative bacillary infections of the urinary tract and Helmholz and Sung (1944) found that *Bact. aerogenes* was relatively insensitive to penicillin, it seemed important to determine here the incidence and resistance of that organism to penicillin, for a high incidence of penicillin-resistant organisms, either widespread or in any particular locality or group of patients, would be a contraindication to the routine use of the drug in treatment.

In this series penicillin divides the organisms into two fairly clearly defined groups: all but two strains of *Bact. coli* and the associated irregular *Bact. coli* are sensitive to 100 units of penicillin per ml., whereas the *Bact. aerogenes* and the associated unclassified organisms are resistant to 200 units per ml. of penicillin, above which level Peeney (1947) suggests that they are not likely to respond to penicillin therapy. Thus resistance to penicillin may be a characteristic of the *aerogenes* group of organisms, and the incorporation of penicillin in an appropriate concentration in a medium might be suitable for isolating *Bact. aerogenes*. In view, then, of the high incidence of *Bact. aerogenes* in this and other series of cases and the undoubted resistance of this organism to penicillin, it is obvious that this drug cannot be used for the routine treatment of urinary infections involving coliform organisms, especially if we accept Peeney's (1947) suggestions without reserve. Moreover, 76% of the total number of coliforms in this series are resistant to penicillin according to his criteria. Under the circumstances penicillin treatment would be only occasionally successful in these infections: and then only under full bacteriological control.

It has been assumed that it is necessary to obtain only the concentration of penicillin in the urine which *in vitro* will be bactericidal to the organisms involved; this obviously is not the case, for the organisms must be causing

the mischief in the tissues of the urinary tract. This is evident from the polymorphonuclear leucocytosis that occurs, and it is generally accepted that these infections are blood-borne or spread by lymphatics (Walker, 1922, 1930). This worker and others have demonstrated organisms and cellular infiltration in the tissues of the urinary tract. Of course the mischief may not be very deep-seated and the concentration of penicillin in the tissues of the urinary tract may be higher than elsewhere owing to the diffusion of that substance from the urine, but even if this is the case the tissue concentration must be lower than the urinary, though it may be greater than the blood. Thus we see that it is impossible to relate directly the urinary level and the sensitivity of the organism to penicillin *in vitro* and in this way determine whether a urinary infection is likely to respond to treatment with a certain dosage of penicillin; this argument will apply to any other drug. The final court of appeal, as always in this particular type of problem, will be clinical trial and error of various dosage systems given under standard conditions and related to the *in vitro* drug sensitivity of the organisms.

With ordinary doses it is practicable to maintain an average level of 200 units per ml. of penicillin in the urine, but theoretically there is no reason why 2 or more million units of penicillin should not be injected every three hours, though even under the best conditions this dosage would be inadequate for one-quarter of the *Bact. aerogenes* and nearly one-fifth of all the organisms in this series (as indicated by the extended penicillin sensitivities listed in the results). When penicillin becomes cheaper and even more readily available it may be possible to treat most Gram-negative urinary infections with it. In any event, it is already useful for treating urinary infections associated with Gram-positive organisms.

Of the coliforms examined 46 out of 50 (92%) resist 50 mg. of sulphathiazole per 100 ml. using the method described above. This is in approximate agreement with the findings of Neter and Clark (1944) but not with Strauss and Finland (1941), who used a synthetic medium. There do not seem to have been any published reports of the correlation of *in vitro* sensitivities with clinical results, but the figure seems high. Bearing in mind the possible site of action of the drug, one must pause to consider how much value the sulphonamides are in urinary infections with Gram-negative bacilli. However, Nathan (1947) reports favourably on them for treating paraplegic patients with suprapubic cystostomy.

Summary

Of 50 strains of lactose-fermenting coliform organisms isolated from infected urines of paraplegic patients 32 were *Bact. aerogenes*, 12 were *Bact. coli*, 2 were irregular types of *Bact. coli*, and 4 were unclassified. The incidence of *Bact. aerogenes* in this group does not differ greatly from that in other patients with urinary infections.

All the organisms were sensitive to streptomycin, and all but 4 resistant to 50 mg. of sulphathiazole per 100 ml.

Bact. aerogenes and the unclassified organisms were relatively resistant, and *Bact. coli* and its irregular types relatively sensitive, to penicillin. The high incidence of *Bact. aerogenes* and its undoubted resistance to penicillin does not favour the use of the drug at present in the routine treatment of urinary infections by Gram-negative bacilli. In this series it was concluded that at least one-fifth of all the organisms were too resistant for penicillin treatment in high dosages and three-quarters too resistant for ordinary dosages.

The results are discussed and their impact on the treatment of urinary infection considered.

My thanks are due to Prof. J. McIntosh and Dr. F. R. Selbie for advice and criticism, and to Lady Florey and Prof. J. McIntosh for supplies of streptomycin.

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CARDIAC MURMURS IN INFANCY

BY

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Much has been written about cardiac murmurs in older children, but relatively little work has been done on their incidence and manifestations in infant communities. Von Reuss (1929) states that any definite murmur heard in a child who is quiet should be regarded as evidence of congenital heart disease and that murmurs at this age are very rare. On the other hand Holt (1940) states that 50% of all children have a functional murmur at some time. Lyon and others (1940) examined 7,000 newborn infants in the obstetrical wards of a general hospital and found that 147 (1.9%) had apical systolic murmurs; two of these died of congenital heart disease, and in 14 of the 88 who were re-examined six months later the murmurs were still present.

Since the Child Health Survey of the Institute of Social Medicine was initiated at Oxford three years ago 630 children have been enrolled, and the oldest have now been under observation for three years; 520 children remain in the survey at present, the 110 defaulters belonging chiefly to families which have moved to other areas owing to the housing shortage. The defaulters were followed up for periods varying from six months to two and a half years. It should be emphasized that this is not a hospital series but a sample of ostensibly healthy children drawn from all social classes, whereas the authors quoted either employed a hospital population or have not stated how their samples were obtained. Of the 630 children, 32 (5%) have been noted as having a murmur at some time. It was thought that it would be interesting to investigate the time of development of these murmurs and their subsequent history so far as at present observed.

In the course of the main health survey a full physical examination is made at regular intervals; first at the age of 6 weeks or less, then at 3, 6, 9, and 12 months, with subsequent examinations at six-monthly intervals. It has not always been possible to adhere strictly to the exact intervals owing to illnesses or other difficulties. Three observers, working in succession but observing the same routine as closely as possible, have carried out examinations on children first seen at infant welfare centres or at mothercraft clinics. All the children have had their chests examined radiographically, first at the age of 6 months and

hereafter at six-monthly intervals, except in a few instances where some unforeseen occurrence has prevented this.

Development of the Murmurs

The 32 children with murmurs have been grouped according to the age at which the murmurs were first noted; the murmurs have been described as "transient" if heard at only one examination and not subsequently; "temporary" if heard at more than one examination and then apparently disappearing; "persistent" if heard at more than one examination and persisting up to the most recent examination.

Table Showing Development of the Murmurs

Age in Months when Murmur First Noted	Transient Murmur	Temporary Murmur	Persistent Murmur	Present for First Time and Not Yet Re-examined
0-2	3	1	1	0
3-4	1	1	1	1
6-7	0	0	1	0
9-10	3	0	2	1
12-13	1	0	2	2
18	1	1	6	0
24	2	0	1	0

The murmurs recorded were all systolic in time, and it may be noted that Owen and Kingsbury (1924) state that a diastolic murmur is never heard in a newborn infant. The murmur was often heard best when the child was lying down, and was usually loudest at the apex; it was most commonly conducted over the whole praecordium, but in some cases it was confined to the left border of the sternum. Three murmurs were specifically described as cardio-respiratory.

Some of the following data may prove relevant to the presence or absence of murmurs, but the cases are as yet too few to allow any conclusions to be drawn.

The ante-partum health of the mother was good in 21 cases, in the remainder the illnesses recorded were cystitis 1, ulcerated mouth 1, anaemia 1, ante-partum haemorrhage 1, toxæmia 1, vomiting 1, and giddiness 1; in three the health was recorded as "only fair." The birth weight of one of the children was only 4 lb. (1.8 kg.); the others varied between 6 lb. and 9 lb. 2 oz. (2.7 and 4.1 kg.). The sex distribution was unequal—23 boys and 9 girls. The general physical condition of the children was noted as "only fair" or "poor" in 13 out of the 32, without any specific diagnosis being attached. According to the Registrar-General's classification of social groups which depends upon the father's occupation, one of the 32 children was in social group 1, four were in social group 2, 21 in social group 3, three in social group 4, and three in social group 5. Group 3 has been the predominant single class from which the babies have been enrolled.

Haemoglobin estimations were made in only six of these children, and these gave figures of 60%, 82%, 85%, 88%, 96% and 106%. The haemoglobin estimations were discontinued because we were anxious not to undermine the confidence of the children, and those subjected to the test seemed to remember their visit unfavourably; furthermore, the mothers were not always very willing to consent to the taking of blood samples, and in a long-term survey such as this it is especially important not to risk the default of any more babies than can be helped. The child with the lowest recorded haemoglobin (60%) was treated with iron, and when last seen, while still under treatment, the murmur had become very much fainter.

The x-ray examination of the chests in 20 out of 29 of the children showed considerable variation in respect of size or shape of the mediastinal shadow, which my colleague Dr. F. H. Kemp commented upon; but whether the variations are significant or whether they are within the wide range of normal variability manifest at this age has yet to be determined. The mediastinal shadow in infancy shows wide variations not only as between one baby and another but also in the same baby in

successive radiographs taken at intervals of only a few seconds. Three of the children in this series were not radiographed.

Discussion

A long follow-up of these cases should provide further clinical data on the significance of the cardiac murmurs observed, and this report can be regarded only as preliminary. The knowledge that a murmur has been present since infancy may be of value to the individual, as it will assist in the differential diagnosis from rheumatic carditis at a later age, and in the absence of other signs or symptoms it may then be possible to allow normal activity, which might not otherwise seem justifiable.

It is apparent from the material studied that some murmurs are present from birth and others appear later. Those already present at the first examination and disappearing later may be due to the changes taking place during the adaptation from foetal to post-natal life. Transient or temporary murmurs may also accompany anaemia or may be exocardial in origin. Persistent murmurs either may be due to relatively insignificant congenital defects or may accompany the more important lesions.

It is noteworthy that 23 out of the 32 murmurs were not detected until the age of 9 months or later, and that six of those appearing at 18 months have persisted. One child who had a murmur first detected when she was 9 months old is now 2½ years old and has a loud persistent murmur with a faint palpable thrill over the pulmonary area, but no symptoms. It is possible that increased activity with crawling and walking may bring out defects not previously detectable.

In only one case in the series was cyanosis observed. It was noted at birth, a murmur was detected soon after delivery, and the mother was informed that the child had a congenital heart lesion. The cyanosis lasted only a few hours, but the murmur was present and clearly audible at each routine examination until the age of 1 year, when it was hardly perceptible. The child has been particularly healthy and active since she came under observation. In view of the fact that murmurs do disappear and that there may be no associated symptoms, it would seem advisable not to alarm mothers unduly. In the case described the mother had waited 12 years to have a child and was then given the impression that the child would be a permanent invalid. One other child showed some suggestion of dyspnoea on exertion. Except in the case of the child with anaemia, who had been suffering from diarrhoea for several weeks, there was nothing to suggest that the development of a murmur was ever a consequence of a specific illness. All the other children with murmurs appeared healthy, and no obvious congenital abnormalities were found affecting other structures.

Summary

In a routine periodic examination of the heart in 630 infants systolic murmurs were detected in 32 (5%).

Some were present at the first examination—i.e., before the sixth week—and later either disappeared or persisted; others appeared for the first time at the second or subsequent examinations, some of these disappearing and others persisting.

In 22 cases the murmur was not detected until the age of 9 months or later.

With the exception of one case in which a thrill in the pulmonary area subsequently developed, and another in which there was some suggestion of dyspnoea on exertion, no associated symptoms or signs were recorded.

No correlation between clinical findings and radiographic appearances could be established.

I am indebted to Prof. J. A. Ryle, to Drs. Allen-Williams and Helen Morley (my predecessors in the survey), and to all my colleagues in the Institute of Social Medicine for their assistance and

advice. Thanks are also due to the medical officers and health visitors of the Oxford City Health Department for their co-operation, and to all the mothers for their participation in the survey.

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Medical Memoranda

Acute Lymphatic Leukaemia Presenting with Skin Lesions and Mastoiditis

It is exceptional for skin lesions to appear as the first or even as an early sign of leukaemia, although examples have been reported by Ketron and Gay (1923), Boardman (1928), and Wintrobe and Mitchell (1940). The paucity of published literature on this subject prompted the recording of the following case.

CASE REPORT

A woman aged 65 was admitted to hospital on Nov. 7, 1946, with a history of pains in the ears and deafness for three weeks and a more recent history of bilateral otorrhoea. Despite difficulties owing to deafness and her critical state it was ascertained that her health had been failing for some time and that within the previous three months she had developed a rash over her body.

On admission she was gravely ill with pronounced anaemia and slight icterus. Her gums were hypertrophied and bled readily, and there were scattered loose stumps of carious teeth in both jaws—accounting for the presence of pathologically enlarged submental and submaxillary nodes. There was evidence of bilateral mastoiditis. Over the trunk and proximal regions of the limbs there were numerous brown-grey plaques varying in size from 0.25 to 3 cm. in diameter. The majority projected above the skin surface, and though some were deeply situated none were adherent to bone. The papules were not painful, did not itch, and were not tender. There was some bruising of the legs, but purpura was absent until shortly before death. Apart from a marked thoracic kyphoscoliosis and a small plaque on the right fundus physical examination was negative.

A blood count showed: haemoglobin, 48%; red cells, 2,500,000; white cells, 1,300; platelets, 67,500. A biopsy revealed lymphadenosis cutis, a lymphatic leukaemic deposit in the skin. Sternal puncture verified the diagnosis of acute lymphatic leukaemia in an aleukaemic phase.

The patient went steadily downhill and died on Nov. 23. Necropsy was carried out, but revealed no evidence of leukaemic infiltrations except in the skin. There was no involvement of any of the nodes in the various groups throughout the body.

COMMENTARY

The skin lesions associated with leukaemia may be subdivided into (1) non-specific—sometimes known as leukamids—including such conditions as herpes zoster, purpura, prurigo, etc., and (2) lesions specific for the disease and composed of infiltrations by the cell types. Forkner (1938) states that the second group conforms to the following types. In myelogenous leukaemia the lesions consist of macules, papules, or plaques, sharply circumscribed, brownish to bluish in colour, and chiefly involving the trunk. The lesions are not painful and do not itch. Ulceration with local loss of tissue and possibly haemorrhage may occur. The lesions associated with lymphatic leukaemia are: (1) Erythrodermia (l'homme rouge), which is characterized by subacute or chronic progressive reddening of the skin spreading gradually to involve a large area of the body surface. This may be accompanied by a sensation of chilliness owing to increased loss of heat, and itching may be a prominent feature. Scaling is found and regional or generalized lymph-node enlargement is not uncommon. (2) Universal leukaemia of the skin, which is an exaggerated generalized form of the above. (3) Circumscribed leukaemia of the skin, where the lesions are usually well-defined maculae, or are slightly elevated,

with a wide variation in size and colour from yellow to bluish-red. These are most commonly found on the face, neck, and dorsum of hands and are rarely numerous. Apart from slight burning, subjective sensations are absent.

The circumscribed skin lesions associated with myelogenous and lymphatic leukaemia differ only in their distribution, and the distribution of the lesions in the above case conforms more to the myeloid type. Lewis (1919) published a similar case, with mastoid disease and the blood picture of lymphatic leukaemia, as chloroma. Brannan (1926) states that this term cannot be used correctly unless green pigmentation is present in the tumour, and Kandel (1937) defined the term as being applicable to any tumour which is green when fresh. Jones (1939), in an extensive review of the literature, decided that chloroma presented itself in two clinical forms: (1) affecting children and characterized by rapidly growing bone tumours, and (2) an adult type in which a progressive anaemia and signs of leukaemia are more prominent. He believed, however, that in both types the two essential features are leukaemic changes in the blood and green tumour deposits in the bones. The term "chloroma" should therefore be confined to conditions with lesions which have a frankly green colour, and is not applicable to my case.

I am indebted to Dr. John Craig for permission to publish this case, to Dr. H. W. Fullerton for the haematological findings, and to Dr. W. M. Davidson for the necropsy report.

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Severe Reaction after Penicillin

The following report of a severe reaction following penicillin injections may be of interest.

CASE REPORT

A Regular Army officer aged 32 was hit on the left ankle while playing hockey on Sept. 17, 1947. He consulted me ten days later for pain and swelling of the ankle, and feeling generally out of sorts. On examination his temperature was 101° F. (38.3° C.), and he had an obvious infected haematoma just above the left external malleolus. He was given an intramuscular injection of 100,000 units of penicillin (sodium salt, yellow) immediately and a further 100,000 units that night. The next morning the haematoma was incised under local analgesia and about 1 oz. (28.4 ml.) of thick pus evacuated. He was given two injections each of 100,000 units of penicillin on this day. On Sept. 29 he was given one further injection of 100,000 units. His general condition was now good. Locally much of the pain and swelling had disappeared. The leg was healed and normal by Oct. 5.

On the night of Oct. 10-11 he developed a severe widespread urticarial eruption with intense itching. He was seen in the morning and given "benadryl" capsules to take four-hourly. This controlled the irritation but made him feel so ill that the drug was stopped and ephedrine substituted. On Oct. 13 the urticarial condition was unchanged. He complained of anorexia and indigestion and vomited in the evening, when his temperature rose to 100° F. (37.8° C.).

On Oct. 14 his condition was worse. In addition to the previous symptoms he then complained of stiffness and aching in all his joints. Curiously, if he could provoke an urticarial reaction by rubbing or scratching his skin the joint symptoms were temporarily relieved. Ephedrine was without effect on his joints. Next day he became so stiff that he could hardly move; nor could he move his jaw to eat solids. The aching pain was very severe and was only partially relieved by tablets containing aspirin, phenacetin, and codeine. His evening temperature still rose to about 100° F. This was his worst day, and he slowly improved until by Oct. 21 he had completely recovered.

J. F. L. WALLEY, M.B., B.Chir.

The Ministry of Health reports that about 17,500 doctors and 16,000 nurses attended 506 showings of the film entitled "The Early Diagnosis of Acute Poliomyelitis."

Reviews

PHYSICAL EDUCATION

An Introduction to Physical Education. By Eugene W. Nixon and Frederick W. Cozens. Third Edition. (Pp. 251. 14s.) Philadelphia and London: W. B. Saunders Company. 1947.

The Administration of Health and Physical Education. By Jesse Feiring Williams, M.D., Sc.D., and Clifford Lee Brownell, Ph.D. Third edition. (Pp. 483; illustrated. 15s.) Philadelphia and London: W. B. Saunders Company. 1946.

The authors of the first work are, respectively, Professor of Physical Education, Pomona College, California, and Professor and Director of Physical Education, University of California: of the second work, respectively, Emeritus Professor of Physical Education, and Professor and Chairman of the Department of Health and Physical Education, Teachers' College, Columbia University. These offices alone are significant evidence of the importance which in America is attached to the subject of physical education, and it is a perpetual wonder to our transatlantic colleagues that no corresponding appointments are held in Britain, where it is hardly an exaggeration to say that our activities in this field have been limited to the enterprises of a few amateur enthusiasts. Further evidence is afforded by the general bibliography appended to the first volume. Of 315 references, Great Britain supplies only two—Prof. A. V. Hill's well-known contributions on muscular activity, which incidentally were published in the U.S.A.

We may expect more in the future, for the deeply ingrained traditional interest in athletics in Britain will always inspire individual workers. The post-war appointments in the spheres of social medicine and rehabilitation are perhaps the first steps towards a more widespread recognition of the necessity for physical education—and possibly in time the creation of a special Ministry. For this reason both works may be cordially recommended. The first, less comprehensive, may be regarded as an introduction; the second will prove a useful guide to those who may be in a position to organize and to administer, for in addition to a shrewd common-sense exposition there is much practical assistance in the form of diagrams of gymnasia, swimming-pools, and athletic tracks, as well as illustrations of specimen forms for the collection of information. This work should be in the hands of aspirants to the Diploma of Physical Medicine of our Royal Colleges, and both may be highly recommended to school medical officers.

ADOLPHE ABRAHAM.

TEXTBOOK OF OBSTETRICS

Principles and Practice of Obstetrics. By the late Joseph B. De Lee, M.D., and J. P. Greenhill, M.D. Ninth edition. (Pp. 1,011; 1,108 illustrations. 50s.) London and Philadelphia: W. B. Saunders Company. 1947.

De Lee's *Principles and Practice of Obstetrics* has long been a standard textbook for advanced students and one to which most obstetricians turn first when in doubt; indeed, it has been called "the obstetrician's Bible." The ninth edition is the work of Prof. J. P. Greenhill and is so altered as to be barely recognizable. Superficial changes in structure include a new type of binding and the arrangement of the text in two columns on each page. Both these features are attractive and make the volume less bulky and easier to read. There are also more fundamental alterations involving spirit and outlook. The original book was characterized by its practical nature and the reader was acutely conscious of the author's personality and clinical experience. Much of this has gone, and in its place has come a more scientific approach with more emphasis on the theoretical aspects of midwifery. Perhaps the change of authorship, as well as the advance of medicine, made this inevitable. In its own way and with its modern setting it is just as good a book, however: in losing an old friend we have made a new one.

The illustrations, always a striking feature of the book, are more numerous and are better than ever. The text has been completely revised and brought up to date, several authorities on special aspects of obstetrics having contributed or assisted. The chapter on analgesia and anaesthesia, as well as many

others, has been considerably extended. Those on the "Physiology of the Fetus," "Ante-partum Care," and "Post-partum Care" have been rewritten completely, and the additions include chapters on "Minor Disturbances of Pregnancy," "Premature Labor, Prolonged Labor or Post-maturity, and Missed Labor," "Fetal Erythroblastosis," "Care of Premature Babies," and "Circumcision." As in previous editions a careful and detailed description of obstetric operations and manœuvres is one of the most striking and valuable features of the book. At a time when efforts are being made to popularize the use of the metric system in this country it is interesting to find that the author panders to British conservatism by giving the dose of all drugs according to the imperial as well as the metric system.

No book is perfect, and, good as it is, this is no exception. Some methods of treatment described at length, such as the use of hydrostatic bags for placenta praevia, will in Britain be regarded as out of date, and those looking for a complete reference book will find some omissions. Nevertheless, few textbooks on obstetrics written in English can compare with it. This edition deserves and will undoubtedly receive an enthusiastic welcome, and will become as popular with the new generation of obstetricians as its predecessors were with the old.

T. N. A. JEFFCOATE.

HISTORY OF DRUGS

Drugs from Plants. By Trevor Illtyd Williams, B.A., B.Sc., D.Phil. Sigma Introduction to Science 10. (Pp. 119; 12 plates. 6s.) London: Sigma Books, Ltd. 1947.

The Sigma Introductions to Science series promises to be a notable addition to the already considerable volume of works of popular science. The second of the series, Berenhiun's *Science versus Cancer*, was a splendid example of what may be achieved by a medical scientist writing on his own subject for the general reader. Now comes another member of this series on *Drugs from Plants*. There are few subjects upon which the general public needs enlightenment so much as on drugs and their uses and limitations. Dr. Williams's little book will contribute to that enlightenment, especially as his approach is historical and he has wisely confined himself to a few important and representative plant drugs.

In the Introduction there is the inevitable reference to the Papyrus Ebers, followed by brief mentions of some of the writers on the materia medica in ancient times and some of the sixteenth-century herbalists. In the second chapter, on "Science and the Art of Herbalism," the author indicates the importance of active principles of plant drugs, of the experimental study of their effects, and of their standardization. The next chapter, on "The Kinds of Drugs Obtained from Plants," is particularly useful for the clear explanations of elementary chemical considerations. Then follow chapters on particular drugs—quinine, hashish, digitalis, penicillin, ergot, opium, cocaine, and miscellaneous drugs. The book ends with a chapter on "What of the Future?" in which the author refers to probable lines along which pharmacological research will develop. The chapter on penicillin is particularly to be recommended: it is an admirably concise and balanced account of a story that has been wildly distorted in the popular press.

So far, so good. The general reader will obtain from this book a good deal of useful, interesting, and well-presented information about the history of drugs, although the author does not perhaps sufficiently stress the fundamental difference between—to use Ehrlich's terminology—organotropic drugs, which are given for their effects upon an organ or system of the patient, and aetiologic drugs, where the patient is merely the vehicle for a drug aimed at his parasite. From the test of more searching standards of criticism, however, the book does not emerge so well, although the author in his preface deplores the inaccuracy of many popular scientific writings. For example, it is surprising to find in a work published in 1947 a repetition of the familiar legend of the Countess of Chinchona and quinine. This legend was completely exploded six years ago by the late A. W. Haggis in one of the most scholarly and significant studies in the history of pharmacy of recent years, and it is a pity that the author has overlooked it. Of Venice treacle the author writes that it was "said to have been devised by Dioscorides himself," although it was in fact always attributed to Nero's physician, Andromachus, as was indicated by

its pharmacopoeial name, Theriaca Andromachi. It is also stated that Venice treacle "enjoyed considerable popularity . . . as late as 1739, and possibly a good deal later." Why "possibly"? The facts are not difficult to find and were, as it happens, assembled by the reviewer in a paper published nearly two years ago. Theriac was not only popular but was an official preparation of the *Pharmacopoeia Londinensis* until 1788 and of the French *Codex* until 1908. Later on it is asserted that "Synthetic quinine cures malaria as effectively as crude extracts of cinchona bark." This sounds plausible enough, but has synthetic quinine ever in fact been used in the treatment of malaria? The statement that strychnine is "a general tonic and a valuable stimulant" is uncritical, though it must be admitted that it might be found in many medical textbooks. The name of Halsted, first professor of surgery at Johns Hopkins and one of the founders of American surgical science, is misspelt and he is described as "a New York dentist." Hyoscine is mentioned as a drug used in twilight sleep and "asthma cigarettes," but there is no reference to its more interesting property as the most effective of all drugs tested during the war in counteracting motion-sickness. Plate V is a reproduction of a wood-cut from the *Liber de Arte Destillandi* of Hieronymus Brunschwig. It would surely have been of some interest to indicate in the legend that the scene depicted is the preparation of theriac. Many similar faults of detail could be mentioned, but a major fault is that no bibliography is included—an inexcusable omission in any work which purports to give, at whatever level, a historical account of its subject.

N. HOWARD-JONES.

TREATMENT IN HEART DISEASE

Management of Common Cardiac Conditions. Edited by William G. Leaman, Jr., M.D., F.A.C.P. The American Practitioner Series. (Pp. 306; illustrated, 24s.) Philadelphia and London: J. B. Lippincott Company. 1947.

Twenty-four cardiologists, mostly Pennsylvanian, have contributed to this symposium. Like most editors of such works Dr. Leaman has found it difficult to balance the individual interests of his writers against the continuity of the whole, and the volume is selective rather than systematic. While most of the contributions are carefully expressed and well considered, there are several that do not refer to treatment at all, and in some others discussion of therapy and management is subsidiary. Specially noteworthy are the articles on congenital cardiovascular anomalies, subacute bacterial endocarditis, and pulmonary heart disease. In an admirable appraisal of the meaning of the electrocardiogram Dr. L. N. Katz echoes the feeling of all orthodox cardiologists when he writes that "the electrocardiogram is not a tool for the unscrupulous or a plaything for the erudite physician" but evidence that should never be considered separately from the clinical context.

While this book is often interesting, lack of co-ordination has unfortunately resulted in certain omissions. For example, one seeks in vain for guidance in the treatment of paroxysmal dyspnoea and its common precursor, hypertensive heart failure. The editor contributes the article on congestive heart failure, and though it is of exceptional interest he discusses only the use of the mercurial diuretics. The practising physician and the cardiologist alike will find much worth their attention and, in particular, some useful surveys; on the other hand the book is not sufficiently systematic for the student.

K. SHIRLEY SMITH.

The 1946 Year Book of Industrial and Orthopedic Surgery (H. K. Lewis, 21s.) forms a memorial to that indefatigable New England gentleman, Dr. Charles F. Painter, its editor, who died while the work was being prepared. There are several hundred abstracts of reviews taken chiefly from the English-speaking literature, as well as a large number of the more important illustrations to these articles. Although these are of course abstracts, it is all too often clear that much medical literature to-day contains about 15 ounces of rehash to every ounce of originality. Nevertheless, the present work contains much valuable information in a small space, and its value is greatly enhanced by the excellent illustrations. Future editions could be improved by including critical comment and abstracts of orthopaedic articles more representative of the non-English-speaking countries.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

The 1947 Year Book of General Medicine. Edited by George F. Hick, M.D., et al. (Pp. 784. 21s.) London: H. K. Lewis. Numerous aspects of the present-day practice of medicine are discussed.

Essentials of Fevers. By Gerald E. Breen, M.D., B.Ch., D.P.H., D.O.M.S. 2nd ed. (Pp. 351. 15s.) Edinburgh: E. and S. Livingstone. 1948.

A manual of "fevers" intended for students and young practitioners.

Diseases of the Nose, Throat, and Ear. By I. Simson Hall, M.B., Ch.B., F.R.C.P.Ed., F.R.C.S.Ed. 4th ed. (Pp. 463. 15s.) Edinburgh: E. and S. Livingstone. 1948.

An outline for the general practitioner.

Medical Cases Described for Nurses. By S. Locket, M.B., B.S., M.R.C.P. (Pp. 88. 6s.; paper covers, 4s.) Edinburgh: E. and S. Livingstone. 1948.

A brief introductory manual of clinical medicine intended for nurses.

The Secret Instrument. By Walter Radcliffe. (Pp. 83. 10s. 6d.) London: William Heinemann. 1947.

The early history of the midwifery forceps.

Guide to the History of Physical Education. By F. E. Leonard, A.M., M.D. 3rd ed. revised by G. B. Affleck, A.M., M.P.E. (Pp. 479. 27s. 6d.) London: Henry Kimpton. 1947.

A history of physical education throughout the world from the time of classical Greece.

Unipolar Lead Electrocardiography. By Emanuel Goldberger, B.S., M.D. (Pp. 182. 20s.) London: Henry Kimpton. 1947.

A monograph on unipolar electrocardiographic leads in the normal and abnormal heart.

A Manual of Otolology, Rhinology and Laryngology. By H. C. Ballenger, M.D., F.A.C.S. 3rd ed. (Pp. 352. 22s. 6d.) London: Henry Kimpton. 1947.

Intended particularly for students and general practitioners.

Nierenkrankheiten. Two vols. By the late Prof. Erwin Becher. Edited by Prof. F. Volhard. (Pp. 688; 358. No price.) Jena: Verlag von Gustav Fischer. 1944.

A textbook of diseases of the kidney.

Indice Bibliografico de Lepra. Vol. II (I-P; 1500-1944) (Pp. 1,430. No price.) Brazil: Sao Paulo. 1946

An index of references to leprosy.

Traitement de l'Emphysème des Dyspnées Scéléreuses de l'Angine de Poitrine. By Paul Cantonnet. (Pp. 275. 600 francs.) Paris: Librairie Maloine. 1948.

A monograph on the treatment of certain cardiac and pulmonary disorders.

Der Gestaltkreis. By Viktor von Weizsäcker. (Pp. 208. No price.) Stuttgart: Georg Thieme Verlag. 1947.

A contribution to gestalt psychology.

Cisti e Pseudocisti del Polmone. By G. Rizzi and O. de Lorenzi. (Pp. 344. No price.) Faenza: Fratelli Lega. 1947.

A monograph on congenital and parasitic cysts and pseudocysts of the lung.

Chirurgia Comune e di Urgenza. By Umberto Nobili. 4th ed. (Pp. 470. No price.) Milan: Ulrico Hoepli. 1947.

A textbook of emergency surgery.

Die Gynäkologischen Operationen. By Prof. Heinrich Martius. (Pp. 424. No price.) Stuttgart: Georg Thieme. 1947.

A textbook of operative gynaecology.

Les Acquisitions Médicales Récentes. By J. Rostand et al. (Pp. 316. 650 francs.) France: Editions Médicales Flammarion. 1947.

Papers on a variety of subjects in clinical medicine

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MONEY AND FREEDOM

Reports from all parts of the country suggest that an overwhelming majority of doctors are radically opposed to the National Health Service Act in its present form. Medical men are convinced that this Act is the first and substantial step towards a whole-time State Medical Service. Even those who might be inclined to "give it a chance" see the grave risks of saying Yes. This Act is Mr. Bevan's revolution. Once the profession crosses the Rubicon there will be no retreat. Mr. Bevan will have the power by Regulation to make medical men whole-time servants of the State. Once in his Service we shall be powerless to do anything more than haggle over terms and conditions. As something like £120,000,000 will have to come out of State funds for the payment of Mr. Bevan's Service the Treasury will have the whip-hand in finance. Section 75 (3) states: "Any power conferred on the Minister by this Act to make Regulations shall, if the Treasury so direct, not be exercisable except in conjunction with the Treasury." It is important to stress again that the National Health Service Act is not an insurance scheme, and therefore is something radically different from the National Health Insurance Acts under which at present a large proportion of the population of this country is receiving medical care.

Some men in practice now are naturally worried about their financial position in the event of their refusal to serve under the Act in its present form. Young men wanting to enter into practice are also disturbed about the position. Mr. Bevan hoped that the young men would be on his side. Letters to this *Journal* suggest that he was being optimistic. The young men who qualified just before the war, and since, have had experience of what a Service is. We shall try to see how these two groups will be affected if Mr. Bevan's Act cannot come into operation on July 5.

The medical profession will be able to decide its future only if the majority of Noes is large enough. Our strength will lie in the size of the majority. If, for example, two-thirds or more of general practitioners stay outside the Service on July 5, what will be their position? This country is not over-doctored, and Mr. Bevan cannot run a Service with a third or less of general practitioners, even if they were evenly distributed throughout the country. He, or his successor, would have to reopen negotiations, and if as a result an acceptable Service were to be introduced the two-thirds who stayed out would have to receive compensation if—to contemplate what is unlikely—it was agreed that the custom of buying and selling of practices should cease. If the Minister were to refuse compensation

then those two-thirds would persist in their refusal to enter his Service. But it is probable that the two-thirds staying outside the Service would refuse to go in unless the custom of buying and selling of practices was retained. (In any case the profession will not agree to a "peace treaty" which does not include a victimization clause.) Whatever unsatisfactory features there may have been in this custom in the past, doctors are now fully alive to the fact that it is closely bound up with the preservation of the individual freedom of the general practitioner. The abolition of the ownership of goodwill is not essential to a comprehensive medical Service. Mr. Bevan thinks that for the State to own everything is good and that for the individual to own anything is bad—a not unusual thesis among the apostles of collectivism.

Mr. Bevan, whom *The Times* accuses of "crowning misjudgment" and of using "arguments that are both tortuous and pedantic," may hold fast to his appointed day in spite of overwhelming opposition. Few doctors are paid for all the work they do, but what some fear is a situation in which no payment of any kind would be forthcoming. If Mr. Bevan decided to ignore the wishes of the majority of doctors there would indeed be a crisis. The state of affairs would be confused for at least a few weeks. During that period doctors would have to charge their patients fees. If these patients were to say that they are paying 5s. to the National Insurance Fund the doctor would point out accurately and firmly that only 10d. of that was going to the payment of a small proportion of the total cost of the Health Service. And he would also point out that the medical profession was not being paid anything by the State and that the patient must put the blame at the door where it belongs—at the door of a Minister of Health who has refused to make doctors willing partners in his Health Service. We believe, too, that those who are fearful underestimate the loyalty of the individual patient to his own doctor. No working man—and this term includes at least 95% of the population—will grudge his doctor a fee which will be very small in relation to what he spends on beer and tobacco—fees to be paid over a period measured at the most in weeks. And if individual doctors do suffer temporary financial loss there are substantial funds to aid them—a fund which, incidentally, was helped along by a medical man who at a meeting last week handed the Secretary of the B.M.A. a cheque for £500 for this cause.

What are the present prospects for the young man wanting to enter general practice? At the moment some of them are finding difficulty in buying shares in partnerships. One reason for this is that elderly practitioners who would have retired are waiting until the issue of ownership of goodwill has been settled. If the profession should agree to the abolition of this custom these elderly practitioner are expecting to be compensated immediately after July 5. It will not be possible for them to receive this compensation money for at least two or three years after July 5. No compensation can be paid until all claims have been assessed, and the ambiguities of Section 35 are going to make it extremely difficult to arrive at this figure. In fact no one will know what the situation is until the matter has been thrashed out in the courts, because Mr. Bevan has

told the Negotiating Committee that this is something for the courts to decide.

The young man wanting to enter Mr. Bevan's Service as a principal on or just after July 5 would have to submit his name to the Local Executive Council of the area in which he wished to practise, and after the Executive Council has made its choice from a list of such names the successful applicant would have to receive the permission of the Medical Practices Committee in the Ministry of Health. In any case he will be able to work only in areas which are under-doctored, and these areas, we are told by Mr. Bevan, are at present few in number. Granted that a young man's application is successful, he will then have the privilege of "squatting" on a basic salary of £300 a year. He will have to buy or rent a house suitable for a doctor, and will have to buy his car, just as he does to-day. He will have no introduction to a practice and no list of patients with which he can make a substantial start in his new work. If he could practise from one of the infinitesimal number of Health Centres available he would still have to buy or rent his house to live in and in addition pay a rent for the use of accommodation in the Health Centre—accommodation in a Health Centre is not to be free of charge. And in a circular issued on Jan. 14 the Minister states that he proposes to set up a committee charged "with the task of gathering all useful existing information and formulating expert guidance on the best kinds and purposes of Health Centres at which development should aim." The Health Centre was the keystone of his new G.P. Service, and Mr. Bevan does not yet know what it should be like!

If a young man wants to enter general practice as an assistant to a doctor in the Public Service his choice of practitioners with whom he may wish to work will be severely limited. If, for example, a practitioner in the Public Service with a maximum number of patients on his list because of his success as a doctor wanted an assistant, he could not engage an assistant to meet the demands of the local community if the Executive Council and/or the Medical Practices Committee considered there were already enough doctors in that area. It will not matter to these administrative bodies whether the doctors in an area are good, bad, or indifferent. Their estimate of a position will, and must, be a purely quantitative one. In a quantitative scheme quality goes by the board.

There have been in the medical profession many critics of the custom of buying and selling practices. In the past some medical men have unfortunately fallen into the hands of unscrupulous moneylenders. Before the war the B.M.A., aware of this, made it possible for young men to borrow money through reputable sources and on reasonable terms. There is room for further exploration of the possibilities of making the loan of money for the purchase of a share in a practice much less burdensome than in the past. Doctors can put their collective heads together on this matter, as is indeed suggested by correspondents to this *Journal*. Ways and means should be sought for making things even easier for the young doctor wishing to buy a share in a practice, because what he gains through his ownership of goodwill is very considerable. First of all he secures an introduction to a practice. He is offered immediately something very much more substantial than

a basic salary of £300 a year. Exactly the same argument applies to assistants. A principal will take in an assistant because work is getting too much for him. He is saved the uncertainties and risks of "squatting" at £300 a year.

A man who buys a practice has a stake in the community in which he lives. He has got to make good and command the respect of the people among whom he works. A man in receipt of a salary from the State has no such stake. The struggle to make good is healthy. State subsidy of the mediocre is unhealthy. Doctors are now more sharply aware than ever before of the freedom from State interference which is provided by the ownership of practices. With the abolition of ownership, with the imposition of a universal basic salary, with the refusal of the right of appeal to the courts against the Minister's decision to sack a man in a Service open to the whole community, with the control of the distribution of doctors in the hands of a Ministry Committee, with the power in the hands of the Minister to change by Regulation a part-time into a whole-time State Service, doctors will cease to be members of an honourable profession and will become mere technicians employed by the State. Once this has happened Medicine will cease to attract into its ranks the type of man whose generation after generation has made Medicine and the medical profession what they are to-day.

Mr. Bevan and the propagandists who have supported him have spread many illusions about the supposed advantages of the present Act. We have already dealt with some of them in previous articles in this column. But one illusion still seems to persist, and that is that with the introduction of this Act medical men will work shorter hours on fixed rotas, and have longer and better holidays. Mr. Bevan cannot create more doctors, cannot build more hospitals, cannot build more health centres, cannot build more houses. He refers in his circular of Jan. 14 on Health Centres to "the sheer practical impossibility of a new building programme." The first effect of his Act will be vastly to increase the number of items of service. This is what happened when N.H.I. was introduced. A service apparently free to everyone will mean that many in it will have a tendency to use it irresponsibly.

The hypertrophy of bureaucracy is one of the social evils of our time. It may be a sign of our decline from greatness, and we may note that historians held it to be an important contribution in the decline of another great empire. We respect our Civil Servants as able and honourable men of an uncorrupt administration, but we believe nevertheless that the extension of their numbers and powers should be restricted if the freest play is to be given to those indispensable qualities of individuality and initiative which have made Medicine what it is to-day. We should take warning from Herbert Spencer, who sixty years ago wrote thus: "Judge what must under such conditions become the despotism of a graduated and centralized officialism, holding in its hands the resources of the community, and having behind it whatever amount of force it finds requisite to carry out its decrees and maintain what it calls order." Spencer saw a developed administrative organization leading to "a revival of despotism" and described this development in a chapter entitled "The Coming Slavery" in his book *Man versus the State*.

THE PRESS AND THE PROFESSION

Speaking at the opening of the East Glamorgan County Hospital on Saturday, Mr. Aneurin Bevan, the Minister of Health, gave this advice to doctors: "Do not allow your minds to be inflamed or your judgment to be distorted by slogans which are addressed to your emotions and not to your intelligence." This sound piece of advice is perhaps hardly necessary for members of a profession used to making a differential diagnosis. The doctor uses the methods of science, and the politician the technique of the hustings. At this moment the medical profession is being subjected to abuse, misrepresentation, and malicious innuendo from the highly emotional press which supports Mr. Bevan. This campaign was started by the *Tribune*, of which Mr. Bevan was a director and editor until he took office in the present Government in 1945. The *Tribune* suggested that "the B.M.A. may still try to fight the battle of the Tory Party against the development of a socialist service," and it went on to state: "Politically, the Minister's firmness has been most important. If he had been weak in face of this reactionary profession . . . it would have increased doubts as to the intention to carry out a socialist programme." The paper with which Mr. Bevan has been so closely associated started the campaign of abuse, and, be it noted, before the report of the so-called negotiations between Mr. Bevan and the Negotiating Committee was out. *John Bull*, published by Odhams Press, which, with the T.U.C., owns the *Daily Herald*, states that the plebiscite now to be held "does not sound like a genuine attempt to find out what doctors think about Aneurin Bevan's plans. It is more likely to be a time-wasting device thought up by the diehards at the B.M.A. headquarters." Mr. Michael Foot, who has just succeeded Mr. Jon Kimche as Editor of the *Tribune*, in a highly misleading article in the *Daily Herald* of Jan. 16 accuses the B.M.A. of attempting "to destroy a scheme devised by Parliament, even though the B.M.A. itself has never had any real alternative to offer." Mr. Foot begins his article thus: "Many miners object to certain sections of the Coal Nationalization Act; but they still dig coal." Has Mr. Foot never heard of coal strikes? And has he not beard of the recent action taken by the National Coal Board against a section of miners? He knows perfectly well that doctors never have struck and never will strike. Their sense of vocation is too strong, and the refusal to strike puts them in a weak position, and Mr. Bevan knows it. Miners, dockers, food-handlers and distributors can strike and endanger the life and health of the community, yet they become the white-headed boys of political propagandists like Mr. Foot who try to smear a great profession by hinting that they might adopt the methods of other sections of the community with a less educated sense of responsibility.

The *Daily Worker* naturally enough refers to medical men as "reactionary diehards," but also hits out at Mr. Bevan (Jan. 16) in this reference to the Ministry of Health circular on Health Centres: "Striking at the very basis of his own Health Service scheme, Mr. Bevan yesterday announced the postponement for a long time, at least, of any construction of health centres." The *Daily Mirror* observes that after the Bolshevik revolution Russian doctors

were opposed to National Health Insurance, and adds, presumably with approval, this: "They got the usual Russian short shrift. . . ." The *Mirror* draws attention to our responsibility in resisting Mr. Bevan's Act when it states: "It's quite certain that if the British plan works it will be copied throughout the Empire and throughout Europe."

The *Sunday Pictorial*, weekly sister to the *Mirror*, calls Mr. Bevan's scheme "the State Medical Service," and observes that "the Health Act went through Parliament by the will of the people. They [the doctors] assume grave responsibility in opposing that will." This is the present propaganda line of Mr. Bevan's supporters, and was most effectively answered last Sunday by Dr. H. Guy Dain, the Chairman of Council. "Parliament," Dr. Dain said, "has imposed no obligation whatever on doctors to join the Service. On the contrary, Parliament has expressly given the profession the right to enter or to stay out as it chooses. Mr. Bevan himself has explicitly admitted that this is so. He has also admitted that doctors, like other workers, have the right to make up their minds collectively, as well as individually." It is important that medical men should keep this fact firmly in mind—namely, that individual and collective opposition to serve under Mr. Bevan's scheme is an action which Mr. Bevan holds to be one to which we have a right. The issue is simply whether medical men are willing to take service under the National Health Service Act in its present form if the plebiscite results in a majority large enough to justify collective opposition. Those who are trying to frighten doctors with the bogey of opposing Parliament should reflect upon Mr. Bevan's own observation and also upon an observation made by a philosopher whose views were endorsed in a preface to a reprint written by that stalwart of the Labour Party, the late Lord Snell. Herbert Spencer¹ wrote:

"The great political superstition of the past was the divine right of kings. The great political superstition of the present is the divine right of Parliament. The oil of anointing seems unaware to have dripped from the head of the one to the heads of the many and given sacredness to them also and to their decrees."

There is nothing sacred about Mr. Bevan's Act. What is sacred is the freedom of the medical man to decide not to enter a service which threatens his freedom and his responsibility towards his patients.

Large sections of the Press, and in particular the small provincial paper which plays such an important part in forming public opinion, show a sympathetic appreciation of "the doctors' case." We are here more concerned with those who fail to see, or wilfully ignore, what is the fundamental problem the medical profession is faced with. Ranging itself on the side of those papers referred to we find *The Times*, which pursues its unrelenting course of opposition to the British Medical Association. In a leading article of Jan. 8 *The Times* momentarily wavered from its opposition when it stated: "Mr. Bevan has not convincingly explained why the basic salary should not be confined to special cases, and if a majority of doctors now votes against this it would be wise to abandon its general application without hesitation." But in a leading article six days later

¹ *Man versus the State*. By Herbert Spencer. (With an introduction by Lord Snell, C.B.E., LL.D.). The Thinker's Library. London: Watts & Co., 5-6, Johnson's Court, Fleet Street, E.C.4.

(Jan. 14) *The Times* repented of its moderation and stated: "Nor, again, can the ordinary citizen see why the B.M.A. should . . . resist the introduction of a small basic salary for all practitioners." *The Times* completely ignores the basis of the B.M.A.'s opposition, which is that the Act in its present form leads to a whole-time State Medical Service—leads to the nationalization of Medicine. When all services and industries in the State have been nationalized *The Times* and other independent newspapers may see an attempt to nationalize the Press. That it can ignore the implications of the present attempt to nationalize a free and independent profession is surprising. What is perhaps more surprising is to find *The Times* making a misstatement of fact. "The B.M.A.," it states, "has never had a workable scheme of its own." This is not true. Between the two wars the B.M.A. was working on plans for a general medical service for the nation and the last statement of its views on this was published in 1938—a scheme which advocated the inclusion of dependants in the National Health Insurance scheme, the inclusion in it of all persons of like economic status to those to whom the scheme was available, and the extension of the scheme to include consultant and auxiliary services. This was a workable scheme based upon an existing scheme which, whatever its defects, commended itself to the public and the profession. *The Times* writes: "The dispute has been allowed to drag on as though it were a private wrangle of no public importance between the Minister of Health and a score of elderly doctors. It is high time that the Government and public opinion intervened to prevent a conflict which would be as exasperating as it would be futile." Lord Horder dealt effectively with the slighting reference to elderly doctors when he pointed out² that the average age of the 34 members of the Negotiating Committee was 59, and that of the Cabinet 58. He added:

"But in this matter of consultation the Minister has done less than justice to the public, the doctors, and himself. He burked discussion before the Act was put upon the Statute-book, and now it is there he tells us that Parliament has spoken and he cannot reopen matters which he knows full well have always been in dispute. He allowed these matters to be discussed with his subordinates for 12 months and then himself disposed of all of them in two sessions of two hours each. Frank consideration of amending legislation to the Act as it now stands was promised. Such consideration has not been vouchsafed."

The Times asks whether "the B.M.A. questionnaire will be so framed as to indicate whether the doctors' particular objections can be remedied without destroying the basis of the scheme." And it admits that the "doctors certainly have genuine grievances. . . ." Mr. Bevan's comprehensive Health Service can be operated willingly by medical men if he concedes on matters not essential to the working of his Act. These include: the right of appeal to the Courts against the Minister's decision to remove a man from the Service; the abolition of the basic salary except in certain circumstances; payment by a fixed capitation fee; the machinery for directing ("negatively") doctors; and the right of doctors to continue to own the goodwill of practices.

THE MINISTER CLARIFIES

In an attempt to clarify some points in the present dispute between the Minister of Health and the medical profession, the *Lancet* put nine questions to the Minister. By the courtesy of the Editor of the *Lancet* we are able to publish in this week's *Journal* these nine questions and Mr. Bevan's replies to them. There are three questions on remuneration; three on the right of appeal in the Tribunal; a question on Section 35 of the Act in relation to the legal position of partnerships; and two questions on the possible postponement of the appointed day.

Mr. Bevan persists in his refusal to give the medical man the right to appeal to the courts against a decision to remove him from a service open to every member of the public. That there can be no real constitutional or administrative obstacle in the way of granting this appeal is clear from the fact that it is included in the National Health Service Bill for Northern Ireland. Mr. Bevan repeats the observations on this matter he has already made to the Negotiating Committee: all the doctor can do is to challenge the legality of procedure, not the decision to dismiss; the Minister is the employer and insists on the right to sack his employees. Mr. Bevan says that "'basic salary' is perhaps a misnomer," and states that the proposed fixed element of £300 "does not in any way affect the prospects of a fully salaried system; this could be brought about with or without this £300 element." He observes that a full-time salaried Service has been possible under existing legislation for some 36 years. This, of course, refers to remuneration under the National Health Insurance scheme. The National Health Service Act is open to all members of the community and has been framed and is being brought into operation by a Government which is pledged to introduce a whole-time salaried State Medical Service. The first of the reasons Mr. Bevan gives for "a universal basic salary" is "that it enables beginners to live while they attract patients." The second is that "it affords a convenient fixed peg on which to hang additional payments," and the third "that it reduces the temptation to build up excessively long patient lists." These read like excuses rather than reasons.

On Section 35 the Minister has retreated from the position he took up when he met the Negotiating Committee on Dec. 2 and 3. He states that, "anxious to clarify the position . . . he . . . proposes to obtain a collective legal opinion of highest standing by appointing straightway a committee of legal experts to say whether or not the partner in an existing partnership is fully and adequately protected." He goes on to say that he will proceed to seek amendment of the Act if on the report of this legal committee "there is evidence that existing partnerships are unfairly prejudiced by the Act." This legal committee has to be set up. It will have to make its considered report. If its report provides evidence of prejudice to existing partnerships Mr. Bevan will seek to amend the Act. Until all this has been done no medical man in partnership will know where or how he stands—probably not until the eve of the appointed day. Mr. Bevan has just been compelled to postpone indefinitely the building of health centres which were the key-point of his general practitioner service.

and now is forced to admit by the evidence of the Negotiating Committee that he does not know how to interpret a section of the Act related to partnerships and related hereby to the assessment of compensation. Once again Mr. Bevan flouts the Negotiating Committee by making his new proposal not to it but to a medical weekly owned by a publishing firm.

Mr. Bevan states that the National Health Insurance Acts were repealed not by the National Health Service Act but by the National Insurance Act which comes into operation on July 5. The medical profession is expected to enter the Service without being in full possession of all the facts—for example, the remuneration of consultants will probably still be under discussion in June, the legal position of Section 35 has now to be clarified and an amendment possibly introduced, and Mr. Bevan is still unable to make an exact comparison between his proposals for remuneration and the proposals of the Spens Committee, which he has accepted and which have been in his hands for months. If there is administrative difficulty over the postponing of the appointed day it is the job of the administrator to get over it. In reply to the *Lancet's* question whether further postponement of part of the Service will be contrary to the public interest Mr. Bevan replies that for his part "the Minister will give them the Service on July 5." It is the medical men of this country and not the Minister who will be working in the Health Service. Mr. Bevan has had the grace to reconsider one section of the Act. Encouraged by this we must persist in asking him to reconsider other sections of the Act if the comprehensive medical service wished for is to be introduced on July 5.

RECENT OUTBREAKS OF SMALLPOX

The diagnosis of typical smallpox presents few difficulties. Unhappily, when it occurs in individuals who possess some basal immunity the clinical picture is more confusing and may confound even the experts (and they may nod in good company, for even Ricketts himself is said to have misdiagnosed a case). But, although the illness may be mild and indefinite in a host who is partially immune, the virus itself loses none of its virulence and may still cause severe disease in susceptible contacts. The results of a missed diagnosis may thus be calamitous, and elsewhere in this issue Simpson Smith describes the events which followed a "confident diagnosis of chicken-pox" in a soldier returned from India. An epidemic of smallpox ensued which smouldered for four months. There were thirty cases in all, of which half were severe and six died.

Although there have been no spectacular epidemics in this country since the passing of the Vaccination Acts, we all need constant reminders that smallpox is never absent for long from these islands. In the period 1921–35 inclusive there were 81,556 cases, with 266 deaths in England and Wales.¹ Most of these cases were of a mild type, as is evident from the low mortality. During 1936 only 12 cases were notified—the infection having been introduced from abroad—and Butterworth² was induced to prophesy: "Few medical men are likely to see variola major in this country, for it is now very rare."

On the outbreak of war the possibility of infection entering this country from the Eastern Mediterranean and other endemic areas led to a tightening of the usual measures of control at ports and airfields. Despite these, however, an outbreak of smallpox occurred in Glasgow in June and July of 1942, a full account of which was given in this *Journal* by Sir Alexander Macgregor.³ There were 36 cases, with eight deaths, the first cases being members of the crew and passengers of a ship which had sailed from Bombay. Mass vaccination, which formed part of the administrative procedure to combat the disease in Glasgow, did not materially interfere with the normal work in the docks.⁴ The question of the value of this method of control in stopping the epidemic was discussed in our columns at that time.⁵ Later in the same year similar outbreaks occurred in Fife and Edinburgh.

The next outbreak to attract attention began in a Middlesex hospital.⁶ Here the original case was a soldier who had arrived in a convoy from Gibraltar and who had been admitted direct to the hospital on account of an anxiety state.⁷ There followed ten cases of variola major, three of them fatal. During 1946 Asiatic smallpox was introduced into England and Wales on 15 separate occasions. Fortunately vaccination and surveillance of contacts brought the disease rapidly under control in each case, and only 40 persons became infected. Then, after an interval of seven months, the disease reappeared in the middle of February, 1947, and cases were seen at Grimsby, Stepney, Scunthorpe, Doncaster, and in Staffordshire.⁸

Meanwhile the outbreaks among British soldiers in the Middle East had caused van Rooyen and Illingworth⁹ to explore methods of rapid diagnosis. They found that the direct examination of carefully prepared smears from early lesions was useful in differentiating chicken-pox and smallpox owing to the larger size of the elementary bodies in the latter disease. Downie¹⁰ has more recently reviewed the laboratory methods available for the diagnosis of smallpox. He is doubtful of the value of direct examination, for a negative result does not exclude smallpox, and considers that the two most reliable methods are the cultivation of the virus from early lesions on the developing egg, and the complement-fixation test, using as antigen material from at least six vesicles or a similar number of scabs. The latter test gave positive results in all of 27 recent cases,¹¹ and has the great advantage that a definite report can be given within 24 hours, whereas egg culture takes at least three days.

So long as British troops remain in the Middle East their repatriation by aeroplane or ship will entail a risk of localized outbreaks of smallpox in this country. In one month last year cases were landed from the *Empress of Australia*, the *Duchess of Richmond*, and the *Orontes*.¹²

¹ *Memorandum on Smallpox*, 1938. London, H.M.S.O.

² *Lancet*, 1938, 2, 1426.

³ *British Medical Journal*, 1942, 2, 627.

⁴ Buchanan, G., and Laidlaw, S., *ibid.*, 1942, 2, 394.

⁵ Millard, C. K., *ibid.*, 1943, 1, 288.

⁶ *ibid.*, 1944, 1, 399.

⁷ *ibid.*, 1946, 2, 194.

⁸ *ibid.*, 1947, 1, 549.

⁹ *ibid.*, 1944, 2, 526.

¹⁰ Downie, A. W., *Mon. Bull. Min. Hlth. Emerg. publ. Hlth. Lab. Serv.*, 1946, 5, 114.

¹¹ *Publ. Hlth.*, 1947, Jan., 82.

¹² *British Medical Journal*, 1946, 1, 591.

¹³ Stallybrass, C. O., *Publ. Hlth.*, 1947, Jan., 82.

It is true that the risk to the civilian population is not great, but as movement becomes freer and air travel develops, as it is bound to do, the comparative freedom from the disease which we enjoyed immediately before the war is unlikely to continue. By the National Health Service Act, 1946, all the Vaccination Acts are repealed and vaccination is put on the same voluntary basis as diphtheria immunization. For a country which depends as much now as it has in the past on its maritime associations this bold step is an act of faith which will need to be accompanied by suitable campaigns to educate the public. It will be unsatisfactory to rely on vaccination only after the appearance of a case, for it may be noted that Simpson Smith found that vaccination is no certain prophylactic after contact has occurred. Stallybrass¹³ made the same observation following the onset of smallpox in two patients in Liverpool, both of whom died.

Recent experience may be summarized briefly. First, there is no absolute clinical diagnostic criterion; even the distribution of the rash may be misleading in greatly modified cases. Secondly, the appearance of even a few papules after a constitutional upset (which will usually be regarded as "flu") should always arouse suspicion. Thirdly, the diagnosis of chicken-pox in an adult should be made with misgivings, especially if there is a history of recent residence abroad. Finally, laboratory tests now give valuable and accurate information, and there should be no hesitation in using them even if it is only to confirm an apparently obvious diagnosis.

CARE OF CHILDREN

The National Assistance Bill will bring to an end the existing Poor Law and make further provision for the welfare of disabled, sick, aged, and other persons.¹ In this Bill the effect of the recent awakening of public interest in the care of the aged, as shown among other things by the report of a special committee of the British Medical Association,² can be traced. The Children Bill, the text of which was published on Jan. 16, is a further instalment of the new legislation which will come into operation when the Poor Law ends, and it reflects faithfully the recommendations of the Curtis Committee and the Clyde Committee. Miss Myra Curtis, C.B.E., presided over the Care of Children Committee which was set up in March, 1945, "to inquire into existing methods of providing for children who, through loss of parents or from any cause whatever, are deprived of a normal home life with their own parents or relatives."

The Curtis Report³ attracted a great deal of attention when it was published in September, 1946, and so did the less familiar Clyde Report of the Scottish Committee on Homeless Children.⁴ The Children Bill gives effect to most of the recommendations of the Curtis Committee, following the main lines of its detailed proposals on administration and also, wherever possible, giving preference to personal relations rather than official intervention. The White Paper⁵ summarizing the main provisions of the Bill points out that it will place a duty on the councils of counties and county boroughs in England and Wales and of counties and large

burghs in Scotland to receive into their care in the interests of the welfare of the child any boy or girl under seventeen who has no parents or guardians or who has been abandoned or lost or whose parents or guardians are prevented by incapacity or any other circumstances from providing proper accommodation, maintenance, and upbringing. This duty will rest on the local authority in whose area the child is, irrespective of where he or she is ordinarily resident. An important point is that the Bill does not authorize a local authority to keep a child if any parent or guardian desires to take over this responsibility. Local authorities will be able "to assume by resolution" parental rights. But such a resolution will lapse if any parent or guardian whose rights are affected lodges an objection within one month. It will then be open to the local authority to apply to the courts for an order that it should remain in force. The burden of proof will rest upon the local authority, which must satisfy a court that its intervention is necessary in the interests of the child.

In the cases which the Curtis Committee studied, however, and with which the Bill is primarily concerned there is no question of such a dispute. The child is alone and uncared for and the Bill places squarely upon the shoulders of the local authority the duty of taking charge of him. For many years local authorities have been acting voluntarily as "fit persons" to take charge of children reported to be "in need of care or protection." This voluntarily assumed responsibility will now become a duty. Normally the local authority will discharge this responsibility by boarding the child out with foster parents or, if this is not possible, in some form of home or hostel maintained either by voluntary bodies or by the local authority itself for this purpose.

The whole plan will be under the supervision of the Home Office, and the Secretary of State is empowered to make Regulations for maintaining the standard of institutions accepting these homeless children. Local authorities are also to set up Children's Committees under which a children's officer will work. In the great majority of cases this officer will be a woman and, according to *The Times*,⁶ "it will be her duty to be the channel for all the forces of public benevolence that flow from legislative and official sources, but to pass them on transformed into personal understanding and solicitude."

The responsibility placed on the local authority under the Bill will end if the child comes under the control of any person or authority under the provisions of the Mental Deficiency or the Lunacy and Mental Treatment Acts. In making Regulations governing the conduct of voluntary homes the Secretary of State may include provisions relating to accommodation and equipment, medical arrangements for protecting the health of the children, and facilities for religious instruction. There will be set up an Advisory Council on Child Care to advise the Secretary of State on matters connected with the discharge of his functions under this Bill once it becomes an Act and under the Children and Young Persons Act of 1933. There will be a separate Advisory Council for Scotland. It is estimated that the Children Bill will affect the upbringing of some 125,000 children in England and Wales and about 13,500 in Scotland.

Prof. G. S. Wilson, M.D., F.R.C.P., will deliver the Milroy Lectures before the Royal College of Physicians of London (Pall Mall East, S.W.) on Tuesday and Thursday, February 10 and 12, at 5 p.m. His subject is "The Public Health Laboratory Service."

¹ Cm. 3, 7248, H.M.S.O. 3d. net.

² *Proc. R. Med. Soc. Lond.*, Supplement, June 21, 1947, p. 133.

³ Cm. 3, 722, H.M.S.O. London. 3s. net.

⁴ Cm. 3, 711, H.M.S.O. Edinburgh and London. 9d. net.

⁵ Cm. 3, 796, H.M.S.O. London. 2d. net.

⁶ *The Times*, Dec. 17.

THE MINISTER OF HEALTH ANSWERS THE "LANCET"

The LANCET this week publishes the Minister of Health's replies to a series of questions addressed to him by the Editor. The following are the questions and answers, which we reproduce by the courtesy of the Editor of the LANCET.

1. *Will the Minister further explain the purposes of the basic salary?*

"Basic salary" is perhaps a misnomer. It suggests a salaried State medical service. But the Minister, in the debate on the National Health Service Act on Nov. 4, 1946, said:

"Some doctors have expressed the fear that this is merely the beginning of a full-time salaried service. I cannot read into the mind of any future Minister or prophesy what may be done by future Governments, but that is not our intention. Our intention is that the main source of a doctor's remuneration shall be by capitation."

This statement is reflected in the remuneration now proposed. It should be remembered that the new Act gives no more power to impose a full-time salaried service than does the existing law. A full-time salaried service has been possible under existing legislation for some 36 years—but doctors have not apparently feared it. It should also be remembered that the proposed £300 "fixed" element in payment does not in any way affect the prospects of a full salary system; that could be brought about with or without this £300 element, which makes no difference.

The values of the "fixed" payment of £300 in the total remuneration are (a) that it enables beginners to live while they attract patients, (b) that it affords a convenient fixed peg on which to hang additional payments (e.g., for sparsely populated areas) without the administrative complications of a varying capitation rate, and (c) that it reduces the temptation to try to build up excessively long patient lists.

2. *Could not the purposes of the basic salary be fulfilled by an alternative capitation fee (if necessary on a sliding scale) offered to those practitioners who opt for it?*

A system of alternative capitation fees would involve substantial administrative difficulties, particularly if "collective responsibility" and a pooled capitation fund are—as they are—to be accepted. Nor would the purposes above be fulfilled. No good case has been made out for it so far.

3. *Will the Minister amplify his statement that the doctor retains "his ordinary legal right to go to the Courts on grounds of unlawful action by the Minister or others" and indicate how far this will give doctors the assurance of protection, where necessary, by the Courts?*

There has been general misunderstanding on this. The business of the Courts is to decide whether a termination of any form of employment is lawful or unlawful. On this the doctor, like everyone else, can still go to the Courts. Any person affected by a decision of the Minister can go to the High Court on the question whether the Minister has, or has not, acted lawfully. Nobody, in any other profession or vocation, has the right to ask a Court to reverse a perfectly lawful decision to terminate an engagement. No such right—indeed, no independent Tribunal—has existed under National Health Insurance in the last 36 years. The Minister could have carried on the present system of that scheme, but—on the doctors' behalf—he provided for the decision to be taken by a separate Tribunal and not by him. The appeal to him is only an appeal to keep the doctor in the Service in spite of the Tribunal. There is no power in him to alter a decision of the Tribunal favourable to the doctors.

Let it be clear what the doctors' protection is. First, the Minister himself cannot ever remove any doctor's name from the list. Locally an Executive Council comes to the conclusion that the continued inclusion of a certain doctor in the lists would prejudice the efficiency of the Service. That Council is itself half professional and has seven doctors on it. That Council, nevertheless, cannot remove the doctor's name from the list; it can only refer the case to a special Tribunal of one

doctor, one lawyer (appointed by the Lord Chancellor, not the Minister), and one layman. That Tribunal can decide in favour of the doctor—in which event nobody at all can overrule it. Or it can decide against him—in which case he has the further recourse to the Minister, mentioned in the last paragraph. The Minister can uphold the Tribunal's decision, or reverse it in the doctor's favour—nothing else. There are many who think it is, if anything, the public rather than the doctor who might claim to be more protected.

4. *For the practitioner, what advantages are there in having his case heard by the Tribunal rather than a Court of Law? Could not the advantages of the two forms of hearing be combined by allowing appeal from the Tribunal to a Court?*

Part of the answer is given above. The Courts' proper function is to decide whether what is done is lawfully done. That remains. Under the existing National Health Insurance it is the Minister who decides these cases. Under the proposed new Service an independent Tribunal is set up to decide it, and unless the doctor wishes otherwise the proceedings are private. The Minister can reverse that Tribunal's decision only in the doctor's favour.

5. *It has been suggested that the chairman of the Tribunal, nominated by the Lord Chancellor, should be a judge. Would the Minister consider the appointment of judges as chairmen of Tribunals?*

As the Act stands, this is not possible. The Minister sees no good reason to amend it in this respect. A judge, so appointed, would not be acting as a judge, and the difference is more apparent than real. Nor is it easy to find judges available to give the time to this. What matters is that the chairman should be a lawyer of acknowledged standing, and this it is the intention to secure.

6. *Could not steps be taken, in advance, to clarify the legal position of partnerships after the appointed day?*

The Minister is in complete sympathy with the doctor in partnership who feels that his position under his partnership agreement is uncertain. He is advised that legally the situation is all right and the partner protected. The B.M.A. is advised otherwise. The Minister is anxious to clarify the position, but—on the present legal opinions—it is not easy to do so. He therefore proposes to obtain a collective legal opinion of high standing by appointing, straightway, a committee of legal experts to say whether or not the partner in an existing partnership is fully and adequately protected. He would like the profession's co-operation in the selection of that committee. He will consider its report, and, if there is evidence that existing partnerships are unfairly prejudiced by the Act, he will proceed at once to seek an amendment of it.

7. *Will the Minister comment on the statement that in the middle and higher ranges his proposals for remuneration do not tally with the recommendations of the Spens Committee?*

His intention has certainly been that they should tally. But, at this stage, no exact comparison has been possible. So far, he has published only the main and fundamental remuneration of the general practitioner. Account has still to be taken of additional factors which have not yet been settled—such as additional payments for maternity services, grants for training assistants, income derived from the employment of assistants in the bigger practices, the value of the Exchequer contributions to superannuation (which the Spens Committee said must be taken into account and which will amount to 8% of the net income) and of the right to a widow's pension.

8. *If the "appointed day" for the operation of the National Health Service Act were again postponed, would National Health Insurance continue until that day?*

No. The National Health Insurance Acts are repealed, not by the National Health Service Act, but by the National Insurance Act, which operates from July 5.

9. *Will the Minister explain why in his opinion further postponement of the introduction of the Service, or of the general practitioner part of it, would be contrary to the public interest?*

Since 1942, under different Governments, the conception of a national and comprehensive health service has been actively

pursued. The present Government put it into effect, and Parliament endorsed it, in 1946. It is time that the people had it. The old system is partial and, from the national point of view, not effective enough. The country can have—and should have—the complete cover for health which they deserve. Parliament has decided how they can best have it. It is the Minister's duty to carry out that decision, and he is doing so. He has preserved all the confidential and personal relationships of doctor and patient which are essential to any health care, the freedom of choice of doctor and freedom to change. He has tried to remove the financial worry of health care by a system of pooling costs and drawing benefit when the need arises. To withdraw the general practitioner service would be to remove from the new health "cover" the very first line of medical consultation. Why should the people wait longer? For his part, the Minister will give them the Service on July 5.

THE PLEBISCITE FORM

On Jan. 31 the British Medical Association is sending the plebiscite form to all medical practitioners in England, Scotland, and Wales, those in the Services wherever they are, and those on the Temporary Register. The purpose of the plebiscite is, first, to ascertain the views of the profession on the National Health Service Act in its present form, and, secondly, to decide the question of "service or no service." To this end three questions will be asked and the practitioner gives his answer by marking an X against the affirmative or negative form of the question. They are as follows:

- A { *I approve of the N.H.S. Act, 1946, in its present form.*
I disapprove of the N.H.S. Act, 1946, in its present form.
- B { *I am in favour of accepting service under the Act in its present form.*
I am not in favour of accepting service under the Act in its present form.
- C { *I agree to abide by the decision of the majority and undertake not to enter the Service if the answers to Part B reveal a majority against undertaking service, as defined in para. 4 above [of the plebiscite form], and if so advised by the British Medical Association.*
I do not agree to abide by the decision of the majority if it is against accepting service as defined in para. 4 above. [See third paragraph below]

All members of the profession will be asked to complete question A whether they are in practice or retired. Questions B and C should be completed by the following groups of practitioners: consultants or specialists not holding whole-time salaried posts; consultants or specialists holding whole-time salaried posts; general practitioners who are principals; general practitioners who are assistants; and whole-time voluntary staff.

The last category excludes those practitioners of specialist status who appear in the first two categories listed. It includes those practitioners holding B1, B2, and A appointments and Class I and Class III appointments under the Government postgraduate scheme for ex-Service men. It will be seen, therefore, that house-officers, registrars, resident officers, chief assistants, and members of professorial units at voluntary hospitals all vote on these questions B and C.

The advice that the Council of the British Medical Association will give to the profession depends on the result of this plebiscite. If the total replies to question B show a majority against accepting service under the Act, and this majority includes approximately 13,000 general practitioners (out of a present total of about 20,500 general practitioners), the Association will advise the profession not to enter any contract under the Act in its present form but to continue their services to patients, or other professional work. If these majorities are not attained, those practitioners who undertake not to enter the Service (in answer to question C) will be released from their obligations. Needless to say, how individuals vote will not at any time be disclosed.

In order to clarify the replies 19 categories will be printed on the plebiscite form and the medical practitioner asked to

assign himself to one of them. They are as follows: (1a) Consultant or specialist not holding whole-time salaried post (1b) Consultant or specialist holding whole-time salaried post (2) General practitioner—principal; (3) General practitioner—assistant; (4) Whole-time voluntary hospital; (5) Whole-time local authority general hospital; (6) Whole-time local authority special hospital; (7) Whole-time public health service; (8) Whole-time Government service; (9) Whole-time teacher; (10) Whole-time research; (11) Other whole-time non-Government post; (12) Medically qualified dental surgeon; (13) Retired; (14) Unclassified; (15) Service permanent commission; (16) Services, temporary commission, specialist; (17) Services, temporary commission, grade specialist; (18) Services, temporary commission, general duty officer.

It is particularly asked that every medical man should fill in this important document and return it not later than Feb. 1 (or as soon as possible in the case of practitioners overseas), to the Secretary of the British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1.

THE MENTAL HEALTH SERVICE

WIDER RESPONSIBILITIES OF LOCAL AUTHORITIES

A conference arranged by the National Association for Mental Health was held in London on Jan. 15 and 16, and attended by delegates from a large number of local authorities and voluntary organizations. The subjects of discussion at the two sessions were the rehabilitation of persons who have suffered from nervous or mental disorder, methods of handling "difficult" children, the responsibilities of local authorities in relation to mental health under the National Health Service Act, 1946, and, finally, education for mental health as a national and international responsibility.

The conference was opened by the Rt. Hon. R. A. Butler M.P., who enlarged upon the opportunity given to the National Association (which now incorporates the Central Association for Mental Welfare, the Child Guidance Council, and the National Association for Mental Hygiene) to play a leading part in developing an effective mental health service for the nation thanks to the provisions of the Education Act, 1944, and the National Health Service Act, 1946. Mr. L. J. Edwards M.P., Parliamentary Secretary, Ministry of Health, reminded the Conference that however complete the administrative arrangements under the Health Service Act might be, the success of the new health service would depend upon the quality of the work done by those engaged in it, whether as doctors and health workers or as representatives on local health committees. He urged that particular attention should be paid by local authorities to their after-care organization upon which the restoration to normal health of patients discharged from hospital would depend.

Readaptation after Mental Illness

Dr. G. R. Hargreaves, principal medical officer, Lever Bros. and Unilever, Ltd., said that various estimates had been made of the prevalence of the neuroses, many of them wide of the mark. Perhaps the closest index was afforded by an extensive inquiry which Dr. Russell Fraser had conducted for the Medical Research Council. He had shown that absence from work on account of neurosis was responsible for the loss of 1% of men's time in industry, equivalent to between one-third and one-quarter of all time lost through sickness, and that women lost twice as much time as men. The incapacity caused by neurosis was probably greater than that caused by colds and influenza.

To meet this problem the present facilities for out-patient consultation and psychological treatment were not adequate either in extent or quality, and in-patient facilities, whether in special centres or in general hospitals, were also inadequate. Mental hospitals designed for the care and custody of cases of psychotic illness, with few exceptions, were unable to provide adequate in-patient treatment for neurosis. The E.M.S. and Service neurosis centres had left some trace, notably in the Roffey Park rehabilitation centre and the Princess Elizabeth industrial rehabilitation centre of the L.C.C., but far more in-patient centres of this type were needed.

Most discussion on rehabilitation, said Dr. Hargreaves, was based on the assumption that the chief problem was to get an thopaedic case back to light work, but every works manager could say that he had no problem in the rehabilitation of such cases compared with the resettlement of neuroses and psychosomatic cases, such as patients with duodenal ulcer, in general industry. An after-care scheme, such as that which the National Association for Mental Health set up during the war for men discharged from the Services on psychiatric grounds, was badly needed for the civilian psychological patient in peacetime to enable him to get resettled in home and work.

The Ministry of Health, as was apparent from the decision to appoint regional psychiatrists, was aware of the social and industrial importance of psychiatric illness. Close collaboration between the remedial activities of the Regional Hospital Boards and the preventive activities of the local authorities would be needed if the resettlement of the neurotic patient in industry was to be achieved.

Resettlement in Industry

Dr. Donald Stewart, medical adviser to the Austin Motor Company, said that neurosis accounted for well over 90% of psychiatric cases, and was probably a factor in 20 to 30% of sickness. He divided psychiatric cases for practical purposes to three categories: (1) psychiatric cases among the unemployed, including psychopathic personalities, cases with a basis in mental defect, and those who had suffered from psychotic illness; (2) psychiatric cases registered as such with the Ministry of Labour, and in employment, but with a disability which from time to time might render them unfit for work; (3) psychiatric cases not on any register, and largely in employment, many of them detectable in industry by the medical officer, some showing anxiety states or depression superimposed on a prolonged organic disability such as tuberculosis or rheumatoid arthritis.

Under the National Health Service Act the treatment of psychiatric casualties in hospitals, clinics, and health centres was apparently to be put on a more rational foundation. It might therefore be that the new health service would pay attention to the adequacy of methods of recognition, treatment, and prevention. But in order to do this adequately its link with industry must be strengthened, particularly in the field of resettlement. Dr. Stewart described the various rehabilitation facilities available, and continued:

"Wide opportunity for modern medicine to take an active part in post-hospital rehabilitation is now offered. The doctor who has insight into and understanding of the psychological reactions of the worker, of his social customs, and of how his present outlook can be determined by fear of unemployment and the feeling of insecurity in his job, can do much to bring about changes in attitude. What industry and those Government departments more intimately concerned with resettlement increasingly require is advice from the doctor closely informed on both industrial and psychiatric matters, and who talks the common language. A further vista in education, both of doctors and laymen, is thus opened out. Training for this specific task now becomes of much significance."

Training, however, depended on research. Some proposals for investigation in this field were at present under consideration. One of the most important was the investigation of placement in jobs by studying on the one hand the physical and psychological demands of the different jobs and, on the other, the corresponding capacities of the individual. In the psychological approach such factors as incentives, fatigue, monotony, and working environment needed careful consideration.

Psychiatric After-care

An account of the working of the National Association's after-care scheme for psychiatric casualties, already referred to by Dr. Hargreaves, was given by Dr. Kenneth Soddy, medical director of the National Association. This scheme, which started in 1942, and in 1946 was thrown open to others besides ex-Service people, had dealt with between 13,000 and 14,000 men and women, and the present active case-load was over 4,000. It looked as if two and a half years was the average time for patients to remain in touch with the scheme. About one-third of the patients came into the scheme suffering from a psychotic illness, while nearly one-half were of the neurotic type. About one-third were referred by hospitals or

doctors, and rather fewer by employment exchanges. Only about a quarter of the patients could name a doctor as being their "own doctor," so that the scheme was evidently breaking new ground. About 9% of the patients at any one time were receiving treatment in mental hospitals or neurosis centres, and 7% in psychiatric out-patient clinics. These low figures might be due in part to the patients' lack of co-operation or lack of confidence in psychiatric treatment, but they were also an indication of the inadequacy of psychiatric clinical facilities and of the dearth of trained and experienced doctors. Some 60% of the patients were gainfully employed, and of those in work 63% had found employment by their own efforts, aided in some cases by a social worker. The hard core of unplaceables accounted for about 8% of the case load.

Psychiatric community care, said Dr. Soddy, cut across established divisions of work. It was not confined to medical treatment, nor to social welfare, nor to the promotion of industrial efficiency. Under the new Act it stood in danger of dismemberment between the Regional Hospital Boards and the local health authorities. The arbitrary division between medical treatment and social care had its administrative convenience, but it embarrassed the psychiatric therapist. Purely local schemes might suffer from patchiness and standards vary from area to area. His hope was that the larger health authorities might carry on and expand the National Association's pioneer work in community care and that the smaller authorities might perhaps make arrangements with the National Association to work on a co-operative basis over groups of areas.

New Powers and Duties of Health Authorities

A comprehensive survey of the new powers and duties of local authorities in respect of mental health under the National Health Service Act was given by Dr. Doris M. Odium, a vice-president of the National Association. She said that from the meagre reference to mental health in the Act it might be supposed that only a limited service was expected from local authorities, but a more careful study made it clear that the door was now wide open for a much more complete and satisfactory mental health service than had been possible in the past.

The Local Health Committees to be set up under the Act were empowered to refer all mental health questions to Mental Health Subcommittees, to which co-opted members could be added, thereby bringing in persons with special knowledge in the mental health field. The Minister had suggested to local health authorities that they should appoint a "medical officer of mental health," whole- or part-time, who would be a senior psychiatrist, or at least of consultant status.

Apart from the duties of ascertainment under the older Acts dealing with the mentally disordered and the mentally defective, and the taking of initial steps towards institutional care or other supervision as the case might be, local authorities had the power—and if the Minister so directed the duty—to make arrangements for the prevention of illness and the care and after-care of persons suffering from mental illness or defect. The Ministry had informed them that this provision was to be interpreted in a far wider sense than the categories coming under the older Acts, and that it included uncerifiable psychotics and mental defectives, neurotics, psychopaths, and subnormals, in fact all who were seriously handicapped by mental disease, disorder, or disability.

The care and after-care of all sorts and conditions of mentally ill people opened up an immense field. Dr. Odium said that she could not pretend that in these austere times it would be possible to carry out all these functions immediately, but it was to be hoped that every local authority would prepare a comprehensive scheme, and in the meantime, with the help of voluntary organizations, would cover as much of the ground as was possible. She indicated ways in which the psychiatric social worker could be of great assistance at the critical time of a patient's readjustment to domestic and working conditions.

Of preventive measures one of the most important was health education. Superstitious and morbid ideas still surrounded mental illness, and some patients were treated with real mental cruelty by their families, which militated against their recovery at the most curable stage of their illness. A programme of health education was necessary to avoid such an unhappy situation. The problems presented by the senile, the

subnormal, the unstable, the epileptic, and the psychopathic personality were widely different, but all these classes were capable of being helped to a greater or less extent by trained social workers. She also stressed the need for co-operation between the Mental Health Subcommittee and the Education Committee on the social care of school-children who were emotionally unstable or maladjusted.

Local Authority Opinion

Many delegates from local authorities briefly addressed the Conference on this subject. Alderman G. R. Spruit (Hull) spoke of the lack of co-ordination between the general practitioner and the local authority and hospital services, especially in cases which developed mental illness as a sequel to physical illness. Councillor T. M. Larrad (chairman of Manchester Health Committee) mentioned the difficulty of persuading councils, with the hospitals taken from their control, that the functions of their health committees would be more important than ever. Mrs. M. Ormerod (chairman of the Mental Health Committee of the L.C.C.) suggested the setting up in every district of a citizens' health bureau, where advice could be given by sympathetic and trained persons. She also thought that there was a reservoir of social workers among women who had had previous experience in that field and had married, but would now be prepared to return in a part-time capacity.

Dr. Kenneth Cowan (M.O.H., Gloucestershire) said that if mental health was to have the attention it deserved there must be a working partnership between the Regional Hospital Board and the local authority. Regional Hospital Boards should extend their plans beyond the curtilage of their hospitals, and local authorities should place their resources at the disposal of the Boards. Adequate access to consulting psychiatrists should be accorded to general practitioners.

Dr. R. F. Barbour (Medical Director, Bristol Child Guidance Clinic) spoke of the advantage of dissociating the psychiatric service so far as possible from the mental hospital. Interviews should take place on neutral ground, not on hospital premises. As for the cost of additional psychiatric services—a Bradford representative had expressed some fear that there might be an outcry against increased rates—he was surprised at the number of authorities who wasted the time of their trained workers by not affording them proper means of transport or adequate secretarial help. He urged the importance of preventive work in child guidance, especially in the earlier years—pre-school years—during which often the main deterioration of personality started. Dr. Mary Burbury (Manchester Child Guidance Clinic) spoke of the value of the indirect approach to parents by means of social meetings; they were not responsive to lectures.

Dr. Greenwood Wilson (M.O.H., Cardiff) urged that more use be made of the health visitor. In Cardiff they were increasing the number of health visitors from 27 to 44, and arranging that they should receive training from the social psychiatric worker, so that they would be able to advise parents on cases of mental deficiency or instability in children, and there would be no necessity to import some fresh person into the home.

A Sheffield delegate said that the Mental Health Service in his city examined all cases of attempted suicide. Such cases (which were often automatically sent to mental hospitals) well repaid careful psychiatric examination, and the examination might be extended to relatives who perhaps had contributed to the difficulty.

Dr. Rees Thomas, who had presided at this session, said that the services of local authorities in the mental health field, notwithstanding the transfer of hospitals to the Regional Boards, might well be the most important side of the health services of the country.

Education for Mental Health

The final session, over which the Earl of Faversham presided, was devoted to education for mental health as a national and international responsibility. Brigadier A. Torrie (Director of Army Psychiatry) declared that the need for information concerning the prevention and early treatment of mental ill-health was as great as the need for information concerning tuberculosis and cancer. Mental ill-health was primarily a social disease, and accordingly it was the responsibility of society to concern itself with prevention and cure. Physical hygiene was accepted

by parents, who cared for their children's nutrition and physical condition, but the need for mental care was equally great. Classes for parents could easily be arranged, but it was important also to have regard to emotional difficulties during pregnancy, and here the antenatal clinic came into the picture.

In the absence of Dr. J. R. Rees, who, it was announced, was in Denmark in connexion with the forthcoming International Congress on Mental Health, to be held in London in August, the closing address was given by Miss Sybil Clement Brown, the programme secretary of the Congress, who said that the theme would be "Mental Health and World Citizenship." Discussion groups had been at work in many countries for some months, and the results would be brought together for international exchange.

THE PROGRESS OF THE MUNICIPAL HOSPITAL

The annual meeting of the Medical Society of the L.C.C. was held at County Hall on Jan. 7, when Dr. R. C. Harkness, the retiring president, delivered his address. It was reported that the Society now numbered 349 members. Sir Allen Daley paid a tribute to the late Dr. G. F. Stebbing, one of the founders of the Society.

Dr. Harkness said that his own first experience of a municipal hospital was in the North of England many years ago, when he was appointed medical superintendent (though technically only a medical officer) of a combined institution in which hospital and workhouse were in the same curtilage, and there were two blocks for mental cases. For a hospital of 350 beds the medical staff consisted of only himself and one junior assistant medical officer. There was no consultant staff, no pathological laboratory, and such x-ray equipment as was available was in charge of a ward sister. The nursing staff numbered 70. From there he went in 1919 to the charge of a metropolitan general hospital, where he had a staff of five assistant medical officers, but three of them were allocated to district medical work and to two old workhouses, so that for 670 beds the medical staff in effect consisted of the medical superintendent and two medical officers. Again, there was no pathological laboratory, and the x-ray department was run by the theatre sister. At the same time he acknowledged that before the Act of 1929 some of the boards of guardians which were progressive in spirit made noteworthy improvements in their hospitals.

The London County Council took over the hospitals in 1930 and the first important step after that was the approval given by the Council in 1931 to a report on medical staffing. This established the basic structure of L.C.C. hospital staff which had continued ever since, though there had been many changes in detail. There were medical superintendents, deputy medical superintendents, and senior assistant and assistant medical officers. The assistant medical officers roughly corresponded to registrars in voluntary hospitals and had a limited tenure of four years. Promotion was so far as possible within the service. There was a steadily rising standard in the work done, and, of course, the better the quality of the work done by the medical staff the larger the medical staff required, because much more was done for the individual patient. The consultant position was regularized in 1933, when the so-called group system was instituted. The consultants were not given charge of beds: they were consultants in the strict sense of the word, visiting the hospital for a certain number of sessions. Nevertheless, in such specialties as ophthalmology and otolaryngology by the circumstances of the case, consultants had taken charge of beds to a large extent. In 1937 the so-called half-time obstetricians and gynaecologists were appointed.

Before the war a scheme of reorganization was worked out involving a large increase in the number of specialists and a modification of staff structure, with the setting up of clinical units of various kinds, but the recommendations were not formally presented to the Council. The position of the medical superintendent had received a good deal of consideration. In a general hospital no one man could now be held responsible for any degree of clinical supervision of all the branches of the work. What the final position with regard to the medical superintendent would be he did not know. The number of full-time specialists had been increased, and the conditions of

remuneration of many existing officers had been improved, but the basic structure had not been altered, and with the hospitals about to pass under regional authority it did not seem desirable that any large reorganization should be entered upon: it should wait the new conditions.

One possibility was that the fever hospital would disappear, fever cases being dealt with in a branch of the general hospital. Yet just as in ophthalmology it had been found advisable that all ophthalmic cases should be treated at the general hospital there should be one highly specialized ophthalmic hospital, such as Moorfields, so it might be found justifiable to run one highly specialized fever hospital.

THE DOCTOR'S PART IN CRIMINAL INVESTIGATION

Another lecture for final-year students and newly qualified practitioners, arranged by the Metropolitan Counties Branch, was given at B.M.A. House on Jan. 6 by Dr. C. Keith Simpson.

Dr. Keith Simpson reminded his audience that the reason why the doctor's assistance was so often invited in criminal investigation was because of his professional equipment and knowledge and also because he was a man trained in sound observation and in making proper deductions from what he observed. What was it that the law required of a doctor? The law did not require him to be a sleuth; he was not asked to interest himself in criminal investigation as such: he was there to make his accurate and leisurely professional observations, and to draw from them any reasonable inferences. If he had had a good training and had retained, say, not less than 90% of what he had been taught, he would as a rule afford the police good service. His duty was to make entirely impartial observation, and he should remember when he was asked to assist the police that the Crown was not out to prosecute the individual but to prosecute the truth.

The lecturer went on to describe what should be the procedure of the doctor—meaning the ordinary doctor, not one claiming special knowledge of criminal investigation—when called to examine the victim of a fatal accident or of presumed murder. His first duty was to make sure that the victim was dead. Suspended animation, especially in electrical accidents, was not uncommon, and in cases where there was a doubt means of resuscitation should be sought. If the victim was dead a point of importance was to determine how long it was since death had taken place. The temperature should be taken by the ordinary thermometer, preferably in the rectum or armpit. By the time an expert had been called in the body might be completely cold and evidence on this point be lost. His next duty was to recognize any signs of foul play. The position of the body might give rise to suspicion. The scene of the crime, if such it was, should be disturbed to the smallest extent possible. Nothing should be handled which would take a finger-print. But the doctor should not be so cautious in his approach as, for example, to fail to look for evidence of asphyxiation, which was the form of death most common in the victim of sexual assault. Manual asphyxiation was something which could only spell crime, for it was impossible for a person manually to strangle himself. Injuries which might or might not be suspicious were those caused to the side of the face by contact with a hard surface. Some injuries plainly suggested a street accident; others could have resulted only from very deliberate blows. In stab injuries those which were self-inflicted were often characterized by feeble scratches by the suicide who timidly stroked his throat or wrist with the weapon before making the fatal wound. Most suicides shot themselves through the temple, the mouth, or the middle of the forehead, and if the wound was not in the usual situation it was always a matter for suspicion. One should also look for any signs of resistance on the part of the victim.

Dr. Keith Simpson, whose lecture was illustrated by lantern-slides and was greatly appreciated by the large audience, concluded by saying that if the doctor had made sound and reasonable observations he need fear nothing in the witness-box, and he must not imagine that he was being urged by the authorities to go any further than his scientific investigation warranted.

THE ROYAL SURGICAL AID SOCIETY

The Lord Mayor of London presided over the 85th annual meeting, at the Mansion House, of the Royal Surgical Aid Society. It was reported that over 19,000 appliances had been supplied during the past year, an increase of more than 1,000. Nearly 7,000 of the appliances were trusses, and nearly 4,000 were stockings and knee-caps. The list included 293 artificial legs and 1,639 high cork and special boots. Appliances are supplied only in accordance with surgeons' prescriptions. It was mentioned by one of the speakers that the high and still rising price of all appliances is a matter of concern. It may not be generally known that many surgical appliances require the surrender of coupons, also that further coupons are necessitated by reason of the wear on the clothing which the appliances often cause.

In responding to a vote of thanks to the surgeons of the Society, which was proposed by Mr. R. E. Goodfellow and seconded by Major-General E. H. Fitzherbert, Mr. Cecil Flemming said that it was embarrassing to be thanked for something one naturally liked doing, and to be a surgeon for such a Society was an enjoyable occupation. The surgeons were the people who came into contact with the patients and were best able to judge what the help given meant to them. With regard to the durability of the appliances furnished by the Society, he mentioned that recently a man came to the Society's offices complaining that his belt was wearing out. On being asked when it was supplied, he said that it was in 1904.

Financially it was reported that the subscriptions and donations had been well maintained and had increased slightly. There was nothing in the National Health Service Act to indicate any intention on the part of the Government to take over the Society or its work. Despite the far-reaching effect of the Act, the annual report stated that it was "apparent that the work of the Royal Surgical Aid Society will be required for many years to come, and it would be tragic if its income should fail because subscribers feel that its work may become a Government responsibility." Other speakers at the meeting included Alderman and Sheriff Sir Leslie Boyce, Admiral Sir Martin Dunbar-Nasmith, and the Rt. Hon. Thomas Wiles.

MEDICAL FOUNDATION OF EPSOM COLLEGE

The Royal Medical Foundation of Epsom College appeals to all members of the medical profession who do not already do so to subscribe to the Foundation. "In every profession some must fall by the wayside; others must inevitably fall upon evil days. Our object is to help the families of these less fortunate brethren. To that end the Foundation in 1947 has provided:

50 ordinary pensions	£ 1,500
43 Foundation scholarships for boys (educated, clothed, and maintained entirely free of cost)	8,010
13 scholarships for girls	570
24 Council exhibitions for boys	1,500
140 pensions and annuities of varying amounts	3,023
Grants towards education of 51 boys and girls	1,443
Grants to widows and spinsters	339

"This is an expenditure of £16,385 in the year. In order to maintain this assistance we have to rely upon the generosity of our subscribers and donors for over £10,000 per annum. Without sufficient help from them even our existing benefactions would have to be curtailed. Owing to lack of funds many deserving applicants—medical men and widows, and children of school age—remain unassisted. The Sherman Bigg Fund enables the Foundation to make educational grants for those who cannot obtain scholarships. Donations to augment the income of this Fund will be most welcome. We have many applicants on the list for pensions—both widows and spinsters, all hoping for help some day, some of whom have been waiting for years.

"We therefore beg you earnestly to send either a subscription or a donation to this Foundation during 1948. When doing so you may, if you wish, stipulate the particular form of benefaction on which it is to be expended. Subscriptions and donations may be sent to the Secretary, the Secretary's Office, Epsom College, Surrey, by whom information will be sent on request."

ORDER OF ST. JOHN OF JERUSALEM

The *London Gazette* has announced the following promotions in, and appointments to, the Venerable Order of the Hospital of St. John of Jerusalem:

As Knights: Major-General Sir Robert Hay, K.C.I.E., K.H.P., I.M.S., Brigadier W. W. S. Johnston, C.B.E., D.S.O., M.C., Colonel H. H. E. Russell, O.B.E., V.D., Colonel E. Cotter, C.I.E., V.H.S., I.M.S., and Dr. H. F. J. Norrie. *As a Dame*: Dr. Frances C. B. McKay. *As Commanders (Brothers)*: Major-General F. A. Maguire, C.M.G., D.S.O., V.D., Colonels N. Briggs, C.I.E., V.H.S., I.M.S., and L. H. A. R. Huggard, Lieutenant-Colonel E. A. H. Russell, V.D., Messrs. R. D. A. Douglas, M.B.E., H. R. Rishworth, C.B.E., J. J. Abraham, C.B.E., D.S.O., and Drs. W. Benton, C. D. Newman, S. F. Chellappah, O.B.E., and E. S. Bowes. *As Officers (Brothers)*: Air Marshal T. E. V. Hurley, C.M.G., C.B.E., Colonels T. E. Holland and A. M. McIntosh, Major A. Ehrmann, O.B.E., T.D., Captain C. J. Evers, Mr. F. H. Edwards, Drs. T. P. Lalonde, F. W. Hobbethwaite, E. P. Scott, D. M. MacManus, W. Megaw, J. C. D. Carothers, R. V. S. Cooper, C. R. de C. Sadler, E. H. Lodge, F. C. Middleton, M.B.E., J. Mackenzie, and R. C. Inglott, M.B.E. *As Associate Officers (Brothers)*: Major D. P. Mitra and Dr. R. S. B. Gopal. *As Officer (Sister)*: Lady Margaret Ramsden, M.D. *As Serving Brothers*: Surgeon Captain C. T. Baxter, R.N.(ret.), Brigadier W. Leslie, M.C., T.D., Major G. K. Wood, R.A.M.C., Drs. E. J. A. Dougan, T. H. McOwat, M. A. Oulton, L. D. Densmore, J. F. Eustace, W. D. Dyson, E. W. C. Thomas, F. W. Moffitt, W. L. Jack, R. N. Gibson, H. D. Wallace, E. J. G. Wallace, W. G. Denholm, L. C. J. Edwards, J. G. Bremner, H. C. Geldard, J. W. Flynn, W. E. George, H. H. Hurst, and D. J. Taitt. *As Associate Serving Brothers*: Captain M. Solomon, R.A.M.C., and K. B. M. S. Mahmood. *As Serving Sisters*: Drs. Eda S. Curtis, Helen M. McNeill, Olive S. May, Marguerite A. C. Douglas-Drummond, and Laura K. M. Horne.

Reports of Societies

ORTHOPAEDIC SURGERY IN RHEUMATOID ARTHRITIS

At a meeting of the Section of Physical Medicine of the Royal Society of Medicine on Jan. 14, Mr. W. A. LAW, who has recently spent some months at the Massachusetts General Hospital studying the orthopaedic services of Bauer and Smith Petersen, discussed the part played by orthopaedic surgery in rheumatoid arthritis and ankylosing spondylitis.

Mr. Law said that the orthopaedic surgeon had lately been taking a greater share in overcoming the deformities of these common diseases. For this purpose a high standard of team work was essential, the team including a physician, an expert on physical medicine, an orthopaedic surgeon, and in certain cases deep x-ray therapy might also be needed. The principle of rest was still the basis of the so-called conservative treatment of rheumatoid arthritis. The aim of all treatment must be to relieve pain, arrest the disease process, and restore function; but rest might be harmful from the point of view of restoration of function, particularly if by putting one joint at rest there was interference with the function of other joints of that limb. While a case was undergoing surgical treatment a careful balance must be preserved between rest and active exercise, pain being controlled if necessary by drugs. In many rheumatoid cases there were multiple deformities necessitating a long programme of reconstructive or functional treatment. The patient might also have to undergo one or more revision operations to secure a satisfactory end-result.

Upper Limb

He proceeded to discuss, with illustrative cases, the orthopaedic procedure for various joints affected by rheumatoid arthritis. A painful shoulder joint with adduction and internal rotation deformity was frequent; excision of the acromion process, together with removal of sub-acromial bursae, eliminated the source of pain and allowed free movement. Relief of pain also helped to remove muscle spasm. In rheumatoid arthritis of the elbow joint, spasm of the biceps muscle was a pronounced feature. Smith Petersen had drawn attention to the fact that the radial head might be drawn upwards so as to impinge upon the capitellum. Excision of the head of the

radius overcame such faulty joint mechanics, pain was relieved, and a considerable improvement in range obtained. Arthroplasty of the elbow joint with excision of the lower end of the humerus and upper ends of the radius and ulna was indicated where there was gross joint destruction or complete ankylosis.

Lower Limb

The hip joint and the knee joint frequently demanded surgical treatment on account of pain and deformity associated with a variable degree of ankylosis. Where the patient's morale was low and the muscles wasted and fibrotic a stabilizing procedure such as arthrodesis might be useful. In too many cases the problem of bilateral painful stiff hips and/or knees had to be faced. A strong plea was made for a reconstructive operation before fibrosis of muscles and ligaments and atrophy of the bones and joints had progressed too far. More than one operation might be necessary.

In 1939 Smith Petersen announced his technique for the performance of arthroplasty of the hip, his aim being to create all the elements which made up the joint. This technique had been greatly improved by the introduction of the vitallium mould. Originally a two-stage procedure was intended, but the inertness of vitallium had now made the second stage (for mould removal) unnecessary. The mould became a permanent insurmountable barrier to recurring ankylosis. Any reconstruction of the hip joint must aim at producing a joint which was painless, stable, and capable of bearing weight. The response to the procedure was conditioned by the degree of muscle wasting and involvement of other joints, but even in bed-ridden cases there was marked improvement. In a few patients increased use of the hip joint resulted in pain and effusion in the knee joint, but this was temporary.

Mr. Law reviewed four types of reconstruction: (1) routine arthroplasty in which the femoral head and enlarged and deepened acetabulum were reshaped and made smooth and congruous; (2) the modified Whitman procedure, which was indicated if the femoral head had undergone atrophy or the bone was so soft that after reshaping by gouging the femoral neck became too short; (3) the modified Colonna operation, which was carried out if there had been a more severe degree of absorption or loss of the femoral head and neck; (4) arthroplasty at the level of the lesser trochanter, should the greater trochanter be unsuitable for reshaping. This last operation resulted in loss of leg length, but this was of little significance in bilateral cases.

Painful and swollen knee joints could always be rendered painless and stable by arthrodesis. In cases where the joint was grossly distended by synovial effusion or the synovial membrane was thickened, much might be achieved by excising the synovial membrane so far as possible, together with the semilunar cartilages. Internal derangement of the knee joint owing to a meniscus lesion in a joint with rheumatoid arthritis should be treated by excision of the meniscus. In performing posterior capsulotomy difficulty might be found owing to dense adhesions. Subperiosteal stripping of the capsule might prove a safer method. As a less radical alternative to the complete excision of the patella, plastic operations on the bone were of value, and it was possible that the retention of a portion of the patella aided in repair and improved the quadriceps mechanism.

After touching on the spinal osteotomy operation devised by Smith Petersen, Mr. Law concluded by saying that these joint reconstructions were formidable operations, requiring patience and vision on the part both of surgeon and patient but the benefit was seen not only in the restoration of function but in the marked improvement in the patient's outlook always an important factor in the treatment of rheumatoid diseases.

Discussion

Dr. W. S. TEGNER, President of the Section, referred to a case which Mr. Law had mentioned of a man who after arthroplasty of the elbow sustained an elbow injury on being lifted from the ambulance, whereupon the rheumatoid condition flared up again. It was interesting to learn that joint which had been treated surgically were still subject to the possibility. At what stage should operation be attempted? Those who saw a good deal of rheumatoid arthritis most

believed that movement should be undertaken early. Was it possible that in a joint which had been treated by arthroplasty a recurrence of rheumatoid arthritis might occur as bad as, or even worse than, that in a joint on which no operation had been done? Mr. Law appeared to think that rheumatoid arthritis and ankylosing spondylitis were very much the same condition. On this side of the Atlantic most people thought they were not the same.

Mr. LAW said that there was no doubt that a joint which had undergone arthroplasty was still subject to any disease process to which the unoperated joint was subject. Rheumatoid arthritis might recur in a joint on which an arthroplasty had been done. The main value of arthroplasty at such a stage in the disease was in the maintenance of muscle power. If the old idea of waiting until the disease had "burnt itself out" still obtained, the muscles and fascia by that time would be just ribbons of fibrous tissue. There were no soft structures with which to work. Hence the value of the teaching of Smith Petersen on the necessity of considering revisions of these operations. An arthroplasty on the hip joint, done to-day, might result in six months' time in a flexion range of 60 to 30 degrees, but in eighteen months' time the range might have come down to 30 to 40 degrees, and if there had been further flare-ups there would be more pain and more joint swelling, and it would be worth while revising that arthroplasty. In the hands of Smith Petersen that procedure worked extremely well. But it was a colossal programme to put to the patient. With regard to ankylosing spondylitis and rheumatoid arthritis, he felt that there was a difference in the state of the bone as between the two conditions, but it was not a gross difference. In the former condition the bone was much harder, so that one had to use hammer and osteotome to get through the bone, whereas in the ordinary rheumatoid case one could often do the gouging by hand. Rheumatoid bone was more vascular and was associated with the thick overgrown villi, so that there was more bleeding in the operation.

Dr. FRANK COCKSEY said that the practice in this country in the active stage of the disease was to rest the joint as much as possible and maintain prophylactic movement rather than institute active exercises. He found it difficult to believe that the same flare-up after operation might not occur as was sometimes seen in their own unoperated cases which, after conservative treatment, were allowed to get about too soon. Was there any evidence that by operating early the period of activity of the disease was shortened?

Mr. LAW replied that there was no evidence on that last point. The benefit of early operation was the maintenance of muscle power and tone. Joint movements were dependent on these muscles. If they had been reduced to mere ribbons of fibrous tissue no chance was given for joint reconstruction. He would not say that early surgery should replace conservative treatment. He thought that the patients must have their proper medical treatment before any surgery was considered. But he felt that there was a place for surgery before the disease was "burnt out." There was a point where conservative treatment (splintage, traction, and various therapeutic measures) ceased to make for real advance, and this was before the muscles became completely atrophied. That was the ideal time to begin to think of surgery.

Maxwell apparatus), this being a convenient figure, and, as the pressure change produced by each discharge of the cylinder can be read on the manometer while the cylinder is being recharged, the operator can carry out a large refill clinic using the plunger only. The aspiration of air from the chest calls for exactly the same procedure—the connexion having first been transferred from the outlet to the inlet after removal of the filter.

By using this cylinder connected to a manometer we have been able to reduce our refill clinic time by one-quarter. This

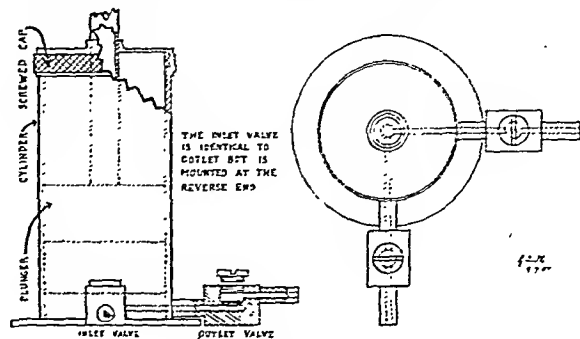
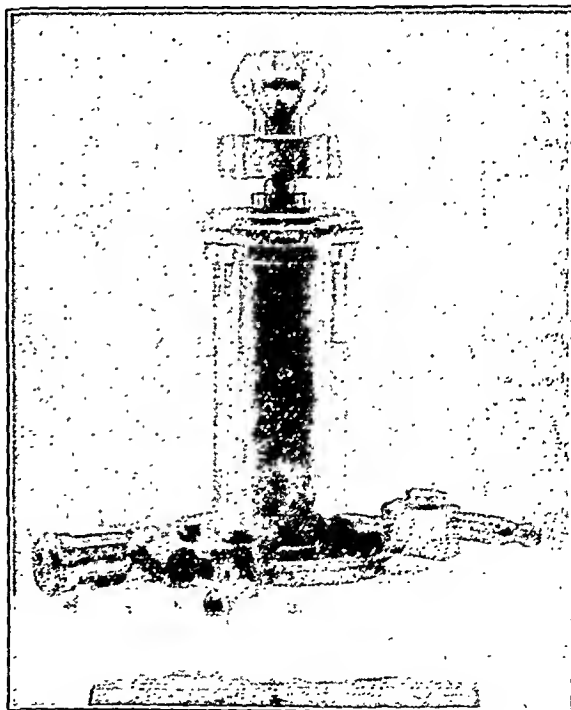


Diagram of cylinder.



Photograph of cylinder. The filter has been removed from the inlet tube and laid beside the cylinder.

Preparations and Appliances

SIMPLIFIED APPARATUS FOR COLLAPSE THERAPY

Dr. FINTAN L. CORRIGAN, Military Unit, Harefield County Hospital, Middlesex, writes: The cylinder shown below was designed to simplify the apparatus at present in use for collapse therapy and to produce, if possible, a fool-proof machine. By the use of automatic valves at the inlet and outlet allowing air in one direction only, the machine is at once independent of taps, and refills can be given by use of the plunger only. However, a tap is desirable between the cylinder and the manometer for the following reasons: (1) To control the rate of flow of air (the tap being set to the desired speed beforehand); (2) to take pressures at more frequent intervals than 200 ml. if required. The capacity of the cylinder shown is 200 ml. (as in the

speed can be maintained when the operator has to manipulate the apparatus for himself, in contradistinction to the use of an apparatus with taps. The cylinder shown was made to my design at the hospital by a member of the engineering department (Mr. A. Barons) and is at present being used with an aneroid manometer as fitted in the Maxwell box, a tap being incorporated between the cylinder and the manometer. It is, of course, essential that the valves should be accurately machined.

I am indebted to Dr. K. R. Stokes, the Medical Director of Harefield County Hospital, for his help and encouragement in producing this modified apparatus.

Correspondence

The Issue is Freedom

SIR,—The Minister of Health has refused to consider making any amendment to the National Health Service Act, 1946.

If we take service under this Act, we shall be subjected to serious encroachment on our liberty, both professional and personal. This applies to consultant and specialists as well as to general practitioners, but it is the general practitioners who will be most obviously affected.

This is how the Act will curtail the freedom of the general practitioner :

1. His practice will no longer belong to him but will become the property of the Minister of Health of the day. The doctor instead of being the owner will be reduced to the status of tenant.

This clearly involves a loss of freedom.

2. He will no longer be able to make his own arrangements to move from one area to another. If he wishes to move he will have to get the consent of (a) the Local Executive Council of the place he wishes to go to; (b) the Central Medical Practices Committee in Whitehall; (c) the Minister of Health of the day.

This is another loss of freedom.

3. He can be dismissed from the Service on the personal decision of the Minister of Health of the day without right of appeal to the courts.

This is a grave loss of freedom. He is deprived of the rights which are enjoyed by every other citizen.

4. The Minister has unparalleled powers under this Act. One of them is the right to appoint a large proportion of the members of all the important committees concerned with the administration of the Act, and above all the right to appoint the chairman. This includes the Local Executive Councils, to whom the general practitioner will be directly responsible. A bad or biased chairman can wreck any committee and completely obstruct its activities. The chairman appointed by the Minister can be removed only at the Minister's pleasure. Thus the members of the committees are helpless and have no control over their chairmen.

This is a grave loss of freedom. It resembles the set-up of the Fascist corporations by Mussolini in Italy.

5. The Minister of the day has the power to alter the terms of remuneration and the conditions of service by Regulation. This means that without having to obtain the consent of Parliament he can arbitrarily fix or vary the amount of income that a doctor can receive whether by way of salary or capitation fee. Regulations have to be laid on the table of the House for a relatively short period, and unless someone makes a prayer for their annulment within this time (a prayer which in practice hardly ever succeeds) they automatically have the force of law. This means that the doctor has no security, since every new Minister of Health can vary the remuneration and conditions of service at his pleasure.

This is a dangerous loss of freedom.

6. The present Minister proposes to pay a basic salary. Thus the general practitioner will become a salaried servant of the State. This inevitably involves Civil Servant status and is the thin end of the wedge to whole-time salaried service. The present Minister said in Parliament in 1946 words to the effect that the time was not yet ripe to make the general practitioner a whole-time salaried servant. This shows that it is his ultimate objective. In any case the next Minister or any subsequent Minister can do this by simple Regulation.

This is one of the gravest losses of freedom.

Taken together all these encroachments on freedom will leave the general practitioner and, in the long run, the consultant and specialist also at the mercy of the Minister of Health and of the Government which he represents.

Governments and Ministers come and go and their political outlook varies. The doctor will be subject to political pressure and a loss of freedom.

His patients must suffer because they are no longer his employers; his loyalty is not to them but to his master the Minister and to the Treasury on whom his livelihood depends.

Once in the Service there can be no going back. Private practice will be crushed out or will be so precarious that very few doctors will be able to risk it.

Thus there is no alternative, and that in itself constitutes a grave threat to freedom.

At the first meeting of the World Medical Association held in Paris in September, 1947, the future relations of the doctor to the State were discussed. Delegates from many countries said that the freedom of the medical profession in their own countries was in serious jeopardy. They stated that the eyes of the world were on the British doctors, and they prayed that we should have the wisdom and the strength to stand out for the preservation of our freedom, for if we permitted it to be taken from us this would lead to the enslavement of Medicine to the State all over the world.

To accept service under this Act is to accept servitude.—I am, etc.,

Bournemouth.

DORIS ODUM.

Working Hours in N.H.S.

SIR,—The thing most noteworthy is that no Labour spokesman, big, medium, or little, nor any Labour newspaper, dared to discuss doctors' working hours in the N.H.S. They know too well how impracticable the scheme is under their trade union hours but have not the courage to say a twelve-hour day with the other twelve on call will be required.

The value of the salaries offered cannot be assessed apart from the hours of work required, but the Minister does not dare to state them. His own party and the rest of the public would be too shocked if he did.—I am, etc.,

Birmingham.

W. J. BURNS SELKIRK

Remember Willesden

SIR,—We are being alternately coerced and invited by Bevan to sit under a "sword of Damocles." This is our last chance to answer "No" in a voice of thunder that shall penetrate the obsessed brain of the Minister, but some apparently would feel quite safe if they were allowed to own the chair they are to sit on, oblivious of the real danger above.

Let us consider the position when the entire nation becomes compulsorily insured by the State. A middle-class or professional man with a wife, three older children at school, and a daily maid will find his multiple "five and tuppences" amounting to a tidy yearly sum and will not for long afford the luxury of a private G.P. or consultant. The estimate is 95% State patients, leaving 5% for private practice. What are the implications? Many now realize that a basic salary, so helpful for beginners, may mean the thin end of the State wedge when it is capable of being increased to 99% by Regulation. But a capitation fee can lead the same way when there is no private practice to fall back on as at present. Should we offend the Minister, our quarterly cheque would cease to arrive. We should face starvation not for a medical but for a political offence. The Willesden incident showed up the Minister's hand quite clearly, though prematurely, for the profession is not yet in the bag.

Again, what in the name of logic is the use of owning the goodwill of a practice from which one can be "fired" without redress by a tribunal of three, of which only one is a medical man, with no right of appeal whatsoever? Are we to be the first section of the nation to be deprived of what has been the right of every Englishman since the time of King John—the right to be tried by his peers: "for to none will we deny, sell, or delay right or justice"? Are we to allow the clock to be put back to the evil days of tyrannical injustice normal here before Magna Carta? To divide the profession by setting the divergent interests of G.P.s, consultants, salaried M.O.s, and young ex-Service doctors against each other is a skillful technique too familiar to be pleasant. If we are duped we shall be the first sad link in the chain of fettered trades and professions which would follow. The three wise Presidents of Gotham, versed in courtcraft, urged us to negotiate, foreseeing that otherwise we should lose the sympathy of a bewildered

from having banged them for a wasted year against a brick wall.

Is there no escape for patient or doctor? If all are State-insured and the doctor is paid by the State, then neither a patient fee nor ownership of one's practice can be a safeguard without justice, and, as Clause 42 now stands, since the Government defeat in committee there is no appeal whatever from the decision of the tribunal open to a disqualified practitioner. "Power corrupts, but absolute power corrupts absolutely." A man must live, but I am prepared to starve for this one fundamental principle of justice (and my wife agrees with me); without it the rest are shadows. We shall come to the Minister's menials unless we vote "No" to his biological fantasy.

If all must be State-insured an alternative is for the patient to choose his doctor, pay his G.P. or specialist a prescribed fee for services rendered, and for the State to repay the patient. This would avoid political tyranny.—I am, etc.,

E. Dereham, Norfolk.

E. PUDDY.

Helmley, Yorkshire.

ALEXANDER C. BLAIR.

The Younger Generation

SIR,—I am in whole-hearted agreement with the views expressed in Dr. Sybil Tremellen's letter (Jan. 10, p. 69). If, however, there is truth in the statement that "too many younger members of our profession are terribly afraid of insecurity and seem to prefer safety to freedom," I would like to encourage her, and the medical profession in general, by stating emphatically that this is certainly not true of those of us who have yet to qualify. Let it be remembered that the majority of present-day preclinical medical students have served in the Forces, and that most of us will be 30 or thereabouts by the time we have finished our course, and, although not afraid of insecurity, are consequently extremely cognizant of the dangers of State control.

As at present our opinion is ineffectual it is the responsibility of the medical profession to stand fast and ensure that the addition of which the profession is so justly proud is handed on to those of us who have yet to uphold it.

Although unable actively to involve ourselves in your struggle against Mr. Bevan, I feel duty bound on behalf of the thousands of similar thinking medical students to express our confidence in the profession's ability to maintain that freedom which will enable us to qualify as doctors and not become State servants once more.—I am, etc.,

St. Bartholomew's Hospital Medical College. GERALD C. WATMOUGH.

SIR,—May I as a young doctor whose philosophy is not of the sterile safety-first variety reassure Dr. Sybil Tremellen, who appears disturbed according to para. 2 of her letter (Jan. 10, p. 69)? Most of my contemporaries are against a whole-time State Medical Service, of which the present scheme is clearly the thin end of the wedge.

The good will between and the combined efforts of the doctors themselves comprise the effective force in any health organization. This can be maintained only by preservation of the profession's high principles in their entirety. The Act in its present form sabotages these principles.

Close study of the Act and of the Minister's statements reveals his stratagems as *réchauffé* and unconvincing. The attitude of the intransigent Mr. Bevan to our spokesmen suggests that he regards the intended National Health Service as a *fait accompli*. Let us disillusion him. By dint of trade unionism the *coup de grâce* may be implemented by the forthcoming plebiscite.

If this linchpin of the Socialist programme is not established in "annus mirabilis the third" of the present regime, then Mr. Bevan will surely forfeit his mandate. His successor may be less biased and more reasonable. Politicians are ephemeral, the Health Service is lasting and must therefore be as perfect as possible at its inception.

Let the profession exemplify by a united stand that it can halt the tidal wave of Socialist compulsion.—I am, etc.,

"SERVING OFFICER."

Action and Reaction

SIR,—The letter by Dr. Dan E. Davies (Jan. 10, p. 70) is perhaps not without significance, both on account of its direction and its ethical content. It is refreshing to have such a

decided opposition to the general run of the correspondence appearing in your columns weekly. I suppose there are others who hold similar views. The danger is that their misinterpretation of obvious facts may mislead others at this time. The figures so confidently quoted may have some relevance. But it is not figures we are chiefly concerned about so much as the general bias of the Minister's whole attitude, and his unflinching refusal to budge an inch. Like many of my fellow practitioners I am of opinion that it is quite hopeless to expect consideration or fair play from him.

With some young doctors at the outset of their medical career there may be some excuse for a period of vacillation during the present crisis: with the majority of practitioners of standing I can see none. And I do not believe there is really any occasion for a plebiscite. But if it can clear up our position let us have it by all means. Will I enter the new Health Service in July, 1948? Not if I can possibly help it.—I am, etc.,

SIR,—Mr. Bevan appears to be determined not to amend his Health Service Act. Possibly he believes that all its provisions command the support of a majority of the electorate. But it is more probable that his stubbornness is supported by a conviction that this Act, as far as possible, embodies those general principles for which he and his party stood at the last General Election. Indeed it is not at all easy to deny the Government's mandate for this Act, especially as in so many respects it falls short of the full-blooded Socialist principles held by a large section of the House of Commons. Furthermore, there would appear to be little general justification for the plea that the Government in framing legislation should cater primarily for the principles of that section of the public which has the greatest personal interest in it. On the contrary, many would feel on sounder ground pointing out that this Government's legislation already shows far too much sectional influence of that sort.

On what basis, then, can we justifiably claim a right to demand amendment of this Act? Surely if we can do this at all it cannot be by insisting that Mr. Bevan should adopt the general principles of an interested minority rather than of those he is supposed to represent. We must demonstrate to everyone that a large majority of the profession by reason of its expert status is honestly convinced of certain definite errors in the Act. But in fact what steps are we taking in the matter? There is to be no attempt to ascertain what majority of the profession is opposed to any particular provision of the Act; the sole source of any specific guidance upon that must still be sought in the original questionnaire. After Dr. Hill had addressed a recent meeting of the local profession more than one questioner raised this point. But Dr. Hill in his replies would not allow that individual members should be asked for anything more or less than wholesale support (or opposition) of the entire list of points upon which the B.M.A. opposes the Act—these points being derived from principles which are by no means the product of machinery democratically comparable to that of a plebiscite.

Doubtless some doctors support the entire Act, while others subscribe to the whole range of B.M.A. opposition to it. However, the probability is that the majority of the profession is to be found dispersed between these extremes. It would therefore appear that the B.M.A. intends to combat Mr. Bevan's indiscriminating thrusting of the Health Bill with an equally comprehensive and uncompromisingly exerted force in the opposite direction. A doctor wishing to express his opposition to some clause in the Act, which the vast majority believe to be vital, is obliged to wager his livelihood in support of other issues which he does not believe the majority of the profession would consider worth while.

This blunderbuss plebiscite is going to rob the B.M.A. of many votes that would have strengthened more specific opposition to the Act. And if the B.M.A. and the Negotiating Committee should nevertheless receive a mandate to oppose Mr. Bevan on broad principles, they will still be in a very unsound position to claim that they have anything like wholehearted support when it comes to pressing a reasoned case against each controversial clause of the Act. Indeed, at best, the position will only be changed in so far as the doctors

can point their blunderbuss at the heads of Mr. Bevan and everyone else who sponsors his legislation. At worst, those comparatively few vital issues for which long before now we should have united will finally go under—once more swamped in a sea of relatively unessential or controversial matter.—I am, etc.,

Eye, Suffolk.

J. SHACKLETON BAILEY.

Young Practitioners

SIR,—As an elderly G.P. of more than a quarter of a century's standing may I be allowed to voice the very genuine fear of many young practitioners? Of recent years they have come out of the Forces; have bought a practice or share of one; have settled down with their young wives and families, perhaps two or three children from a few months to six or seven years of age; and are enjoying for the first time the bliss of a happy married life. Their practice is their daily bread-and-butter, and, while wholeheartedly agreeing with what the B.M.A. has done and is doing, they are most apprehensive about the future. The loss of capital which they will incur by staying out is bad enough, but to look at their homes and families, and then to go out and cut the very ground of livelihood from under their feet, is asking a very great deal from them, and many will not be able to do so.

To such men the B.M.A. must give some assurance. For many years we have been building up funds for such an emergency. I know not to what these funds amount, but I believe it is over a quarter of a million, and, if so, the B.M.A. might consider helping some of these men over the interim period. I am a "die-hard," and, though I should like to have been allowed to carry on my practice for a few more years, nothing will induce me to join the Service as it now stands.—I am, etc.,

Chipping Norton.

J. C. RUSSELL.

Ownership of Goodwill

SIR,—At a recent meeting of the Labour Party in Marylebone Major Duncan Bruce, Principal Private Secretary to Mr. Aneurin Bevan, gave an able explanation of the health services under the Health Act. Among other things he said that: (1) *At first* the pay-beds in hospitals would be set aside for those who wished to buy privacy and that consultants would be able to charge fees on a sliding scale in other beds; (2) voluntary effort was ingrained in the character of the British people, and full scope would be given for that in the new Health Service; (3) the Government would no longer allow doctors to own the goodwill of their practices, because in the past the custom of buying and selling practices had been sometimes abused.

It is well that the medical profession should realize that an uncompromising spirit pervades the official utterances of those who are forming the Health Service of the future and who expect the medical profession to co-operate with them. When the speaker was asked why those doctors who wished to remain independent in the National Health Service should not be permitted to do so, owning the goodwill of their practices and introducing their successors or partners, he replied that in his opinion committees were far more likely to choose the best man for the practice than the doctor who was retiring. While it must be admitted that a State service would involve committee rule and negative direction for a large number of doctors in present-day conditions, can this be any possible justification for abolishing all independent public practice? As the Voluntary Hospitals are being mercilessly cramped into a unified system, it is difficult to regard the invitation to voluntary work as serious or honest.

It is fortunate that we have been forewarned as to what the future holds by responsible Ministry officials by using such expressions with regard to the conditions of service as "at first." Dragooming or bureaucratic direction are bound to follow with the establishment of the State Service unless safeguards are insisted upon for those in the Service. For the public who demand independent service there must be even stronger safeguards, so that independent hospital, partnership, consultant, and general-practitioner service may be perpetuated.

What is it then that the medical profession considers essential in the Act and which will satisfy them in recommending service

(1) *Administration*.—That the present Central Advisory Health Council should become an Executive Body in the sense of the Coal Board and the Central Electricity Board and other undertakings.

(2) *Independence*.—(a) That consultants and specialists should retain a service independent of the State Service by the pay-blocks of hospitals remaining outside the Service and any pay-beds within the hospitals which can be allocated from hospitals that have no pay-blocks; that existing nursing-homes and all hospitals which can remain self-supporting with upkeep contributions should remain outside the Service, and that full permission for nursing-homes and existing clinics to have full facilities be recognized. (b) General practitioners who go into the Service should be allowed to retain the goodwill of their practices if they so desire it and not be merely compensated. They should have full rights to introduce their own partners and successors.

(3) *Direction*.—That there should be no direction by negative or positive means.

(4) *Remuneration*.—That there should be no salaried element for general practitioners.

Briefly, Ministerial intention to monopolize medicine must be met by a united profession protecting the interests of those who wish to go into the Service as well as those who elect to stay out.—We are, etc.,

E. T. WRIGHT.

GEORGE ROSSDALE.

London, N.W.8.

SIR,—The Minister of Health states: "There will be amending Acts, without any doubt, and the scheme will be so bettered and remoulded as experience is gained. But first it has to be begun. . . ." An amending Act after the scheme has begun certainly cannot revise the clause dealing with ownership of goodwill. The Minister intends to spend £66,000,000 of the country's money on what a large proportion of general practitioners are unwilling to sell and on which the country can never again realize the capital so expended. Let us seriously ask ourselves the reason why.

I, together with many of my fellow practitioners, consider not only that with the loss of ownership of goodwill we should lose a large part of our personal freedom but that our future negotiating powers with the Ministry would be reduced to practically nil.

What, also, would be the position of the young man embarking on general practice? Presumably he would join a "pool" and await his turn to be sent as assistant to wherever there might be a demand (I doubt whether he could reasonably expect a "view" to partnership). Later he might hope to be sent to "put up his plate" at £300 p.a. in an "under-doctored" area, where all the patients, with the exception of a few malcontents, were perfectly satisfied with the doctors of their choice; eventually he might hope to fill a vacancy through the death or retirement of an established practitioner.

With the loss of ownership of goodwill we should not only lose the freedom we have heretofore enjoyed but we should lose that freedom to all posterity. Other matters with which we disagree may possibly be rectified later by an amending Act, but not this vital point.

The Minister also states: "A failure to co-operate can redound only to the detriment of the people. . . ." yet although by entering into negotiation we have shown our willingness to co-operate, it would appear that he himself has failed to do so. I will therefore conclude with what I hope may be a constructive suggestion. Let there be an addendum to the plebiscite questions—viz., "Are you willing to accept service under the Act if the Minister undertakes to forgo his demand to purchase the goodwill of practices and to introduce an amending Act accordingly?"—I am, etc.,

Kirkby-in-Ashfield, Notts.

J. D. DURANCE.

SIR,—In your issue of Jan. 10 (p. 72) there appeared under the heading "Remuneration in N.H.S." a letter from Dr. W. Maxwell Penny in which he cites the terms offered to a young doctor presumably for the purposes of purchasing a share in a practice. It is quite outside my province to enter into any discussion of the National Health Service terms, but as there is a major error in the illustration given I feel that this should be corrected.

Dr. Maxwell Penny states that the doctor concerned would be called on to "repay the capital at 12% per annum—£30 per quarter on £1,000—in ten years. So for £1,000 he would have

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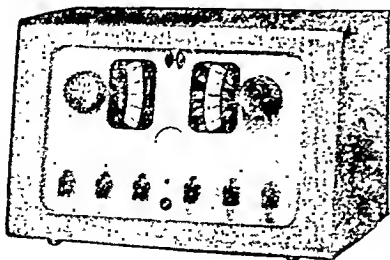
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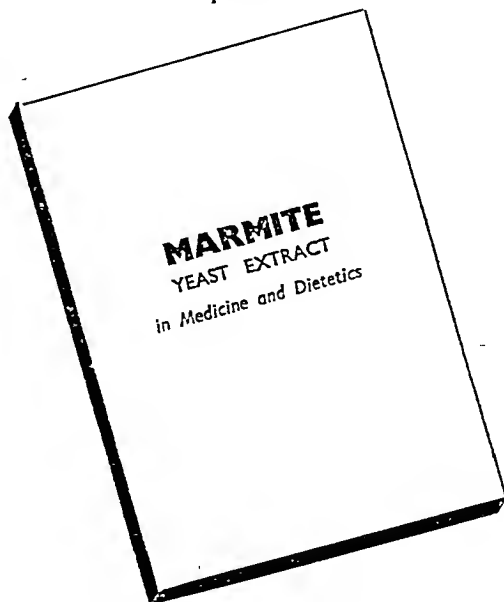
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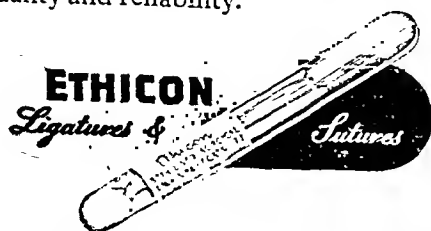
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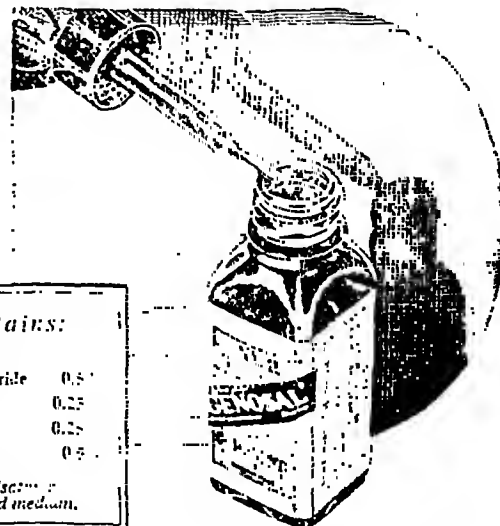
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GENOSAL

Regd. Trade Mark

Brand



Contains:

Ephedrine hydrochloride	0.5
Menthol	0.25
Camphor	0.25
Ti-tree oil	0.5

In an isotonic emulsified medium.

THE scientific nasal decongestant for the relief of coryza, sinusitis and the common cold. Shrinkage of mucosa begins in a few minutes and persists for two or three hours. Does not impair ciliary function. Non-irritant to sensitive membranes.

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to pay £1,200 spread over only ten years, as well as 4% interest and a life insurance premium" (my italics). The correct figures are that for a loan of £1,000 the quarterly repayments amount to £30 9s. 1d., but these include repayment of both capital and interest at 4% and there is no further interest payable in addition. On this basis, the total amount paid over the whole period of ten years amounts to £1,218 3s. 4d., which is inclusive of all interest. I think it will be agreed that this presents the matter in quite a different light, and in my experience of medical practice loans, which is extensive, such terms have never before been obtainable.

One further point emerges, and it is that from Dr. Penny's letter it might be gathered that the life assurance premium is also substantial. In fact, assuming the applicant to be under 35 years of age and a first-class life, £1,000 life assurance for his specific purpose can be provided at a figure not exceeding £15 per annum per £1,000. This premium is also subject to tax relief at 3s. 6d. in the £, so that the resultant commitment can in no circumstances be considered excessive. Comparing these terms with those of pre-war days, and taking into account that it is now possible in approved cases to advance 100% of the purchase price (providing this does not exceed 1½ years' purchase calculated on the average of the past three years), I think it may be agreed that the terms offered are not unduly onerous.—I am, etc.,

Medical Insurance Agency,
London, W.C.1.

A. N. DIXON,
Manager.

SIR,—I have always been strongly opposed to the custom of buying and selling practices, and as was pointed out by Dr. Dan E. Davies (Jan. 10, p. 70), with whose letter I entirely agree, this opposition was shared by a large majority of the profession—at any rate as late as March, 1944. This custom was bad enough in the old days, when the cost of running a practice was considerably lower than it is to-day and income tax round about 2s. in the pound. A young man buying a practice then could by hard work and steady application possibly remove the millstone from his neck in four or five years—but what hope has he to-day, with the high cost of everything and income tax at 9s. in the pound?

I suggest to all young men hoping to enter private practice under the bad old custom to first do a little sum in arithmetic to find out how long they will have to struggle along, with a very small income, until they can finally remove the cramping fetters of debt. I think then they will appreciate the fact that it is better for their practice to be owned by the State than by some heartless moneylender, and by voting "Yes" at the plebiscite remove one of the biggest evils which has hampered the profession in past years.—I am, etc.,

Tonsyrell, Glam.

F. L. BREWER.

SIR,—Dr. W. Maxwell Penny (Jan. 10, p. 72) raises a point of the greatest importance. Unfortunately he quotes payment of £30 per quarter for ten years as repayment of capital only, when it is payment of interest as well on a loan of £1,000. But still this payment of interest and life-insurance premiums is too heavy a burden for younger practitioners without capital who are at all unlucky.

Can it not be clearly acknowledged that the split in the profession on which Mr. Bevan pins his hopes with his unprincipled bribes for blacklegs is between the prosperous doctors and those who have yet to prosper? And cannot this gap be bridged by a system of interest-free loans from the moneyed doctors to the moneyless? Such a scheme would indeed be worthy of the noble and learned profession that we claim to be.

As it is, the younger man without capital might be induced to think that his choice lies between servitude either to Mr. Bevan or to banks and insurance companies. If he nobly renounces this Minister's bribes and blandishments we certainly shall owe to him greater financial consideration than we ourselves enjoyed from our elder brethren in the past.—I am, etc.,

Ruislip, Middlesex.

WILLOUGHBY CLARK.

SIR,—One of the main arguments put forward by various protagonists of the National Health Act is that the young doctor will be saved the financial worry of buying a practice. On this assumption I was for a while a supporter, but now I am either "dim" or sadly disillusioned, for, however I view

the situation, I cannot see this advantage being gained by the young practitioner on joining the medical service on or after the appointed day. At the moment there are two main methods of joining in general practice. One either buys a practice, thereby ensuring an immediate income at the cost of a capital expenditure, or one puts up a "plate" in a suitable area and sits and waits.

This latter method is equally costly, as for the first two or three years a certain standard of living has to be maintained, to say nothing of buying the house. Under State medicine the new practitioner is left with only the latter method, with the slight advantage that when he has an as yet unspecified number of patients he'll be given the handsome basic salary of £300 a year. The idea of stepping into a ready-made practice for nothing is a myth for the great majority, as at the best it means waiting for a "dead man's shoes." It may be that I have not correctly interpreted the full details of the new Act, but I understand that at the present the Minister has no power to dictate to a patient as to which doctor he must attend.—I am, etc.,

London, N.2.

S. EDELMAN.

SIR,—Should we not do more to remove the mote from our own eye when we have removed the beam from that of the Minister?

I can still recall the anxious days and sleepless nights I spent fifteen years ago when, as an almost penniless assistant after five years, the death vacancy in the partnership threatened to elude me for the lack of £420. I was finally enabled to carry out what proved to be a satisfactory piece of business by the generosity of an unexpected guarantor and the farsightedness of a bank manager who did not insist on collateral security.

Surely the profession does not require outside assistance from either the Minister or commercial firms to ensure that no deserving young practitioner is precluded from purchasing his practice or share by lack of capital?

I suggest that when we have won our battle each owner of an established practice forthwith loans to a central fund one-twentieth of the value of his goodwill; he may with luck receive annual interest thereon at 2½%. The central fund would, after due safeguards, advance capital to prospective purchasers at 3½%, using the estimated profit for administrative expenses.

An alternative method might require a much smaller capital sum, non-interest-bearing, to form a non-collateral guarantee fund; such a fund would earn little interest for the medical lenders as this would be payable to such banks as allowed overdrafts to purchasers on the guarantee thereof. The figures are of course subject to auditor's adjustment and are based on the arbitrary assumption that at any given moment one in twenty of the then existing practices are in the process of being purchased.

Some such scheme would be of great benefit to both purchasers and vendors, and would eliminate one of the "sob-stuff" arguments used against the private ownership of goodwill.—I am, etc.,

Edlington, nr. Doncaster.

R. S. GILCHRIST.

Remuneration in the N.H.S.

SIR,—A matter which does not seem to have been discussed is the treatment in the N.H.S. of the older G.P. compared with the young novice. In private practice the man of ripe experience and judgment was able to command higher fees owing to his greater worth. Thereby he obviated to some extent the necessity of working himself to death by taking too many patients in order to support his family in their increasingly expensive upbringing and education, and to provide for old age. Often he was able to employ an assistant or son, a young strong man without responsibilities who could spare him much of the nightwork and other exacting duties, and who meanwhile was learning the art of general practice, perhaps to follow on as a partner.

Under the N.H.S., however, this will be quite changed. Assistants will be unobtainable except at excessive rates or pay. In order to gain the higher income which is due to him and often necessary the older man will have to take more patients—in fact, work harder than the young man with few patients. Furthermore, with the basic salary he will actually

get paid a smaller sum per patient than his less experienced colleague.

Example.—With 95% of the population on doctors' lists: The young man with only 1,000 patients will receive £1,058—i.e., £1 1s. 2d. per patient. The long-established man with 4,000 patients will receive £3,332—i.e., 16s. 8d. per patient.

Thus the older and presumably more experienced and reliable doctor will have to work four times as hard for only 10/13 the amount per service compared with the young doctor. Income tax will make the discrepancy even greater. This is a fine reward indeed for a man of 50 who has given his best to his patients for a quarter of a century, who knows their histories, family histories, and environments for a generation. His opinion is apparently not worth as much as that of a young colleague in his twenties of a couple of years' standing. This state of affairs is sure to sow discord at the present time. But maybe this will not be unwelcome to the Minister of Health. —I am, etc.,

Heanor, Notts.

J. W. O. HOLMES.

The Basic Salary

SIR,—Great stress is laid on the basic salary as being the first step to absolute control by the Minister of Health. The first step was taken in 1912 when we consented to serve under the National Health Insurance Act. We have only recently learned how to combine and fight against increasing duties and poor remuneration with considerable success. We have previously served under Ministers of all parties and none has been kind to us. I consider that the system in the Armed Forces, which gives increased pay for seniority, rank, and special qualifications, is preferable to capitation payment.

I agree with Dr. W. Edwards that it puts a premium on untutored youth and physical stamina and a discount on greying hairs and wise judgment. Surely the man with 1,000 or 2,000 actual patients on his books must give better individual attention than the one with 4,000 or 5,000. Under present conditions the doctor with smaller numbers will probably charge higher fees. If the bulk of his private list is to be brought in at contract rates he will suffer enormous loss. The 1944 questionnaire showed that general practitioners voted 12% in favour of a salary, 28% for a small basic salary and capitation, and 55% for capitation alone. One may fairly conclude that 40% favoured some salary and 55% no salary: 40% is a very considerable minority, which deserves full consideration.

As I am approaching the retiring age I wish to point out especially the injustice of the clause in the Act referring to the value of houses to be transferred to one's successor. My house is at a busy corner. Since I bought it in 1920 it has become mainly a built-up area, and I spent more than I paid in modernizing it. Surely I have the same right as any other owner to get the best price I can. My successor has the same right to accept or refuse my terms. The question of goodwill does not come into the matter; the house is a good centre for any doctor, but if some non-medical man thinks it worth more for another purpose I have surely a right to the best price I can get without interference. —I am, etc.,

Stockport.

C. HIBBERT.

Economic Persuasion

SIR,—I notice from recent correspondence that the Minister of Health considers the medical profession divided. Dr. Guy Dain denies this. I think we are almost unanimous in rejecting the N.H.S. Act as it now stands, particularly the section giving no right of appeal to the High Court. However, on the "appointed day" many of us will be compelled to join the new Health Service.

I am a young ex-Service doctor, a member of the B.M.A., 41 years qualified, and am struggling to keep my wife and family on £270 per annum in a junior resident hospital appointment. For over six months I have been searching in vain for a partnership in a country practice in the southern half of England, and judging from the B.M.J. advertisement columns I am many others in the same predicament. What representative body, professional or otherwise, would be able to advise members to be treated thus? Surely it is the more prosperous and senior members of the

B.M.A. gave a helping hand to the young ex-Service doctor; otherwise in July many of us will have no option but to join the Government Service.—I am, etc.,

Tavistock, Devon.

G. W. GIBBS.

Work the Act

SIR,—After reading carefully through the National Health Service Act, 1946, and the comments of Mr. A. Bevan addressed to the profession, together with the White Paper and the Negotiating Committee's report, I state quite freely that I like the Act. Mr. A. Bevan has kept the seven principles of the profession as published in the *Journal* of Dec. 15, 1945 (p. 833), well in mind, and he has watched with care the replies given to the British Institute of Public Opinion's questionnaire on the White Paper set out in the *Supplement* of Aug. 5, 1944 (p. 25), as shown by his following the lead of the profession in its desire for a basic salary and a capitation fee, but relying mostly on the capitation fee. There are no doubt ambiguities and legal perplexities in the Act, but what legal document has not got them? We are all human. But the main principles of the Act are sound and give the prospect of a good health service for the nation.

It is now for the profession to show its usual good will and forget the bickerings of the politicians and work the Act. Many doctors will ask, "What do my fellow colleagues think about it all?" To that question there has been a complete answer in the *Supplement* of Aug. 5, 1944, when 25,435 medical men and women answered the questionnaire on the medical service and the results were published. It would be well for all doctors to study those figures again, and it would be better for the B.M.A. to take a little more cognizance of those findings. The heads of our profession in the Presidents of our Royal Colleges of Physicians, Surgeons, and Obstetricians have set the example of seeking to co-operate with the Government. Let the general practitioner do the same and work the Act with all his accustomed good will and energy. I hope that all the 19,478 doctors (*Journal*, Jan. 11, 1947, p. 64) who were willing to negotiate with the Government will join the Service and give us a medical service worthy of our nation.—I am, etc.,

Croydon, Surrey.

C. I. STOCKLEY.

A Warning

SIR,—It appears to be widely supposed that any forecast of the condition of the profession under the National Health Service Act cannot be based on experience for the simple reason that no such Act has ever before been operated in this country. On the contrary, we have had for a century, in every town and hamlet of this country, a comprehensive medical service, administered by the Minister of Health, providing treatment and certification without charge, having hospital and general practitioner services. The practitioners are paid variously by salary, by capitation, and by attendance. Some of the practitioners do no other work; most, however, have other patients; some work at health centres provided by the local authority, others at their own premises. They have security of tenure of office "until they die or resign."¹ There is a superannuation scheme² in which some, but not all, participate.

In this letter I refer to the practitioner service, the District Medical Service of the Poor Law, a part of the Public Assistance Medical Service. It is so very similar to the practitioner service envisaged in the National Health Service Act that the new Act would, in fact, do little more than abolish the present income limit of patients and extend the principle of "free choice," thus increasing the number of patients and doctors in the service.

In other words the proposed "changes" are proposals for expansion of an existing service. The power and control of the Minister are fundamentally the same in this existing service as they will be after expansion. In case anyone should suppose that the Minister's concern with practitioners in the District Medical Service is remote I will quote the statute. The Minister is "charged with direction and control," may "define the duties . . . direct the mode of appointment and determine the continuance in office or dismissal . . . of District Medical Officers, and "regulate their salaries and the time and mode of payment thereof." The Minister of Health was until 1919 known as the President of the Local Government Board, and

earlier still, until 1871, as the President of the Poor Law Board. Let it not be thought that the Minister has any less statutory authority or responsibility in his first-begotten service than he has in the proposed new one.

Now the Minister, in the second paragraph of his address to the individual doctor,³ says that the latter "wants to know exactly where he stands" on simple questions. At almost the same date the Minister has told us where we D.M.O.s do stand.⁴ And this is where: (1) All appointments, including permanent superannuable appointments, are to be terminated. (2) There will be no compensation for loss of security of tenure and none for loss of superannuation rights. (3) The Minister refuses to hear representations on this matter.⁵ (4) The Minister's principal officers state that it is in accordance with "the general principles of compensation which are being adopted in current legislation—the principle that there should be no compensation in the case of part-time officers."⁶

As is well known, security of tenure and superannuation are, in all appointments, inducements to set against a lower rate of remuneration, and the rate of remuneration in the existing service (in my locality, at least) has gradually dwindled and is now less than half that of panel service. On this question of remuneration the Ministry refuse to hear representations.

It must be added that there are certain not very clear rights of transfer of credit for superannuation provided that the doctor serves under the National Health Service Act.⁷ In previous Acts, such as the Local Government Act, 1933,⁸ there have been appropriate and clearly defined provisions for compensation, so that if the holder of a permanent superannuable appointment could not continue in a similar capacity with continuing superannuation rights he would at least be compensated.

The Ministry, in declining to consider compensation, have suggested that where (as in most cases) we have other patients, we are "part-time," and imply that this "principle of current legislation" does not apply to "whole-time" officers. Whether it will extend to them in the future remains to be seen. I have worked for many years without imagining that it would ever apply to me. I give the facts but I offer no criticism. By Regulation I am not allowed to. For the same reason I must remain anonymous.—I am, etc.,

D. M. O.

REFERENCES

- ¹ Public Assistance Order, 1930, Regulation 157.
- ² Poor Law Officers' Superannuation Act, 1896; Local Government Superannuation Act, 1937.
- ³ Poor Law Act, 1930, Sect. 1 (1).
- ⁴ *Ibid.*, Sect. 10 (3).
- ⁵ *British Medical Journal, Supplement*, 1947, 2, 154.
- ⁶ *Ibid.*, *Supplement*, 1947, 2, 164.
- ⁷ *Ibid.*, *Supplement*, 1948, 1, 4.
- ⁸ National Health Service Act, 1946, Superannuation Regulations 16, 38, etc.
- ⁹ Fourth Schedule.

Tell the Public

SIR,—Is it not time that the British Medical Association, by means of the lay press, made the position quite clear to the public why it feels that the National Health Act, as it stands at the moment, is not satisfactory towards patient or doctor? I hear it so often expressed that doctors are against the Act because they will suffer financially, and it seems to be this that has produced a very strong feeling in the lay mind against the doctors at the present time. In fact I often hear it stated that doctors are already overpaid. Many laymen also feel that now they will obtain the services of a "London specialist" in the provincial hospitals, and that patients will be much more likely to be treated in their own locality, be it university town or small provincial or market town.

I suggest the following points need emphasizing: (1) That the argument over remuneration has been on a capitation basis in order to exclude slackers getting unearned pay. (2) The profession's view on the buying and selling of practices is in the patients' interest as well as the doctors'. (3) Section 35, being a very important issue, should be expounded and explained more fully to the public. (4) That control and regionalization will give the patient less liberty and choice over the doctor "specialist" who treats him and the locality of the hospital where he is to be treated. (5) The legal anomalies in the Act will lead to serious hardship to the public.—I am, etc.,

MARGARET DUDLEY-BROWN.

Greenhithe, Kent.

The Only Answer

SIR,—A few weeks ago I submitted an application for additional rations for one of my patients, suffering from inoperable gastric carcinoma. In due course I received a reply from the Ministry of Food stating that "the Medical Advisers regret that they are unable to recommend that the additional foods be supplied." We have seen numerous examples of this form of petty tyranny in recent months; the most odious aspect of which is the absolute callousness and disregard for individual human life, so entirely characteristic of the totalitarian system.

In the course of the last three years we have witnessed the spectacle of our liberties and individual rights being insidiously filched from us one by one; and I have not the slightest doubt that, if the National Health Service in its present form is inflicted upon us, we shall see yet further extensions of this form of control of our profession by our medical gauleiters. One of the primary objects of totalitarian States—so well exemplified by Nazi Germany and Communist Russia—is the absolute control of the learned professions, which, by virtue of their long-established traditions of liberty of thought and opinion, have always provided the nucleus of resistance to all forms of autocratic tyranny.

Surely the issue before us in the coming plebiscite is simple: it is not the merits or demerits of basic salary, capitation fees, or sale of goodwill; it is simply whether we want to live and work in a free country or a totalitarian slave-State. The history of the last ten years has shown conclusively the futility of attempting to "negotiate" with totalitarian systems, and that the answer, and the only answer, to tyranny is firm and unflinching resistance to the last. To our profession to-day belongs the honour of being the first line of resistance to the new despotism; let us therefore not fail, but stand together and return a united and uncompromising "No" in the approaching plebiscite.—I am, etc.,

Catford, London.

G. TAYLEUR STOCKINGS.

Whole-time Practitioners and the Act

SIR,—We have been surprised to hear the view expressed at recent meetings that the whole-time people do not matter, and that it appears to have been generally assumed that whole-time officers employed in hospitals will automatically accept service under the Act, because they do not find anything in it which conflicts with their principles. It is important that this misapprehension should be removed. Those of us who have chosen full-time service have done so voluntarily, and up to the present time have been happy to work in our respective fields with a full sense of professional freedom and independence. We have derived that independence from our ability to change our employing authority at will or in the last resort to transfer our allegiance solely to our patients and ourselves in the freedom of general practice.

We believe the broad intentions of the Act to be excellent and desirable, but the Minister's statement makes it abundantly clear that there is to be one employer and all are to be employed. To many of us who are at present engaged in whole-time service the Act may offer substantial material advantages, but it is vital that none of us shall ignore the fact that our freedom is essentially dependent upon a large body of general practitioners who shall not be paid by salary and who shall have the fundamental right of all men to appeal to a court of justice.—We are, etc.,

D. H. BARNBROOK.

K. A. COWAN.

J. C. FORD.

F. J. FOWLER.

West Bromwich.

J. R. ANTHONY HALL.

GRAHAM POOLE.

G. E. E. USHER-SOMERS.

W. E. WIMBERGER.

Medical Superintendent.

Support for the N.H.S.

SIR,—I have not yet noticed any letter in your columns supporting the Minister of Health's new Act in its present form, though I have no doubt that there are some doctors who take the view which I feel sure you are too courteous and impartial not to publish. I agree that Mr. Aneurin Bevan may well be planning a fully salaried State medical service as his ultimate

get paid a smaller sum per patient than his less experienced colleague.

Example.—With 95% of the population on doctors' lists: The young man with only 1,000 patients will receive £1,058—i.e., £1 1s. 2d. per patient. The long-established man with 4,000 patients will receive £3,332—i.e., 16s. 8d. per patient.

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earlier still, until 1871, as the President of the Poor Law Board. Let it not be thought that the Minister has any less statutory authority or responsibility in his first-begotten service than he has in the proposed new one.

Now the Minister, in the second paragraph of his address to the individual doctor,⁵ says that the latter "wants to know exactly where he stands" on simple questions. At almost the same date the Minister has told us where we D.M.O.s do stand.⁶ And this is where: (1) All appointments, including permanent superannuable appointments, are to be terminated. (2) There will be no compensation for loss of security of tenure and none for loss of superannuation rights. (3) The Minister refuses to hear representations on this matter.⁷ (4) The Minister's principal officers state that it is in accordance with "the general principles of compensation which are being adopted in current legislation—the principle that there should be no compensation in the case of part-time officers."⁸

As is well known, security of tenure and superannuation are, in all appointments, inducements to set against a lower rate of remuneration, and the rate of remuneration in the existing service (in my locality, at least) has gradually dwindled and is now less than half that of panel service. On this question of remuneration the Ministry refuse to hear representations.

It must be added that there are certain not very clear rights of transfer of credit for superannuation provided that the doctor serves under the National Health Service Act.⁹ In previous Acts, such as the Local Government Act, 1933,¹⁰ there have been appropriate and clearly defined provisions for compensation, so that if the holder of a permanent superannuable appointment could not continue in a similar capacity with continuing superannuation rights he would at least be compensated.

The Ministry, in declining to consider compensation, have suggested that where (as in most cases) we have other patients, we are "part-time," and imply that this "principle of current legislation" does not apply to "whole-time" officers. Whether it will extend to them in the future remains to be seen. I have worked for many years without imagining that it would ever apply to me. I give the facts but I offer no criticism. By Regulation I am not allowed to. For the same reason I must remain anonymous.—I am, etc.,

D. M. O.

REFERENCES

- ¹ Public Assistance Order, 1930, Regulation 157.
- ² Poor Law Officers' Superannuation Act, 1896; Local Government Superannuation Act, 1937.
- ³ Poor Law Act, 1930, Sect. 1 (1).
- ⁴ Ibid., Sect. 10 (3).
- ⁵ *British Medical Journal*, 1947, 2, 154.
- ⁶ Ibid., 2.
- ⁷ Ibid., 2.
- ⁸ National Health Service Act, 1946, Superannuation Regulations 16, 38, etc.
- ⁹ Fourth Schedule.

Tell the Public

SIR,—Is it not time that the British Medical Association, by means of the lay press, made the position quite clear to the public why it feels that the National Health Act, as it stands at the moment, is not satisfactory towards patient or doctor? I hear it so often expressed that doctors are against the Act because they will suffer financially, and it seems to be this that has produced a very strong feeling in the lay mind against the doctors at the present time. In fact I often hear it stated that doctors are already overpaid. Many laymen also feel that now they will obtain the services of a "London specialist" in the provincial hospitals, and that patients will be much more likely to be treated in their own locality, be it university town or small provincial or market town.

I suggest the following points need emphasizing: (1) That the argument over remuneration has been on a capitation basis in order to exclude slackers getting unearned pay. (2) The profession's view on the buying and selling of practices is in the patients' interest as well as the doctors'. (3) Section 35, being a very important issue, should be expounded and explained more fully to the public. (4) That control and regionalization will give the patient less liberty and choice over the doctor "specialist" who treats him and the locality of the hospital where he is to be treated. (5) The legal anomalies in the Act will lead to serious hardship to the public.—I am, etc.,

Greenhithe, Kent.

MARGARET DUDLEY-BROWN.

The Only Answer

SIR,—A few weeks ago I submitted an application for additional rations for one of my patients, suffering from inoperable gastric carcinoma. In due course I received a reply from the Ministry of Food stating that "the Medical Advisers regret that they are unable to recommend that the additional foods be supplied." We have seen numerous examples of this form of petty tyranny in recent months, the most odious aspect of which is the absolute callousness and disregard for individual human life, so entirely characteristic of the totalitarian system.

In the course of the last three years we have witnessed the spectacle of our liberties and individual rights being insidiously filched from us one by one; and I have not the slightest doubt that, if the National Health Service in its present form is inflicted upon us, we shall see yet further extensions of this form of control of our profession by our medical gauleiters. One of the primary objects of totalitarian States—so well exemplified by Nazi Germany and Communist Russia—is the absolute control of the learned professions, which, by virtue of their long-established traditions of liberty of thought and opinion, have always provided the nucleus of resistance to all forms of autocratic tyranny.

Surely the issue before us in the coming plebiscite is simple: it is not the merits or demerits of basic salary, capitation fees, or sale of goodwill; it is simply whether we want to live and work in a free country or a totalitarian slave-State. The history of the last ten years has shown conclusively the futility of attempting to "negotiate" with totalitarian systems, and that the answer, and the only answer, to tyranny is firm and unflinching resistance to the last. To our profession to-day belongs the honour of being the first line of resistance to the new despotism; let us therefore not fail, but stand together and return a united and uncompromising "No" in the approaching plebiscite.—I am, etc.,

Catford, London.

G. TAYLEUR STOCKINGS.

Whole-time Practitioners and the Act

SIR,—We have been surprised to hear the view expressed at recent meetings that the whole-time people do not matter, and that it appears to have been generally assumed that whole-time officers employed in hospitals will automatically accept service under the Act, because they do not find anything in it which conflicts with their principles. It is important that this misapprehension should be removed. Those of us who have chosen full-time service have done so voluntarily, and up to the present time have been happy to work in our respective fields with a full sense of professional freedom and independence. We have derived that independence from our ability to change our employing authority at will or in the last resort to transfer our allegiance solely to our patients and ourselves in the freedom of general practice.

We believe the broad intentions of the Act to be excellent and desirable, but the Minister's statement makes it abundantly clear that there is to be one employer and all are to be employed. To many of us who are at present engaged in whole-time service the Act may offer substantial material advantages, but it is vital that none of us shall ignore the fact that our freedom is essentially dependent upon a large body of general practitioners who shall not be paid by salary and who shall have the fundamental right of all men to appeal to a court of justice.—We are, etc.,

D. H. BARNBROOK.

K. A. COWAN.

J. C. FORD.

F. J. FOWLER.

West Bromwich.

J. R. ANTHONY HALL.

GRAHAM POOLE.

G. E. E. USHER-SONERS.

W. E. WIMBERGER.

Medical Superintendent.

Support for the N.H.S.

SIR,—I have not yet noticed any letter in your columns supporting the Minister of Health's new Act in its present form, though I have no doubt that there are some doctors who take the view which I feel sure you are too courteous and impartial not to publish. I agree that Mr. Aneurin Bevan may well be planning a fully salaried State medical service as his ultimate

objective. If this be so, I see no reason why the public should not derive at least as satisfactory service as they do from the public health departments, the Naval, Military, and R.A.F. medical services during the war, the E.M.S., or the "panel." Although our Civil Service is much decried by us it is a model to all others throughout the world. There is no institution that I know of which has not the faults (and the advantages) of its inherent structure.—I am, etc.,

London, W.3.

RONALD LIVINGSTON.

State Servants

SIR,—During the course of conversation with many general practitioners I have found that almost without exception they are opposed to participation in the new Act. The main reasons are: (1) The insidious danger of becoming eventually full salaried servants of the State, with a certain duty to Whitehall. (2) That they are, from the word "go," potential Civil Servants, at the whim and fancy of one Minister whose views and record are only too well known. But they want reassurance concerning the "compensation" clause. Trying to avoid the money issue about which so much has been written, and which can be so unimportant, they cannot but be concerned that if they do not join on the appointed day they will lose all right to eventual compensation.

If we can firmly stipulate that we are not going to part with a very ancient and sound tradition—namely, the buying and selling of practices—we shall convince the Minister, and more important still our patients, that we are not parting with our goodwill; which is, after all, only a sound business proposition, saving for our dependants and our retirement.

The "mess of pottage" will surely be ours if we sacrifice ethics for financial worries.—I am, etc.,

Gloucester.

J. B. W. HAYWARD.

No Confidence in Minister

SIR,—Mr. Bevan has shown himself incapable of negotiation, or even of being polite to our committee; and his remarks and threats of a sharply reduced capitation fee "if there is much more quibbling" should convince even the most ardent young supporters of his scheme that their future and ours, when once we have signed on the dotted line, would be very uncertain financially. Apart from that, we don't like to think of medical officers of health being classified as "spivs" and "drones"; and the question of compensation is so vague that no confidence can be placed in the Minister or his Act as it stands.

We have only one course open, and that is to give our Negotiating Committee a 95% "No" in the forthcoming plebiscite. As Mr. Bevan is unwilling to negotiate there will be no point in attempting to deal with him further, and a demand for his resignation would only be in line with his own statement made in the House last year that he would "stand or fall by the Act." Our personal freedom and our patients' welfare must come first.—I am, etc.,

Appleby Magna, Burton-on-Trent.

J. R. SALMOND.

Will of the People

SIR,—Despite the numerical strength and the fervour of opponents of the Act, close perusal of your columns has failed to reveal a single valid argument to refute the view that "to oppose the Act is to oppose the will of the people as expressed through Parliament," as you succinctly put it (Jan. 10, p. 53). The only moral principle at issue is, Are we morally justified in insisting on a Conservative type of medical service in a State governed by a Parliament committed to the putting into effect of Socialist principles? Conservative, B.M.A. principles—private ownership and practice—like Socialist governmental principles—public ownership and practice—are merely political, and no moral issue is involved whichever side we take.

Who pays the piper calls the tune. Our patients pay us, and they should be allowed to call the type of medical service they want. We seek to impose on them the type we want and put ourselves gravely in the wrong.

I can admire the honesty of Dr. Dan E. Davies when he writes, "What we are really studying is our own interest, first, last, and always" (Jan. 10, p. 70). We ought, of course, to be

studying first, last, and always what type of medical service will best serve the health of the people. The patient's interests must come first; we exist merely to serve him.—I am, etc.,

Wallasey, Cheshire.

LENNOX JOHNSTON.

** Dr. Johnston should have given the full quotation. We said was this: "Some medical men have argued that oppose the Act is to oppose the will of the people as expressed through Parliament. But as Dr. Hill put it in his speech last week: 'The Minister has told us of our right as individuals and our right collectively to determine our attitude to the Service. We are within our rights in saying No.'"—Ed., B.M.

Refusal

SIR,—I refuse to enter the National Health Service unless the Act is amended. I am under 40, have no other training, have family to support, and cannot live without working as a doctor. I have also left the area where I could have counted on a good following. If those members of the B.M.A. who have accepted seats on boards, etc., cannot see their way to follow, will they at least resign from a scheme they know to be wrong?—I am, etc.,

Newquay, Cornwall.

J. P. O'SHEA

"Free Choice"

SIR,—The Minister of Health has taken great pains to stir the "free choice" of the individual doctor to join or not join the National Health Service. It would be of interest to what the Minister understands by a "free choice." For example, the value of an individual practice may be between figures £1,000 and £7,000. Thus if on the appointed day doctor exerts this so-called "free choice" and contracts out the Service, he will lose this asset, since he is no longer permitted to sell his practice. If he does sign, however, he will be compensated, perhaps equally, perhaps not. The larger individual doctor's practice the greater the financial loss should he decide not to join the new Service.

In any other circles but the Minister's, a choice between two courses—one involving heavy financial loss and the other loss but perhaps even a slight gain—would be considered rather an unusual interpretation if described as free. The doctor feels, might be forgiven if he thought a little pressure was being put on him to take a certain line of action. He might in fact even feel he was being bribed.—I am, etc.,

Brighton.

S. L. KAYE

National Health Service

SIR,—As an active and lifelong Conservative I never thought I should find myself in agreement with a left-wing Socialist periodical, but I am bound to say that the *Tribune's* reference to us as a reactionary profession very adequately describes the bulk of the correspondence in your last two numbers.

If we can find no stronger grounds upon which to fight the Socialist Minister of Health than direction, which does not exist, or anyway which is unchanged, than the retention of the right to buy and sell practices, already agreed upon by the profession as undesirable in the 1944 plebiscite, and by opposition to payment by part-salary, upon which in the same plebiscite the profession was almost equally divided, then we are lost indeed.

Is it seriously suggested, except for propaganda, that we have ever been able to practise where we want to? If it is, let whoever thinks so go and try. After the war I wanted to practise in Sussex. The only country practice that came into the market then had seventy applicants. We all obviously wanted to practise there. Could we? For heaven's sake let us drop this nonsense.

With regard to the sale of practices, is it fully realized that with interest and taxation at its present rate it is impossible for a young man without capital to borrow money to buy his practice, maintain a decent standard of life, and at the same time provide for himself and his family after retirement? The assured income, pension, and widow's pension in the Health Act must be a real ray of hope to many young doctors, and these are the people who should be considered. Also to think it reasonable that one should be able to buy oneself into a comprehensive service is just as absurd as to think one should

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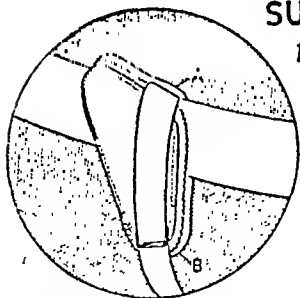
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still be able to buy a commission in the Army, and I am sure that the latter practice only died after a hard fight from the reactionaries of that time!

And now as to the salary. It is freely stated that the inclusion of a basic salary is the prelude to a whole-time salary within two years. (Incidentally, I believe, the original policy of the Conservatives.) Is this pure conjecture, or is there any inside information that we lack? If there is positive information on this point, let's have it and I'll believe it.

We are getting our usual indifferent Press. *The Times* advises us to drop our opposition to the question of the sale of practices, the *Sunday Times* to concentrate on getting the right of appeal to the courts—and there's the really important thing, the only one that matters. Let us concentrate on this, and also get the question of partnerships cleared up, and we shall be all right.—I am, etc.,

Stradbroke, Norfolk.

J. V. DOCKRAY.

A Sign of Carcinoma

SIR,—I am indebted to Mr. A. Dickson Wright for drawing attention to the value of the diagnostic manœuvre which he described and portrayed in the *Journal* of Jan. 3 (p. 27). But first we must insist that the preliminary examination of breast cases should be made with the patient stripped to the waist and standing. It is only in this position that the breasts are really dependent and that the signs of the presence of malignant disease due to general retraction are most likely to be observed. These signs are diminution of the size of the organ with elevation or deviation of the nipple, and, however slight, they are most significant. It is as a corollary to this examination with the patient standing that I conceive the arms above the head position may be useful.

But the breast must also be examined with the patient recumbent. It is an additional aid in the examination of the axilla, and especially in stout people, to get the patient to lie on the side with the suspected organ uppermost. In this position the contents of the axilla are dragged forwards by the weight of the breast, and quite often enlarged nodes, not previously detected, may be easily palpated or even seen.

Of course there are many other points useful in diagnosis, but if, when all the aids have been employed, there is still real doubt, then direct exploration is justified. In making this statement I am well aware of the hornets' nest I may be disturbing. It was my former colleague, Mr. A. K. Henery, who taught me that an incision down to, but not into, a doubtful lump may settle the question of its nature, the curious drawing in and fixation of the fat around a malignant neoplasm being characteristic. If, with this restraint, the surgeon still has doubt, he can deepen the cut to obtain the information which may be so valuable in the interest of the patient. To arrive at an accurate and complete diagnosis in doubtful breast cases we need to take much care and not grudge the time spent in investigation. I have heard it said that Halsted sometimes took nearly an hour over the complete examination of a difficult breast problem.—I am, etc.,

Taplow, Bucks.

G. GREY TURNER.

Cancer of the Lung

SIR,—I was interested to see in your account of the annual report of the British Empire Cancer Campaign (Jan. 3, p. 22) the suggestion that the increase in the incidence of cancer of the lung (16.5 times in men, 8 times in women) between 1921 and 1938 might be connected with the doubling of the consumption of tobacco in this period. I have often wondered if tobacco smoke had anything to do with carcinoma of the lung, but I think that the mere statement that smoking has increased misses an important point. When I was a young man pipe-smoking was the main form of the pleasure or vice, as one may look at it; cigarettes were "used when one was not smoking," as I think the author of the *Wind in the Willows* said. Few people inhaled, and I cannot remember seeing a case of primary cancer of the lung when, early in the century, I was a student. Somewhere about the time of the first world war pipes fell rather out of fashion and cigarettes came to the fore. Most cigarette-smokers inhaled—they could not get much fun out of it otherwise—and cancer of the lung began to be more common. This may be a mere coincidence, for I do not know

if the tar in tobacco smoke contains a carcinogenous element. I have also heard it suggested that the inhalation of the dust from tarred roads, also more or less corresponding in date, might be a factor. Perhaps both are. But even if inhaling cigarette smoke is proved to be a cause of carcinoma I doubt if people will give it up.—I am, etc.,

Guildford, Surrey.

E. W. SHEAF.

Simple Test for Pulmonary Tuberculosis

SIR,—This is a plea for the use in general practice of a very simple test by which to estimate progress in cases of pulmonary tuberculosis. Britton and Whitby say that the normal average of monocyte to lymphocyte is 1 to 3; that Sabin and his colleagues found that in cases of pulmonary tuberculosis 1 to any number less than 3 suggested possible activity, and 1 to 1 or any number less than 1 was a bad prognostic sign. I had a simpler suggestion from Heap in England more than 30 years ago and have found it of immense value in connexion with the sedimentation rate and x-ray findings. I have not yet found a case of unfavourably advancing pulmonary tuberculosis without a ratio of 1 to 1 or less than 1; nor in controls without pulmonary tuberculosis has the blood picture been anything like it.

It has even an advantage over the high sedimentation rate in that (1) there is no need to correct for anaemia; (2) there are comparatively few conditions giving a blood picture of high monocyte-lymphocyte ratio—glandular fever, an early stage at commencement of measles—while there are many that produce a high E.S.R. Thus it may help in differential diagnosis. I had two patients illustrating this. A mongol with a swinging temperature 101°–97° F. (38.3°–36.1° C.) for two months, cough, and wasting, and E.S.R. 150. Clinically it seemed obviously a case of pulmonary tuberculosis. His blood picture never gave a high monocyte-lymphocyte ratio: a week before his death it was 1 to 5. At necropsy it was found to be bronchial cancer, and no evidence at all of tuberculosis. The second was a man of 70 who suffered for years from chronic bronchitis. Tuberculosis was not suspected, until on one routine examination of his blood I found a 1 to 1 monocyte-lymphocyte ratio. X-ray examination and the presence of tuberculous bacilli in his sputum confirmed the diagnosis.—I am, etc.,

London, W.C.

H. ANGELL LANE.

B.C.G. in Control of Tuberculosis

SIR,—In his paper on B.C.G. (Nov. 29, 1947, p. 855) Prof. G. S. Wilson submits some of the published reports to a criticism which, as your leading article suggests, is rather exacting, having regard to the conditions under which the evidence must be obtained. But he is more tolerant towards Levine and Sackett's report of the New York results, which purports to show B.C.G. as ineffective. Had he applied to this analysis the same standard of criticism which he applied to the more favourable results of Rosenthal, Bland, and Leslie,² he would have made more than casual reference to the gross fallacy which the former contains, a fallacy which should exclude it from serious consideration but which is neglected by those who use the results to support their own argument. The whole New York investigation, of course, has little bearing on the efficacy of B.C.G., since it neglects the principle of avoiding infection before immunity has been established. But there is a much more serious error in the statistical analysis which, if corrected would leave the results showing almost the maximum possible difference in favour of B.C.G., though even that would have only a limited significance.

During the total period of 20 years deaths from tuberculosis among vaccinated children were 11, of which 8 occurred during the period 1933–46, to which importance is attached because selection was then automatic. During this latter period the death rate among vaccinated and controls was almost the same. But of the total 11 deaths, 10 occurred in infants known to have been exposed to positive-sputum contact in the home prior to vaccination. No claim has been made that B.C.G. immunization could check an infection already established, and individuals for whom that possibility exists must be excluded from analysis. In some analyses all those exposed before allergy appears are excluded. If, however, the 10 deaths where previous exposure was known are excluded, there is left 1 death

in the vaccinated group (period not stated). The difference in favour of B.C.G. is almost the maximum possible, but for the period of automatic selection even that maximum is less than three times its standard error. As a matter of fact, the data given suggest that some of the vaccinated who died were really infected after vaccination, but the probability is not one which can be admitted in selection of statistical material. The correct verdict on Levine and Sackett's analysis is that it has, at best, doubtful significance, but that what admissible evidence it presents is in favour of B.C.G.—I am, etc.,

Cardiff.

W. H. TYTLER.

REFERENCES

- ¹ *Amer. Rev. Tuberc.*, 1946, 53, 517.
- ² *J. Pediatr.*, 1945, 26, 470.

SIR,—Dr. W. E. Snell's letter (Dec. 20, 1947, p. 1007) prompts us to state that nothing has arisen in connexion with B.C.G. during the last three years to cause some of us to change the opinion that we formed of it twenty years ago. Propaganda has reached such proportions in this matter that even those like Dr. Snell who knew of the excellent work with B.C.G. in Oslo, and those who are now learning of it for the first time, are perhaps arriving at wrong conclusions.

Among other matters Dr. Snell states: "I was glad to read in your leading article that tuberculin-negative nurses certainly need protection, a point I endeavoured to make in your correspondence columns some three years ago. Unfortunately, some of our leading tuberculosis workers still await conversion to this belief." While disclaiming the title of "leading tuberculosis workers," we did take part in that correspondence, in which we insisted that tuberculin-negative nurses, like all hospital workers, need protection. But it is yet to be proved that B.C.G. gives the protection that is needed; for those who use B.C.G. in tuberculin-negative nurses still get cases of tuberculosis in these girls. Therefore the strictest medical supervision, healthy living conditions, and proper measures to reduce the risk of infection are still necessary and should be enforced at once—even if B.C.G. is to be given a trial, or even if a better vaccine becomes available.—We are, etc.,

PETER W. EDWARDS.
A. CLARK PENMAN.

Market Drayton, Salop.

Diagnosis of Poliomyelitis

SIR,—I am surprised that in the many recent articles published on poliomyelitis no mention has been made of the value of repeating lumbar puncture in establishing the diagnosis in this disease. The frequent occurrence of a late rise in the protein content of the C.S.F. as well as the dissociation between the protein content and the cell count has been previously observed. These facts can sometimes be utilized in clinching a doubtful diagnosis, as illustrated by the following five cases, selected from a total of 53 cases which were under my care at Claydon Isolation Hospital during the recent epidemic.

Case 1.—A boy aged 14 years was admitted on Aug. 8, 1947, with a history of lumbar pain and weakness of the legs, commencing on the previous day. Pyrexia and signs of meningeal irritation were present. C.S.F. examinations gave the following results: Aug. 8, 1947, 4 cells per c.mm. and 20 mg. of protein per 100 ml. Aug. 22, 87 cells per c.mm. and 75 mg. of protein per 100 ml. During the interval between the above examinations the patient suffered from remittent pyrexia and stiffness of the back. No definite paralysis could be established and recovery appeared to be complete.

Case 2.—A woman aged 20 years was admitted on Sept. 15, 1947, with a history of weakness of the right hand since Sept. 7. The signs present on admission were entirely paralytic and practically confined to the right forearm extensors—an unusual distribution in poliomyelitis. Other causes of wrist-drop had to be considered. Result of C.S.F. examinations: Sept. 15, 8 cells per c.mm.; 30 mg. of protein per 100 ml. Oct. 9, 8 cells per c.mm.; 40 mg. of protein per 100 ml.

Case 3.—A boy aged 12 years. The disease commenced with headache on Sept. 13, 1947, and the patient was admitted on Sept. 17 showing signs of meningeal irritation. Result of C.S.F. examinations: Sept. 18, 10 cells per c.mm.; 35 mg. of protein per 100 ml. Oct. 3, 22 cells per c.mm.; 50 mg. of protein per 100 ml. This was a purely meningeal case showing no evidence of paralysis at any stage.

Case 4.—A man aged 40 years. The illness commenced on Sept. 16, 1947, with pain in the arms, legs, and neck. The patient was admitted on Sept. 22 with general muscular weakness. This was widespread but mostly incomplete paralysis involving

in a rather symmetrical fashion all four limbs and trunk. Partial respiratory paralysis necessitated four weeks' continuous treatment in a respirator, during the greater part of which time he suffered from marked mental abnormality. A workmate engaged in paint-spraying was treated for paralysis at another hospital, where a neurologist suspected lead poisoning. Result of C.S.F. examinations: Sept. 23, 3 cells per c.mm.; protein, 30 mg. per 100 ml. Oct. 21, 1 cell per c.mm.; protein, 40 mg. per 100 ml.

Case 5.—A boy aged 17 years. The illness commenced with stiffness of the neck on Oct. 12, 1947, and he was admitted on Oct. 17. On admission there was pain and weakness in the neighbourhood of the right shoulder and hip, and left wrist and ankle. It was thought that the affected ankle had a slightly puffy appearance, and the erythrocyte sedimentation rate was 50 and 70 mm. after one and two hours respectively. A rheumatic condition was suspected. Result of C.S.F. examinations: Oct. 18, 1 cell per c.mm.; 30 mg. of protein per 100 ml. Oct. 28, 22 cells per c.mm.; 45 mg. of protein per 100 ml. The second result weighted the diagnosis in favour of poliomyelitis.

Though it is possible that in some cases the C.S.F. remains normal throughout the course of the disease, I believe that many of the normal findings depend on the particular phase of the disease during which lumbar puncture has been performed. I am indebted to the staff of the Pathological Laboratory, Churchfield Road, Ealing, for the examination of the cerebrospinal fluids.—I am, etc.,

Croydon.

J. J. LINEHAN.

Measles Prophylactic

SIR,—Dr. Harwood Stevenson (Dec. 6, 1947, p. 928) and Dr. A. H. Morley (Dec. 27, 1947, p. 1054) have both advocated the use of parental whole blood as a routine in the attenuation of measles in contacts. There is, however, a danger which should be taken into account before advocating this procedure as a routine. I refer of course to the possibility of sensitizing the recipient of the blood to the Rhesus agglutinin. It is now accepted^{1,2} that the intramuscular injection of Rhesus-positive blood into a Rhesus-negative individual may result in the sensitization of the recipient, which, although giving rise to no ill-effects at the time of injection, may do so at a later period, so that in the case of females a "Rhesus-positive pregnancy" may result in iso-immunization and its sequelae.

There is no such danger attached to the use of adult serum, the use of which I should advocate until a satisfactory gamma-globulin fraction is produced in sufficient quantities in this country.—I am, etc.,

T. S. MARSHALL,
Regional Transfusion Centre

Leeds.

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- ¹ Wiener, A. S., and Sonn, E. B., *Amer. J. Dis. Child.*, 1946, 71, 25.
- ² Diamond, L. K., *Proc. roy. Soc. Med.*, 1947, 40, 546.

Herpes Zoster

SIR,—In view of the recent publication of cases of herpes zoster showing unusual clinical manifestations we wish to record the following case which appears to be similar to Case 3 reported by Dr. Thomas Parkinson (Jan. 3, p. 8).

A man aged 63 was admitted on Dec. 16, 1947, from a neighbouring hospital with a diagnosis of erysipelas and ulcerative stomatitis. For the previous two weeks he had experienced pain in the right ear, buzzing noises in the head, and severe headache, which had prevented sleep for the two days prior to admission. For a week his throat had been sore and there had been ulcers on the gums and tongue, causing difficulty in swallowing solids. The right side of the face became inflamed on Dec. 13. There was no previous history of chicken-pox or herpes zoster, nor any contact with these two conditions.

On examination he was a plethoric man with swelling of the right side of his face, particularly affecting the lips, cheek, temple, and submaxillary region. There was a well-marked erythema over this area, with typical zoster vesiculation and crusting. There were no vesicles in the external auditory meatus. On the right side of the tongue there were circumscribed areas of shallow ulceration, and two or three smaller areas were present on the inner side of the cheek and the hard palate on the same side. The temperature was 98.8° F. (37.1° C.). No further spread of the lesions occurred and the pain subsided slightly, although oedema of the submaxillary region with lymphadenitis became very marked owing to infection of the lesions of the chin. This was treated with 40 g. of sulphathiazole and 3 mega units of penicillin, and by Dec. 23 the mouth lesions and infected areas had healed, except for a small ulcer on the tongue and a patch of eczema on the chin. This latter area

was noticed to be continually moist owing to saliva dribbling out of the right corner of the mouth, particularly at night. On Dec. 30 a definite right facial palsy became apparent, and at the same time intense neuralgic pains occurred in the area of the face which had previously been affected by herpes. The paralysis became absolute in both upper and lower facial areas, and although there was no sensory loss over the face the neuralgia and feeling of numbness persisted and spread up into the right side of the temporal region over the right eye. There was no alteration in taste, but there was a diminution in the acuity of hearing in the right ear. The patient was discharged on Jan. 8 to attend as an out-patient for physiotherapy.

—We are, etc.,

Newcastle-upon-Tyne.

E. G. BREWIS.
C. NEUBAUER.

SIR,—I read Dr. Thomas Parkinson's article on herpes zoster (Jan. 3, p. 8) with great interest, and I feel it opportune to quote briefly two cases which occurred about a year ago in this practice.

Case 1.—A man of 34 came to see me complaining of dysuria and pain in his left side. The urinary symptom was one of precipitant micturition and was of two days' standing. His background showed that he was in the midst of divorce proceedings, and I decided the symptoms were functional in origin. I gave him an appointment to come and see me at a later date to take a fuller psychiatric history, but he returned the next day with a herpes rash in the line of the 3rd lumbar nerve. A few days later his urinary symptoms cleared and the herpes rash ran its usual course. I told my partner about this man and he quoted the following case to me which he had seen about the same time.

Case 2.—Dr. W. J. Meldrum was called in to see a man of 75 who had all the symptoms of a subacute intestinal obstruction. His abdomen was distended and he looked very ill. Rectal examination revealed hard masses of faeces, which were digitally removed. Before leaving, the patient complained of a pain in his left side, but in view of the more obvious obstructive symptoms it was not considered of any great significance. The next day the old man had a herpes zoster rash where previously he had had pain. Neither before nor since has he had such difficulty with his bowels, and it is suggestive that the herpes lesion had caused intestinal atony.

I mention these two cases because Dr. Parkinson makes no mention of the autonomic nervous system in his paper. If two such cases can occur in one practice, it is obvious that similar zoster symptoms must be relatively common, but they usually pass unnoticed.—I am, etc.,

Ibstock, Leicester.

C. A. H. WATTS.

Relief of Pain in Midwifery

SIR,—It is indeed surprising that so little attention is given to the problem of analgesia in labour. Anaesthetics are many, and useful in their sphere, but methods of analgesia (complete or partial relief of pain in the wear and tear of labour) are few. At the best, they would appear to be confined to verbal adjurations such as: "Bear down," "Don't hold your breath," "I should give her a sniff, now," "See you later, when it's ready," "I'll give you something"; "Nurse will see to it"—with perhaps "an injection" or "a tablet." I believe that the worry of labour can be lessened for everyone—for, although the woman is the main sufferer, the attending doctor and nurse must also participate to a greater or lesser degree if they are "midwifery conscious." I am of the firm belief that midwifery should be done by a team, not necessarily composed of experts, but of experienced practitioners who have the welfare of midwifery at heart and who are supported by nurses of similar persuasion. They would assume complete responsibility for antenatal care, conduct of labour and delivery, thus inspiring in the woman a confidence in her outlook which in the present state of affairs is certainly not engendered.

As invaluable and proved adjuvants I would suggest the resuscitation of two aids, both simple and safe, which provide relief from pain, sleep, and a degree of oblivion. The reason these have fallen into disuse appears to be only that they involve a little trouble for everyone but the woman. I refer to, first, Dr. David R. Jennings's hyoscine amnesia in labour (*B.M.J.*, 1929, 2, 801), and, secondly, Minnitt's gas-air analgesia. Briefly, Jennings's treatment is similar to "twilight sleep" but no morphine is used, resulting in a feeling of well-being in the woman during and after labour and a notable absence of somnolence in the child. In regard to

Minnitt's apparatus, suffice it to say that in his observations Dr. Minnitt has conscientiously recorded the causes of failure to relieve pain, the main one being lack of co-operation. Sad to say, this may occasionally be the woman's fault, but much more often is failure to relieve pain owing to the complete lack of sympathy for the woman and understanding of the apparatus by the attendant—doctor or nurse. Dr. Jennings and Dr. Minnitt have rendered signal service to midwifery which has yet to be fully appreciated, while Dr. John Elam, of New Barnet Hospital, has spent many years in careful observation of gas-air analgesia, with very favourable findings. To these voices crying in the wilderness I would add mine and say, "Tell the women!"—I am, etc.,

Dundee.

C. A. ALLAN.

Drug Addiction

SIR,—It is a sad but true fact that morphine addiction is incurable, notwithstanding all evidence to the contrary. Relapses after extensive treatment appear to be inevitable and necessitate constant supervision, combined with periods of hospital treatment from which the addict gains little and suffers greatly. When, in other branches of medicine, an incurable condition is encountered, all available knowledge is used to alleviate suffering. Treatment in such cases does not consist in giving repeated therapy which hurts but does not help.

The morphine addict after a time ceases to gain pleasure from the drug, and in order to do so increases the dose. All pleasure and security gained from the drug soon vanish and the process of deterioration sets in. It would appear to me more logical and kinder to treat this addiction with controlled doses of the drug. This would be arranged so that the minimum dose necessary to produce that indescribable sense of well-being for which the addict craves is given as required. Short periods of abstinence would be necessary when the minimum dose no longer produced the desired effect. These periods need be very short, as tolerance is lost rapidly. Hyoscine or a barbiturate could be given at these times.

The dreadful agony produced by the conventional form of treatment is indescribable and does not appear to justify the result. In your annotation (Dec. 13, 1947, p. 965) it is stated that "... treatment of this group is unnecessary, and possibly dangerous in that it may lead to true and progressive addiction." I would suggest that the "arrested development stage" of morphine addiction could be produced in most if not all cases, provided therapy is directed towards controlling and not curing this incurable condition.

The same principle might be applied to other forms of drug addiction.—I am, etc.,

London, W.9

F. R. ELLIS.

The Extent of Neurosis

SIR,—According to different observers it appears that between 10% and 50% of all who consult a doctor are sufferers principally from a neurosis. To these estimates must be added the many patients who do not go near a doctor for their neurotic troubles—either through ignorance, or through fear (sometimes justified) that these may not be objectively and sympathetically understood and dealt with. Taking this into consideration, even the most conservative estimate of the extent of neurosis must represent a degree of suffering and loss of efficiency, both national and in some cases individual, comparable in magnitude to that produced by the main physical diseases—tuberculosis, heart disease, rheumatism, cancer, etc. Despite this, however there is no provision made for training in the understanding and therapy of personality problems and the neuroses on any thing approaching an adequate scale.

In the training of the medical student there is little advance from the old days when the sole experience of functional disorders—apart from passing references to them in somewhat derivative terms: such as "purely neurotic" or "merely functional"—was confined to a few demonstrations of the more grotesque and advanced specimens from a mental hospital. In the training of the post graduate the situation is comparable: 50% of the theoretical instruction (and a large proportion of the practical) is given over entirely to the study of anatomy, physiology, and neurology. Of the remainder the bulk is occupied with the psychoses, physical methods of therapy, mental deficiency, legal aspects of insanity administration, etc., with a passing reference to Freud, Adler, Jung and others. On the clinical side the whole emphasis is on the mental

hospital—and increasingly so, it appears—where are assembled patients the majority of whom are psychotic or who have at least "broken down." These present, on the whole, problems very different from those of the ambulant cases, who have not "broken down" and who comprise the great majority of sufferers from the functional disorders.

The problem is a much wider one than the purely medical. A comparable situation exists in the sphere of academic psychology in this country. Here the main emphasis, theoretically and practically, is on such subjects as perception, reaction times, statistics, philosophy, and elementary physiology, to the almost total exclusion of clinical study and investigation into problems of motivation and personality.

Important as is the work of bodies such as the Tavistock Clinic, the Institute of Psycho-analysis, and of numerous gifted and conscientious individuals besides, they are left almost entirely to their own initiative and (necessarily limited) resources. It would be pertinent to ask what steps are envisaged by the authorities—Governmental, medical, and academic—responsible for the introduction and running of what purports to be a comprehensive health service, to cope with this vast problem, which amounts practically to a national emergency (if the available figures mean anything at all). What is being done to train the many psychologists—medical and non-medical—needed to cope adequately with these millions of sufferers from functional personality and behaviour disorders and to carry out research into their deeper causation?—I am, etc.,

London, N.6.

A. W. F. ERSKINE.

Synthetic Vitamin A

SIR,—I have read with interest the annotation on synthetic vitamin A (Dec. 27, 1947, p. 1040). This topic was also the subject of a recent leading article in the *Lancet*¹ and I have already written to the editor of the latter journal to make certain observations.

Regarding your annotation, I should like to indicate some inaccuracies concerning the work of van Dorp and Arens.² The C_{18} ketone, derived from β -ionone, was condensed with ethoxyethynylmagnesium bromide (and not the ethoxyethylene derivative) to give a disubstituted acetylene (which is not a C_{22} ketone). The product was then converted to vitamin-A aldehyde by the method summarized in your publication. As stated in your article, vitamin-A acid has been obtained by Arens and van Dorp,³ but it is also of interest to note that very similar syntheses were being studied simultaneously by both Heilbron⁴ in this country and Karrer⁵ in Switzerland, with their respective schools. The starting material, β -ionone, is of course only conveniently prepared from citral. Finally, I should like to draw your attention to the synthesis by Isler *et al.*⁶ of pure crystalline vitamin A by a method similar to that proposed earlier by Heilbron and his collaborators.⁷—I am, etc.,

London, S.W.7.

B. C. L. WEEDON.

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- ¹ *Lancet*, 1947, 2, 915.
- ² *Nature*, 1947, 160, 189.
- ³ *Ibid.*, 1946, 157, 190.
- ⁴ *J. chem. Soc.*, 1946, 866.
- ⁵ *Helv. chim. Acta*, 1946, 29, 704.
- ⁶ *Ibid.*, 1947, 30, 1911.
- ⁷ *J. chem. Soc.*, 1942, 727.

British Transport Medical Services

SIR,—Your leading article (Jan. 10, p. 54) prompts me to ask whether it would be possible for the Medical Department of the London Passenger Transport Board to arrange for the extraction of the dirt on the platforms and in the passages of their underground stations. Twice a day much of this dreadful mixture is swept up into the air after being watered, generally from a can without a rose so as to save time and lessen the effort. This method results in wetting the broom rather than the dirt. Were extraction done early in the morning and perhaps again before the evening rush the dangers of infection would be greatly diminished. Electricity is available at all necessary points and watering would not be required. Some twelve years ago I suggested this course to the Public Relations Officer, but nothing came of it. I am told that the coaches are just-extracted. Perhaps they are also aerosolled.

When the "Tuppenny Tube" was first opened there was no forced ventilation: the air was dry and irritating and had an

earthy smell. Max Rittenberg obtained permission to measure the humidity, confirmed the dryness, and suggested spraying the air with water. No notice was taken until each of us bought a share, attended the general meeting, and spoke of the matter. The provision of forced ventilation by conduits in the spiral staircases was the direct result of our trouble. The suggested spraying by means of the company's tunnel whitewashing-machine could clearly be adapted to aerosol disinfection if more simple means for this would not suffice.—I am, etc.,

London, W.1.

G. H. COLT.

POINTS FROM LETTERS

Censorship

Dr. G. C. PETHER (Hadley Wood, Herts) writes: I consider it essential that freedom of expression and publication should be accorded to those employed in a State medical service. Many of us are acquainted with attempts made for political reasons to silence doctors employed in municipal services, while those employed with the Armed Forces are controlled by certain regulations. . . . It is a small point among many more vital, but I should insist, if I entered a State service, that I could say what I liked regardless of persons or politics. Did not one of the fathers of democracy say that he entirely disagreed with a man's opinions but he would defend to the death his right to express them? Presumably we are still democrats?

Negative Health

Dr. G. L. DAVIES (Hove, Sussex) writes: . . . A good many years of practice among so-called working-class patients has revealed to me that one of the chief pastimes of the masses, apart from dominoes, darts, and drinking beer, is discussion—and that usually about health. But let us not be mistaken in thinking that this is intelligent talk on how to keep well. It is, in actual fact, luxurious wallowing in details of ill-health. Very casual observation over many years has shown me that my waiting-room is usually most crowded on a Monday or on a day following some public holiday. The inference is obvious: fire-side chats have been in progress, and the ghastly pallor (often largely imaginary) of Cousin Janc or the horrifying cough of Uncle John have been on the agenda, and the sufferers by unanimous vote have been recommended to see their respective doctors. This may be a wholesome piece of advice, but so frequently such talk about disease is merely the one and only conversation piece of a population educated at enormous expense by the State. State education, however, has had one important effect. It has produced a nation of newspaper readers and readers of much literary garbage of different kinds. Herein lies the clue to the disease-consciousness of the masses. The lower the standard, as a rule, of the paper the more is it filled with all kinds of specious advertisements related to disease. This fact is of course well known, but nothing is ever done to check this pandering to the ignorance and morbid instincts of the masses. One may have one's own opinion about the true purpose of the Commission now sitting on the Press, but here is one great evil to which it should give its undivided attention. . . .

Appendicitis Symptoms due to a Worm

Dr. A. S. GARRETT (Enugu, Nigeria) writes: In Nigeria appendicitis in any form is extremely rare. I therefore hesitated to diagnose it when I had a patient with a chronic pain in the right iliac fossa and a tender spot over McBurney's point. She had no other signs to suggest ovarian or other trouble. I operated, and found everything perfectly normal except for a calcified worm imbedded in the parietal peritoneum. There was no inflammation, but I can only assume that the worm was the cause of the symptoms.

Unclean Hairdressers

Mr. M. E. SPENCER HARRISON (Market Rasen, Lincs) writes: "Aurelia's" letter (Dec. 13, 1947, p. 978) concerning the condition of hairdressers' shops describes the other side of a situation which is assuming significant proportions. Otitis externa was a disease affecting chiefly the male, but of recent years one has noticed a preponderance of female cases in the out-patient departments. With the ears continually covered by the hair, it is not surprising that, once established, an infection which arises primarily in the scalp will be resistant to treatment.

Fluids and Sulphonamides

Dr. BERNARD ROWLANDS (Tunbridge Wells) writes: While the relative toxicity of sulphamerazine, sulphathiazole, and other sulphonamides is being investigated and discussed, I would like to emphasize the fact that there is inadequate supervision of the amounts of fluid taken by patients who are being treated by these drugs. No doubt this supervision is very difficult in large hospitals. I speak from personal experience.

Obituary

A. C. DOUGLAS FIRTH, M.D., F.R.C.P.

Dr. Douglas Firth died suddenly at Cambridge at the age of 67 on Jan. 9. His friends knew that a few years ago he had had a warning of the disease which finally struck him down, but he had been so well in the interval, and so cheerful, that they were apt to forget that he was not in robust health.

Arthur Charles Douglas Firth, son of Charles Frederick Firth, of The Briary, Harrogate, was born on Feb. 10, 1880, and was educated at Harrow (Church Hill, Mr. J. C. Moss's House) and Trinity College, Cambridge, where he graduated B.A. in 1901, proceeding M.A. in 1905. As an undergraduate he was coxswain of the first Trinity boat. On coming down from Cambridge he went to St. Thomas's Hospital, where he took his M.B. in 1911. He was admitted M.R.C.P. in 1912, and went on to take the Cambridge M.D. in 1914. He soon became known as one of the young men well qualified to take up a post in a teaching hospital, and he was appointed assistant physician to the Royal Free Hospital, the Victoria Hospital for Children, the City of London Hospital for Diseases of the Chest, and the Royal National Orthopaedic Hospital. In 1919 he became assistant physician at King's College Hospital, retiring then from the staff of the Royal Free Hospital, and in the following year he was elected a fellow of the Royal College of Physicians. It was at King's College Hospital that most of his teaching work was done, and he became senior physician on the retirement of Sir Charlton Briscoe.

Firth loved teaching, and he particularly liked to teach the young student the first steps in clinical medicine. He brought to this important task a simplicity and an earnestness that were most impressive. He was also an examiner in, among other places, London, Cambridge, and Glasgow, and he treated the candidates with that kindness which was characteristic of him. Apart from his teaching work he carried on a large practice and was consulting physician to a number of small hospitals in Surrey and Kent, where his opinion was greatly valued by many general practitioners.

On the outbreak of war he played a great part in the transfer of King's College Hospital to the Sector Hospitals and was in charge of the teaching of students at Leatherhead Emergency Hospital. At this time he gave up private practice and devoted himself to hospital work. He took great pleasure in this, as he had charge of the students in their earliest days of clinical work, and he took care not only of their teaching but also of their social life. At the same time he became active in the affairs of the Royal College of Physicians and was elected a member of council in 1939, a censor of the College from 1940 to 1942, and in 1945 became senior censor. During this period, as it was difficult to arrange the examination for the M.R.C.P. in London, he made the necessary arrangements for the examination to be held in the Emergency Sector Hospitals.

In 1940 he was due to retire from the staff at King's, but owing to the war he remained on as senior physician, and when the war was over he was appointed to Cambridge University, taking charge of the arrangements for the postgraduate work of returning Service officers. This appointment necessitated his living in Cambridge and retirement from King's, and it also brought him the added pleasure, and honour, of being made a Fellow of Trinity Hall, Cambridge. Between the wars, while in active practice, his home in Manchester Square was the scene of many social functions where Firth and his wife delighted in entertaining their friends. He married in 1914 Violet Dorothea, daughter of Lieut.-Col. H. N. Reeves, of the Bombay Political Service, and had a son and three daughters. Firth's chief recreation, which was shared by his family, was walking, and their holidays and leisure were chiefly spent in the Lake District, which he loved and knew intimately. His death will be mourned by his old students throughout the world, and our sympathies go out to his widow and children in their sudden bereavement.

Prof. J. W. McNee writes: Douglas Firth had not many close friends and I was fortunate to be one of them. He had

a deep reserve through which few were allowed to penetrate, and many interesting facts of his good life are unlikely to be well known. His reserve was not easily detected, for he enjoyed good company and good conversation, and his quick eager voice and ready smile enlivened many a social evening or an otherwise dull examiners' meeting. He completed his clinical studies at St. Thomas's Hospital and, after qualifying, became house accoucheur to Mr. Tate. Then followed appointments as H.S. and H.P. at West London Hospital, to be succeeded by a most successful time as R.M.O. at the Victoria Hospital for Children, Tite Street. Firth loved children, and his success at this hospital was so great that he was made an honorary consulting physician, a post which he retained with pride for many years.

His marriage in 1914 was a very happy one, and his professional career seemed assured. When war broke out he began to assemble a Red Cross Ambulance Unit intended to serve with the French Army, but almost immediately serious illness overtook him which lasted a long time and seriously complicated his career. In 1915 he had recovered sufficiently to enter the R.A.M.C. but was always rejected for service overseas. In 1916 illness returned and lasted almost continuously until 1919. In October, 1919, he was appointed assistant physician to King's College Hospital, and from then onwards his health steadily improved and his career was never again disturbed. A wise decision, however, took him into the City as consultant physician to three large insurance companies, which saved him much of the harassing work and travel of an ordinary consultant. I first met Firth as a co-examiner in the Final M.B. at Cambridge, and subsequently we examined together on many occasions both there and in Glasgow. Firth liked examining because he was always so young in spirit himself and loved young people—some of his happiest hours in Scotland were probably spent in animated discussion with my young assistants.

Firth had an unusual hobby, recorded in *Who's Who* as "Postal History," which puzzled many people. He was an expert philatelist, but specialized in an interesting branch only known to a few. He collected ships' letters—that is to say, letters sent home in the early days of our colonial history through the captains of small brigs and sailing ships, to be posted and post-marked at small and now-forgotten ports such as Poole, Rye, Bantry, Galway, and many others. He found, to my astonishment, another collector of ships' letters in Glasgow with whom he would occasionally exchange notes and duplicates. Firth did not write much on modern medicine but was greatly interested in general and medical history. One of his most delightful essays was on the first case of disseminated sclerosis described in English by the patient himself—"The Case of Augustus d'Este," published in the *Proceedings of the Royal Society of Medicine* in 1941.

On his retirement from King's College Hospital after the second world war Firth was soon given a post at Cambridge which ensured his contact with young doctors and which suited him perfectly. To this was added the joy of his election as a Fellow of Trinity Hall, and his life was full until his first coronary attack a year or two ago gave him a warning; like the first, the second attack came suddenly, and proved fatal. Douglas Firth was a perfect example of the courteous and cultivated general physician, and his death is a great loss to all the young members of the profession whom he helped so much as well as to the friends of his own generation.

E. W. HEDLEY, M.B.E., M.D.

Dr. E. W. Hedley, who died at his home at Thursley, near Hindhead, on Jan. 3 at the age of 74, was consulting anaesthetist to St. Thomas's Hospital. He had been living in retirement for the last ten years.

Edward Williams Hedley was the eldest son of a large family. He was born in Middlesbrough, and at Uppingham he won the scholarship which took him to King's College, Cambridge. There he took a first in the first part of the natural science tripos, and he graduated M.B., B.Ch. as a student of St. Thomas's in 1900. He proceeded M.D. five years later. Meanwhile he had acted as a house-physician and later as obstetric house-physician at St. Thomas's, and he was also a clinical assistant at the West London and the Brompton

Hospitals. He was in general practice for a while, but when a vacancy occurred at St. Thomas's he was elected to the staff as an anaesthetist. When the hospital became the 5th London General Hospital during the 1914-18 war Hedley was commissioned in the R.A.M.C. with the rank of captain and did a great deal of work there and at several officers' hospitals in London. He was awarded the M.B.E. in recognition of his services in this connexion. On reaching the age limit he was made a consulting anaesthetist and elected a governor of the hospital.

He leaves a widow, two sons, and two daughters, and he will be greatly missed by many former colleagues and students who were grateful to him for much sound teaching.

Mr. JOHN JAMES ROBB, the well-known Dundee surgeon, died suddenly at his home at the age of 50 on Jan. 2. Mr. Robb was a son of the Scottish manse and was born in Kemnay, Aberdeenshire. Before starting medicine he held a commission in the Royal Horse Artillery, and was awarded the Military Cross while serving in France during the 1914-18 war. In the early years of his medical studies at Edinburgh he took a high place in the examinations in physiology and pathology and was appointed demonstrator in these subjects. After graduating M.B., Ch.B. in 1923 he filled various resident posts in Edinburgh Royal Infirmary, and it was then that he found his interests lay in surgery. After leaving the Infirmary his first post was with the Ministry of Pensions under Mr. Mercer in Edinburgh and later he was transferred to Bath. He took the F.R.C.S.Ed. in 1926, and thereafter, on obtaining a surgical appointment at the Bristol General Hospital, he was made assistant to the professor of surgery in the University of Bristol.

A colleague writes: For the next five years Mr. Robb occupied the important position of consulting surgeon to the County of Zetland and surgeon to the Gilbert Bain Hospital, Lerwick. The appointment of honorary assistant surgeon to Dundee Royal Infirmary came in 1933, followed by promotion to honorary surgeon in 1940. At the same time he was appointed lecturer in clinical surgery in the University of St. Andrews. He was also surgeon to Ashludie Sanatorium, King's Cross Infectious Diseases Hospital, the Royal Victoria Hospital, and Meigle Hospital. Mr. Robb contributed to the medical journals on various subjects, but his main interest was in abdominal surgery. He spent many of his holidays visiting hospitals abroad. Mr. Robb quickly settled down in Dundee to his work as a hospital surgeon and teacher of students—work which was arduous but always congenial and always conscientiously done. He was a man of unruffled temperament and of great kindness and personal charm. He never seemed hurried or harassed by pressure of work, and although his working day was often a long one, he answered every call with cheerfulness. He will be much missed by the many who sought his advice and help. Deep sympathy is extended to Mrs. Robb and his young son and daughter in their bereavement.

Dr. ALEXANDER TAYLOR WOODWARD died at the early age of 52 after a long period of ill health—actually over two years. He was educated at Taunton School, Somerset, and Edinburgh University, where he graduated M.B., Ch.B. in 1917. Before graduating he served as a surgeon-probationer and afterwards as a temporary surgeon, R.N., in the 1914-18 war. He was later a house-surgeon at the Royal Infirmary, Edinburgh, and at the Sunderland Royal Infirmary. In 1920 he settled in general practice in Sunderland, his native town, and quickly became a popular and busy practitioner. He was an active member of the British Medical Association, serving on the National Formulary Subcommittee from 1928 to 1933; he was chairman of the Sunderland Division in 1937-8. He was an assistant physician at the Monkwearmouth and Southwick Hospital and an honorary life member of St. John Ambulance Association, for which he was an examiner. His loss will be keenly felt by his patients, colleagues, and many friends.

Dr. THOMAS EDWARDS READE, of Banbridge, Co. Down, died suddenly, following a heart attack, on Jan. 5 at the early age of 40. The elder son of the late Adam Reade, he was educated at Queen's University, Belfast, where he graduated M.A., B.Ch., in 1911. After qualifying he held resident posts as a house-surgeon and house-surgeon at the Royal Victoria Hospital, Belfast. He settled in Banbridge about eleven years ago, and was in the practice of Dr. Robert Martin and the post of Medical Officer, Banbridge, and the Post

Office; he was also certifying factory surgeon for the district. During the war he rendered valuable service as an officer in the Home Guard and for a time he attended the troops stationed at Gilford. He was an enthusiastic member of the Banbridge and District Medical Club, of which he was secretary and treasurer. His high degree of professional skill and his sound clinical judgment were recognized by both patients and colleagues, and his untimely death is mourned by a host of friends. He married the daughter of Dr. William Boyd and Mrs. Boyd, of Banbridge, who survives him.—R. S. A.

Universities and Colleges

UNIVERSITY OF OXFORD

In a Congregation held on Dec. 13, 1947, the following degrees were conferred:

B.M.—P. J. R. Nichols, E. M. Vaughan Williams, P. B. Croft, W. H. I. Fairbank, J. H. Lloyd Jones, B. R. Hunt, P. S. Moore, Mrs. Anne G. Marie Sadka.

1 In absence.

UNIVERSITY OF LONDON

The following candidates at the London School of Hygiene and Tropical Medicine have been approved at the examination indicated:

ACADEMIC POSTGRADUATE CERTIFICATE IN PUBLIC HEALTH.—M. H. Abdulcader, A. A. Cameron, P. J. Cowin, C. W. Davies, G. J. Li. Davies, M. A. Dowling, D. F. Eastcott, Patricia M. Elliott, D. G. Evans, J. Glass, Margot Graham, V. T. H. Gunaratne, Helen E. E. Gunn, M. N. Gupta, Kathleen Harding, E. A. Hargreaves, J. A. Harrington, J. P. Harrison, S. I. Heinsheir, N. S. Hepburn, G. R. Holtby, B. E. C. Hopwood, J. B. Kershaw, L. Kulczycki, R. G. Larkin, A. H. MacGeachy, I. W. MacKiehan, Oliver R. Major, Phyllis Morley, Margaret E. Munro, G. D. K. Needham, A. J. Patterson, P. A. B. Ral, A. T. Roden, F. Schulz, E. S. O. Smith, C. N. D. Taylor, S. W. W. Terry, W. Thorburn, P. Tomlinson, S. J. Walsh, Edith H. Williams, N. Williams, J. Wilson, W. A. Wilson, G. M. Wright.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

At a quarterly meeting of the Council of the College held Jan. 8, with Sir Alfred Webb-Johnson, Bt., President, in the chair, the following resolution of condolence was passed on the death of Mr. G. F. Stebbing, a Member of the Council: "The President of the Council of the Royal College of Surgeons of England hereby expresses their deep regret at the death of Mr. George French Stebbing and their sincere sympathy with Mrs. Stebbing and her family in their bereavement. The medical profession has suffered the loss of a surgeon and radiotherapist of ability and vision, who will be remembered for his quiet and unswerving determination to achieve what he knew to be right. The Council mourn the passing of a wise counsellor and beloved colleague."

Prof. Geoffrey Hadfield, M.D., was appointed Sir William Collins Professor of Human and Comparative Pathology of the College.

The following hospital was recognized in respect of the residential surgical posts required of candidates for the Final Fellowship examination: Tindal Hospital, Aylesbury (resident surgical officer and house-surgeon).

Diplomas of Fellowship were granted to M. S. Brett and P. A. Ring.

A Diploma of Membership was granted to J. Davenport.

Diplomas in Tropical Medicine and Hygiene; Psychological Medicine; Laryngology and Otolaryngology; Anaesthetics; and Industrial Health were granted, jointly with the Royal College of Physicians of London, to the following successful candidates:

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE.—B. L. P. Brosseau, J. D. Cruickshank, A. J. Fulthorpe, D. B. Jelliffe, L. F. Koyl, S. Miles, A. M. Peck, P. D. Stewart.

DIPLOMA IN PSYCHOLOGICAL MEDICINE.—E. S. Foote, W. Forster, C. E. L. Haffner, H. E. W. Hardenberg, N. C. Horne, S. Karagulla, M. Klass, H. S. Klein, A. Lask, N. Morrissey, D. F. O'Neill, Nydia E. Pantom, M. Silverman, Margaret S. S. Small, Jeannie E. Stirling, C. Tellow, J. I. Timothy, V. J. K. Wright.

DIPLOMA IN LARYNGOLOGY AND OTOLARYNGOLOGY.—H. Anderson, L. V. Arnold, J. C. Ballantyne, B. Bellon, G. R. Evans, J. Fine, H. S. Gild, E. W. Jarrah, R. H. S. Lee, J. L. Morris, K. O'Brien, M. A. O'Brien, H. B. Pickard, Q. R. Schindler, A. K. Sear, B. K. Sengupta, R. Smith, R. W. Tipler.

DIPLOMA IN ANAESTHETICS.—J. J. L. Ablett, Aileen K. Adams, J. T. Anderson, G. E. Badman, I. N. Bahl, H. C. J. Ball, A. K. Bannister, V. B. Bhargava, Jocelyn P. Bodington, J. A. Bowen-Jones, H. C. Burbidge, G. W. Campbell, D. M. Carrere, J. H. Challenger, H. J. E. Christie, S. Citron, R. F. Connell, H. S. A. Corfield, J. L. S. Cresswell, D. Dangerfield, A. Danin, D. H. Davies, Doreen Davies, G. G. Donaldson, C. H. Dunn, W. O. M. Ede, E. M. Edwards, J. L. C. Fernandez, R. A. Fisher, F. W. A. Fosbery, C. M. Friedland, J. P. Gallie, R. E. Gibson, L. A. Gifford, Muriel M. Gloster, R. N. Grabowsky-Atherstone, Margaret A. Griffiths, J. Hamilton, Phoebe N. Harvey, D. R. Hughes, A. M. Hutton, J. N. T. Hutton, D. H. Irish, L. H. James, H. Jefferson, J. Johnston, D. F. McAlpine, G. McLoughlin, M. C. Macqueen, H. B. Maliphant, J. P. Murphy, A. O'Connor, Barbara D. Owens, J. G. Peacock, G. F. Purves, L. Rendell-Baker, J. R. Rock, E. H. Seward, D. W. Shannon, J. C. Skelley, A. C. Smith, G. H. Stuart, V. V. Tarvadi, L. L. Theron, Betty Thomas, J. M. van de Walle, F. van Nieuwen, N. S. Wallis, H. Waters, D. S. Wilson, J. R. J. Winter, J. Woodley, A. P. Wright, G. V. S. Wright.

DIPLOMA IN INDUSTRIAL HEALTH.—G. Buchanan, H. F. Chard, F. H. Kirk, P. Pringle, M. W. Robinson, R. S. F. Schilling, C. L. Sutherland, A. Li. Thompson, D. R. Thompson, H. Wyers.

No. 1

EPIDEMIOLOGICAL NOTES

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Jan. 3.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	55	4	26	1	2	61	8	32	1	—
Deaths	—	2	—	—	—	—	—	—	—	—
Diphtheria	225	22	31	10	3	242	19	65	33	6
Deaths	5	1	—	—	—	4	—	2	—	—
Dysentery	86	11	19	1	—	65	2	17	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica, acute	2	—	1	—	—	2	1	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	31	11	2	—	—	40	13	4
Deaths	—	1	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years	—	—	—	36	—	—	—	—	38	—
Deaths	59	3	11	3	5	76	9	7	16	1
Measles*	4,490	251	163	174	23	10,823	359	206	28	758
Deaths	1	—	—	—	—	10	—	—	—	2
Ophthalmia neonatorum	58	5	10	1	—	67	5	9	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever	39	2	—	—	—	3	1	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenza ..	1,098	99	3	5	10	1,264	76	40	5	5
Deaths (from influenza)†	35	7	5	—	1	36	5	12	1	—
Pneumonia, primary	—	—	284	41	—	—	—	385	48	—
Deaths	—	60	—	18	12	—	82	—	—	19
Polio-encephalitis, acute	4	—	—	—	—	1	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Poliomyelitis, acute	59	7	5	2	—	9	2	1	20	—
Deaths	—	—	—	—	—	—	—	—	—	—
Puerperal fever	—	3	6	1	—	—	4	15	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia‡	112	11	11	—	—	120	10	23	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Relapsing fever	1	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	1,786	125	298	42	34	1,161	75	246	37	35
Deaths	—	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid fever	5	—	2	1	1	5	—	2	4	—
Deaths	—	—	—	—	—	—	—	—	—	1
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough*	1,891	135	20	65	9	2,030	115	68	64	62
Deaths	5	—	—	1	—	17	2	3	—	—
Deaths (0-1 year)	420	41	73	28	22	612	82	86	49	19
Infant mortality rate (per 1,000 live births)	—	—	—	—	—	—	—	—	—	—
Deaths (excluding stillbirths)*	5,720	968	665	236	165	6,820	1,171	851	297	177
Annual death rate (per 1,000 persons living)	—	—	13.8	14.9	—	—	—	18.7	—	—
Live births	9,603	1,535	963	470	291	10,882	1,770	1,217	510	335
Annual rate per 1,000 persons living	—	—	19.4	29.7	—	—	—	24.5	—	—
Stillbirths	227	31	26	—	—	336	41	36	—	—
Rate per 1,000 total births (including stillborn)	—	—	26	—	—	—	—	29	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

Poliomyelitis

Notifications of poliomyelitis in England and Wales in the week ending Jan. 10 were 52 (59) and of polio-encephalitis 6 (4). Figures for the previous week are shown in parentheses. The hope lately expressed in these notes that notifications would fall to their normal winter level by the middle or end of February now seems unlikely to be fulfilled.

Discussion of Table

In England and Wales an increased incidence was recorded for all notifiable diseases. The increases included measles 1,907, whooping-cough 750, acute pneumonia 408, scarlet fever 317, diphtheria 68, dysentery 33, paratyphoid fever 17.

A large increase in the notifications of measles was recorded throughout the country and the total was the largest since the beginning of August. The largest rises during the week were Lancashire 185, Durham 152, London 136, Monmouthshire 104, Sussex 98, Lincolnshire 93, and Nottinghamshire 90.

The largest increases in the notifications of whooping-cough were London 68, Kent 56, and Yorkshire West Riding 46. An increase in the incidence of scarlet fever was also recorded in all regions; the largest rise was Staffordshire 41. The notifications of acute pneumonia were the largest since February, and the largest increase was London 61. The chief features of the returns for diphtheria were increases in Essex 14, Durham 11, and Warwickshire 11.

No fresh outbreaks of dysentery of any size were reported; the largest returns were Lancashire 21, London 11, and Surrey 9. A further 21 cases of paratyphoid were notified from the outbreak in Suffolk; 14 of these were reported from Ipswich C.B.

The largest returns of poliomyelitis during the week were those of London 7 (Shoreditch 3), Middlesex 6, Lancashire 5, Surrey 5.

In Scotland infectious diseases were less prevalent than in the preceding week. There were decreases in the notifications of measles 115, acute primary pneumonia 88, and diphtheria 34, while the largest rise was in the notifications of cerebrospinal fever 10. Of the 5 cases of acute poliomyelitis 3 were notified in the city of Glasgow.

In Eire rises were recorded in the incidence of measles 81, whooping-cough 38, acute primary pneumonia 30, scarlet fever 24, and diarrhoea and enteritis 23. The rise in the incidence of scarlet fever and measles was fairly general throughout the country, while the increase in cases of whooping-cough was contributed by Dublin C.B. and Waterford C.B.

In Northern Ireland a rise was reported in the incidence of measles 16 and scarlet fever 13. The former was due to an outbreak in Antrim county and the latter to the experience of Belfast C.B.

Quarterly Returns for Eire

The birth rate during the September quarter of 1947 was 23.4 per 1,000, the highest rate in a third quarter since 1942. The infant mortality of 47 per 1,000 births was 7 below the rate for the September quarter of 1946 and 26 below the rate for the third quarter of 1943. Maternal mortality was 1.8 per 1,000 registered births and was 0.2 above the rate for the corresponding quarter of 1946. The general death rate was 11.2, being 0.3 below the rate for the third quarter of 1946. Deaths from diarrhoea and enteritis among infants under 2 years numbered 156; this total was 168 below the average of the third quarters of the five preceding years. Only 10 deaths were attributed to diphtheria—a figure which was 39 below the five years' average. The 43 deaths from measles were 34 above the average of the last five third quarters. Deaths from pulmonary tuberculosis were 636 and from other forms of tuberculosis 219; these were 75 and 35, respectively, above the number recorded in the third quarter of 1946.

Infectious Diseases in 1947 in England and Wales

The number of notifications of diphtheria in 1947 was the lowest ever recorded. There has been a steady decline in the incidence of diphtheria since 1942, and it is now about one-sixth of the immediate pre-war level. The lowest number of weekly notifications in 1947 was 138, compared with 815 and 788 in 1938 and 1937, and the largest weekly total in 1947 was 256 as against 1,889 in 1938 and 1,823 in 1937. The decline in the notifications of cerebrospinal fever since the outbreak in 1940, when 12,791 cases were notified during the year, has been interrupted and the notifications in 1947 were slightly above the totals for the three preceding years.

The large decrease in the incidence of dysentery recorded in 1946 has been repeated and the disease has now reverted to the pre-war level. Notifications of typhoid and paratyphoid

were considerably fewer than in 1946 but were above the level of the three years preceding 1946. In the outbreak of acute poliomyelitis, perhaps the chief feature of 1947, the notifications exceeded 600 per week for the four weeks from the 33rd-36th week, compared with 10 to 30 cases in the preceding four years. A comparison of the totals recorded during the last five years is:

	Number of Notifications				
	1943	1944	1945	1946	1947
Scarlet fever	116,217	93,801	74,392	57,614	60,524
Whooping-cough .. .	95,857	93,107	62,022	92,028	94,241
Diphtheria	35,944	29,446	25,059	18,156	10,528
Measles	374,198	117,437	443,002	154,826	399,461
Acute pneumonia .. .	52,225	38,175	34,059	36,106	34,348
Cerebrospinal fever ..	3,380	2,883	2,691	2,627	3,147
Dysentery	7,772	10,150	16,533	8,441	4,179
Enteric (paratyphoid and typhoid) fevers ..	707	536	679	1,367	880
Acute poliomyelitis ..	414	510	799	703	8,592
Influenza. Deaths in the great towns ..	6,280	1,744	1,307	2,629	1,774

Week Ending January 10

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,525, whooping-cough 2,057, diphtheria 216, measles 3,746, acute pneumonia 975, cerebrospinal fever 60, acute poliomyelitis 52, dysentery 114, paratyphoid 8, and typhoid 3.

The Services

The War Office has announced that Major-General Neil Cantlie, C.B., M.C., late R.A.M.C., will succeed Lieutenant-General Sir Alexander Hood, G.B.E., K.C.B., as Director-General, Army Medical Services, on April 1.

Captain S. S. Pavillard, M.B., Ch.B., Straits Settlement Volunteer Force, has been appointed M.B.E. (Military Division) in recognition of gallant and distinguished services while a prisoner-of-war in Japanese hands (prior to September, 1945).

The King of the Hellenes has conferred the following decorations in recognition of distinguished services in the cause of the Allies:

Commander of the Royal Order of King George I with Swords.—Brigadier (Temporary) F. R. Sandford, C.B.E., M.C., T.D., late R.A.M.C.

Knight of the Royal Order of King George I with Swords.—Major (Temporary) W. F. Felton, R.A.M.C.

The President of the U.S.A. has conferred the following decorations in recognition of distinguished services in the cause of the Allies:

Legion of Merit, Degree of Officer—Lieutenant-Colonel W. B. F. Brennan, R.A.M.C.

Bronze Star Medal.—Lieutenant-colonel (Temporary) J. M. Barnes and Major H. G. Skinner, R.A.M.C.

The Queen of the Netherlands has conferred the following decorations in recognition of distinguished services in the cause of the Allies:

Commander of the Order of Orange Nassau with Swords.—Colonel T. F. Kennedy, O.B.E., late R.A.M.C., and Lieutenant-Colonel J. P. Douglas, O.B.E., R.A.M.C.

Officer of the Order of Orange Nassau with Swords.—Colonel (Acting) A. F. Kennedy and Lieutenant-Colonel (Acting) M. S. Harvey, R.A.M.C.

Medical News

Sickness Benefit Regulations

The National Insurance Advisory Committee will report on the proposed amendments to Sickness Benefit Regulations (H.M.S.O., price 10s. 6d.) made under the National Insurance Act, 1946. Written representations to the preliminary draft of the regulations will be considered by the Committee and should be sent before Feb. 6 to the Secretary, National Insurance Advisory Committee, 6, Curzon Street, London, W.1.

Medical Conferences Proposed

Dr. F. C. M. B. Jones, M.D., has proposed to ex-servicemen in London a conference on the subject of the supplementary ration book. The conference will be held on Feb. 10, 1948, at 10.15 a.m. at the Royal College of Physicians, 11, St Andrews Place, Regent's Park, London, N.W.1. The conference will be held for the purpose of discussing the ration book and the medical profession's views on it.

Committee on Health Centres

When the Central Health Services Council has been formed the Minister of Health proposes to set up a committee in collaboration with it to gather information and proffer expert guidance on the best kinds of health centres to develop.

Royal Sanitary Institute Prizes

The Royal Sanitary Institute offers the John Edward Worth Prize of £40 for an essay on "Practical Improvements of Appliances or Inventions in or about Dwelling-houses," and the John S. Owens Prize of £15 for an essay on "Atmospheric Pollution." A copy of the general conditions may be obtained from the secretary of the Institute, 90, Buckingham Palace Road, London, S.W.1. Entries must be submitted by Dec. 31.

Pharmacists' College

The Pharmaceutical Society of Great Britain has decided that the steady rise in costs and salaries makes it impossible to continue to maintain its College as it has done since it was founded in 1842. After consultation with the University of London it has therefore proposed that the College should become an independent corporate body governed by a Council including representatives of the Society, the University, the academic staff, and the pharmaceutical profession and industry. The College would remain a "school" of the University. The Society and the University are now discussing a proposal that the latter should take over the building in Brunswick Square intended to house the College, on which the Society has already spent £200,000 and for which as much again would be needed to complete it at present-day prices.

Peter Edwards Ward

An extension of the Cheshire Joint Sanatorium at Loggerheads, near Market Drayton, was opened on Dec. 5. It has been named the Peter Edwards Ward in recognition of the long and faithful services rendered by Dr. Peter W. Edwards.

Liverpool Heart Hospital

In order to obtain more space, particularly for treatment by graduated exercise, the Liverpool Heart Hospital has acquired Caldys Manor. The site covers 13 acres of land in sheltered countryside.

Foundling Estate

The Dominion Students' Hall Trust, in order to provide scope for its increasing activities and with a view to furthering ancillary objectives of a charitable or educational nature centred in Bloomsbury, has acquired the Foundling Estate, which surrounds its headquarters at London House, Guilford Street. The Estate was bought about 1740 by Captain Coram, the renowned sailor, to endow the old Foundling Hospital for children. The hospital itself was moved to Berkhamsted in 1926.

British Association

Prof. H. Hartridge, F.R.S., has been appointed president of the physiology section of the British Association.

To Lecture in Scandinavia

Prof. Macintosh, Nuffield Professor of Anaesthetics in the University of Oxford, leaves Britain on Jan. 24 for a lecture tour on behalf of the British Council in Finland, Sweden, and Denmark.

Gift to Polish Clinic

The Polish Ambassador received a thoracoscope on Jan. 15 from the Cultural Subcommittee of the British-Polish Society. It is inscribed in English and Polish: "Presented by the British-Polish Society, London, to the University Tuberculosis Clinic, Wroclaw."

Wills

Sir Thomas John Carey Evans, of Crickieth, left £23,172. Dr. Reginald Cecil Bligh Wall, formerly archivist to the Society of Apothecaries, left £8,305.

COMING EVENTS

Services Hygiene Officers' Dinner

Brigadier A. E. Richmond will deliver his presidential address before the Navy, Army, and Air Force Hygiene Group of the Society of Medical Officers of Health at B.M.A. House, Tavistock Square, London, W.C., on Friday, Jan. 30, at 5 p.m. (not 5.30 p.m. as announced in this column last week). The reunion dinner of the group will be held at the time and place arranged.

Meeting for Prayer

A prayer meeting for medical men who are professing Christians will be held on Thursday, Jan. 29, at Livingstone House, Broadway, Westminster, London, from 3.45 to 4.45 p.m. It will be preceded by tea and light refreshments at 3.30 p.m.

Association of Industrial Medical Officers

A meeting of the Association of Industrial Medical Officers will be held at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C., on Friday and Saturday, Jan. 30 and 31, 1948. On Jan. 30, at 5.15 p.m., Dr. C. M. Fletcher will speak on "Coal Miners' Pneumoconiosis and Recent Developments." A dinner at the Connaught Rooms (Great Queen Street, London, W.C.) will follow. On Jan. 31, at 10.30 a.m., Prof. E. J. King will discuss "Recent Developments in the Study and Treatment of Silicosis."

Association of Clinical Pathologists

The Association of Clinical Pathologists will celebrate its coming-of-age with a dinner at the Piccadilly Hotel, London, W., on Friday, Jan. 30, at 7.30 p.m. for 8 p.m.

Course on Medical Treatment

The University of Leeds Postgraduate Committee has arranged a clinical week-end course devoted to the subject of medical treatment, and open to general practitioners and others interested, to be held at the General Infirmary at Leeds on Feb. 21 and 22. The fee for the course is £1 ls. Further information and application forms may be obtained from the Senior Administrative Officer, School of Medicine, Leeds, 2.

SOCIETIES AND LECTURES

Monday

BRITISH INSTITUTE OF PHILOSOPHY.—At University Hall, 14, Gordon Square, London, W.C., Jan. 26, 5.15 p.m. "Existentialism." Prof H. J. Paton.

INSTITUTE OF LARYNGOLOGY AND OTOTOLOGY, 330-332, Gray's Inn Road, London, W.C.—Jan. 26, 2 p.m. "Headache." Mr. W. M. Mollison.

ROYAL SOCIETY OF ARTS, John Adam Street, Adelphi, London, W.C.—Jan. 26, 4.30 p.m. "The Common Cold." Cantor Lecture by Dr. C. H. Andrewes, F.R.S.

Tuesday

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—Jan. 27, 5 p.m. "The Scleroderma." Dr. Hugh Gordon.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHARMACOLOGY. Gower Street, W.C.—Jan. 27, 5.15 p.m. "Symptomatic Drugs. Sympathomimetics and Sympatholytics." Mr. F. Bergel.

Wednesday

EDINBURGH CLINICAL CLUB.—At Edinburgh Royal Infirmary, Jan. 28, 4 p.m. "Surgical Aspects of the Treatment of Peptic Ulcer." Prof. J. R. Learmonth.

INSTITUTE OF LARYNGOLOGY AND OTOTOLOGY, 330-332, Gray's Inn Road, London, W.C.—Jan. 28, 4.30 p.m. "The Larynx." "Organic Nervous Affections of the Larynx." "Laryngeal Paralysis. Treatment—Educational and Operative." Mr. V. E. Negus.

ROYAL SOCIETY OF ARTS, John Adam Street, Adelphi, London, W.C.—Jan. 28, 2.30 p.m. "Recent Progress in the Making of Precision Instruments." Mr. A. J. Philpot.

Thursday

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—Jan. 29, 5 p.m. "Dermatoses due to Filtrable Virus." Dr. G. B. Mitchell-Heggs.

ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN (SCIENTIFIC AND TECHNICAL GROUP), 16, Prince's Gate, London, S.W.—Jan. 29, 7 p.m. "Photographic Visual Aids." D. A. Spencer, Ph.D., Hon. F.R.P.S.

SOCIETY OF PUBLIC ANALYSTS AND OTHER ANALYTICAL CHEMISTS.—At Royal Society of Medicine, 1, Wimpole Street, London, W., Jan. 29, 2.30 p.m. Joint meeting of the Physical Methods Group and the Biological Methods Group. Subject of meeting: "Methods of Penicillin Assay—Their Purpose, Scope and Validity."

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, S.W.—Jan. 29, 4.30 p.m. "Psychiatric Lecture-demonstration." Dr. D. Curran.

Friday

KENT AND CANTERBURY HOSPITAL.—Jan. 30, 5 p.m. Clinical meeting. Demonstration of Cases.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—At Pathology Department, School of Medicine, Leeds, Jan. 30, 8.30 p.m. Pathological meeting.

LONDON CHEST HOSPITAL, Victoria Park, E.—Jan. 30, 5 p.m. "Selection of Cases for Artificial Pneumothorax." Dr. E. H. Hudson.

ROYAL MEDICAL SOCIETY, 7, Melbourne Place, Edinburgh.—Jan. 30, 8 p.m. "The Rh Factor Assessment in Disease." Dissertation by Mr. J. S. Barrett.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHYSIOLOGY. Gower Street, W.C.—Jan. 30, 5 p.m. "The Living Fabric: Blood and Breath." Dr. E. A. Underwood.

APPOINTMENTS

Jung Bahadur Singh, O.B.E., L.R.C.P.&S.Ed., and Jacob Alexander Nicholson, M.B., Ch.B.Ed., have been appointed Unofficial Members of the Executive Council of the Colony of British Guiana.

GAWNE, STANLEY C., M.D., D.P.H., Deputy County Medical Officer for Lancashire.

HOLMES, J. MACD., M.D., M.R.C.P., Visiting Neurological Physician, Wrexham County (E.M.S.) and War Memorial Hospitals.

HOWIE, JAMES ERSKINE, M.D., D.P.M., Regional Psychiatrist, Liverpool Regional Hospital Board.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL.—*Directors of Clinical Studies (Part-time):* Medicine, Terence East, D.M., F.R.C.P.; Surgery, Sir Cecil P. G. Wakeley, F.R.C.S.; Obstetrics and Gynaecology, J. H. Peel, F.R.C.S., F.R.C.O.G.; Child Health, Wilfrid Sheldon, M.D., F.R.C.P. *Honorary Teaching Staff:* A. H. Galley, M.B., B.S., D.A., Assistant Anaesthetist, A. J. Heriot, M.S., F.R.C.S., Assistant Surgeon, R. S. Lewis, F.R.C.S., Assistant Surgeon for diseases of the Ear, Nose, and Throat, Samuel Oram, M.D., Assistant Physician, Dennis Hill, M.B., B.S., Physician in Psychological Medicine, S. G. Clayton, M.D., M.S., F.R.C.S., Assistant Obstetric and Gynaecological Surgeon, D. I. Williams, M.B., B.S., Assistant Physician for Diseases of the Skin. *Full-time Staff:* A. H. Baynes, M.B., B.Chir., Acting Assistant Chemical Pathologist and Demonstrator in Chemical Pathology, G. F. M. Hall, M.B., Ch.B., Demonstrator in Morbid Anatomy, A. C. Cunliffe, M.B., B.Chir., Assistant Bacteriologist and Lecturer in Bacteriology.

MIDDLESEX COUNTY COUNCIL.—At West Middlesex County Hospital: Dermatologist: F. J. V. Jenner, M.R.C.P.; Director of Department of Physical Medicine: D. M. L. Doran, B.M., B.Ch.

MILNE, JAMES, M.B., Ch.B., D.P.M., Deputy Medical Superintendent, Fife District Asylum, Springfield, Cupar.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—*Honorary Assistant Surgeon:* John D. Youngshand, F.R.C.S. *Honorary Assistant Anaesthetist:* P. R. Bromage, M.B., B.S., D.A., Paul Merlin, M.B., Ch.B., D.A.

STREET, F. N., M.B., F.R.C.S., Resident Surgical Officer, Hospital for Sick Children, Great Ormond Street, London, W.C.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Bickford.—On Dec. 25, 1947, at the Mayo Clinic, U.S.A., to Dr. Joyce Bickford (née Davies), wife of Dr. R. G. Bickford, a son.

Brown.—On Jan. 7, 1948, at Edgbaston Maternity Home, Birmingham, to Jean, wife of Dr. R. J. K. Brown, a daughter.

Fraser.—On Jan. 7, 1948, to Dr. and Mrs. R. J. A. Fraser (née Dr. Mary E. Chalmers), 77, Anderson Drive, Aberdeen, a son.

Kay.—On Jan. 11, 1948, at Claremont Nursing Home, Glasgow, to Janice and Drew Kay, M.D., F.R.C.S.Ed., a daughter.

Oakes.—On Jan. 13, 1948, at Southmead Hospital, Bristol, to Jean and Henry Oakes, a son.

Roberts.—On Dec. 31, 1947, at the Queen Elizabeth Hospital, Birmingham, to Margaret (née Holloway), wife of Dr. Keith D. Roberts, a daughter—Meryl Elizabeth.

Thompson.—On Jan. 7, 1948, at Woodfield Nursing Home, Oldham, to Doreen (née Bickford), wife of Dr. John Thompson, a second child—Joanna Mary.

MARRIAGE

Cox—Monaghan.—On Jan. 14, 1948, at Merton Mowbray, John Cox, M.B., D.R.C.O.G. and Irene Monaghan, M.B., Ch.B.

DEATHS

Anderson.—On Jan. 10, 1948, at 74, Lower Baggot Street, Dublin, Joseph Barcroft Anderson, M.D.

Beesley.—On Jan. 16, 1948, at 7, Lion House, Exmouth, Clarence Beesley, L.R.C.P.&S.Ed.

Bell.—On Jan. 11, 1948, at "Edzell," Lundin Links, Fife, James Bett Bell, M.B., Ch.B.

Bevis.—On Jan. 9, 1948, Harold Bevis, M.R.C.S., L.R.C.P., of Cromwell House, Haydon Park Road, Wimbledon, S.W., aged 64.

Colmer.—On Jan. 10, 1948, at 8, Junction Road, Oldfield Park, Bath, Vylian Colmer, M.R.C.S., L.R.C.P., aged 65.

Downes.—On Jan. 12, 1948, Mary Mounsey Downes, M.B., Ch.B., of Elgar Avenue, Tolworth, Surbiton, Surrey, aged 53.

Duncan.—On Jan. 18, 1948, at Manchester Royal Infirmary, Helen Winifred Duncan, M.D., M.R.C.P., of 11 Wennington Road, Southport.

Glenny.—On Jan. 7, 1948, at Merham Terrace, Warrenpoint, Co. Down, Ireland, William Charles Watson Glenny, L.R.C.P.&S.I. and L.M., aged 72.

Greathead.—On Jan. 13, 1948, at Durban, South Africa, Edward Rivers Greathead, M.R.C.S., L.R.C.P., late of St. Albans, Herts.

Lewis-Hoyd.—On Jan. 12, 1948, at Towy, N. Wales, Evan Lewis-Hoyd, M.R.C.S., L.R.C.P., aged 75.

McMillan.—At Shotts, Lanarkshire, John McMillan, M.B., Ch.B.

Mannell.—On Jan. 18, 1948, at 6, Courtfield Road, London, S.W., Debonnaire Frederick Mannell, M.R.C.S., L.R.C.P.

Murphy.—On Jan. 17, 1948, at 2, Ethelbert Road, Canterbury, Charles Edward Murphy, F.R.C.S.I., aged 77.

Oldmeadow.—On Jan. 14, 1948, at Bramley, Hampshire, Lloyd John Hollis Oldmeadow, M.D., F.R.C.S.Ed., late of Kington, Warwickshire.

Plumbly.—On Jan. 12, 1948, George Lewis Spurrell Plumbly, M.B., B.S., of Harvey House, Watton, Thetford, Norfolk, aged 44.

Reardon.—On Jan. 11, 1948, at 88, Blackford Avenue, Edinburgh, James Clement Purcell Reardon, L.R.C.P.&S.Ed.

Staley.—On Jan. 11, 1948, at 70, Barton Road, Barton-upon-Irwell, Lancs, Robert James Staley, M.B., Ch.B., aged 56.

Thomas.—At Brynmawr, Breconshire, John Lewis Thomas, M.D., aged 85.

Watson.—On Jan. 12, 1948, at Gibraltar, William Bertram Watson, M.D., of Harrogate, aged 70. Funeral at Gibraltar Jan. 14. Memorial service at St. Peter's Church, Harrogate, Jan. 21, 11.15 a.m.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Vitamin D for Chilblains

Q.—*Very large doses of vitamin D₂ (up to half a million international units at weekly intervals) have been recommended as a preventive of chilblains. Is there any risk of heavy deposition of calcium in the tissues if old people take the vitamin in such amounts?*

A.—According to the most recent evidence vitamin D is ineffective in both the prevention and treatment of chilblains (*Lancet*, 1947, 2, 794). It should never be used for this purpose, as it can be toxic if given in the high doses often recommended. Half a million units at weekly intervals would probably not produce toxic effects. Many patients apparently tolerate 150,000 units daily over a period without any harmful effects, although toxic effects have been reported from doses of 100,000 to 200,000 units daily. Doses of more than 150,000 units daily are potentially dangerous. The chief dangers of overdosage with vitamin D are metastatic calcification, particularly in the kidneys and blood vessels, and renal failure, which may be irreversible. Early symptoms of intolerance are nausea, vomiting, headache, tiredness, muscular weakness, and polyuria.

Prescribing Dangerous Drugs

Q.—*In some hospitals the procedure adopted for prescribing dangerous drugs is for the resident medical officer or consultant to state the strength of the dangerous drug required and to initial the prescription. In the Dangerous Drugs Regulations it is stated that the prescription should be signed by the responsible medical officer. Does this mean that initialling of the prescription is inadequate?*

A.—The law relating to this subject is well set out in Speller's *Law Relating to Hospitals*, pp. 167–74, which would well repay study by any member of a hospital staff who may have occasion to handle these drugs. The regulations made under the Dangerous Drugs Acts, 1920–5, were modified by the Dangerous Drugs (Hospital General Exemption) Order, 1924, which provides that the initials only need be added to a prescription for such drugs, if written by a properly authorized member of the staff on a printed prescription form issued by the hospital. If a blank sheet of paper is used it must bear the full signature of the prescriber, together with the other particulars required under the D.D.A. regulations. The prescription must be dated, and must bear the name of the patient who is to receive the drugs (or his registered number; this applies particularly to patients attending a clinic for venereal disease, who may be identified only by such a number).

Dangerous drugs may also lawfully be supplied by a hospital dispenser on the requisition of a sister in charge of a ward, for the purpose of replenishing her stock, to be used in accordance with the orders of the doctor or dental surgeon concerned; there is no definition of the qualifications of the sister (or there is of the hospital dispenser) under these regulations, but it is probable that she must be a State registered nurse. Her requisition must be filed in the dispensary and she must keep a copy of it.

Industrial Hazard of Sodium Chromate

Q.—*What will be the effect, if any, on the health of workers using returned empty biscuit tins with a solution of sodium chromate in 1946 in a detergent solution of 0.8% trisodium phosphate plus 1.6% metasilicate at 180° F.?* The tins are subsequently removed with hot water.

A.—Dermatitis of the hands and forearms, if exposed, and possibly irritation of the nasal mucosa, may occur. It is probable that the solution of sodium chromate in the bath is very concentrated, but even if the solution is diluted, there is a possibility of irritation of the skin if the bath is not carried into the atmosphere. It

is now known that the characteristic effects of the bichromates and chromic acid may also be produced by monochromates. Trisodium phosphate with sodium metasilicate may be expected to exercise its detergent effect also on the exposed skin of cleaners, and, even though the bath contained nothing more than heated water, constant immersion of the unprotected skin over long periods might be expected to have a deleterious macerating effect.

Insomnia and Loss of Memory

Q.—*What are the likely causes of insomnia and loss of memory for current events and duties in a woman in the early forties? What investigations are required?*

A.—Insomnia might be due to actual bodily illness or to emotional disturbances. Loss of memory for current events suggests an organic factor, and, if it is of severe degree and of any permanence, would be classifiable as dementia. In this case a cerebral lesion would have to be looked for. Its nature might be of many different kinds, including chronic alcoholism, cerebral syphilis, cerebral tumour, and the presenile dementias. The investigations required are along the usual neurological and psychiatric lines, and directed in the first place towards establishing a real impairment of memory. It is quite probable, however, that memory itself is not impaired, although the patient herself or her relatives feel that it is. Complaints of a subjective experience of memory failure are common in psychiatric states without organic lesion, especially in mild depressive conditions. It is possible, that the patient is suffering from a neurotic state or a mild involutional depression.

Wax in the Ears

Q.—*Wax accumulating in the outer part of the auditory canal impairs already defective hearing. Can anything be done to prevent this?*

A.—If there is an underlying dermatitis of the external auditory meatus which is causing excessive secretion or abnormal consistency of the wax, then treatment of the skin affection should help. Apart from this the best treatment is to use drops, such as olive oil, which will render the wax as fluid as possible.

Pain on Cutting Nails

Q.—*My niece, aged 14 years, causes herself pain when cutting her nails with scissors, and for some days afterwards she feels the nail edges raw and painful. There is no question of any functional cause. It is a case of "Let me cut my nails and I cause pain." The only treatment I can think of is to apply some anaesthetizing ointment afterwards. What do you suggest?*

A.—Pain on cutting the nails is not likely to have any anatomical basis in fact and is likely to be psychogenic in origin. It would be interesting to know how long this symptom has existed. Ruling out mental deficiency, this appears to be a case of masochism, which is usually defined as sexual pleasure in having pain inflicted on one. Dependence and sensuous passivity are normal characteristics of the infant; and also in the sexual relations of the woman, who desires to be overmastered, even to the extent of being hurt—a relic of "marriage by capture." The perverted tendency of which this seems to be a case comes about when sexual feelings are aroused in the child in association with the infliction of pain. The commonest instance is where a child sexually stimulates itself and is smacked while experiencing such feelings. The sexuality in such a case not only is associated with the smacking but is repressed by it, so that it is fixated and arrested in that form and may not develop into normal adult sexuality. The specific cause in this case, which it is necessary to investigate for radical cure, would have to be discovered by "play therapy" at the hands of an expert. If expert advice is not available, then so far as possible the child should be given counter-attractions at such times, in the hope of diverting her interest. Many such perversities disappear when more adult sexuality begins to appear at puberty, and in this case the girl may grow out of it. On the other hand, it is often found that such perversities begin to show themselves only at puberty.

when the sex feelings are beginning to be aroused, and therefore precipitate the unconscious conflict already mentioned. Treatment of the end-result by antiseptics is of course indicated.

Lochial Discharge

Q.—*Why is it that, whereas before the war the lochia become yellow or clear by the eighth or tenth day, nowadays the discharge remains bloodstained almost without exception for anything up to three weeks? What treatment is advised?*

A.—The old view that the lochial discharge normally ceases to be bloodstained by the tenth day is not true, and most modern textbooks comment on this. The bleeding may clear up temporarily while the woman is in bed, but almost always comes on again when she becomes more active, and then continues on and off for varying periods of time. The average is probably about three weeks from the time of delivery, but slight intermittent bleeding persisting for five to six weeks is by no means rare and is not necessarily pathological. These observations apply to the pre-war period as well as the present, and there has not been any significant alteration. No treatment is necessary unless the bleeding is heavy.

Toxic Effects of Formalin

Q.—*What are the possible effects of continued inhalation of small concentrations of formalin? The mother of a family living in close proximity to a pathological laboratory which continuously reeks of formalin complains that her 3-year-old son regularly wakes pale and querulous after going to bed quite cheerful and sleeping for a period of from ten to twelve hours. She suspects that this may be due to the presence of formalin in the atmosphere, as the child's bedroom is immediately above the factory. Is this likely?*

A.—Formaldehyde is an irritant gas and a protoplasmic poison. Its most noticeable effect is irritation of the mucous membranes and of the skin. Brunnthaler (*Occupation and Health*, I.L.O., Geneva, 1930, p. 809), in his position as Keeper of the Botanical Institute in Vienna, studied the effects on himself of the prolonged use of formalin. These effects included acute catarrh of the nose and eyes, chronic pharyngitis and laryngitis, and acute nervous manifestations. The latter are thought to be very rare, and it is suggested that other explanations for the condition described above in the little boy should first be excluded.

Skin Graft for Leg Ulcer

Q.—*A woman aged 56 has a leg ulcer of twenty years' duration; it measures 4 by 6 inches (10 by 15 cm.). There is a watery odourless discharge; the edges are thick and sclerotic. How should this be prepared for skin-grafting and how should the graft be made?*

A.—The problem in such leg ulcers is to achieve a clean vascular base free from scar tissue. Preliminary rest in bed, with four-hourly eusol packs, is helpful; but careful excision of the area and its base at operation is essential. An alternative regimen involves the Bunyan-Stannard envelope routine. Thin razor grafts "take" best, and it may be safer to use them in "postage-stamp" form. It is assumed that there are no associated varicose veins.

Calcium Metabolism in Osteitis Deformans

Q.—*Hos recent work on calcium metabolism thrown any light on the treatment of Poyet's disease (osteitis deformans)?*

A.—The answer to this question must unfortunately be in the negative. The general consensus is that no convincing alleviation of symptoms can be consistently obtained by treatment based on any particular concept of the role of calcium metabolism in this disease. It has of course been claimed by many workers that osteitis deformans is a manifestation of hyperparathyroidism, though the cause of the alleged hyperparathyroidism has not been demonstrated. A recent theory has been advanced by Helfet, who suggests that the fundamental cause is a retention of phosphates in the body and that this stimulates a compensatory hyperparathyroidism. He has accordingly advocated treatment by the administration of small doses of aluminium acetate, which inhibits the absorption of

phosphorus from the intestine by combining with it to form insoluble aluminium phosphate. This is excreted unchanged by the bowel. Although promising results have been claimed from this treatment in a small number of patients it is impossible to contrast them with suitable controls because of individual variations in the natural course of the disease. Much further evidence is therefore required before the merits of this line of treatment can be fully evaluated.

Relaxation of Bronchial Spasm

Q.—*Has 50% ether in 50% olive oil given as a retention enema any effect on bronchial spasm and on tenacious mucus? What should be the dose and how often may it be repeated?*

A.—If ether is absorbed from a retention enema of this composition in sufficient amount to relax bronchial spasm it would certainly intoxicate the patient. Such a treatment should not be used, as it is most unlikely to be effective.

Whalemeat and Iodine

Q.—*It is suggested that whalemeat is probably rich in organic iodides, and therefore should be a valuable food in chronic nervous diseases. Is there any foundation for this idea?*

A.—It appears that no estimation of iodine in whalemeat has been made. It seems likely, however, that whalemeat does contain relatively large amounts of iodine, like other foods which come out of the sea. It would be difficult for the whale to avoid being iodine-rich. It is impossible to give a precise answer to the question about chronic nervous diseases. It seems to be true that a good many people are benefited by the administration of iodine. Some think that the benefit of cod-liver oil is due in part at least to the iodine it contains. It is probable that many people eat a diet which is for them partly deficient in iodine, and this accounts for the improvement they observe when iodides are taken. Iodine is, of course, essential for the thyroid gland. In many conditions, however, sodium iodide administered without precise reason seems to be beneficial; amounts such as 5 gr. (0.32 g.) daily by mouth are usual.

White of Egg

Q.—*Am I right in thinking that raw white of egg is not digested and absorbed, and that consequently the giving of albumen water is pointless?*

A.—Raw white egg is digestible and readily absorbed. The statement that it is not digested has as little convincing experimental backing as the even more frequently repeated assertion that "lightly cooked" eggs are much more easily digested than the boiled article. Overheating—for example, frying with smoking fat—can, however, greatly decrease the digestibility of egg white.

Black Tongue

Q.—*What is "black tongue"? Is it of any significance in an otherwise healthy individual, and can you suggest any treatment?*

A.—Black tongue is a harmless condition which gives rise to no symptoms. It is usually due to enlargement and hyperkeratosis of the filiform papillae upon which becomes engrafted an infection with a mould, most often *Aspergillus niger*. In many instances the condition disappears spontaneously in a few months. Treatment is not very satisfactory, but scraping under local surface anaesthesia followed by painting of the area with 2% iodine may be effective. Sometimes weak applications of acetic or lactic acid cures the condition: stubborn cases have yielded to irradiation.

Injection of Varicose Veins

Q.—*When I inject superficial varicose veins of the leg a marked discoloration of the vein appears. It persists for a long time and is ugly. There is no extravasation and the discoloration is definitely along the course of the vein.*

A.—In some dark-skinned persons there is a tendency to a permanent brown discoloration of the skin over the thrombosed veins. This is a source of great annoyance to the female

patient. It can be prevented by making "cigarette" rolls of elastoplast, sticking these along the course of the injected vein, and then applying firm elastoplast bandages from toes to thighs for seven to fourteen days. The two walls of the veins are thus brought into contact, a clot does not form, and the exuded blood pigments do not discolour the skin.

Burnt Sugar and Allergy

Q.—I heard the instructor of a cookery class warn his pupils that the common Continental custom of burning sugar for a base for sauces is liable to produce allergic rashes in some people. Is this suggestion likely or unlikely?

A.—The suggestion is possible, but further observations and experiments would be necessary to substantiate it. Although some patients suspect sugar as the cause of their allergies, this is rarely if ever true. Rowe has suggested that the possibility of sensitization to the allergens in brown sugar or molasses should be kept in mind (Rowe, A. H., *Food Allergy*, 1937, p. 607).

NOTES AND COMMENTS

Enuresis in Young Adults.—Dr. R. F. KAYE WEBSTER (Monkseaton, Northumberland) writes: In four cases of this condition—i.e., chronic bed-wetting—I have found the use of nicotinic acid 50 mg. t.d.s. invaluable. In fact since I started this treatment with these cases I have not found it fail. The worst case was a young man of 30 who had had the condition since a boy; all other treatment failed. With nicotinic acid he was immediately cured. This was essential for him before he married. He has been married a year and is quite happy now. During this year I gave him a small tablet of phenobarbitone in lieu of nicotinic acid to see if cure was imaginary; he came back in a week with condition returned. When nicotinic acid was again given he immediately settled down. My youngest patient is a girl of 11 who has always bed-wetted nightly, sometimes two or three times a night. With 25 mg. of nicotinic acid t.d.s. she stopped from the first day's treatment and has remained cured so far. I am not prepared to analyse the chemistry of the treatment but pass it on as a useful tip, knowing particularly how embarrassing it can be for young men about to marry and young men joining the Forces, with the old-fashioned guard-room routine.

Constipation in an Infant.—Dr. JOYCE E. MARSHALL (London, N.W.) writes: With reference to the question and answer on constipation in an infant (Nov. 29, 1947, p. 896), exception might be taken to the treatment suggested on the following grounds. It is a physiologically unsound approach. For example, the nature of the baby's diet is not considered, whether breast or bottle, fluid intake, and supplements. It is psychologically unsound. Considerable fear may be caused in a normal child by a daily painful stimulus to a highly sensitive area of the body, such as stretching a sphincter or applying an irritant. Cases have been published which show that such treatment, also the use of enemata and suppositories in childhood, may bear a direct relationship to serious disorders in emotional development manifest in later life. In infant-welfare work it is, in my experience, a common feature of this age period that children show a change to infrequent bowel actions for a period, which is usually terminated when mixed feeding is being introduced later. Over-zealous toilet training from early infancy in some cases seems to result in a resistance in the child shown by his withholding his stools for periods, and this may exaggerate the common trend to less frequent bowel actions in this period. In the case described the history of the previous digestive disorder of four weeks' duration possibly resulted in diminished bowel tone, which would be a contributing factor.

Judicial Hanging.—A retired senior medical officer of the English Prison Service writes: From time to time rather absurd statements appear in your columns about judicial hanging. I was thirty years in the English Prison Service and can say that the statements by Dr. J. R. V. Foxton (Dec. 13, 1947, p. 986), especially those attributed to Prof. Fredrick Wood Jones, are without foundation. A carefully worked-out "drop" is used on all occasions. All the cases in which I was present (23 in number) had a post-mortem examination at least partial only, but latterly a full post-mortem examination which showed in each case fracture dislocation of the cervical vertebra with rupture of the cord. In every case the body was placed at the angle of the jaw.

Dr. Foxton's Remarks.—Dr. J. R. V. Foxton (London, N.W.) writes: In your issue of Dec. 13, 1947, p. 986, my remarks on judicial hanging were misquoted. I stated that in 1944, 1945, and 1946, together with 1947, I attended the execution of six criminals in each case. Some

hours after death I performed a necropsy, and in each case the second cervical vertebra was fractured. Definite preparations based upon experience are made for each execution—the length of the drop varying with the weight of the victim, and the gauge and quality of the rope definitely assessed.

Food Allergy.—Dr. JOHN FREEMAN (London, W.) writes: With regard to the courteous reply by your adviser (Dec. 13, 1947, p. 986) I nevertheless stick to my guns. My co-workers and I have usually found test feeding to be unreliable: it is far too difficult to make in this way anything like a crucial experiment. On the other hand, skin testings with egg protein are reliable—so far as they go, but no further. I agree emphatically with your adviser that they are often misleading, but that is because of faulty interpretation; a definite positive does not mean necessarily that there is an important causal relationship between, say, egg protein and the disease in question. An egg sensitiveness can most certainly be removed by inoculation treatment, if thought worth while; and this usually causes less hospitalization than careful feeding experiments would entail.

Chilblain of the Nose.—Dr. J. F. LYONS (Almondsbury, nr Bristol) writes: With reference to your correspondent's question (Dec. 20, 1947, p. 1017) I suggest that he should apply a solution of either 1 or 2% picric acid to the parts two or three times daily for a few days. I have found this treatment very satisfactory in relieving the tension and irritation in chilblains of the hands and feet.

Ringworm of Scalp.—Col. W. H. CRICHTON, C.I.E., I.M.S.(ret.) writes from Sittingbourne, Kent: Dr. I. M. Scott's comment (Dec. 2, 1947, p. 1066) on my letter on the treatment of an outbreak of ringworm of the scalp in North Devon calls for a clarification if a useful measure of treatment is not to be lost to the profession. In the first place it should be understood that the form of treatment I employed—namely, depilation with a saturated solution of KMnO₄ applied for 14 days followed by applications of Whitfield's ointment—was one recommended by an experienced dermatologist as an alternative to x-ray treatment, which is often extremely difficult or impossible to obtain. Secondly, my cases in the North Devon outbreak were all definitely proved to have been infected with *Microsporum felinum*, which undoubtedly responded to the treatment to the extent of cure if this can be measured by subsequent observation over a period of several months and by the fact that specimens of stumps pulled out after completion of the course of treatment were found negative by the county laboratory. To my knowledge there has been no recurrence. Thirdly, I have been advised that infections with *M. felinum* are much more susceptible to treatment than those of *M. audouini*, and the success achieved in the North Devon outbreak may therefore be attributed to this fact. On the other hand I have hitherto found no evidence that this form of treatment has been tried in cases of proved *M. audouini* infection and, if so, with what result. Lastly, it should be noted that in several cases the course of treatment had to be repeated once and even twice before a negative laboratory result was finally obtained. I do not know if Dr. Scott has actually had any experience of this form of treatment for tinea capitis, but it certainly would not be fair to condemn it without trial.

Dr. ROBERT ANDERSON (Erdington, Birmingham) writes: Dr. I. M. Scott (Dec. 27, 1947, p. 1066) states that there is an effective vehicle to carry a fungicide inside the hair shaft. I think glacial acetic acid acts in this way. A layman gave me the method and I found it always successful. The acid is applied with a glass rod or cotton-wool on a probe. Immediately a whitene appears a pad of cotton-wool squeezed out of very hot water is applied. That removes the stinging of the acid. Next day the hair can be easily depilated.

In 1910 I attended a family of five children—two girls and three boys—who were all suffering from tinea. I had the boys shaved but only had the girls' hair cut round the affected areas. The girls had only one patch each, but in the case of the boys the disease was scattered all over their scalps. I found the hairs came out quite easily without breaking. It took me a month or six weeks to finish the depilation.

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SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON, SATURDAY JANUARY 24 1948

INSURANCE ACTS COMMITTEE

The following resolution was passed at a special meeting of the Insurance Acts Committee on Jan. 15.

"The Insurance Acts Committee, representing every insurance practitioner in the country, owes it to its constituents to make abundantly plain exactly where it stands on the grave issue which now confronts insurance practitioners, as it does other members of the profession. Fully conscious of all the implications, the Committee condemns the National Health Service Act, 1946, in its present form as contrary to the best interests of the public and advises insurance practitioners firmly to reject it in the forthcoming plebiscite."

The meeting was called to consider the situation in relation to the National Health Service in so far as it affects insurance practitioners, including the desirability of convening a Special Conference of representatives of Local Medical and Panel Committees. Dr. E. A. Gregg presided, and there was a full attendance.

The Chairman of Council, Dr. Dain, said that after the result of the plebiscite was known there would be another Special Representative Meeting, which had been fixed for March 17, and the Committee might think it desirable to hold a Special Panel Conference at about the time of that meeting. Should there be an adequate majority against acceptance of service a good deal of organization work would have to be done, particularly in panel committees.

The Committee decided that a Special Panel Conference should be called for March 16.

The question was then debated at length whether the Insurance Acts Committee as such should give a lead to insurance practitioners as distinct from the lead which the Council is giving to the entire profession. The Secretary detailed the various documents which would be sent out to members of the profession before the plebiscite. Although some members of the Committee desired that a special communication should be sent individually to insurance practitioners, they recognized that this would impose an addition to the heavy work at present being done at Headquarters, making it virtually a physical impossibility. It was suggested that any manifesto of this kind might be sent to local medical and panel committees and distributed locally, but in the end the Committee agreed that the manifesto, addressed specially to insurance practitioners, should be included in the second set of documents to be sent out to the whole profession.

Discussion then took place on the nature of the statement to be made. Some members of the Committee were anxious that it should be a detailed statement of objection to the Minister's contentions, but here again it was pointed out that such detail was covered by the documents already prepared. The resolution set out above was thereupon carried, and forty members of the Committee present signed their names to the document. Two members abstained from signing, saying that they wished to leave the vote in the plebiscite to the free deliberation of the individual, uninfluenced by any lead from the centre.

Purchase and Sale of Practices

Following a resolution of the last Annual Conference, the Committee had asked one of its members, Dr. F. M. Rose, to prepare a memorandum on the possibility of establishing a special fund to finance the purchase and sale of practices, the scheme being so designed as to eliminate the difficulties and objections experienced in the past. Dr. Rose brought forward

a memorandum in which the whole position was examined. One of his recommendations was that the purchase price of practices should be such that it would be possible to redeem the debt out of income in ten years or less. Dr. Rose considered that the purchase price, in particular of smaller practices, had been too high in the past, and that if the profession valued the retention of goodwill it should be prepared to make a sacrifice by a reduction in sale price. If 1½ years' purchase was regarded as a maximum for higher-income practices, few doctors, in view of the increase in income of most practices since 1939, would receive less than the 1939 value at the rates accepted then. This was challenged by one member of the Committee, who contended that the devaluation of the pound made it not sensible to talk about cutting the value of capital.

Dr. Rose also suggested the setting up of a central agency under medical control, replacing all existing agencies, to give advice on matters relating to practice transfers, partnerships, and assistantships, to furnish particulars of all vacancies, to arrange loans if financial arrangements were desired, and to supervise legal agreements.

The Chairman said that their minds were very much occupied with many matters which made it difficult at the moment to give the attention it deserved to this complex question. It was accordingly deferred to the next meeting with a view to the setting up of a section of the Committee to proceed further with the question.

Other Business

Dr. Sutherland, chairman of a subcommittee which has been examining the draft medical card with a view to discussing with the Ministry such modifications as were considered desirable, reported a number of detailed recommendations which were provisionally approved; the subcommittee has not yet finished its work. Dr. Pridham, as chairman of the Organization Committee, reported that that body was of opinion that it was premature to consider any changes in the constitutional powers of the Insurance Acts Committee and the General Practice Committee, though with the shaping of events such consideration may soon become necessary.

It was reported that a reply had been received from the Ministry to the Committee's application in September last for an increase in the capitation fee for emergency drugs and appliances. The Minister had decided that the existing capitation fee payable to insurance practitioners for the provision of drugs and dressings before a supply could be conveniently obtained otherwise under the medical benefit regulations should be doubled in all areas, with effect from Oct. 1, 1947. A circular on the subject is shortly to be issued.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

County Borough Councils.—Gateshead.

Metropolitan Borough Councils.—Fulham, Hackney, Poplar.

Non-County Borough Councils.—Dartford, Leyton, Radcliffe (limited to future appointments), Tottenham, WallSEND.

Urban District Councils.—Denton, Droylsden, Houghton-le-Spring, Huyton-with-Roby, Portslade, Redditch (restricted to new appointments), Stanley (Co. Durham), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

HEARD AT HEADQUARTERS

A Good Day's Work

The Special Representative Meeting was a businesslike affair, without any oratorical embroidery. Representatives seemed to feel that the time for talk had passed. The purpose of the meeting was to secure the most clear and unambiguous expression of opinion in the plebiscite. The absence of the Chairman of Council at the beginning caused some concern, but he appeared within half an hour and explained that the train from Birmingham, desiring no doubt to celebrate its recent nationalization, had taken a roundabout, erratic, and unscheduled course to Euston, arriving an hour late. The serious part of the business over, Mr. Lawrence Abel again obliged with some nursery rhymes adapted to the occasion.

Form Filling

A very sensible remark was made by the opener of the discussion at a meeting of the Royal Statistical Society the other day—Mr. H. Cotton, of the Nuffield Bureau at Oxford. He was talking about the collection of morbidity data from hospitals, but his point has a wider connotation. He deprecated the excessive use of questionnaires and "quiz" forms intended to guarantee the collection of all possible relevant information. A thing to be particularly resisted in drawing up a question form, he said, is to collect something interesting but not vital simply because the opportunity to do so is there. A form which requires a busy doctor to enter particulars which can be obtained as easily and as accurately by a clerk is not a sensible form. The doctor should be asked to complete only that part of a form which cannot be completed by anybody else, and if he has already given the needed information in some other document he should not be asked to repeat it. Mr. Cotton was all against omnibus forms which provide for details not generally applicable, or at any rate not applicable to a substantial proportion of all cases.

Transatlantic Glimpses

An American doctor seems to be asking rather a lot of human nature. He says that it is his custom to send a special Christmas greeting to patients who have owed him a guinea or less for over a year. He sends them a receipted account. Often, he says, they return the greeting, including payment in full of the outstanding debt.

An Army medical officer had a corporal in his charge who was suffering from bronchopneumonia. He sent a telegram to the corporal's mother, telling her of her son's serious illness but assuring her that he was receiving all possible attention. Next day the corporal himself received a telegram from his mother: "Let me know how you are getting on. If you die, have body shipped home."

Ready for the Post

Headquarters just now are asking big things from the General Post Office. This week a detailed analysis of the Minister's reply, the pictorial folder already referred to in these notes, and the reprint of the leading article in the *Journal* of Jan. 17 have been sent out to all members of the profession. Next week there will go out two more documents. It is simple to say, "Let it be circulated to all members of the profession," but few have any idea of the Herculean labour behind such an instruction. Including the sending-out of the Negotiating Committee's case and the Minister's reply, the two circularizations just mentioned, and finally the plebiscite forms, something like 250,000 envelopes will have been addressed. The cost in postage, if we assume a penny stamp on each envelope, is slight, but the bigger thing is the amount of work involved in the careful addressing and dispatching of this record.

RETURN TO PRACTICE

Mr. R. Vaughan, M.B., B.Ch., has returned to practice at Woodley, near Reading.

Association Notices

SPECIAL MEETING

Consultants and specialists will meet to discuss the National Health Service Act and the plebiscite at B.M.A. House, Tavistock Square, W.C.1, at 8.30 p.m. on Tuesday, Jan. 27. *Chairman*.—Mr. A. M. A. Moore, Chairman of Consultants and Specialists Committee. *Speakers*.—The Right Honourable Lord Horder, Dr. Geoffrey Marshall, Mr. A. Dickson Wright, Mr. N. Ross Smith.

Branch and Division Meetings to be Held

BOURNEMOUTH DIVISION.—At Boscombe Hospital, Friday, Jan. 23, 8.15 p.m. Report of Representatives to Special Representative Meeting, Jan. 8; National Health Service Act.—The Plebiscite. Address by Dr. D. P. Stevenson, Assistant and Regional Secretary, B.M.A., followed by questions and discussion.

DERBY DIVISION.—At Derbyshire Royal Infirmary, Tuesday, Jan. 27, 7.30 p.m. Mr. A. G. G. Melville: Demonstration of Results of Radiotherapy; 8.15 p.m., Mr. J. R. Ratcliffe: Cancer of Stomach, Colon and Rectum.

METROPOLITAN COUNTIES BRANCH.—At B.M.A. House, Tavistock Square, London, W.C., Tuesday, Feb. 3, 5 p.m. Lecture to Senior students and newly qualified practitioners by Mr. Claud Mullins: "The Court and the Doctor."

H.M. Forces Appointments

ARMY

Colonel Q. V. B. Wallace, C.B.E., M.C., late R.A.M.C., has been retained on the Active List supernumerary to Establishment.

Colonel F. G. Flood, O.B.E., M.C., late R.A.M.C., has retired on retired pay.

ROYAL ARMY MEDICAL CORPS

Captain (War Substantive Major) E. L. O. Hood to be Major. Captain E. A. Balls, from R.A.M.C., Emergency Commission, has been granted a Short Service Commission in the rank of Captain.

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Substantive Captains S. Hickling, G. H. Robertson, and K. M. Robertson have relinquished their commissions and have been granted the honorary rank of Major.

Short Service Commission, Specialist.—War Substantive Captain R. Schneider has relinquished his commission and has been granted the honorary rank of Major. F. G. W. Marson to be Lieutenant.

War Substantive Captains F. O'N. Danni and D. C. Roberts have relinquished their commissions on account of disability and have been granted the honorary rank of Captain.

Lieutenants J. R. G. Edwards, J. J. Gilleran, A. G. M. Watt, J. W. Aalders, E. L. Arnold, M. A. Cooke, J. W. E. Dunphy, C. L. Joiner, C. I. Levene, E. R. O. E. Spearing, W. O. Spence, and R. P. Harwood to be Captains.

INDIAN MEDICAL SERVICE

Lieutenant-Colonel D. P. Lambert has retired and has been granted the honorary rank of Colonel.

Lieutenant-Colonel G. F. Taylor has retired on account of ill-health and has been granted the honorary rank of Colonel.

Lieutenant-Colonel R. K. Tandon to be Colonel.

Lieutenant-Colonel P. M. Ania has retired.

Major C. J. H. Brink has retired receiving a gratuity.

COLONIAL MEDICAL SERVICE

The following appointments have been announced: E. W. Brett, L.R.C.S., Lady Medical Officer, Nigeria; T. W. Buckley, M.B., B.Ch., Travelling Medical Officer, Sarawak; R. C. Drummond, M.B., Ch.B., Medical Officer of Health, Tanganyika; G. M. Gorrie, M.B., Ch.B., and T. L. W. McCullagh, M.C., M.B., B.S., Medical Officers, Kenya; R. M. Irwin, M.B., Ch.B., Medical Officer, Fiji; J. Toner, M.B., B.Ch., Medical Officer, Nigeria; F. W. M. Lamb, M.B., Pathologist, Health Department, Palestine; F. R. S. Kellett, M.B., Medical Officer, St. Lucia, Windward Islands; L. Winkellaken, M.D., Supernumerary Medical Officer, Leeward Islands; L. Wiuic, M.D., Medical Officer, Gold Coast; R. C. Burgess, M.B., Ch.B., Senior Nutrition Officer, Malaya; N. Chikou, B.Ch., D.T.M.&H., Senior Medical Officer, Tanganyika; G. D. Drury, M.R.C.S., L.R.C.P., Senior Medical Officer, Labour Department, Kenya; A. M. Fleming, M.B., B.S., R. McFiggans, M.B., Ch.B., and H. N. Turner, M.B., B.Ch., Senior Medical Officers, Kenya; A. H. Lowther, M.B., Ch.B., Specialist, Grade B.

BRITISH MEDICAL JOURNAL

LONDON SATURDAY JANUARY 31 1948

OUR FOUNDERS AND BENEFACTORS*

BY

CHARLES ERNEST LAKIN, M.D., F.R.C.P., F.R.C.S.

Consulting Physician to the Middlesex Hospital, London

In bringing our Founders and Benefactors to your notice—and it is the early benefactors I am concerned with in particular—I do so with no little trepidation. Historical documents so rarely enshrine those traits of character, demeanour, and bearing which are so essential if a lively picture is to be presented and if the recital is to be more than a mere catalogue of benefactions and achievement.

This is a difficulty I can scarcely surmount. Not that there is any lack of material; indeed, Professor A. F. Pollard, perhaps the greatest student of the period, has written: "The materials for sixteenth-century history are so vast that no one can hope to master them all in the allotted span of human life."

However much Fellows will wish to emphasize the fact that our College is a Royal foundation, all will agree that its inception was due to Thomas Linacre, one of the King's physicians. Many are the references to him and his friends in the State Papers of Henry VIII, published by the authority of His Majesty's Commission in 1830-52; but, so far as I have been able to ascertain, only one Life of Thomas Linacre has been written. The author of the biography was Dr. John Noble Johnson, a Fellow of this College, Goulstonian Lecturer, Censor and Physician to the Westminster Hospital.

Linacre's Student Days

Thomas Linacre, so far as can be ascertained, was born in Canterbury in the year 1460. He attended the school of the Monastery of Christchurch, Canterbury, then presided over by his kinsman, William Tilly of Selling. It is curious that Canterbury should have provided the early education of both our Founder, Thomas Linacre, and of our most illustrious Fellow, William Harvey; for in 1588, the year of the Armada, Harvey was entered at the King's School, the direct scion of the Christchurch Monastery School. There are good grounds for believing that this was the first school to be founded in England. When Augustine and his followers established Christian churches in England, they did not, as modern missionaries do, carry on the services of the Church in the vernacular tongue of the country, but employed the language that had been used in Rome for the last five hundred years. To make themselves understood the Latin missionaries had to come with the Latin service book in one hand and a Latin grammar in the other. Those whom they wished to convert could not profitably go to church till they had first gone to school to learn the language. So the grammar school became the necessary anteroom or vestibule to the church.

Prior Selling was one of the more famous of the priors of Canterbury and was principally responsible for the completion of the great central tower of the cathedral. It was from him that Linacre learnt his first Greek, and it would

have been difficult to find a more appropriate tutor. Much is known and more is conjectured about schoolboy life in Tudor times. Whatever the boys learned or did not learn at school, it is quite clear that they acquired a fair knowledge of Latin. Grammar was regarded as the doorway to all knowledge, and the liberal arts could be approached only through the study of parts of speech—*qui nescit partes in vanum tendit ad artes*. The grammars of Donatus and Priscian usually provided the pathway to knowledge, and they have been described as the schoolmasters of Europe for a thousand years. But Priscian was being superseded by Alexander of Villedieu, the composer of a hexameter poem in 2,645 lines dealing with accidence, syntax, and prosody, the learning of which by heart must have been an intolerable nightmare to schoolboys. So widespread was the use of Donatus that the abbreviation *donet* passed into common use to signify an introductory handbook on any subject, much as we employ the word "primer." Hard as a ten-hour day was to the schoolboy, there were so many saints' days to be observed that hardly a week could have passed without one whole or half holiday. Then, too, in pre-Reformation times there were many peculiar observances. St. John Lateran's day, May 6, was kept by football, a siesta, and an interval for drinking beer, the equivalent of our modern afternoon tea—the ball, the bed, the beer (*Porta Latina pilam, pulvinar, pocula praestant*). Then on St. Nicholas's Day, Dec. 6, there were the boy-bishop celebrations. It is impossible, of course, to draw a picture of the individual boy, but we do know that when Linacre not very many years afterwards was in Italy he was chosen, because of the elegance and modesty of his manners, as the associate in study of Lorenzo de' Medici's children.

It was probably with the assistance of Prior Selling that Linacre in 1480, at the age of 20, went up to Canterbury Hall, Oxford, later incorporated into Christchurch. Here he made friends with Grocyn, a man of 36, and with William Latimer, a youth of his own age. It is not known why Linacre waited till his twentieth year before entering the University, for boys entered much younger than now, and from 14 to 16 was quite a common age. The Warden of New College had introduced Greek lectures there in 1465, and it is presumed that the three friends studied under the guidance of the lecturer, an Italian, Cornelio Vitelli by name. Eventually Grocyn, already a Fellow of New College, was to be the first Englishman to lecture on Greek in Oxford, and later, in London, to share the honour with Linacre of imparting a knowledge of Greek to one of the great figures of history—Desiderius Erasmus. When to Grocyn, Linacre, and Latimer we add the names of the two other friends—Colet, afterwards Dean of St. Paul's and founder of St. Paul's School, and Thomas More, the author of *Utopia*—we have a list of the leading scholars in England devoted to the New Learning and usually known as the English Humanists.

*The Harveian Oration (abridged), delivered before the Royal College of Physicians of London, on Oct. 18, 1947.

A Sojourn in Italy

After four years at Canterbury Hall Linaere was made a Fellow of All Souls. The following year he accompanied Prior Selling, who had been chosen by Henry VII to conduct a mission to the Vatican, to Italy. Linaere appears to have remained in Italy for six years or so, and during this time to have stayed in Bologna, Florence, Rome, and Padua. At Bologna he was introduced by Selling to Politian, the most brilliant Latin poet and scholar of the day, attached to the Platonic Academy, founded in Florence by Cosmo de' Medici. Under the Medici Florence had become the modern Athens, and learning as well as art had found a home there. It is thought that this introduction to Politian stood Linaere in good stead, for when Linaere visited Florence, Politian, whose work it was to direct the studies of the children of Lorenzo the Magnificent, is supposed to have introduced Linaere to the merchant prince. However that may be, Linaere became the recipient of the patronage of Lorenzo, living in the most brilliant court in Europe and sharing the instruction given to the two young princes Piero and Giovanni. The latter ultimately became Pope under the name of Leo X, and in after years was not unmindful of this association with Linaere.

We may be confident that Linaere's association with some of the finest scholars in Italy played no little part in forming that facility of expression, elegance of taste, and accurate skill in the classical languages for which he is famed. It has been said that by Linaere's endeavours Galen speaks better Latin in the translation than he did Greek in the original, and that Aristotle shines not more in his Attic than in his Latin garb. Unfortunately, none of his translations of Aristotle into Latin has survived.

After a year in Florence, then almost at the zenith of her splendour, Linaere made his way to Rome. Here he was befriended by Hermolaus Barbarus, one of Europe's greatest scholars and the translator of Dioscorides' *Materia Medica*. It has been suggested that it was he who may have introduced Linaere to the works of Galen and have influenced him in choosing medicine as his profession. For a charming account of this scholar may I point to the writing of a Fellow of our own College, Sir Henry Bashford, in *The Harley Street Calendar*.

Linaere next visited Venice and, possibly on the commendation of Hermolaus, made the acquaintance of another distinguished scholar. Aldus Manutius Romanus was contributing to the spread of learning by printing the classics in inexpensive octavo volumes—approximately at the price of our Everyman's Library. They were well read, for of the 24,000 copies printed of Erasmus's *Praise of Folly* only one copy has survived, and that is in an imperfect state. Books from the Aldine Press, with their distinctive device of the anchor and the dolphin on the title-page, are much sought after by collectors, distinguished as they are by a high standard of accuracy of text and by beauty of type. The type first used in the Virgil which he published in 1501, known as Aldino or to most of us as "italics," is said to have been modelled on Petrarch's handwriting. Erasmus acted for a short time as his editor and reader. It was for Aldus that Linaere began a translation from the Greek of *Proclus on the Sphere*, said to be the earliest accurate translation of a Greek writer ever made in England, but it does not appear to have been published until twelve years later.

Linaere's next move was to Padua, where he graduated M.D. with great distinction. This we learn from a reference to the event in the *Fructus ex Doctrina*, a book written by Richard Pace, Secretary of State to Henry VIII, and published in Basel in 1517.

His Return to Oxford

Returning to Oxford, which he must have found a trifle secluded after breathing the feverish atmosphere of the Renaissance in Florence and living in the most brilliant court in Europe, he found his friends Grocyn and Latimer awaiting him. They too had made a sojourn in Italy during his absence, and had attended the lectures of Politian and Chalcondylas; but whether they met him there it does not seem possible to determine. No sooner was Linaere back in Oxford than the degree of M.D. was confirmed by an act of incorporation, and it is asserted, without any convincing proof, that by a similar act of incorporation at Cambridge he became an M.D. of that University. The year 1490 seems to be the year in which he graduated in medicine. Caius claims that Linaere resided for a time in Cambridge—a statement which receives some weight from his subsequent foundation of a lectureship in medicine there.

In 1494 Linaere had to mourn the death of his old tutor and kinsman, Selling, who for twenty-two years had been Prior of the Monastery of Christchurch, Canterbury. He is said to have been the first Englishman to visit Northern Italy to study Greek. He died on the anniversary of the death of Thomas à Becket and was interred in the Martyrdom of the Cathedral, the last proof of the respect in which the brethren held the memory of their superior.

In 1499 Desiderius Erasmus arrived at Oxford. Erasmus was an entire stranger in England, brought over by Lord Mountjoy from Paris, and he did not know a word of English. He had come to England in spite of ill-health and poverty to learn Greek. This poor foreign scholar, destined to become one of the great figures of history, whom fortune had used so hardly, cast adrift upon the world without resources—for he had been robbed of his slender patrimony by dishonest guardians—found a friend in Linaere. Writing to an Englishman whose tutor he had been in Paris and who had gone to Italy to learn Greek, Erasmus says:

"Yes, you will say, but how do you like our England? Believe me that nothing in my life has ever pleased me so much. I have found the climate both pleasant and healthy; and I have met with so much kindness and so much learning, not hackneyed and trivial but deep, exact, ancient, Latin and Greek, that I am not hankering so much after Italy except just for the sake of seeing it. When I hear my Coler I seem to be listening to Plato himself. In Grocyn, who does not wonder at that compass of all knowledge? What is more acute, more profound, more keen than the judgment of Linaere? What did Nature ever create milder, sweeter, or happier than the genius of Thomas More? But why should I run through the whole list? It is marvellous how widespread and how abundant is the harvest of ancient learning which is flourishing in this country. All the more reason for your returning to it quickly."

But Erasmus, after conferring such praise, was to receive a rude shock on leaving this island. Henry VII had re-enacted an old law of Edward IV which forbade temporarily the export of gold and silver coin from England. More had assured Erasmus that as long as his money was not in English currency all would be well. Arrived at Dover, Erasmus attested that the money he was taking back had neither been earned nor been received in England, and that he was only taking back what he had brought with him into the country. The custom-house officials were adamant, and of the £20 which he had with him all but six angels (£2) was confiscated. Robbed of his money, he had perforce to stay in France instead of visiting Italy, which had been his intention. It seems very like our own year of grace!

In the year 1501 an event occurred which was to influence profoundly Linaere's future mode of life. Henry VII's

eldest son, the unfortunate Prince Arthur, was sent up to Magdalen, and Linacre was chosen as his tutor and private physician. The prince was delicate and, though only in his fifteenth year, was about to make a diplomatic marriage with a foreign princess—Catherine of Aragon. Linacre must have seen that his charge of the prince foreboded the long the end of his Oxford life and would be likely to entail his definite committal to the practice of medicine. Five months after their marriage Prince Arthur and his wife were struck down by the sweating sickness, which proved fatal to the prince. The princess recovered and later became the first wife of her husband's brother, Henry VIII. Linacre about this time was made domestic physician to Henry VII and, leaving Oxford, moved to London, where he appears to have entered upon the regular practice of his profession. He was certainly the most erudite of those attending the sick in London, but we have no means of assessing his clinical ability apart from the fact that the most distinguished statesmen and courtiers were to be found among his patients—Wolsey, Archbishop Warham, Tunstall (Bishop of London), Foxe (Privy Seal and Bishop of Winchester), and Sir Thomas More. In 1509 he became physician to Henry VIII, and he seems to have found time to direct the studies of Reginald Pole, a future Archbishop of Canterbury, and to help Erasmus with the publication of the New Testament in the original Greek.

John Colet

A short reference must be made to another of Linacre's friends, John Colet, the son of a wealthy Lord Mayor of London, Sir Henry Colet. Colet in 1493 had gone to Paris and thence to Italy to study canon law, patristics, and Greek, and while abroad had become acquainted with the ubiquitous Erasmus. On his return to England three years later he started Oxford in his lectures on St. Paul's Epistles. These were in almost every particular in striking contrast with the dissertations of the day. There was hardly a quotation from the Schoolmen and from the Fathers, but the Epistles were treated as straightforward letters written by a living man to his friends, which invested them with a freshness and an interest quite new to his hearers.

The field of Colet's influence was changed and in some ways widened when in 1505 he became Dean of St. Paul's. Five years later he devoted his patrimony to the foundation of St. Paul's School. Here he decided that the boys, who had to be able to read and write before being allowed to enter the school, should be taught good literature, both Latin and Greek, and that debased mediaeval Latin, "all that abusion that the later blind world brought in and which may rather be called Blotterature than Literature," should be utterly banished and excluded. Colet requested Linacre to write a Latin grammar for the use of the boys. This Linacre undertook to provide, and with great pains and the sacrifice of much time wrote a work consisting of quite a few volumes. As a school book it certainly seems to have been ill-judged, and Colet, finding it little adapted to the requirements of his pupils, put it altogether aside as too long and too learned for his "little beginners." Colet substituted some rudiments of his own composition under the title of *Paul's Accidence* which he dedicated to William Lilly, whom he had appointed as the first High Master. The book was later enlarged by Lilly and by Erasmus and others, and, finally becoming generally adopted in other English schools under the name of *Lilly's Grammar*, it formed the foundation of various Latin grammars used in England up to the middle of the last century. Canon Shirley, Head Master of the King's School, Canterbury, informs me that, though there is no actual record of what Latin grammar was used in the school in the time of Queen

Elizabeth, there is little doubt that Lilly's was the grammar that William Harvey used. Colet's rejection of Linacre's book led to a break in their long-standing friendship, and in spite of the efforts of Erasmus the breach was never healed.

The year 1518 saw the foundation of the College of Physicians, at which time Linacre was 58 years of age. The meetings were held in Linacre's own house—the Stone House, as it was called—in Knightbridge Street, and there they continued to be held for nearly a century. The front portion of the house, consisting of a parlour below and a chamber above to be used as a council room and library, were given to the College during Linacre's lifetime. After his death the remainder of the premises reverted to Merton College, Oxford.

Linacre's Later Years

Two years later Linacre appears to have taken priest's orders, but at the time of the foundation of the College he held the livings of Mersham and Hawkhurst, in Kent, and had been a Prebendary of Wells and a Canon of St. Stephen's Collegiate Church, Westminster. Some have suggested that he had taken deacon's orders in 1505, but it was the practice of the day to present livings to scholars even though they had never been ordained.

Within the last seven years of his life he made and published translations from Greek into Latin of no fewer than eight of Galen's works, the *De Sanitate Tuenda* and the *Methodus Medendi* being published before he retired from practice.

In 1523 Linacre received his last Court appointment, being made, with Ludovicus Vives, Latin tutor to the Princess Mary, then 5 years old, and being charged with the care of her health. He published a simple Latin grammar in English in the same year for the use of his royal pupil. This was afterwards translated into Latin by George Buchanan, the celebrated Scots scholar, who was imprisoned by the Inquisition in Portugal and who during the two years of his imprisonment, 1549–51, wrote a Latin version of the Psalms in various metres.

But perhaps the work that gave Linacre most satisfaction was the *De Emendata Structura Latina Sermonis*. This, which may be called an "Advanced Manual of Latin Prose Composition," had taken many years to prepare and was published in six volumes in 1524, the year of his death. This served to place him in the first rank of Latin scholarship of the day. It was reprinted abroad with a letter from Melancthon recommending its use in the schools of Germany.

During the last few years of his life Linacre, growing more and more infirm, suffered from calculous cystitis, from the effects of which he died on Oct. 12, 1524. Almost his last act was the foundation of three lectureships—two at Oxford and one at Cambridge. The lectures were dedicated to the glory of God and the true art of medicine, and they were to be distinguished by the name of "Linacre's Lectures."

Robert Browning, in his *Grammarian's Funeral*, has given us the picture of an idealist scholar, and it has been suggested that his grammarian was Linacre. I borrow from Sir Henry Bashford:

"With his grammar finished, therefore, and his affairs in order—the house in Knightbridge Street left to the College, and a sufficient income from the rest of his property to provide lectureships at the Universities—he may well have thought in the autumn of 1524, that it was about time for him to be going. In the background of his age he had led a full life; most of its statesmen had been his friends. And if there is just a hint, perhaps, to be found in his will of the Linacre trespass upon by Colet—if he had somehow detected in his

niece Agnes a certain tendency to *laesa majestas*—it was only by the gentlest of posthumous rebukes that she and the world were to discover it. Her sister Margaret, he said, was to have the better of the two beds that he had bequeathed them."

Linaere was buried in old St. Paul's before the rood screen of the west door, a spot chosen by himself. His grave was marked by no memorial for more than 30 years, when John Caius, during his presidency of the College, erected a monument to his memory at his own cost. This perished when the cathedral was destroyed in the Great Fire of 1666.

Caius and Gilbert

John Caius, whose presidency extended with intervals from 1555 to 1571, set out for Italy in 1539 and studied physics at Padua under Montanus, the greatest medical teacher of the time. Caius lodged in the same house as Vesalius, the celebrated anatomist, who possibly may have fired Caius's enthusiasm in this direction, for in 1564 Caius introduced anatomies, as they were called—that is, demonstrations of dissections—into Cambridge. These demonstrations were not the first to be held in England, as they had been introduced 20 years earlier at the Barber-Surgeons' Hall in London, where Caius had lectured on anatomy. He is usually regarded as the founder of the study of anatomy in this country. He is said to have modelled his life upon the example of Linaere, and, like him, devoted much time to the collation and translation of Greek medical writers, but, unlike Linaere, he recorded the results of his own observations. These appeared in 1552 under the title of "A Booke of Counseil against the Disease commonly called the Sweate or Sweating Sickness." This is said to be the first instance of a medical book being published in English, but he afterwards republished it in Latin.

It was Caius who designed the insignia by which the President of the College should be fittingly honoured—the cushion of crimson velvet, edged with gold, placed before the President on all solemn meetings, and the caduceus, its head adorned with the arms of the College supported by four serpents, which the President carries to remind him by its material—silver—as Caius quaintly says, to govern with patience and courtesy, and by its symbols, the serpents, with judgment and wisdom. Caius is said to have foretold the very day of his own death, and to have chosen his own epitaph, *Fui Caius*, still to be seen in the Chapel of Caius College.

Dr. William Gilbert, physician to Queen Elizabeth and James I, and President of the College in 1660, published in that year a remarkable book, *De Magnete*, in which he records his experiments relative to the magnet. Gilbert may therefore be said to have introduced the method of experiment into scientific research. By his will he gave his whole library, globes, mathematical instruments, and a cabinet of minerals to the College, but with the exception of a few folios, which cannot now be identified with certainty, these seem to have perished when the College was burnt down in the Fire of London.

I am indebted to Canon F. J. Shirley, Head Master of the King's School, Canterbury, for copies of the wills of Robert Harvey and of John Harvey—both of Folkestone, William Harvey's birthplace—which I gratefully append.

¹ Archdeaconry Court of Canterbury. Probate records deposited in S.O. Record Office, Maidstone.

² PRC 17, vol. 41 (will register), F. 112.

³ 23 April 1571. "I Robert Harvey of Towne of folkestone—

do hereby give and bequeath my house and stable lying at Estbroke—son of Robert Harvey of my wife to be executor. Witnesses:

1. John Edward, John Edwards.

2. John Edward, John Edwards.

3. John Edward, John Edwards.

"PRC 13, vol. 13 (Act book), f. 45.

"23 Feb. (1552-3). Admin. of goods of John Harvie of Folkiston' intestate; admin. to Florence widow, sworn, &c. Bound with her Thos. Baker, Jurate of Folkestone, & Hy. Hogben of same yeoman in £40.

"(It is slightly ambiguous as Baker is called *jurat.*=either sworn or jurate. I think it means he is Jurate of the Town of F.)"

In surveying this progress we become conscious of the various phases through which medical endeavour has passed. Contemporary medical practice and knowledge in Linaere's time was a confused mixture of empiricism, folklore, astrology, and magic. Such vestiges of Greek medicine as remained were often tainted, for they had come through the medium of Arabian and Syriac translations from the original Greek texts, and these in turn had been translated again into Latin and contained many inaccuracies. Hermolaus Barbarus, for instance, is reputed to have restored no fewer than two thousand passages in the works of Pliny. Linaere by his careful and accurate translations from the Greek into Latin was able to bring to the notice of his contemporaries the conclusions of Hippocrates, Aristotle, and Galen, based as they were on the simple yet valid foundation of direct observation. By the very nature of things, and to clear the stage, so to speak, he was obliged to look backwards. Caius advanced a step further. In common with Linaere he was strongly attracted to the writings of Galen, and when in Italy had spent much of his time carefully collating the manuscripts of that author, but to scholarship he added the practice of direct observation. This is seen in his devotion to practical anatomy and in his clinical observations set out in his book on the sweating sickness. Gilbert advanced further still: not content with observation, he introduced the method of experiment into scientific research. As Sir Walter Langdon-Brown has aptly said, "Linaere looked to the past for the Revival of Learning, Caius faced both ways, but Gilbert steadfastly looked forward."

THE LOCALIZATION OF DEEP PAIN

BY

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This paper is concerned with the laws that determine where a deep pain is felt or, in other words, with its local sign. It is intended to show that the pain is not felt in any particular structure of the body, such as viscera or body wall, but that it is best regarded as a projection from the brain—to show in effect that the place where a pain is felt is determined as much or more by the anatomy of the cortex as by the structure of the limb or part of the body in which it seems to be. The view has indeed been hinted at from time to time, and has received a more definite statement from Lewis (1942). I believe it to be in harmony with current ideas on perception and to provide an explanation for those vexatious experiments with "novocain" block and phantom limbs.

It will not be necessary to review the many theories of the last fifty years, but since our common beliefs are still coloured by the traces they have left behind them it will be better to clear the ground by stating three propositions that may be regarded as proved. The first is that viscera can in fact be pain-sensitive. As is well known, Lennander (1902) popularized the view that they were insensitive, and this was widely held until Hurst (1911) showed that distension could cause pain in the oesophagus and rectum. Since then many other instances have been recorded in which

pain originated from a viscus, and it is now generally agreed that viscera may be sensitive provided a suitable stimulus is used.

The second proposition is that pains from viscera and deep structures are essentially the same. The suggestion that visceral pains were different from others rested on certain interpretations that have now lost their force. In any case the distinction became meaningless when it was shown (Lewis, 1938; Lewis and Kellgren, 1939) that phenomena which were supposed to be characteristic of visceral pain—such as dull quality, tendency to spread segmentally, associated muscular rigidity, and so on—could be produced equally well by injuring deep somatic structures. Lewis (1942) concluded that the proper distinction is between pains that come from deep structures, like viscera and ligaments, and those that come from the superficial parts, such as skin.

The third proposition is that there is only one kind of deep pain and that it is not divisible into local and referred. These two kinds were postulated to account for the fact that, whereas it could be said that stomach pains coincided with the stomach, it was obvious that angina and renal colic were felt a long way from their site of origin. Again, it was Lewis (1942) who argued that the distinction was unnecessary, for he believed that deep pain always had a spreading segmental distribution. The apparent anomaly is merely due to the anatomical accident that the heart is part of a segment that stretches down the arm, whereas the stomach and the rest of its segment are in roughly the same position.

Pain "In" and "From" a Viscus

The equivocal meaning of language has caused a confusion of thought that must be cleared up before the real problem can be seen. It has, for instance, been tacitly assumed that having a "pain in a viscus" expresses the same notion as having a "pain in a finger." Much experimental ingenuity has been expended on trying to decide whether it is possible to feel a pain in a viscus, yet no conclusions have been or, indeed, can be reached. The problem is not physiological and soluble by experiment, but philosophical and linguistic, and can be settled only by examining the meaning of words. Thus, if a man says he has a pain in his finger, the ordinary English usage is accepted and everyone knows what he means. We all know we have a finger, and we know where it is and we have felt pain in it. But a man could not say with the same meaning, "I have a pain in my Meckel's diverticulum" even if it should indeed be producing colic. For of all those who have suffered this pain there must be few who have ever heard of the organ, fewer still who know they have one, none who could know where it was lying, and all would have felt a pain that was "bigger" than the organ it was supposed to be in. Anyone who makes such a statement is not talking of his perceptions, but is making a diagnosis, assailable by evidence and argument. And he may be proved wrong. But if he said he had a pain in his belly his statement would be accepted, for it is a matter of common experience that men perceive their bellies and that most have had pains in them.

It is therefore important to bear in mind the distinction which is so often overlooked between pains that come from a part and pains that are felt in it. We believe it to be meaningless to say that a man feels a pain in an organ that he cannot perceive, and the implication that an anatomist could feel pains where the layman cannot is absurd. So we must reject any theory of deep pain that admits of its being felt at the site of origin. The problem can then be stated thus: "Where is a deep pain felt that comes from an unperceived structure?" It occurred to me that the

answer might be had from persons with phantom limbs, for they have the perception of a part, yet are unencumbered by its real presence.

Referred Pains in Phantom Limbs

In subjects who had had an arm amputated a deep pain was produced by injecting 6% saline into the interspinous ligaments. The sensations of the normal arm were compared with those of the phantom.

Case 1.—J. J. H., aged 50, had a road accident in 1929 which caused loss of all power and sensation in the right arm. One year later it was amputated at the shoulder. Examined 1940. The phantom remained unchanged all these years. It is immovable and in the position in which his arm was slung before amputation. The arm and forearm appear to be half as long as normal but the hand twice as big. The whole phantom is quite clear. The hand feels as if it is being squeezed, the rest just dull and heavy. The effects of an interspinous injection were:—*Normal arm:* Stabbing and tingling sensation in middle finger and ring-finger when the needle was introduced, becoming more severe with saline. *Phantom:* Tingling in middle finger and ring-finger; the wrist feels as if it is being tightly squeezed, the elbow very slightly so.

Case 2.—F. C. Y., aged 59, had a gunshot wound of the left arm, forearm, and elbow in 1916. Amputation above the elbow was done three months later. Examined 1940. The phantom remained unchanged. It consists of hand and wrist only, placed about 12 in. (30 cm.) higher than normally. The thumb and forefinger are most distinct, the whole part being numb. There is possibly some movement. The effects of an interspinous injection were:—*Normal arm:* Sharp tingling pain in hand and elbow. No aching. "I know something is going on in it." *Phantom:* Similar sensations, but stronger, "like electricity"; distribution is in the inner and outer border of the hand and in the whole forearm, which appeared for the first time; no aching. An injection into the erector spinae muscles was given. It produced severe aching along the inner side of the stump—"rheumaticy pain like a bag of nerves"—after a few seconds a numb sensation was felt in the inner and outer border of the phantom hand, different from that in the stump and "more like the return of sensation after a very severe accident."

Case 3.—C. F. M., aged 55, had all the tendons of the right hand cut by a shell splinter during the 1914-18 war. A below-elbow amputation was performed the same night. An immediate phantom was just like a real hand. In 1932 he had a stroke and could not speak for four months. Examined 1940. The right leg and stump were still spastic, the movements of phantom thumb remaining unimpaired. Phantom now smaller than normal and nearer to stump. Injection into erector spinae at base of neck resulted as follows:—*Phantom:* Dull rheumaticy pain inside stump at the back of the forearm. Passed into phantom in the back of the knuckles and fingers as a pricking and tingling sensation, quite different from the ache in his stump.

Case 4.—G. M., aged 33, received a gunshot wound at Anzio, with immediate guillotine amputation above the elbow as P.O.W. Clear, complete phantom, still bleeding and itching; he has tried to use it on several occasions. Two months later reamputation was carried out to the shoulder. Examined in 1946. He has three shooting pains at the level of the elbow as if they were in fingers, but no fingers are felt: this appears to be the remains of his first phantom. He also has a dull aching phantom of his first amputation stump. An interspinous injection had the following effect:—*Phantom:* Gripping sensation in the elbow-joint as if something had been tied tightly round it, and there was a cramp. "I often get that feeling if I have a blow on the shoulder—it is very slight." The sensation can be imitated by squeezing the normal arm fairly firmly with the whole hand.

It will be seen that pain does spread down into the phantom, where it sometimes has the normal dull gripping quality of roughly segmental distribution. But at other times it was numb and tingling, and might not be strictly

segmental, being felt only in the elbow or wrist. These are differences from the classical deep pain, but they are not thought to be due to the conditions of the experiment, because such variations may be described by patients with normal angina. Since these experiments were undertaken, Cohen and Jones (1943) have published two remarkable cases with angina pectoris in phantom arms; the arm pain was abolished when the brachial plexus was blocked with procaine. I myself have recently seen another such patient.

Case 5.—A.C., aged 66, had a gunshot wound in 1915 through the upper left arm, which was amputated the next day. The phantom used to be a hand and elbow at a normal distance from the shoulder. The arm has now got shorter and the elbow is represented only by an occasional pain. The hand is clenched and can be opened slightly. It feels "kind of numb and is always warm." Eighteen months ago he became subject to a pain in his chest. It starts in the centre of his sternum, "like a very bad wind pain, turning over and gripping my chest." After a time it works down the arm and is like pins-and-needles in the hand. At first it came on at night in bad attacks once a month or so. It used to wake him up, and he had to stand by his bed. Now it comes on when he walks, always after a certain distance. It goes in a few minutes if he rests. He is a diabetic of ten years' standing. Arteries of limbs and optic disks normal for age. Radioecopy showed the left ventricle slightly enlarged; E.C.G. normal.

These observations prove that it is not necessary for the sufferer to possess the part in which pain is felt. It appears to be sufficient if he feels as though he has it. Now it may be that this phenomenon is merely a sensory perversion of a mutilated body. But it is hardly likely that a phantom bears no relation to normal perception of the body or that it has a special pain mechanism of its own. It will therefore be worth while to consider the hypothesis that deep pains in the intact man are also localized as it were in a phantom that corresponds with his real body. In other words, the solution of deep-pain localization will not be sought in possible changes in the peripheral body where it is felt, or the nerve tracts connected with it, but in the mechanism of body perception, which is a function of the cerebral cortex.

Phantoms and the Body Image

Head and Holmes (1911) used the term "body image" to describe the conception that a person has of his own body—of its size, shape, surface, depth, and movements—by means of which he is able to move parts of the body in relation to the whole, and the whole in relation to the environment. The body image is built up by the higher levels of the sensorium from peripheral sensations. It grows throughout life as these sensations are integrated, and it changes slowly as the real body alters its shape.

In the ordinary course of life the parts of the body are so often found where they are expected to be that it seems that their image and reality necessarily correspond. But there are occasions when they do not. Thus certain hemiplegics may feel as if their arm is stretched above their head, whereas it can be seen lying by their side (van Bogaert, 1934). They have a real arm and a phantom arm separated from it. The amputee loses his real arm, but its image persists. The neuroma continues to transmit impulses that are interpreted, on the basis of previous experience, as "an arm." Parts such as the fingers and joints, of which a person is normally more conscious, tend to persist in the phantom, while the upper arm may be represented merely as a distance that the elbow is from the shoulder. When a phantom goes it disappears piecemeal, the clearer parts remaining till the last, so that in the end it may be a thing more than fingers growing from a stump (Head, 1911). Conversely, cortico-thalamic lesions may cause an *armelia* (Nishien, 1935) in which the image of

the right side of the body is lost but the part remains. The patient does not merely lose sensations from that side; he ceases to perceive it, and if he is shown his arm he cannot conceive that it is his. This amputation of the body image may be so severe that the patient cannot even imagine a right side either to his own body or to the world around him.

If a part is anaesthetized we find a disturbance of the relationship between the body and its image which is peculiar. A patient certainly feels the presence of a blocked arm, for he does not become incapable of conceiving such a thing as he would with agnososomia, nor is he just unaware of it as he is of his pancreas, yet it feels different to him both from a normal arm and from a phantom. An anaesthetized part is usually described as being dead or heavy, so that an arm hangs like an artificial limb from the sentient shoulder and the jaw feels like a swollen prosthesis. In fact, in some respects they cease to feel like parts of the body. This raises the question of how one distinguishes one's body from the environment—an important distinction in this connexion because it is the general experience that pain is felt only in the body and not in surrounding objects. It seems that the boundary is drawn between the body that has, or appears to have, innate sensibility and the environment, which, however much sensation may be projected into it, does not itself "feel." On the one hand we have the trunk, limbs, and phantoms; on the other, hair, clothes, and tools, which are perceived to be distinct, though, as Head and Holmes (1911) remarked, they may be incorporated into the body image. In this latter class we put also real parts of the body, such as colostomies, prolapses, and anaesthetized members, which are equivalent to the environment because they cannot feel, but are carried round with the same care and sense of ownership as a hat or stick.

Deep Pain and the Body Image

In the normal man deep pains are felt inside the body. This is consistent with the body image's property of having depth as well as surface. Although the pains are felt deeply they are confined to regions nearer one surface than another. There is a strong tendency for these regions to be in the front of the body even when the stimulus is near the back, but there is less tendency for a pain arising near the front to be referred backwards; in fact, a pain arising more or less centrally is usually referred to the back only after it has reached a certain intensity in the front. There is also a tendency for trunk pains to be referred down the limbs, and pains within the limbs to be more pronounced in the joints than in the length between. On the other hand, deep pains arising within the limbs spread back beyond their origin only if they are severe. This distribution corresponds with the more vivid parts of the body image, for the individual has a clearer consciousness of the front of his body than the back, of his limbs than his trunk, and, as phantoms show, of the joints than the segments between. An unsophisticated housewife was asked why she thought her angina was worse in her elbow than in her arm. She replied, "I suppose it is because you feel your elbow more, don't you think?"

Organic pains are sometimes distributed in an unusual way, referred to scars, or felt more intensely over significant parts such as the heart or appendix. There are also indications that pain may be diverted from its usual site to some other part that has been rendered habitually painful by another stimulus, such as gall-bladder pains that are referred to the left arm in subjects prone to angina (Jones, 1943). Those who have written much on the subject of deep pain (Head, 1894; Maekenzie, 1918; Lewis, 1942) have been forced, after expounding their views, to point out that their

are always cases of bizarre distribution which cannot be explained. It must indeed have been the experience of most physicians that patients will on occasion persist in describing pain references which do not correspond with any known mechanism. Possibly some of these will be found to depend on unsuspected peripheral lesions. But others may well be determined by some higher cerebral organization, and this may be found in variations of the body image. Such variations exist; for some people, for example, have an accurate conception of their body and are skilful in its use, while others are clumsy and uncontrolled. Further, vividness of parts may be enhanced by past events or peculiarities of temperament—the amputation phantom remains crushed and bleeding as the real part was—and studies of normal and abnormal psychology indicate the differing values that men may give to parts of their bodies. Since the body image itself can vary, some variation in pain reference would be expected.

The interpretation of procaine-block experiments in these terms is that pains are not projected to anaesthetized parts, because they are in effect equivalent to the environment. Pains are always felt in what appears to the sufferer to be his own body, and even if he only knows he has a pain "somewhere" it is never somewhere outside himself. Those, however, who have tried to abolish deep pains by local analgesia have had conflicting results (Lemaire, 1926; Weiss and Davis, 1928; Rudolf and Smith, 1930; Morley, 1931; Woollard, Roberts, and Carmichael, 1932). No doubt this is partly due to the difficulty of experimenting with deep pain and to confusing it with reflex hyperaesthesia, but the unjustifiable assumption has usually been in the mind of the experimenter that the pain must be either "in the viscus" or "in the body wall." A straight answer cannot be given to a question that ignores the possibility of its being in neither. The discordant results can, however, be reconciled by the present hypothesis, for how much of a pain can be abolished will depend on how much of it is projected into the interior or surface of the body image, and on how completely these parts can be anaesthetized. It is, for example, relatively easy to abolish an anginal pain that is deep in the arm by blocking the brachial plexus. The pain that is felt near the surface of the chest can be banished or modified by anaesthetizing these parts. It may reappear in a neighbouring area, to be chased to yet another when that is blocked in its turn (Jones, 1943). This is an artificial alloaesthesia in which pain is diverted to the new site, or is noticed for the first time in it, after the most favoured part of the body image has been destroyed by anaesthesia. On the other hand, the pain that is felt deep in the chest always remains in these experiments, however many anaesthetic patches are produced on the surface. This has been interpreted as the true local pain felt in the viscus. But it is better regarded as pain persisting in the interior of the body image. The internal pain remains because the spatial perception of the chest into which it is projected is unaffected by such procaine block as is practicable. Indeed, perception of the anterior could not be abolished without anaesthetizing so much that the visceral afferents themselves would be interrupted at the same time.

The argument that deep pain spreads because it cannot be localized to the unknown region where it arises needs some elaboration, for there are parts of the body that are very accurately perceived yet give deep pain. For example, the finger-joints are particularly vivid in the body image, and we are certainly aware of the position and movement of muscle masses or imbedded bones, but all of them give poorly localized deep pain. In other words, why does not pain from these parts have a local sign that approaches the accuracy of that in the skin? This question cannot of course be properly answered without understanding the

mechanism of local sign in the skin itself, but it may be observed that there are various modes of perception which are not all equally important in giving local sign. Sensations such as touch are concerned with the body surface only, of which they give a very detailed map; while proprioceptive sensations are the basis of perception of body space, position, and movement. Perception of a finger-joint is a combination of both, built up from perception of its surface and knowledge of the space it encloses. But our knowledge of this space is limited to its shape and dimensions, and the map of the interior is as blank as that of the trunk. Stimuli in both are in *terra incognita*, and the pain that results has the same characteristics. Inevitably a deep pain in a finger must, if it is to remain in the body, be confined to a smaller space than a pain in the abdomen, and for this reason will give the impression of being more accurately localized. But this is a false impression, as can be seen by considering angina. The pain that spreads to the finger seems to be more accurately placed in the body than the pain in the chest, but this is not an accuracy of local sign, for the pain is felt a whole arm's length from where it arose.

Deep Pain and the Segment

In discussing the body image we have been exclusively concerned with the higher analysis of deep pain. But the region in which pain is felt must be determined to a large extent by the fixed structure of the nervous system, for otherwise all pains from unperceived organs would be felt together in the most vivid part of the body image—in the face or hand, for example. It has been recognized for fifty years (Ross, 1888) that this region was the spinal segment, and we have to inquire how it is that the sensation of pain caused by a cardiac infarct, for example, becomes segmental and spreads to the arm. This radiation was originally supposed to occur in the cord, because this is where the sensory nerves from the whole segment are first grouped together. Although there is some interconnexion here, as reflex rigidity and hyperaesthesia show, it is difficult to imagine any possible mechanism at this level, and certainly none has been demonstrated (Lewis, 1942). Even in the last century (Sherrington, 1898) it was shown that local sign of superficial sensations must be a function of the brain, for it certainly was not an inherent quality of any sensory nerve. Thus burning a finger sets up impulses characteristic of pain alone, and not of "pain from a finger." The assigning of a place to the crude sensation depends on the integration of other sensory impulses and on the fixed structure of the sensorium where it occurs. If the same holds good for deep pain one would expect to find some evidence of segmental anatomy in the cortex to account for this type of spread. Such is the case, for recent work with fine methods of cortical analysis proves that "the body surface is projected dermatome by dermatome upon the post-central gyrus. The serial order is that of the dorsal nerve roots except that the cervical segments appear in the reverse order" (Fulton, 1943). Most of the work has been done on primates and has been concerned with superficial sensation and movement, but there is every reason to believe that the general style of cortical architecture is the same in man, and that it applies to deep pain also. The segmental spread of deep pain may then be regarded as nothing but a sign of activity at a certain level of the nervous system. We can say what that level is from the symptoms, just as we can diagnose the site of a lesion from the type of palsy or fit it produces. The segmental disturbance does not occur at the highest sensory level, for the segment does not exist in the body image—no man perceives his segments in the way that he is aware of his hand or mouth. So perhaps it is not surprising that pains are rarely

left filling such a meaningless territory as this, but are modified in the way that has been noted until they correspond with the body as the sufferer perceives it.

Summary

Deep pain, unlike superficial sensation, comes from parts of the body that are unperceived and to which, it is argued, no sensation can be localized. All sensations are normally felt somewhere, and deep pain must therefore be an alloaesthesia. It is suggested that these "pains from nowhere" are projected into the perceived parts of the body. They have a segmental basis derived from the fixed structures of the cortex. Their locality is further defined within these crude limits according to the individual characteristics of the body image. The sensation of deep pain does not depend on any peripheral change in the part where it is felt. But its location does depend on the normal stimuli coming from the part, for without these the place would remain unperceived.

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THE PRE-ERYTHROCYTIC STAGE OF MAMMALIAN MALARIA

BY

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Since the discovery of the part played by the mosquito in the transmission of malaria there has remained a gap in our knowledge of the cycle of events. This has been our complete ignorance of what happens to the sporozoites injected by the mosquito during the period between its bite and the appearance of erythrocytic parasites in the circulating blood. Schaudinn's (1902) observation of the sporozoite entering a red cell has never been repeated and has long been suspect, and the most generally held theory of recent years has been that some form of development takes place in the internal organs—probably in the reticulo-endothelial system—before the parasites enter the red cells and circulate at the end of the incubation period. This interval has been considered to be a period of about

The curtain was first really lifted in the case of avian malaria when James and Tate (1937) described the erythrocytic cycle in *Plasmodium gallinaceum*, but the developments following the introduction of sporozoites by the mosquito remained a mystery. The next step was the discovery by Mudrow (1940) and Shortt, Menon, and Iyer (1940) of developmental forms of *P. gallinaceum* in the incubation period; these were schizogony forms reticulo-endothelial cells. Reichenow and Mudrow (1940) next gave a detailed description of the forms found during the incubation period in infections with *P. relictum*, and Huff and Coulston (1944) independently described in even greater detail the course of events in *P. gallinaceum*.

All this work led to the belief that some parallel development must take place in the case of mammalian (including human) malaria, but all attempts to demonstrate this proved unsuccessful. Efforts to discover the incubation period stage of mammalian malaria—i.e., the hypothetical pre-erythrocytic stage—were given a stimulus by the work of Fairley (1945) at Cairns, Australia, during the recent world war. Fairley and his co-workers showed that during the biting act of the malaria-infected mosquito, and for about half an hour afterwards, blood inoculated from the bitten person into a volunteer produced an infection. After this period and until the appearance of the parasites in the circulating blood even large quantities of blood from the volunteer produced no infection in another individual.

From these results and others obtained in the field of chemotherapy—for example, Davey (1946)—it was evident that shortly after the introduction of sporozoites they disappear from the circulation and the further development during the incubation period takes place in some protected site outside the general circulation.

Hitherto there has been little to support this hypothesis in the form of actual findings in mammalian malaria. Raffaele (1937) described bodies found in smears of human bone marrow and considered by him to represent stages in the development of sporozoites. Somewhat similar observations have been made by other workers in this field up to the present date, but none of these have been confirmed or have even received much support.

Large-scale experiments with *P. cynomolgi* carried out by the Mammalian Malaria Inquiry under the Director, Central Research Institute, Kasauli (1946), and similar investigations by Huff and Coulston (1947), have yielded negative results.

In the Department of Parasitology at the London School of Hygiene and Tropical Medicine investigations to discover the pre-erythrocytic stage of *P. cynomolgi* in the rhesus monkey have been in progress since 1945, and the most recent experiments have at last resulted in the discovery of this stage, as briefly reported by Shortt and Garnham (1948).

Description of Experiment

We do not propose to give the details of all our work, but will confine ourselves to a description of our most recent successful experiment. More than 1,000 *Anopheles maculipennis atroparvus* bred in the laboratory were fed on a monkey showing mature gametocytes in the peripheral blood. The mosquitoes were subsequently fed on another infected monkey and were given a third feed on the original animal. The interval between the first and third feeds was eleven days. The mosquitoes were maintained at 26° C in a relative humidity of approximately 80%.

Ten days after the last infective feed 20 mosquitoes were dissected and without exception proved infected, most of them with extremely numerous sporozoites in the glands.

survivors, 576 in number, were given the feed upon a clean rhesus monkey; over 500 re batch of mosquitoes was then ground up ml. of heparinized monkey plasma diluted solution. Half the suspension was inoculated into the same monkey and the other muscles of both sides. The suspension

showed an average of 5 sporozoites per field of the 1/12 oil-immersion objective.

The monkey was sacrificed seven days later and a very complete necropsy was conducted.

The tissues given in the list which follows were taken for examination either in smears or in sections, or both: Spleen, liver, kidney, suprarenal gland, pancreas, small

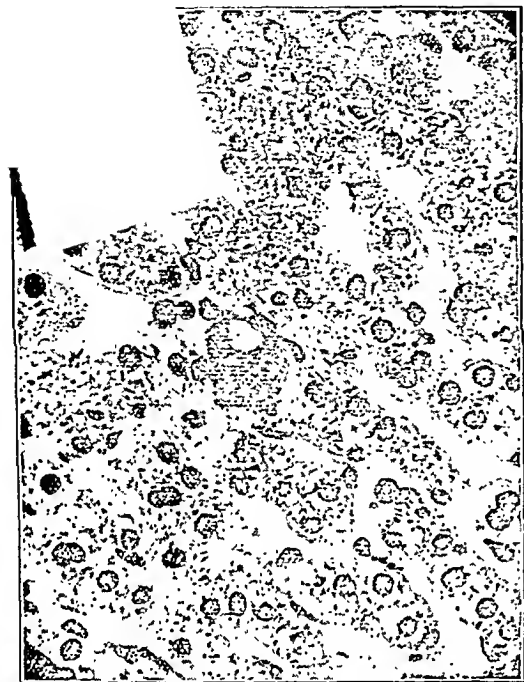


FIG. 1.—Section of liver showing schizont of *P. cynomolgi*, containing well-marked vacuole. Mod. Giemsa stain ($\times 500$).



FIG. 2.—Section of liver showing schizont of *P. cynomolgi*, with numerous masses of chromatin. Mod. Giemsa stain ($\times 1,000$).



FIG. 3.—Section of liver showing oval schizont of *P. cynomolgi*. Mod. Giemsa stain ($\times 1,000$).



FIG. 4.—Schizont of *P. cynomolgi* found in an "impression smear" of liver. Giemsa stain ($\times 1,000$).

intestine, lymph glands from various parts of the abdomen, aorta, inferior vena cava, peritoneal exudate, peritoneum, lungs, heart, thoracic glands, bone marrow, brain, leg muscles, stretch preparations of pia mater and omentum.

The fixatives used were Zenker, Carnoy, Flemming, and 10% formol-saline. Suspensions in citrated saline of the following tissues, in the amounts stated, were inoculated into clean monkeys both intraperitoneally and intramuscularly in each case: liver, 10 ml.; spleen, 8 ml.; brain, 7 ml.; lung, 12 ml.; kidney, 8 ml.; peritoneal fluid, 4 ml.; and heart blood, 7 ml. All the monkeys have remained negative for a month.

The slides of material were stained with haematoxylin and eosin or Giemsa, using the modification of McNamara's stain described by Shortt and Cooper (in the press). The latter unquestionably gives the most brilliant results, and the description given below applies to parasites stained by that method.

Pre-erythrocytic Stage on Seventh Day of Incubation Period

Up to the time of writing we have not had the opportunity of examining thoroughly all the tissues taken, but a rapid survey has resulted in the finding of parasites in the liver only. In a section of the liver examined with the 2/3 objective, small areas of blue colour and ovoid shape are seen very thinly scattered throughout the section (Fig. 1). In one typical section with an area of 90 sq. mm. there were 36 such areas. The ovoid shape is not invariable, and some parasites may show minor indentations, whilst in a few cases actual blunt pseudopodiarms exist. The parasites measured an average of 26μ in the longest diameter, but larger forms up to 30μ or more occur.

When examined under high power these blue areas are seen to be plasmodial masses undergoing schizogony (Figs. 2 and 3). The cytoplasm stains a cobalt blue and has an opaque semi-reticulated appearance, while the particles of chromatin stain a magenta colour. In the majority of the parasites there is no evident condensation of cytoplasm around the chromatin masses, but in a few cases in sections cut at 2μ thickness there is a distinct indication of this process which would result in the formation of merozoites. We have seen parasites in the circulating blood on the ninth day after infection; it is therefore evident that merozoite production must have taken place about the eighth day and the forms described above would be the first stages in the process. For the same reason we conclude that the majority of the forms in the liver are nearly mature and at the stage immediately preceding merozoite formation.

In a considerable number of schizonts there appear one, two, or even multiple vacuoles (Fig. 1) with sharply cut outlines. These tend to be smaller the more numerous they are. It should be mentioned that at no stage is any pigment to be seen in the parasite.

It is very difficult to be certain of the number of particles of chromatin present, especially if the counting is performed on serial sections, because parts of the same fragment may be counted twice, and for this reason we have based our estimate on schizonts seen in an impression smear (Fig. 4). The number was estimated to be between 20 and 30 in a single schizont.

As regards the relationship of the parasite to the liver tissue we do not at present feel inclined to be dogmatic, and a final opinion can be formed only when younger stages of the parasite have been examined. The general impression, gained by us, however, is that the parasites are contained in the parenchyma cells, and this

opinion is strengthened by the appearance in sections stained by Gömöri's stain to show the reticular fibres. In a monkey sacrificed on the sixth day the parasites in the liver exhibited few, if any, differences from the seventh day forms.

Discussion

The importance of this discovery lies in the fact that the resemblance of *P. cynomolgi* to *P. vivax* of human malaria is so close that the findings here described will almost certainly be applicable to the human parasite and, therefore, that the liver is the most likely site for the human pre-erythrocytic forms.

Until we have seen the earlier pre-erythrocytic stages of *P. cynomolgi* we feel that we are hardly in a position to discuss the relationship of the forms found by us to comparable stages of other pigment-producing blood parasites. On the other hand it may be noted that there is a superficial resemblance between the liver schizonts of *P. cynomolgi* and the tissue phase of *P. gallinaceum*, where, however, the merozoites would appear to be more numerous. There is an even closer resemblance to the early exo-erythrocytic stage of *Hepaticocystes (Plasmodium) kochi* (Garnham, in press), although it must be remembered that the fully developed stage of the latter in the liver measures 2 mm. in diameter—i.e., at least 80 times the size of the mature *P. cynomolgi* schizont.

The failure hitherto to find pre-erythrocytic stages of mammalian malaria may be attributed to certain factors: (a) the dilution factor, which necessitates an enormous dosage of sporozoites if the developmental forms are to be readily found; (b) examination of smears has been more intensive than of sections; in smears the parasites are less readily found. The fact that exo-erythrocytic forms had not been found in mammalian malaria may be due to their possibly evanescent nature. It seems likely that the majority, at least, disappear with the establishment of the erythrocytic cycle.

We wish to acknowledge the great help we received in this investigation from our laboratory staff. Mr. W. Cooper with his great technical skill and experience has been invaluable and was ably seconded by Mr. E. Blackie, while Miss J. Stedman gave valuable assistance in mosquito technique. We are also indebted to Mr. W. Alves, B.A., for assistance in the critical necropsy on the first monkey in which we found pre-erythrocytic forms.

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Nurses, medical auxiliaries, and certain other hospital or allied workers are excepted from the Control of Engagement Order, 1947. Hospitals and employing authorities may therefore advertise for and engage such staff without reference to the Ministry of Labour and National Service. Those excepted include the following: State-registered nurses, student nurses, health visitors, midwives, and certain unqualified persons on nursing duties, such as nursing auxiliaries. Domestic workers in hospitals are covered by the Order, under which hospital domestic work is regarded as essential work. Full details are contained in the Ministry of Health circular 1/48, dated Jan. 15.

THE ROLE OF TRICHLOROETHYLENE IN GENERAL ANAESTHESIA

BY

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Although it is well over five years since trichlorethylene was first introduced as an important anaesthetic (Hewer, 1942), it still remains as much a suspected and misused drug in some quarters as it is appreciated as a useful agent in others. Although the object of this paper is briefly to review and estimate the position of this anaesthetic in present-day practice, there is little that can be added to the excellent article by Enderby (1944) on the use and abuse of trichlorethylene. It is not intended here to touch on the most important function of trichlorethylene as an analgesic.

Safety

No one can disagree that safety is the first consideration with regard to any anaesthetic. Trichlorethylene (as trilene[®]) has been employed at Hill End Hospital since January, 1940. During this time it has been used on over 10,000 occasions, of which about a third were for induction and about two-thirds for both induction and maintenance of anaesthesia. The drug was administered in most cases by means of the Boyle semi-closed apparatus. We have never experienced any fatalities or incidents of collapse that could even remotely implicate trichlorethylene. Cases reported as primary cardiac failure have come from Haworth and Duff (1943), but it is difficult to be definite that this condition was the cause of the deaths. A more recent case that has been brought to our notice is even less conclusive. Trichlorethylene has now been employed so extensively that if at all shared the dangers of chloroform, as some anaesthetists believe, several unequivocal cases would surely have come to light.

Toxic Effects

Cardiac.—Arrhythmias as described by Enderby (1944) occur in about 5% of cases. They do not arise in any particular type of case or operation, and their cause is obvious in neither the patient nor the administration. The occurrence of arrhythmias under trichlorethylene anaesthesia, as with cyclopropane, has not shown itself as a dangerous condition in the cases in our experience. These arrhythmias, however, indeed, never produced any untoward effect on the patients, and we have never been deterred from making use of trichlorethylene for all cases, save those with a pre-established arrhythmia or history thereof. We have often employed the drug for thyrotoxic patients presenting no history of auricular fibrillation, and have found no abnormal effect on the cardiac rhythm. Most arrhythmias are transient, especially if occurring early in the administration, and call for nothing more than the assurance of an adequate oxygen supply to the patient. Should the disorder persist the trichlorethylene is discontinued, with the substitution of ether if necessary.

Respiratory.—Tachypnoea is very common, and can be produced to some degree in almost every case anaesthetized with trichlorethylene. The increase in the respiratory rate is caused by the action of the drug on the pulmonary stretch receptors (Whitteridge and Bülbüfing, 1946), which accounts for both the rapidity with which the condition occurs and the speed with which it can be abolished by withdrawal of the drug. The only means of combating an established tachypnoea is the abandonment of the administration of trichlorethylene. If the maintenance is continued solely by

gas and oxygen it will often be found that the anaesthesia remains satisfactory. This is no doubt due to the low volatility of trichlorethylene and its consequent low rate of excretion—two factors that can be turned from a potential disadvantage to a real advantage, in that the drug may in all cases be discontinued early in the administration, the amount already given maintaining the anaesthesia. Tachypnoea can be avoided by so administering the anaesthetic that not more than a trace of trichlorethylene—1 dr. (3.5 ml.) an hour—need be given for any length of time. A narcosis must first be established by means of thiopentone, ether, or any other suitable agent, after which trichlorethylene can be employed with a 20% mixture of oxygen in gas for maintenance. There is no doubt that the secret of a successful trichlorethylene administration lies in the employment of only small quantities of the drug.

Metabolic.—Acetonuria occurs quite often after trichlorethylene (Hewer, 1943), as with all local and general anaesthetics (Schulze, 1924). The toxic effect of the drug on the liver has recently been investigated by means of the cephalin-cholesterol flocculation test (Armstrong, 1947) and found to be both transient and less than that of ether.

Bleeding.—Complaints have been voiced by some surgeons that trichlorethylene causes more bleeding than ether. We consider that these complaints, which are not uncommon when either a new anaesthetic or a new anaesthetic is introduced, are unfounded except when a pronounced tachypnoea is occurring.

Palsies.—Three to four years ago reports of cranial-nerve palsies following trichlorethylene anaesthesia appeared in the literature. Hewer (1943) reports three cases that were obviously due to gross contamination of the anaesthetic liquid. Humphrey and McClelland (1944) report 13 cases, of which two were anaesthetized with trichlorethylene in the closed-circuit apparatus, the remainder receiving cyclopropane or ether from the same apparatus. They consider the lesions were probably due to the toxic effect of dichloroacetylene formed from trichlorethylene in the soda-lime canister. McAuley (1943) reports three cases of bilateral trigeminal anaesthesia following the administration of trichlorethylene on the closed-circuit system. The case reported by Enderby (1944) also received the drug by means of this type of apparatus; while Carden (1944) reports two cases—one of which was anaesthetized with trichlorethylene in the closed system, the other receiving cyclopropane by means of a similar apparatus immediately after a trichlorethylene anaesthetic had been given. Carden points out the great importance of the composition of the soda-lime. The unfortunate sequelae occurred after the employment of a brand of soda-lime that contained nine times as much sodium hydroxide as the usual preparation, as well as proving itself more hygroscopic and generating more heat when in use. It would perhaps be fairer to lay the blame for these nerve lesions on the soda-lime than on the anaesthetic. We have never experienced any such complications of trichlorethylene anaesthesia, although we have eschewed the use of the closed system with this drug since 1943.

Practical Advantages and Disadvantages

As already stated, trichlorethylene has a high analgesic value and a low rate of excretion, which properties permit small quantities of the drug to be used and allow its complete withdrawal early in the anaesthesia. Once narcosis has been established gas-and-oxygen anaesthesia can be administered, reinforced with trichlorethylene given in this way. The drug is non-inflammable, only slightly irritant, inexpensive, and possesses a pleasant smell. Recovery time is short if it is properly administered, and

there is no doubt that post-anaesthetic vomiting is infrequent. Vomiting is certainly less common than after ether anaesthesia, when the patient's recovery is in addition often attended with the unpleasant taste and smell of the anaesthetic.

Trichlorethylene does not produce good muscular relaxation and should never be employed with this object. Its low volatility demands some form of apparatus for its administration, the simplest being the Marrett type of inhaler, while it appears unwise to employ the drug in the closed-circuit machine. It is unsuitable for the maintenance of anaesthesia for children and in intrathoracic surgery, owing to the ease with which a severe tachypnoea is produced in both cases.

Uses

The three ways in which the agent may be used in modern anaesthetic practice are as follows.

Induction.—The non-irritant properties of trichlorethylene stamp it as an excellent anaesthetic for this purpose. Much larger amounts of the drug may be given for this short period than should be administered for the maintenance of anaesthesia. Endotracheal tubes can be conveniently passed "blind" after the establishment of narcosis with thiopentone, followed by the inhalation of about six breaths of a mixture containing N_2O , O_2 , trichlorethylene, and CO_2 .

Maintenance.—Trichlorethylene may be usefully employed as outlined above for all cases not requiring profound muscular relaxation. This embraces almost all operations outside the peritoneal cavity, and includes the bulk of neurosurgical, orthopaedic, ear-nose-and-throat, and ophthalmic practice.

Maintenance with Curare.—We have found trichlorethylene an excellent drug to use with curare for abdominal operations, and consider it preferable to ether, cyclopropane, or repeated doses of thiopentone (Ostlere, 1947). The anaesthesia is exactly the same as for cases not requiring muscular relaxation, curare being added intravenously when necessary.

Summary

A report is made of 40,000 administrations of trichlorethylene unattended by any fatality implicating the anaesthetic. The reported toxic effects of the drug are discussed, as well as its practical advantages and disadvantages. The three ways in which trichlorethylene may be used in modern anaesthetic practice are briefly described.

I am much indebted to Dr. C. Langton Hewer for his permission to publish this paper and for his assistance and encouragement during its preparation.

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Addressing the Pharmaceutical Society of Great Britain on "Modern Knowledge of Protein Structure and its Pharmaceutical Significance," Dr. A. J. Albert said that Ernest Gale, of Cambridge, had discovered a Gram-positive organism, especially the cocci which are the most common source of glutamic acid for the synthesis of penicillin. This organism was prepared by removing from taking up this substance, and the organism was found to be also shown that the organism was not killed by penicillin. He had also shown that the organism was not killed by penicillin.

HOMOLOGOUS SERUM JAUNDICE

BY

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AND

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The following case history is reported to remind clinicians of the importance of considering homologous serum jaundice whenever a patient shows clinical signs of hepatitis

Case History

A primipara aged 19 was admitted to Southmead Hospital because of an abscess in the right breast. On admission she was seen to be jaundiced. The jaundice was said to have been present for 14 days. Its onset was accompanied by nausea and anorexia and had been preceded by diarrhoea and lassitude for three days. The stools had been pale and the urine dark. A diagnosis had been made at home of "catarrhal jaundice."

When admitted the patient's temperature was $101^{\circ} F$ ($38.3^{\circ} C.$), pulse 100, and respirations 20. Definite jaundice was present, and the liver was just palpable and tender. The stools were bulky and pale; the urine was dark and contained bile. Laboratory investigations agreed with a clinical diagnosis of hepatitis (blood count, mild hypochromic anaemia, reticulocytes 1%; van den Bergh reaction, biphasic; serum bilirubin, 1 mg. per 100 ml.; serum alkaline phosphatase, 22.8 units). The pyrexia subsided in 48 hours after incision and penicillin, and on a high-protein and high-carbohydrate diet the patient made a steady recovery. Her urine became free from bile 15 days after admission. The patient had been feeding a neighbouring baby as well as her own. Neither baby showed signs of jaundice.

Comments

It was discovered that because of a post-partum haemorrhage the patient had received a transfusion of two bottles of plasma and one bottle of group O Rh-negative blood 79 days before the onset of the jaundice. The relatively high incidence of hepatitis following plasma transfusion (5-10%) would make it seem probable, therefore, that this was a case of homologous serum jaundice.

Fortunately this patient made a complete recovery; but fatal cases have been reported (*British Medical Journal*, 1946, 2, 423), and the incidence of this complication following plasma or serum transfusions is great enough to constitute a grave deterrent to the transfusion of these fluids except for the express purpose of saving life.

The agent responsible for the hepatitis is thought to be carried by certain batches of plasma only. Batches at present issued may contain 500 or more bottles, and to minimize the risks of patients developing homologous serum jaundice following a plasma transfusion it is necessary that all remaining bottles of possible infective batches should be withdrawn from circulation as soon as a batch is suspected of carrying the infecting agent. The probability that this patient's jaundice was connected with the plasma transfusion had been overlooked by her doctor, and it seems likely that no more would have been heard of her jaundice had not the breast abscess supervened to bring her into hospital. It is possible that other cases of homologous serum jaundice are being missed in the same way, and we would stress the need to inquire into a history of a plasma, serum, or blood transfusion during the previous six months whenever a patient shows signs suggestive of hepatitis. Details of cases with a transfusion history should be brought to the notice of the regional blood transfusion officer so that these officers in all other regions may be informed of the serial number of the offending batch or batches and may take steps to withdraw from

hospital stores all remaining bottles. We are reminded, of course, of the great importance of clearly and accurately recording in the patient's notes the batch numbers of all infusion fluids given, for without a record of these numbers it is not possible to detect and withdraw from circulation the infected batches.

We are indebted to Dr. F. J. W. Lewis for the laboratory investigations.

HOMOLOGOUS SERUM JAUNDICE IN INFANCY

BY

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AND

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Indications for intravenous plasma therapy in paediatric practice are many. Since plasma possesses all the therapeutic properties of whole blood, except those conferred by the red cells, it is especially indicated in shock, thrombocytopenia and in hypoproteinaemia. In practice it is widely employed in the treatment of such conditions as burns and severe gastro-intestinal affections. Despite its widespread use, the complications and sequelae of plasma therapy in infancy are surprisingly uncommon; homologous serum jaundice, for example, appears to be extremely rare. We have been able to discover only one possible case in the literature (Scheinberg *et al.*, 1947), though another more fully substantiated case, following not plasma but blood transfusion in an infant, has recently been described (Bruyn, 1947). In later childhood, however, jaundice has followed the use of convalescent serum in several instances (Probert, 1938; Beeson *et al.*, 1944), while in adults it is a common complication of plasma therapy (*British Medical Journal*, 1946, 2, 423), occurring in 7.3% of cases in one large series (Spurling *et al.*, 1946). Various explanations may be advanced for the relatively low frequency of occurrence in infancy: a temporary passive immunity to the causative virus may be present at this period of life, hepatitis may occur but remain symptomless, or jaundice in infants may fail to be related with previous transfusion treatment. The history of the recognition of the condition in adults suggests that the last possibility is not unlikely to prove correct. For in reason two cases of fatal homologous serum jaundice occurring in infants are recorded, together with an inquiry to determine the incidence of this sequel after transfusion with reconstituted dried plasma.

Case 1

T.B., a male child who had never been inoculated or vaccinated, had had no illness until the age of 7 months. He was admitted to hospital with bronchopneumonia. He was treated with sulphathiazole and recovered from the pneumonia, but before discharge developed diarrhoea and vomiting. With these he became so severely dehydrated that he was treated with intravenous fluids, including reconstituted pooled plasma 20 ml. on each of two occasions, with an interval of six days, and subsequently made an uneventful recovery.

Four months later, at the age of 1 year, he was admitted to another hospital. He had been sleepy and jaundiced for two days. He had not vomited, though his appetite was poor, and his motions had been pale. On examination he was jaundiced and comatose. The pupils were pin-point but reacted to light. There was no neck rigidity. The liver was palpable one fingerbreadth below the costal margin. His temperature was 98.4° F.

(36.9° C.) on admission, but later in the illness it rose to 102° F. (38.9° C.). Coma continued for two days, and convulsive movements occurred occasionally. The child died after four days' illness.

The interval between the first infusion of plasma and the onset of jaundice was 122 days.

Necropsy Findings.—A post-mortem examination was carried out 60 hours after death. The child appeared plump and was moderately jaundiced. There were no haemorrhages on the body surface. Abnormal findings were as follows. *Lungs*: A small number of recent haemorrhages had occurred into the parenchyma posteriorly on both sides. The *spleen* was slightly enlarged (weight, 25 g.), and on section the pulp was firm and the surface flat. *Small intestine*: Peyer's patches appeared hyperaemic but were not ulcerated. The *kidneys* were very pale, but histological study showed no change in architecture. The *gall-bladder* contained some rather pale bile which was easily expressed into the duodenum. The *liver* showed some post-mortem hypostases. It was of normal size (weight, 350 g.), and the surface was smooth and pale yellow in colour. On section the liver tissue was firm, appeared extremely fatty, and was slightly jaundiced. No haemorrhages were seen. The bile ducts were not dilated.

Histology.—Unfortunately, post-mortem changes obscured the histological picture, but despite the short history of illness there was subacute hepatic necrosis with a lymphocytic cellular infiltration around the portal areas. The number of recognizable liver cells was greatly reduced, and most of the survivors contained fat vacuoles. The bile ducts were unaffected; they were not dilated, and contained no bile thrombi. A frozen section confirmed the impression that all the surviving liver cells were heavily laden with fat.

Case 2

S.J., a female child, had had no illnesses until she was 11 weeks old, when she developed diarrhoea and vomiting, and was admitted to hospital. She was severely dehydrated, and was at once given intravenous saline and dextrose with 200 ml. of reconstituted pooled plasma. She recovered and was discharged well after two weeks. Six weeks later she began to pass frequent stools. After five days her urine was noticed to be bright yellow and she started vomiting. Next day she became jaundiced and was readmitted to hospital. On admission she was slightly jaundiced, but well nourished and not dehydrated. No other abnormality was noted. Two days later she had two convulsions and vomited some blood. Next day the convulsions became more severe and frequent, and she died.

The interval between the infusion of plasma and the onset of jaundice was 63 days.

Necropsy Findings.—A post-mortem examination was carried out three hours after death. The infant appeared well nourished, and there was slight jaundice with some cyanosis. No superficial haemorrhages were seen. Abnormal findings were as follows. In the *lungs* a small number of subpleural haemorrhages were present, and there were some small foci of collapse but no consolidation. The *spleen* was dark red in colour, and was enlarged to three times the normal size; histologically it showed only venous congestion. The *liver* was smaller than normal, with a smooth mottled yellow surface.

Histology.—Sections from the left and right lobes of the liver showed a uniform degree of subacute necrosis. There was almost complete disappearance of the columns of liver cells, only a few islands of extremely fatty liver cells surviving in places. The liver sinusoids were intact and there did not seem to be any gross haemorrhages. The material between the sinusoids consisted of amorphous debris, with a cellular infiltration composed partly of polymorphonuclear leucocytes but chiefly of mononuclear cells. There was some early bile-duct proliferation, but no evidence of obstruction of any of the bile ducts.

Comment

The diagnosis of homologous serum jaundice in these two cases seems reasonably certain. The intervals between

the administration of plasma and the occurrence of jaundice (122 days and 63 days, respectively) fall within the accepted limits. There was no history of contact with patients suffering from infective hepatitis. Unfortunately, it proved impossible to trace other patients who had been treated with reconstituted plasma from the batches used in these two cases. Histologically the picture was the usual one of subacute hepatic necrosis.

An attempt was made to ascertain the incidence of homologous serum jaundice in babies treated with plasma intravenously. Of 39 babies under 18 months old treated with reconstituted dried pooled plasma 26 survived the initial illness; among these were the two cases described above. Questionnaires were sent to the parents of the remaining 24 after an interval of six months or more; 17 replies were received, and no further cases of jaundice were brought to light. Unfortunately, on the available material, only a small and entirely inadequate series of control cases could be investigated. Of 18 babies in the same age group as those previously described, and treated during the same period with whole blood or saline intravenously, 12 survived. Questionnaires were sent to their parents, but only five replies were received. Among these there was no report of the occurrence of jaundice.

Summary

Two fatal cases of homologous serum jaundice in infancy are described. One child developed jaundice 63 days after plasma infusion, and died at the age of 5 months, after a short illness characterized by vomiting and convulsions. The other child was 1 year old when jaundice developed 122 days after infusion; he died after four days' illness, having been comatose for two days.

No other cases of jaundice could be traced in 17 babies who had also been treated with intravenous plasma, or in five babies treated with intravenous saline or whole blood.

It seems possible that homologous serum jaundice in infancy may go unrecognized, just as it did until recently in adults, because of the long incubation period. The present investigation into incidence, though inadequate, is reported in the hope that it will stimulate further reviews based on the systematic follow-up of cases treated with plasma; by this means more substantial evidence of the real incidence of homologous serum jaundice in infancy may become available.

We are indebted to Prof. C. Bruce Perry for permission to record these cases and for his continued interest and encouragement. To Prof. T. F. Hewer our thanks are due for the necropsy reports.

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British Medical Journal, 1946, **2**, 423.
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The 1946 Year Book of General Therapeutics, November, 1945, 1946, 1947, edited by Oscar W. Bethea (Year Book Publishers, Chicago, \$3.75; H. K. Lewis, London, 21s.) is a well-selected summary of current medical literature and gives a concise and balanced review of recent progress in therapeutics. The summaries are a sample of some of the newer sulphonamides likely to be of value in the treatment of the common infections. The treatment of barbiturate poisoning with amphetamine and the treatment of allergic disorders with "benadryl" are also mentioned. The Year Book is a valuable reference work for the physician and the pharmacist. The Year Book is published by the American Medical Association and is published by the editorial footnotes.

Medical Memoranda

Traumatic Delayed Rupture of the Gall-bladder in a Child Aged 9

Traumatic rupture of the gall-bladder is an injury of considerable rarity. Usually it is found in association with other abdominal injuries, these being of such a nature as to overshadow the biliary lesion. The following case, though not unique, is thought to be of sufficient interest to warrant recording.

CASE REPORT

A boy aged 9 years was admitted to hospital on July 29, 1946. Two days before admission he fell while attempting to jump from a stationary railway truck on to the embankment. He was unconscious for about half an hour, after which he was removed to a local hospital, where he regained consciousness. His condition was then one of mild shock, accompanied by vomiting. He was complaining of vague abdominal pain, and slight abdominal rigidity was present. The usual measures to combat shock resulted in marked improvement in his general condition, which remained satisfactory until the following evening, when he again complained of vague abdominal pain. On this account, and in view of the probability of laparotomy being necessary, he was transferred to a larger hospital.

On examination the child did not appear shocked and lay quiet at ease while being examined. Abdominal distension was not present, but on palpating the abdomen there was generalized tenderness, maximal over the upper part of the right rectus muscle. Rigidity and "rebound tenderness" were absent, and there was no evidence of free fluid in the abdomen. On rectal examination the boy complained of pain about the umbilicus; otherwise nothing abnormal was detected. The pulse rate was 110 and the temperature 98° F. (36.7° C.). A tentative diagnosis of retroperitoneal haematoma was made.

Throughout the next two days his general condition remained excellent, the pulse being about 100 and the temperature varied between 98° and 100° F. (36.7° and 37.8° C.). This low-grade pyrexia was taken to indicate absorption from a retroperitoneal haematoma, and signs of peritonitis were still absent.

On July 31 the boy's condition suddenly deteriorated. He complained of severe abdominal pain and signs of shock were evident. He vomited three times within half an hour, the vomitus consisted of white frothy material. Abdominal examination revealed rigidity of the right rectus muscle and dullness of the right flank. Laparotomy was now considered necessary.

Operation.—The abdomen was entered by the right paramedian route. About 17 oz. (480 ml.) of bile-stained fluid was present in the peritoneal cavity. This fluid was removed, and on exploring the abdomen a hole measuring about 1/4 in. (6 mm.) in length was found in the fundus of the gall-bladder. Signs of inflammation were not evident in the organ, and although the edges of the hole were discoloured the perforation appeared to be of recent origin. There was no lymph exudate or any evidence of adhesions to surrounding structures. The small bowel was slightly dilated but otherwise normal. Drainage of the gall-bladder was effected through the hole by means of a fine rubber tube, and that of the associated abscess by a "cigarette" drain. The abdomen was closed around the drains.

No organisms were seen on microscopical examination of smears, preparations, and culture of the bile-stained fluid from the abdomen; showed no bacterial growth.

Routine post-operative measures were employed to combat shock, and within twelve hours the patient's general condition was satisfactory. Convalescence was uninterrupted and the child was discharged well after twenty-one days.

In the opening remarks I inferred that this case was unique. Two similar cases are recorded—one by Siegel (1909) and a second by Hicks (1944). The latter case was one of perforation of the gall-bladder in a child aged 3 years; in the former, perforation occurred eight days after injury and was explained as being a distension gangrene due to secondary infection when the cystic duct became occluded with blood clot.

I should like to express my thanks to Mr. Matthew White for permission to record this case.

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 for Sick Children, Glasgow.

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Reviews

BIOCHEMICAL BOUNDARIES

Vitamins and Hormones. Vol. IV. Edited by Robert S. Harris and Kenneth V. Thimann. (Pp. 406. 56.80.) New York: Academic Press Inc. 1946.

Annual Review of Biochemistry. Vol. XVI. Editor, J. Murray Luck; Associate editors, Hubert S. Loring and Gordon Mackinney. (Pp. 740. 36s.) California: Stanford University P.O. Annual Reviews, Inc. London: H. K. Lewis and Co.

These volumes are excellent specimens of the survey work—conducted along two somewhat different approaches—done by our American colleagues in so many fields, and in few so effectively as in biochemistry with its many adjacent scientific territories, from pathology to organic chemistry, from animal nutrition to marine bacteriology, from endocrinology to chemotherapy. So useful are the series to which these two volumes are the latest additions that they arouse once more the gravest misgiving about the present indiscriminate slashing at book imports imposed under the banner of crisis economy and dollar savings. The unprotected scientific worker who cannot have such books on more or less permanent loan from his institution or a public library (and the number who can are negligible) is irretrievably handicapped in the pursuit of his own immediate researches, and the results of his work and their practical application may be forestalled by those who are not obstructed by unimaginative measures of pseudo-economy. Such measures must have a directly adverse effect on the "export drive," which the scientific worker's sacrifices are designed to further.

For example, can the agricultural biochemist concerned with problems of milk production remain ignorant of Housay's survey of "The Thyroid and Diabetes," or Reineke's of "Thyroactive Iodinated Proteins" (*Vitamins and Hormones*, IV)? How can the physician—a contributor to national health and therefore to morale and output—wishing to study research on blood dyscrasias fail to profit by reading T. D. Spies's review of "The Use of Pteroylglutamic Acid in Clinical Studies" (*Annual Review*, XVI) or Pfiffner and Hogan's article on "The Newer Hematopoietic Factors of the Vitamin B Complex"? The answer to these questions must be as obvious to every research worker as it is apparently obscure to an administration still effectively blind to the value of scientific research.

These volumes maintain the high standards we have come to expect of them. It is a pleasure to note that the *Annual Review*, nearly 60 pages longer than the 1946 volume, maintains its partly international character and that British authorities have contributed three out of the 25 chapters; the remainder, apart from one Canadian and one Swedish contribution, all come from the U.S.A. The authors of these 25 chapters cover every aspect of biochemistry with a great array of concise and carefully classified information based on the most recently published papers in every part of the world. Most of the 31 authors are on university staffs, but six are working in independent research institutions and five in industry. As before, the editors have chosen with tact and discrimination, and the contributors have fully justified their selection.

Vitamins and Hormones maintains equally well its somewhat different, and much younger, tradition. The physical, if not the spiritual, descendant of the pre-war *Ergebnisse der Vitamin und Hormonforschungen*, of which only two volumes ever appeared, it has now settled well into its stride. Biochemical and endocrinological topics are considered in a more detailed and more critical manner than in the *Annual Review*; thus a smaller number of subjects can be covered annually, so that a more cunning and discriminatory selection has to be made. And very well made it is again. Though choice of the most practical review in this volume—at any rate from the point of view of applied medicine—must be between F. W. Clements's "Manifestations of Nutritional Deficiency in Infants" and Roy Hertz's short account of the "Effect of B Vitamins on the Endocrinological Aspects of Reproduction," the laboratory worker may be more interested in Sidney A. Thayer's "Methods of Bioassay of Animal Hormones," a

fairly complete survey, albeit in some places rather superficial. Readers in every branch of medical science, however, should make it a duty to read—and for the discriminating it will become a pleasure to re-read—the masterly and fascinating essay by Howard A. Schneider, of the Rockefeller Institute, on "Nutrition and Resistance to Infection: the Strategic Situation." It is as pretty a piece of scientific writing, as cogent a piece of constructive logical thinking, as has come my way for many a long year.

A. L. BACHARACH.

SEXUAL PERVERSION

Sinn und Gehalt der Sexuellen Perversionen. By M. Boss. (Pp. 130. 12 Swiss francs.) Berne: Medizinischer Verlag Hans Huber. 1947.

The main part of this small book on the meaning and idea of the sexual perversions consists of eight full case histories each describing the personality of a pervers, his development, and symptoms. The history of these patients, some of whom had been treated on analytical lines, and the interpretation of their lifelong conflicts are fine psychological and biographical writing by a humane and understanding physician. Boss's argument is a battle on two fronts: against Freud's explanation of perversions as regression to a childish stage of sex development, and against the view of certain Continental writers who judge perverse behaviour as depraved and degraded substitutes for a broken sex life. In contrast Boss points to the positive human values hidden even under absurd deviations of erotic fulfilment, only if we recognize these values can we hope to understand the patient and help him towards normality. Boss's ideas represent an important development in analytical psychopathology. Unfortunately they are cloaked in the heavy language of "existentialism," which seems to resist transcription into plain English.

W. MAYER-GROSS.

SIXTEENTH-CENTURY PROPHYLAXIS

Una Epidemia de Peste Bubonica en el Siglo XVI. By Dr. Don Jose Viñes Ibarrola. (Pp. 133. No price given.) Pamplona: Editorial Aramburu. 1947.

The Chief Health Officer of Navarra has a triple object in describing this epidemic of bubonic plague in the sixteenth century. He uses many contemporary documents from the municipal archives of Pampeluna to show that this outbreak was not associated with an epizootic, that the chain of infection was patient, fomite, flea, healthy person, and that the lack of bacteriological knowledge did not prevent Joan de Lortia, with his 42 years' experience of plague, from introducing measures as effective as those taken against typhus before the use of D.D.T.

Dr. Ibarrola gives an intimate picture of domestic conditions in a European city of 30,000 inhabitants in 1599 and shows how the control of plague in Pampeluna was a local achievement, for, whereas its morbidity there was 1.14%, that of the epidemic at Santander (1596) was 45.93%. This success was due not only to the rapid organization of a complete plan of control under an experienced staff which included doctors, nurses, disinfectors, undertakers, and guards, but to the recognition, so rare for the period, that there was no visitation of divine wrath but a contagious disease which could be traced to individuals and fomites. Preventive measures included a daily muster of the entire population, notification of the sick and their immediate examination and isolation, isolation and quarantine of all contacts, boiling all suspected clothing, terminal disinfection, sanitary inspection of houses and streets, supervised disinfection of houses, destruction of bedding by fire, burying excreta and dressings under lime, and even the isolation of drinking-vessels. There is no reference to dead rats, and the available statistics of topographical and familial incidence, together with details of incubation periods, all support the opinion that the rat took no part in this epidemic. The author considers that, even after the arrival in Europe of *R. norvegicus* in 1727, many epidemics have occurred without the intermediation of that animal and that far too much attention has been given to this mode of spread. The absence of detailed references seriously diminishes the value of this book.

J. J. KEEVIL.

RECENT PAEDIATRICS

The 1946 Year Book of Pediatrics. Edited by Isaac A. Abt, D.Sc., M.D., with the collaboration of Arthur F. Abt, M.D. (Pp. 464; illustrated. \$3.75 or 21s.) Chicago: The Year Book Publishers Inc. London: H. K. Lewis and Co. 1946.

Once again the two Professors Abt, of Chicago, have reviewed the literature to produce the *1946 Year Book of Pediatrics*. Welcome signs suggest that more European publications are available, and there is a gratifying number of abstracts based on papers in the *British Archives of Disease in Childhood*. The authors of one Dutch paper quoted discuss what are termed "pontile tumours": surely the more usual topographical adjective is "pontine." But it must in fairness be said that random sampling has revealed no other obvious errors. Streptomycin is briefly mentioned in the official statement issued by the special committee of the National Research Council and referred to in other sections for its use in tuberculous meningitis and as a urinary antiseptic. The illustrations have been carefully chosen and most have been well reproduced. As usual, the editorial comments are a valuable part of the book, and there is a good subject index. The now familiar "quiz" of twenty questions on the cover proved too difficult for one reader at least to obtain a pass mark, which indicates, among other things, the vast amount of new paediatric literature being published each year.

A. MONCRIEFF.

ATOMIC ENERGY

Atomic Energy. By R. R. Nimmo, M.Sc., Ph.D. (Pp. 201; 45 figures. 9s. 6d.) London: Pilot Press. 1947.

What is Atomic Energy? By K. Mendelssohn, M.A., Ph.D., F.Inst.P. (Pp. 180; 37 figures. 6s.) London: Sigma Books. 1947.

Atomic energy is an intrinsically difficult subject and one which cannot be understood in any serious sense without some effort of apprehension. On the other hand, it is not only of obvious and general importance, but of particular interest to medical and biological science because of the increased supplies of radioactive materials which are already becoming available and the health problems to which it gives rise in peace and to an infinitely greater extent perhaps in war. There is also the natural interest of all scientific workers that research should not be allowed to suffer from other considerations. Any book which can help the doctor in a first approach to these problems is therefore to be welcomed. The writers of each of these volumes is a professional physicist, and the choice between them must be largely dictated by the amount of effort which the individual reader is willing to make.

Dr Nimmo's book is the more substantial of the two, and has been planned on the basis that all frills and inessentials are sternly avoided. The result is that the educated reader who begins at the beginning and reads steadily and carefully to the end, stopping occasionally to think and to undertake a little personal exercise, will emerge with some genuine understanding of the sequence of discovery which led to the release of atomic energy, as well as practical methods of research, and will be left with a reasonably solid foundation on to which further reading can usefully be grafted. On the other hand, there is little titivation, for both writing and illustration are utilitarian and restricted to the purpose of the book.

Dr Mendelssohn is also serious in his intention, but offers more by way of bait. Stylistically, Nimmo's opening statement that "in the middle ages the transmutation of metals was widely accepted as a possibility" is paralleled by the more flamboyant, "Since the dawn of history man's mind has contemplated the variety of materials which surround him and which have played an ever increasing part in his daily life." Pictorially, the illustrations are rather of the kind favoured as "visual aids." In addition he has somewhat less space at his disposal. The result, as might be expected, is a book which offers less reward for a correspondingly less expenditure of energy. Both books are good of their kind, and the choice between them must depend on the time and manner of reading. In a train or in a crowded room one might prefer Mendelssohn; in more favourable conditions, Nimmo.

A. W. HASLET.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

Hearing Aids. By Hallowell Davis et al. (Pp. 197. 11s. 6d.) London: Geoffrey Cumberlege. 1947.

An account of experiments carried out in the U.S.A. to determine a suitable design for hearing-aids.

A Handbook for the Diagnosis of Cancer of the Uterus by the Use of Vaginal Smears. By Olive Gates, M.D., and Shiel Warren, M.D. (Pp. not numbered. 22s.) London: Geoffrey Cumberlege. 1947.

Profusely illustrated with photomicrographs.

The Conquest of Brain Mysteries. By George Bankoff, M.T. F.R.C.S. (Pp. 174. 6s.) London: Macdonald. 1947.

Psychology and psychiatry for the layman.

La Rage. By P. Remlinger and J. Bailly. (Pp. 193. 350 francs.) Paris: Librairie Maloine. 1947.

A monograph, including historical details, on rabies.

Contribution à l'Etude Physique, Physiologique, et Clinique de l'Electro-Choc. By Marcel Lapierre and Jacques Rondepierre. 2nd ed. (Pp. 374. 380 francs.) Paris: Librairie Maloine. 1947.

A general account of electric convulsion therapy based on the authors' experience.

Le Médecin à la Recherche d'une Doctrine. By Dr. L. A. Roussau and Jean Tétou. (Pp. 190. 153 francs.) Paris: Librairie Maloine. 1947.

Essays on the art of medicine.

Homéopathie. By J. Tétou. 2nd ed. (Pp. 202. 200 francs.) Paris: Librairie Maloine. 1947.

A manual of homoeopathic therapy.

Synopsis of Neuropsychiatry. By Lowell S. Selling, M.D. Ph.D., Dr.P.H., F.A.C.P. 2nd ed. (Pp. 561. 32s. 6d.) London: Henry Kimpton. 1947.

A summarized account of neurology and psychiatry.

Recherches sur la Sclérose en Plaques. By M. Laignel-Lavastine and N. T. Korsicss. 3rd ed. (Pp. 511. 850 francs.) Paris: Librairie Maloine. 1947.

An investigation into disseminated sclerosis, with many case histories.

Textbook of Embryology. By H. E. Hordan, M.A., Ph.D. Sc.D., and J. E. Kindred, M.A., Ph.D. 5th ed. (Pp. 613. N. price.) New York and London: D. Appleton-Century. 1948.

Intended primarily for medical students.

Ergametrie. By Gabriel Bidou. (Pp. 102. 250 francs.) Paris: Librairie Maloine. 1947.

A monograph on the measurement of work done by the human subject.

Gynécologie Médicale. By J. E. Mareel and Maurice Fabrè. (Pp. 733. 2,140 francs, paper covers; 2,540 francs, cardboard covers.) Paris: Librairie Maloine. 1947.

A textbook of gynaecology.

Gardiner's Handbook of Skin Diseases. Revised by John Kinnear, O.B.E., T.D., M.D., M.R.C.P., D.L. 5th ed. (Pp. 251s.) Edinburgh: E. and S. Livingstone. 1948.

A manual with many illustrations for students and general practitioners.

The Essentials of Modern Surgery. Edited by R. M. Handfield Jones, M.C., M.S., F.R.C.S., and A. E. Porritt, C.B.E., M.A., M.C. F.R.C.S. 3rd ed. (Pp. 1,256. 50s.) Edinburgh: E. and S. Livingstone. 1948.

A textbook of clinical surgery intended primarily for students and general practitioners.

Textbook of General Surgery. By Warren H. Cole, M.I. F.A.C.S., and Robert Elman, M.D., F.A.C.S. 5th ed. (Pp. 1,111. \$11.00.) New York and London: D. Appleton-Century. 1948.

A textbook for student and general practitioner.

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THE RIGHT TO ATTACK

"Don't be impudent" was the reply given by Mr. Bevan on Dec. 3 to a sensible question quietly put to him by a member of the Negotiating Committee who is still an independent practitioner. When asked another question on compensation Mr. Bevan said the Committee should be careful not to drive him too far on the question of compensation, because the profession had no real right to it and towards the end of the meeting he said that if there were not enough practitioners in the Service two years after the appointed day there would be a "sharp diminution" in the capitation fee. We are not drawing attention to these facts in order to score off Mr. Bevan or to stir up partisan prejudice against him. These incidents were, if true, uncomfortable examples of his intransigence. But what is important is the danger to medicine illustrated by the present Minister's behaviour. We do not stress this because the vehicle of the behaviour is Mr. Bevan: after all, he won't be Minister of Health for ever; in fact, the present Government has a renewed lease of life in the next election Mr. Bevan may well be a candidate for much higher office than that of Minister of Health. The danger lies in the all-powerful control of the medical profession by any political office-holder, in the nationalization of medicine, in the subordination of medical men to the State machine. If a Minister can treat independent members of a learned profession in the way described when he is supposed to be negotiating with them, what treatment may professional representatives at some future date expect to receive at the hands of an ambitious politician who has complete control over all aspects of medical life—who owns all the hospitals, all the practices, employs all medical men and women, and who can alter their lives and livelihoods by the issue of Orders and Regulations? The doctrinaire theorist, seeing nothing but the supposed virtues of plans and planning, devises State schemes attractive in their apparent simplicity, and satisfying to an obsessional demand for administrative tidiness. The doctrinaire talks about the State as if it embodied all the wisdom and virtue that very few individual men have ever possessed; and with the decay of the old faiths the State is now worshipped as a god and as a god whose principal attribute is power. The doctrinaire, sincere but woolly-headed idealist, forgets that the State is a group of politicians holding power, forgets that a State Medical Service means a Service organized and controlled by an administrative Department at the head

of which is a politician who uses his office primarily as a method of pursuing political ends.

We have always believed, and have said so, that Mr. Bevan has wished to provide the country with improved medical services. We have hitherto believed him when he said that in doing this he genuinely wished to secure the co-operation of the medical men and women of this country—or at least of the majority of them, for there will always be a minority dissatisfied with whatever happens. We may continue to believe that Mr. Bevan wishes to provide this country with improved medical services, though we may have grave doubts whether his Act provides a real opportunity for doing this. But we begin to doubt his assertion that he desires the co-operation of the medical profession, because—to use a current vulgarity—he seems in recent months to have leaned over backwards to avoid obtaining this. Mr. Bevan the politician has got the better of Mr. Bevan the Minister of Health.

The keynote to his present tune was sounded by the *Tribune*. If Mr. Bevan was to give way to a "reactionary profession" he would desert the sacred cause of socialism—would endanger, may we suggest, his place at the head of the keep-left movement. In his letter to the three Presidents in January of last year he opened the door for negotiations on the Act, and it was clear to him, as to everyone else, that those negotiations were for the purpose of amending the Act, as the last plebiscite said "No" to negotiations on Regulations. The negotiations started by Mr. Bevan between the officers of the Ministry of Health and the Negotiating Committee and its various subcommittees were rendered farcical by Mr. Bevan's conduct of the final discussion on Dec. 2 and 3. He chose the method of humiliation, not of conciliation. The Committee might with justice have addressed to Mr. Bevan these words of Benjamin Franklin, "Those who would give up essential liberty to purchase a little temporary safety deserve neither liberty nor safety"—to borrow from a forthright editorial in the current issue of the *Medical Press*.

We should not, however, allow ourselves to become too indignant about the way we have been treated by one man—even though that one man is given by the National Health Service Act supreme and absolute authority over medical men and women. As doctors we can allow for the explosiveness of a fervent character. But the whole episode has this one important lesson which as a profession we must take to heart and mind—the dangers of monopolistic control in the hands of one man over the whole of the medical profession. In a leading article nearly four years ago¹ we drew attention to the views of some of the planners of medicine and the forces behind them. In a pamphlet on the National Health Service White Paper the Communist Party then stated: "The Government's proposals have been published after a very great deal of pressure from the Labour and Communist Parties, Co-operative Organizations and Trade Unions, and health workers' organizations, such as the Socialist Medical Association." "Control," the Communist pamphlet stated, "will be in the hands of the State and local authorities . . . and standards will be laid down." P.E.P., in its commentary

¹ *British Medical Journal*, 1944, 2, 47.

on the same White Paper, put in a nutshell the real case against a State Medical Service in these words:

"Much will depend upon the attitude of the Treasury, the effectiveness of the Central Health Services Council, the personality of the Minister, the alertness of his officials, and the political complexion of Parliament."

We agree with P.E.P. that much—far too much—will depend upon these key features in the National Health Service, and think it would be deplorable if the medical profession and the public were ever to be placed in a position of dependence upon these things. Our esteemed contemporary, the *Lancet*, does its best to support the Minister in its advocacy of the National Health Service Act. While we respect the sincerity with which its views are sustained we believe we are not doing it an injustice in detecting in its columns the same doctrinaire worship of State power that is the modern fashion. A Minister, the *Lancet* writes, "must hold powers of negative direction . . . and we have never been persuaded that the exercise of these powers would ever involve any substantial hardship." In comparing the opposition of the medical profession with the opposition to the building of new towns the *Lancet* observes that the result of such opposition is "that no new town can ever be built unless *ruthless authority* is exerted" (our italics). "*Ruthless authority*" is a less euphemistic expression than "compulsory co-operation." And the *Lancet* says this, apparently with approval: "If the profession cannot find itself ways to prevent grossly unfair certification by a proportion of its members some subsequent Government may indeed feel obliged to safeguard these funds [public funds] by changing capitation fees into salaries." Because some men offend, all men are to be treated as if they were offenders—a curious argument. Is this the real reason why Mr. Bevan insists upon the new Health Service starting on July 5 although he is not yet ready with plans for the building and setting up of his key structure for the general practitioner service—namely, health centres—and is this the real reason for the universal basic salary?

The plebiscite form is to-day being posted to all practitioners in Britain. The B.M.A. Council and the I.A.C. have expressed their attitude to the Act in its present form in short statements published elsewhere in this *Journal*. Their joint view is that the Act as it stands is harmful to medicine. The Council of the Royal College of Surgeons passed the following resolution last week:

The Council of the Royal College of Surgeons of England, while believing that every member of the profession must act according to his conscience in deciding whether to accept service under the National Health Service Act, is of opinion that fellows and members of the College should do all in their power to maintain the unity of the profession in its endeavour to attain the highest ideals of service.

This call for unity could not have been more timely. General practitioners have been uneasy about the attempts of Mr. Bevan to divide the consultants against them. Mr. Bevan provided in his Act a special and favoured place for the teaching hospitals. Last month he offered

consultants an assurance that seemed to be financially tempting—for example, by suggesting that he would aside in State hospitals beds with no ceiling on fees. It is therefore encouraging that the honorary consultant staff of the London Hospital—the largest teaching hospital in London—should pass unanimously the two following resolutions at a meeting of the London Hospital Medical Council on Jan. 21:

(1) that in the view of this Council no step which lead towards whole-time State salaried medical service would be in the best interests of the community;

(2) that in the opinion of this Council consultants and specialists should not take service under the new Health Act until agreement has been reached with the profession as a whole.

On Jan. 26 the medical staff of St. George's Hospital discussed the present Act by 28 votes to 1, and by 21 votes to 4 agreed to abide by the majority decision in the plebiscite. On Jan. 21 the Faculty of the Bristol Royal Hospital, the registrars included, discussed the National Health Service Act. A secret ballot was held: out of 60 medical men present, 56 voted not to take part in the Service under the Act; only 2 voted for service, and 2 remained undecided. The Council of the Royal College of Surgeons has asked for unity. Three important teaching hospitals by resolution have paved the way, and should encourage those who may still be undecided or fearful.

Those who still fear that to say No is to oppose the will of the majority should take heart from a recent statement of the Lord President of the Council, Mr. Herbert Morrison²:

"Particularly would I add the right to attack and for the Government of the day. That, perhaps, is the biggest single test of democracy. To go for the Government of the day is a sacred British possession. A Government which tries to take that from you is a danger and a menace, and you had better get rid of it."

Mr. Morrison and Mr. Bevan have both reminded of our right to individual and collective opposition. Every doctor in the country should now follow the dictate of conscience in answering the questions on the plebiscite form.

CENSORSHIP

The word "freedom," like the word "democracy," may become so abused that what it stands for in these days is becoming lost sight of. But the coin is still there, even though its image and superscription have been rubbed away by rough usage. It does not mean the abuse of liberty called licence, but it does—at least so we like to believe—still mean freedom of assembly, freedom of publication, and freedom to say Yes or No to questions put by free men to each other. These three freedoms are now being called in question. A short time ago the medical officers of one of His Majesty's armed Forces wanted to hold a meeting to discuss the National Health Service Act, and to hear the views of medical men not members of that Force. They were forbidden to hold this meeting and were

t allowed to listen to dangerous thoughts. A county medical officer of health recently instructed the public health officers on his staff not to take part or vote in a meeting held in their area to discuss the National Health Service Act. They were present but had to sit in enforced silence. These public health officers, so instructed, could not follow the example of the Willesden nurses who were instructed by the Medical Officer of Health for Willesden to join a trade union. The nurses resigned, and presumably had some safeguard in that there was an alternative open to them—to work elsewhere. It is intolerable that this sort of thing can happen in a country that in the past has been an example to the world in its fight for the essential freedoms of Western civilization, and which has just emerged, battered but victorious, from a war fought to preserve the freedoms won in the past.

We see in the above two examples denial of freedom of assembly, denial of freedom to vote according to conscience. The third threat has been the subject of correspondence in this *Journal* started in our issue of Dec. 27 by a letter from Mr. Johnston Abraham, followed by a letter by Mr. R. F. West, Chairman of the Medical Group of the Publishers Association. Distinguished medical men have taken up the theme in this week's correspondence columns. Mr. Johnston Abraham was, because of his experience with the Ministry of Education, anxious about the future publication of books written by medical men who, if working full-time in the new National Health Service, will be State servants. "The whole idea of such a censorship in civil life is inimical to freedom of thought." Mr. West drew attention to the following reply given by the Financial Secretary to the Treasury to a question asked in the House of Commons on Nov. 6 by Mr. Isaac J. Pitman.

A Crown servant must obtain the consent of the head of his Department for the publication of any work the subject matter of which is connected with his official duties or those of other public servants. . . . I understand that no rules have yet been made for employees of the new bodies set up under the National Health Service Act.

The question of censorship is as important as any of the present points of conflict between the Ministry and the profession about the National Health Service Act. If the necessary majority of Noes is obtained to justify collective opposition to Mr. Bevan's Act, and if negotiations are opened to secure amendments to that Act, it will be operative to see that some amendment is put in with regard to publication of books and of articles and letters in the medical press, whatever assurances the Minister of Health may yet give on this matter.

It is a common experience of the Editor of this *Journal* to be asked by medical men employed by local authorities to publish letters under a pseudonym. Assistant M.O.s, H. and deputy superintendents of hospitals have said in covering letters that if their legitimate criticisms are published under their name their security in the service would be threatened and their chances of promotion diminish to vanishing-point. The Editor, though reluctant to publish anonymous letters, has always met these requests. In a

leading article in 1943¹ we drew attention to the fact that no medical man in the service of the L.C.C. could submit for publication a scientific article or a letter without the permission of the Chief Medical Officer of the L.C.C. The L.C.C. subsequently amended its Standing Orders so as to allow medical men in its service to submit scientific articles without seeking the permission of the Chief Medical Officer, but at the same time so worded the new Order as to disallow the submission of letters or articles on other professional matters without such permission.

The Minister of Health has already secured in the Act freedom to withhold the report of the Central Health Services Council if it is in the public interest to do so. The public, of course, will have no opportunity of knowing whether or not it was in its interest to withhold publication. With more and more medical men employed whole-time in a State Medical Service, with, in fact, all the doctors receiving their remuneration from the public funds controlled by the Treasury, what freedom to publish not only scientific articles but articles on a whole range of professional matters will the medical employee of the State be likely to have? The correspondence columns of the *B.M.J.*, the open forum for the medical man to discuss fearlessly what he thinks about any aspect of professional work and life, will be filled with anonymous contributions, written by men who will not dare call their names their own. These fears may sound fanciful now, but if we passively allow our freedoms to be filched from us one by one, freedom of opinion and freedom of publication will disappear with the rest—in the public interest, no doubt, as interpreted by the owners of the State machine.

JUVENILE DELINQUENCY

The large increase in juvenile delinquency during the war and post-war years has once again drawn attention to this problem. Indeed it has been said that the vast majority not only of adult criminals but also of the unproductive and antisocial members of the community—the "drones" and "spivs" of whom we hear so much—come from the ranks of those who during childhood and adolescence were already recognized as incipient delinquents. Public opinion has now advanced well beyond the stage in which it was supposed that the only cure for the young offender was a strong dose of physical punishment. Educational and medical experts are agreed that each case needs individual study and an appropriately adapted treatment, in short, that the problem is to be solved only by a scientific approach.

British psychologists led the way in the scientific study of delinquency. The simple device of the control-group together with more objective methods of testing and assessing qualities of intelligence, temperament, and character helped to show that delinquency itself is not a simple clinical entity but a superficial symptom with a highly variable and complex causation—the resultant in most instances of a number of factors whose nature may differ widely from one case to another. The studies of Burt at Liverpool and in London were followed by the investigations of Healy and his colleagues in America, and the

¹ *British Medical Journal*, 1943, 1, 323.

essential causes of juvenile delinquency are now fairly well established. Most urgently needed are similar investigations into the efficacy of different methods of treatment as judged by the after-histories of cases of various types. Apart from a small number of follow-up inquiries carried out on delinquent cases first coming under observation in L.C.C. schools, comparatively little research of this kind has so far been undertaken in this country. Reports on the later careers of youths discharged from Home Office schools and other institutions are generally too vague and too meagre to yield a basis for practical measures. The obvious method, adopted in the London inquiries, is to follow the recognized statistical principles for calculating life tables and for determining survival rates or immunity rates after specified forms of treatment. In the London cases it was found that of persons "exposed to risk" during equal periods (15 years) as high a proportion as 40% succumbed among those who had been treated psychologically, either at child-guidance centres or elsewhere, while between 50 and 60% could be regarded as successes. Among cases of equal gravity that had received no special study or treatment the spontaneous recovery rate was just over 40%.

The same method of analysis has been employed on a far larger scale in an inquiry undertaken by the State Institute of Human Genetics in Sweden.¹ The material analysed consisted of cases recorded in the files of the Malmö Child Welfare Board over a period of 37 years—from 1903 to 1940. More than 2,300 children were divided into four main groups: children who had been brought before the juvenile court; children who had been found so delinquent that special measures were required for their correction; children who had come from bad homes and were guilty of some minor delinquency only; and non-delinquent children who had been removed from bad homes solely for preventive purposes. The last served as the control group. The after-history of each case was traced to the beginning of 1944. The requisite information was obtained from foster homes, welfare committees, the penal register, the police gazette, and all other relevant sources that were accessible. The investigation was mainly concerned with the "social prognosis" for such cases after the child reached adult life. The results have been expressed by calculating the "annual risk" and the "total risk" in regard to criminality, drunkenness, vagrancy, or the receipt of public assistance. The outlook in relation to crime, as might be anticipated, was worst for the court cases and for those removed for serious delinquency. In these two groups the frequency of criminal offences in later life was nearly twice as great as among those who had been removed from their homes as a protective measure only. On the other hand the incidence of vagrancy and appeals for poor relief differed but little from group to group. Vagrancy, in fact, was reported most often in the case of youths who had been transferred from poor or unsatisfactory homes to residential institutions.

It is reported on to observe that "if we are to understand the problem of delinquency, it is not enough to study the different manifestations of delinquency; we

must investigate the actual conditions under which the delinquents have grown up—particularly the conditions in the child's own home." Further information was therefore sought on the financial and social position of the family, the number of children in the household, and its general emotional and moral atmosphere; alcoholism, death or separation of the parents, illegitimacy of the child, and frequent changes in care or control were all noted. It was found that the children coming from homes in which the parents were drunkards or criminals were "especially liable to commit crime when grown up, or to turn into ne'er-do-wells and vagrants, requiring public assistance." On the other hand, no significant differences were found on comparing the after-histories of illegitimate children or children from broken homes with those of legitimate children coming from normal homes. Nor apparently did the child's own intelligence yield any definite indications of the probability of future relapses.

The material did not lend itself to any intensive study of the comparative merits of different modes of treatment. So far as could be discovered, neither the age at which the children were taken charge of nor the period of detention had any discernible influence on their later careers. The most significant feature for future prognosis was the type and frequency of the offences committed by the child when first brought under official notice. The whole investigation is one of the most extensive and elaborate within its own particular field, and might well serve as a model for inquiries into what is likely to prove an important branch of social medicine—namely, the statistical analysis of the life histories of different sections of the population judged from the standpoint of civic efficiency and mental health.

EXO-ERYTHROCYTIC FORMS OF MALARIA PARASITE

In the communication by Shortt, Garnham, and Malamez which we publish on p. 192 evidence of a convincing nature is at last brought forward that the cycle of development of the malaria parasite in the mammal is exactly analogous to that occurring in birds. The exo-erythrocytic forms in avian malaria were first described by James and Tate¹ in 1937 in association with *Plasmodium gallinaceum* in chickens: later Reichenow and Mudrow² showed that similar forms are to be found in *Plasmodium relictum* in the canary. Reichenow and Mudrow³ also described bodies in the endothelial cells in association with another avian infection, *Plasmodium praecox*, while Garnham similarly found bodies highly suggestive of an exo-erythrocytic stage in the life history of *Hepaticystes* (*Plasmodium kochi*).

That an exo-erythrocytic form must occur in association with human malarial infections seemed certain both from attempts at transmission of human malaria, from chemical therapeutic experiments, and from the fact that while human beings are infected both with *Plasmodium falciparum* and *P. vivax* the growth of *P. falciparum* successfully interferes with the further development of *P. vivax*, which finds difficulty in appearing in the blood so long as the body

¹ James, S. P., and Tate, P., *Nature*, 1937, 139, 545.

² Reichenow, E., and Mudrow, L., *Disch. Tropenmed. Z.*, 1943, 47, 239.

³ Reichenow, E., and Mudrow, L., *Arch. Protistenkunde*, 1946, 87, 101.

⁴ Garnham, P. C. C., *Trans. roy. Soc. trop. Med. Hyg.*, 1947, 40, 719.

s infected with *P. falciparum*, an instance of interference, a phenomenon well known in connexion with viruses. The demonstration of an exo-erythrocytic stage in a malaria parasite of the monkey will facilitate the search for such a stage in *falciparum* and vivax malarias of man and will serve to intensify the search for chemotherapeutic drugs which can act specifically on this exo-erythrocytic stage. If this stage can be successfully destroyed it will mean that the infection can be totally eradicated before it gives rise to any symptoms of ill-health.

INFECTIVE HEPATITIS AND POLIOMYELITIS IN FAMILIES

Two recent American papers on the epidemiology of infective hepatitis and poliomyelitis record intensive studies of affected families. Kunkel and Hoagland¹ investigated a New York family in which during five months nine out of the ten children suffered from infective hepatitis. Three had frank jaundice; in the other six the diagnosis was made on the symptomatology, aided in some cases by finding spider angiomas on the neck, shoulders, or arms, and also by biochemical tests. The tests used were the three which previous experience in the Rockefeller Hospital had shown to be the most reliable—namely, plasma bilirubin, bromsulphthalein retention, and thymol turbidity. The thymol turbidity test was of special value in confirming the diagnosis after recovery.

Infection was probably introduced into the family in October, 1945, by an elder brother who had a mild illness while on leave from a naval base where cases of infective hepatitis were occurring. Three children fell ill between Nov. 13 and 25, one on Dec. 22, four between Jan. 12 and 24, and one on Feb. 8—a series typical of the disease. There was gross overcrowding of the family's sleeping quarters, and the authors conclude that the mode of spread was by contact. In view of the demonstration by British and American workers that the infective agent is present in faeces they assume that faecal transmission was involved. The epidemiological evidence hardly justifies this assumption, particularly in the light of the known importance of dormitory overcrowding for the spread of meningococci from the pharynx.

The family investigated by Zintek² was one of a group in Denver, Colorado, selected for a weekly collection of throat washings and faeces because one or more members had been in close contact with a case of poliomyelitis. No virus was detected in specimens collected on July 11 from the parents, from two sons aged 9 and 8, and from a daughter aged 6. On July 15 the 8-year-old boy fell ill with an abortive attack of poliomyelitis; on July 19 the elder boy developed poliomyelitis, going on to paralysis; and on July 20 the girl showed symptoms of an abortive attack. Throat washings from the parents on July 20 yielded no virus, but specimens of their stools inoculated into rhesus monkeys produced paralysis with histological lesions typical of poliomyelitis. Positive results were also obtained with throat washings taken on the same day from the boy and girl who had abortive attacks and with a stool specimen from the boy. Tests of stools from these children and from the father were again positive on Aug. 9, but were negative in the case of the mother. The failure to demonstrate the virus in a paralytic case eight days before the onset of illness and in two abortive cases four and nine days, respectively, before the onset contrasts with other cases in which the virus has been found 19 days³ and 12 days⁴

before onset. Despite the fact that the three children had been direct daily contacts of two cases, the infection of all five members of the family in so short a period seemed to the author to indicate a simultaneous exposure to some extra-human factor in the environment or consumption of a common vehicle. A less probable explanation was that infection had been introduced by one of them and had then spread in the family.

More studies of this sort, although they demand much field and laboratory work, seem to offer the only hope of understanding why multiple cases of poliomyelitis in families are relatively rare, and why they occur within a few days of one another, being apparently parallel cases and not serial infections as is the case with infective hepatitis.

MENSTRUAL TOXIN

Among the abundance of superstition and folk-lore attached to the phenomenon of menstruation from pre-biblical times there has always been a popular belief that the menstrual function allowed a periodic discharge of some noxious substance which if retained could be harmful to the organism. This concept is not now approved, but Smith¹ and Smith² have recently summarized work which they have been carrying out over the last eight years on "menstrual toxin." They have demonstrated that the menstrual discharge contains an atypical euglobulin derived from the endometrium during the last stages of its regression. It is a tissue-damaging agent which acts apparently by virtue of its vasoconstrictive properties. It is also fibrinolytic, and immunological studies have identified it with "necrosin," a toxic factor found by Menkin³ in inflammatory pleural exudate in dogs. Moreover, the pseudoglobulin fractions of this exudate and of menstrual discharge will neutralize the effects of the toxic euglobulin fractions. Smith and Smith point out that the identification of a product of endometrial breakdown with a protein released by cellular injury may indicate that tissue katabolism from various causes may release such a toxin. This in turn suggests a common pathogenesis for such conditions as traumatic shock, the crush syndrome, the toxæmia following burns, and possibly also the toxæmias of pregnancy—particularly concealed accidental haemorrhage. The varying clinical pictures may be due to variations in the amount of toxin produced, and the duration and circumstances of its action.

The toxæmias of pregnancy are involved in this theory, because further research has revealed that there is present in the blood of menstruating women, of women in labour, and of women with pregnancy toxæmia a euglobulin fraction with fibrinolytic activity and a pseudoglobulin fraction with a counteraction. These properties are absent from the blood of women during normal pregnancy and in the intervals between periods. Smith and Smith suggest that in menstruation, labour, and toxæmia these substances result from tissue breakdown consequent on the withdrawal of hormonal support. It follows that there may be a relationship between the constitutional and local disturbances that sometimes accompany menstruation and the production of a menstrual toxin which causes a degree of vascular damage. This damage is said to be similar in character to that seen in the endometrium itself immediately before the onset of menstruation. Clinically, it has been observed that menstrual molimina are less marked in anovular cycles, when, according to Smith and Smith, the menstrual flow contains less toxin than in ovular cycles. Similarly, the state of

¹ *New Engl. J. Med.*, 1947, 236, 891.

² *Amer. J. Hyg.*, 1947, 48, 248.

³ Brown, G. C., Francis, T., and Pearson, H. E., *ibid.*, 1945, 41, 188.

⁴ Gear, J. H. S., and Mundel, B., *S. Afr. med. J.*, 1946, 20, 106.

¹ *Amer. J. Obstet. Gynec.*, 1947, 54, 212.

² *ibid.*, 1947, 54, 201.

³ *Arch. Path.*, 1945, 39, 25.

pre-menstrual tension may be ascribed to a prolonged absorption of the toxin from a secretory endometrium, and the spasm of primary dysmenorrhoea to an exaggerated local effect of the toxin.

Smith and Smith point out that the finding of a fibrinolysin and of a protective pseudoglobulin in the blood in pregnancy toxæmia serves as a reminder that menstruation and toxæmia present other similarities, such as a tendency to water retention, a withdrawal of oestrogen and progesterone, and clinical improvement when the uterus empties itself of its contents. They contend that menstrual toxin is the precipitating cause of toxæmia, and they have accordingly started clinical trials to determine the value of protective pseudoglobulin in the treatment of pre-eclampsia. Meanwhile they report four cases of spasmodic dysmenorrhoea successfully treated by injections of pseudoglobulin obtained from such human exudates as ascitic fluid. In addition to subjective relief, a progressive diminution of circulating fibrinolysin was demonstrated in three of the cases after the injections. If these findings are confirmed and the protective pseudoglobulin can be prepared in sufficient and concentrated amounts, not only the less important menstrual molimina may be prevented, but also more serious conditions such as menstrual migraine and epilepsy. Further reports on the progress of these clinical trials will be awaited with interest. Smith and Smith, however, are considering an even wider application of their work, realizing that in theory toxic protein katabolites may arise from damaged tissues anywhere in the body and that therefore treatment of the resultant clinical syndromes with protective pseudoglobulin may prove of value in a large number of conditions.

HEALTH OF THE PRISON POPULATION

The prison population is increasing. In 1944 the daily average number of people in prison was about 13,000; this figure has risen steadily until in July, 1947, it stood at 17,300. It is now higher than it has ever been since before the war of 1914-18. Among women the daily average has fallen and now stands at about 1,000. There has been a marked decrease in drunkenness, or at all events a marked diminution in the number of women sent to prison for that offence. On the other hand, the number of women sentenced for brothel-keeping and for cruelty to or neglect of children has risen steeply. The borstal population seems to have stabilized itself at about 3,200. Young males found guilty of indictable offences and sentenced have increased by 50% since the pre-war years, and young females by an even higher proportion.

The annual report of the Prison Commissioners¹ concerns 28 local prisons, 5 convict establishments, and 13 borstals. When the figures were compiled 11 prisoners were in for life (commuted death penalty), and 22 were serving terms of twenty years. Some prisons seem to be overcrowded. Thus at Wormwood Scrubs the number of cells available for ordinary prisoners is 974 and the daily average population 982; at Bedford 118 cells hold on the average 132 prisoners; at Norwich 137 cells contain 157 prisoners. The exclusion of accommodation for special classes of patients, such as those suffering from venereal diseases or from certain skin complaints, and those segregated for punishment, may go some way to explain the difference, but it does look as though the housing situation in the country generally is reflected in its gaols. During the last year under review, restraint had to be applied to 71 male and 15 female prisoners, and corporal punishment

was ordered in 16 cases, but in 5 was not confirmed by the Home Office. The net annual average cost of a prisoner is £140, and of a borstal inmate £176. Whether this takes into account any economic value of a prisoner's work is not clear. The chief employment in local and convict prisons remains the making of mailbags, but in borstals a larger number of males are engaged on agricultural and building work.

Deaths in prison during the year numbered 55, of which 19 were due to executions, and 2 were suicides. The daily average number of sick prisoners treated in hospital was 838, and out of hospital 1,306. The total number certified insane (apart from those found guilty but insane, or insane on arraignment) was 79. Increasing use is made of temporary release to civil hospitals for medical and especially for surgical treatment; 257 prisoners were so released during the year. At Wormwood Scrubs there is a surgical unit which deals with non-urgent surgical cases from London and provincial hospitals. Wormwood Scrubs has, too, a psychiatric unit with a 10-bed ward, and another unit has been developed at Wakefield to deal with cases arising in the North of England. At Holloway—the women's prison—a psychological unit has been formed which helps in the allocation of girls for appropriate borstal training.

Experience has shown that however well qualified as a psychiatrist a medical man may be when he joins the prison service it is some years before he becomes of full use. The criminal aspects of psychiatry can be learned only in prison. For example, cases of schizophrenia commonly seen in prison are not of the type most suitable for insulin therapy, though some cases requiring insulin treatment are transferred from prison to a London mental hospital. For such therapy the patient should be of good previous personality, and the symptoms should be of recent development. In the cases seen in prison as a rule the personality is poor and the symptoms have developed slowly. The need for a general all-round experience in the prison medical officer is emphasized. The amount of ordinary medical and surgical treatment required in prisons is quite considerable, and psychiatric work is not the major part of the prison medical officer's job.

The question of the psychopathic personality is receiving attention. Three main types are recognized in prison: the aggressive psychopath, the inadequate psychopath, and the ethical aberrant personality. The last-named might properly be certified as a moral defective; the difficulty is in proving that symptoms existed before the age of 18, which is necessary for certification under the Mental Deficiency Acts. Certification would provide for the segregation of a group of social misfits, and would afford facilities for rehabilitation treatment over a long period in special clinics.

The epileptic state appears in a very small proportion of prison cases, apparently in only about 0.4% of the average prison population. The treatment of epileptics in prison is said to present no great difficulty. Many of them respond well to the usual drugs, but there are difficulties about their disposal on release. Not all epileptics go to prison for a crime committed in the pre- or post-epileptic state, and their crime has often no connexion with their disease. A colony for epileptics who have a criminal record and need institutional treatment is suggested. During the year covered by the report a medical adviser was added to the staff of the Home Office, and Dr. J. C. W. Methven, while remaining a Prison Commissioner, was appointed to this post. He advises the Commissioners on medical policy and exercises general supervision over the medical service in prisons and borstals.

TO EVERY MEMBER OF THE MEDICAL PROFESSION

STATEMENT BY THE B.M.A. COUNCIL

its meeting on Jan. 21, the last before the plebiscite is held, the Council of the British Medical Association issued the following statement:

We are now on the eve of a decision of the profoundest importance to the public and to the medical profession. For the British Medical Association has been working for extension, improvement, and consolidation of the country's health services, publishing its constructive proposals in a series of reports. It is now confronted with an Act of Parliament directed to the establishment of a comprehensive health service embodying forms of organization which are in conflict with the principles of the profession. The conflict is based on the profession's conviction that the Act leads unmistakably towards a whole-time State medical service, and that such a service would be harmful to medicine. This conviction is strengthened by the knowledge that the Act of 1946 is in the hands of those who profess as their objective a whole-time salaried State medical service.

We have sought a number of changes, some of principle, some of detail. The answer has been a refusal to modify one word of the Act. The Council recognizes that some points in the profession's case make a stronger appeal to some members of the profession than to others. But it firmly believes that, viewed as a whole, the Act in its present form is in conflict with the best interests of the community and the profession.

After years of discussion the time has come for the profession to translate words into action. The issue is one not of money or compensation but of the intellectual freedom and integrity of a great profession. The Council of the Association will abide by the result of the plebiscite, as defined on the plebiscite form. It would be lacking in its duty, however, if it did not make abundantly clear to every member of the profession its carefully considered and determined view that the profession should not take service under the Act in its present form.

TO EVERY INSURANCE PRACTITIONER

STATEMENT BY THE INSURANCE ACTS COMMITTEE

The following statement was drawn up by the I.A.C. at its meeting on Jan. 15:

The Insurance Acts Committee, which represents every insurance practitioner in the country, owes it to its constituents to make abundantly plain exactly where it stands on the rare issue which now confronts insurance practitioners, as it does other members of the profession. Fully conscious of all the implications, the Committee condemns the National Health Service Act, 1946, in its present form as contrary to the best interests of the public and of medicine, and advises insurance practitioners firmly to reject it in the forthcoming plebiscite.

A Bibliography of Infantile Paralysis 1789-1944, which is edited by Dr. Morris Fishbein and published at Philadelphia by J. B. Lippincott (price £4 10s.), is a valuable publication already well known to students of poliomyelitis. It has been prepared under the direction of the National Foundation for Infantile Paralysis. The volume consists of a list of all medical references to the disease published since 1789, with a brief abstract of most of the papers and a carefully compiled index of both subjects and authors. Supplements to the list are issued once a month. The book is admirably produced and has already proved to be a most helpful work of reference to those interested in the disease.

THE N.H.S. ACT: SOME PRACTICAL QUESTIONS

THE COUNCIL'S ANSWERS

We print below some of the practical and personal questions which individual members of the profession have put to the Association at meetings and by letter, together with the answers given by the Council of the B.M.A.

General Practitioners

Q. (1).—*I am opposed to the Act and intend so to vote. What risk do I run of losing compensation if the fight is unsuccessful?*

A.—If a sufficient number of general practitioners stand out, the fight will not be unsuccessful. General practitioners will be advised not to enter the Service only if the number of them opposed to joining is sufficient to secure successful opposition. Only if 13,000 or more general practitioners agree to stay outside and continue so to agree will the Association advise all general practitioners to stay outside. As a result the Minister may postpone the appointed day. If he does not, he will be unable to provide a comprehensive service. Whatever final settlement follows, the Association will insist on a non-victimization clause covering, *inter alia*, capital values. If a sufficient number of all general practitioners stand firm, all will retain their capital value.

Q. (2).—*There may be practitioners who vote for staying outside but who subsequently join. Is this not a real danger?*

A.—The Association will keep itself informed of the practitioners who enter, or apply to enter, the Service before the appointed day. It will advise general practitioners to stay outside only if the number not signing is sufficient to ensure success.

Q. (3).—*I do not wish or intend to join the Service. I am doubtful of the views of my neighbour and competitor. If he joins, whatever the outcome, I shall lose in income. What assistance is available to me?*

A.—If the plebiscite returns justify the Association in advising general practitioners not to enter the Service, there will be taken steps to bind general practitioners in small groups one to another to sustain resistance. But this will not ensure that no one will lose income under any circumstances. Financial aid will be available to meet hardship incurred in carrying out the Association's advice, particularly hardship arising out of commitments entered into, such as interest on loans, insurance premiums, and school fees.

Q. (4).—*Assuming the necessary majority against undertaking service and that, despite the profession's opposition, the appointed day is adhered to, how will general medical services be provided for the people, bearing in mind that National Health Insurance will come to an end?*

A.—(1) There will be too few doctors inside the Service to enable the Government to provide the promised service. It will be for the Government to meet the criticisms of the people when—as they may believe—they will be paying for a service which is not there. Incidentally, only 10d. of the social security contribution will go towards health services.

(2) General practitioners will make their services available to the public on a fee-paying basis. Their position will be that they are willing to enter a suitable comprehensive service but they are unwilling to accept the Act in its present form. They will be receiving no money from the Government and they will look to their patients for payment for the services they render.

(3) Clearly, the Government cannot allow such a situation to continue.

Q. (5).—*I qualified two years ago. Although I dislike the Act I cannot help being attracted by the notion that a practice will be made available to me on application. Is this the position?*

A.—Not exactly. To-day practices pass from one practitioner to another by the process of introduction with or

without a preliminary assistantship. Under the Act this will not happen. You will make application to start a practice, or to succeed to a practice, in a particular area.

If your application to start a practice is granted you will in effect "squat" as you would to-day, the difference being that you will receive £300 a year.

If you succeed to a death vacancy, or to a vacancy arising from unforeseen retirement, it is probable that by the time your appointment is made and you take up practice in the area the income will be very much less than it was when the vacancy occurred.

If you are appointed to a partnership the situation is likely to be better, though it is fairly certain that partnerships as we know them will not continue under the new order.

Q. (6).—*Is opposition to the Act opposition to Parliament?*

A.—No. The Act specifically provides and the Minister has affirmed that the doctor is free to apply or not to apply to join the Service. The Minister has stated further:

"Every doctor will have to decide for himself when the proper time comes whether or not he should take part in the new Service, and the profession as a whole will be free to determine their views on the Service when they know what it is to be."

This is precisely what the profession is now proceeding to do.

Q. (7).—*I am in a partnership of three based on a partnership agreement entered into eleven years ago. Will the agreement continue to be operative after the appointed day?*

A.—The Minister says that all partnership agreements in all their clauses will continue to operate just as if there had been no Act. Our legal advisers say the Minister is wrong, so far as those clauses which provide for sale and purchase of goodwill are concerned, adding that such is the ambiguity that there should be amendment of the relative sections of the Act before the appointed day. In short, no one yet knows the answer, and the Minister is going to set up a legal committee to investigate.

Q. (8).—*Does the remuneration conform to the recommendations of the Spens Committee?*

A.—It is doubtful whether the remuneration proposed conforms to the Spens Report in the middle ranges of income and certain that it does not conform in the higher ranges. But the Minister's proposals for remuneration are irrelevant to the main issues. Whatever the form of service, the Association will insist that the recommendations of the Spens Committee, accepted by both the Government and the profession, are accurately translated into terms of remuneration.

Q. (9).—*I am hoping to retire shortly. If I join the Service in order to obtain compensation and retire, when is it likely I shall be paid my compensation?*

A.—Compensation cannot be paid to any practitioner until the regulations for the apportionment of the global sum have been devised and until every claim has been made and approved. Only then would it be possible to apportion the global sum among those entitled to share in it. Inevitably this will take a considerable time; it may be as long as two or three years.

Q. (10).—*Does a restrictive clause binding an assistant not to practise within a certain radius of his former principal for a certain time remain in force after the appointed day?*

A.—Yes.

Q. (11).—*Among the conditions governing the loan on my practice there is one which says that I shall not without consent take any action which would affect the security of the lender. Can I vote against accepting service?*

A.—Yes. A vote against accepting service does not mean repudiation from National Health Insurance. That comes to an end automatically on the appointed day under the National Health Service Act, 1946. It is most unlikely that any consent which a practitioner might have to obtain from the lender would be affected by the vote of action decided on by a majority of

Consultants and Specialists

Q. (12).—*I am a consultant on the staff of a voluntary hospital and also in private consulting practice. I am opposed to the Act. If the plebiscite returns justify opposition, what shall I be called upon to do?*

A.—You, like all consultants on the staffs of voluntary hospitals, will be advised to continue with your hospital work and to refrain from signing any contract proffered by a Regional or Teaching Hospital Board. It is very unlikely that permanent contracts will be proffered in the next 6 months, although interim contracts may be offered. The Specialist Spens Committee is not likely to report for 6 months; until it has reported and the Government has considered its report it will be impossible to offer consultants effective contracts.

Voluntary Hospital Medical Officers

(from Junior House-man to R.M.O. or Registrar)

Q. (13).—*What are the implications to me of voting against undertaking service under the Act in its present form?*

A.—You will be advised to continue with your work as no dispute were in operation, renewing appointments or taking new appointments in the hospital field if necessary. All that is asked of you is that you should not enter the field of conflict, that is, that you should not enter the Service as a general practitioner or as a consultant or specialist until the conflict is over.

Whole-time Local Authority Officers of all kinds, including Public Health and Hospital Officers, Consultants, and Residents

Q. (14).—*I am opposed to the Act. What action do I take?*

A.—You will be advised to continue with your work, even if this involves entering into new contracts with new employing bodies to which you are automatically transferred. You will be asked not to enter the field of general practice, or to enter into contracts as part-time consultants and specialists with regional and teaching hospital boards.

Q. (15).—*I am a whole-time officer of a mental hospital. Do I answer all three questions of the plebiscite? If the plebiscite returns justify opposition, what am I expected to do?*

A.—If you are of consultant status you will classify yourself as such and answer all three questions. If you are not of consultant status you will classify yourself as a whole-time local authority (special hospital) officer and answer question only. But whichever your classification you will not be asked to discontinue your present work or to refrain from entering into contract with the regional board to which you may automatically be transferred. All that is asked of you is that you should refrain from entering the field of conflict as a general practitioner or part-time consultant.

General

Q. (16).—*I am not a consultant or a general practitioner or a hospital officer. I am opposed to the Act. What action do I take?*

A.—You will express your opposition to the Act in answer to question A of the plebiscite. You will not be asked to reply to questions B or C. What will be asked of you is that you should not enter the field of conflict as a general practitioner or as a consultant.

Non-victimization Clause

Q. (17).—*Will the Association insist on a non-victimization clause in any final settlement?*

A.—Yes. In any final settlement the Association will insist on a non-victimization clause covering all sections of the profession.

THE DAY OF DECISION

A LAYMAN'S OPINION

BY

COLM BROGAN

Medical men and women naturally judge the present conflict principally on professional grounds. The present issue may be wider, and it may therefore be useful to look at it through the eyes of a layman, of a potential patient the present Act is designed to help. We have therefore invited Mr. Colm Brogan to state his views on the impact of the Act on the public.

By the eve of the poll which is to settle the future of the medical profession, some facts had become clear beyond argument. There is now no doctor left who does not realize that the present offer of the Minister of Health is an invitation to take the first and irrevocable step towards a full-time, full-salaried State medical service. It is now equally clear that an overwhelming majority of doctors are opposed to the scheme. However they vote, they have already exposed their minds. If they vote for the scheme they will have voted, under duress, against their judgment and professional conscience.

It is vital to their own interest and to the interest of the community at large that they should vote against the scheme in a majority so overwhelmingly large as to represent the true finding of their instinct and their judgment. Their own interests demand an emphatic rejection. If the scheme as proposed by the Minister is put into operation, independent practice will cease to be possible, except for a handful of doctors, within a measurable term of years. That is what the Minister foresees and what the Minister intends.

The destruction of private practice would have a damaging effect on the standing of all doctors, including those who are already in the public service. These have been known to complain of niggardly treatment and niggling interference, but whatever inconveniences they suffer from now are small compared with what is in store for them if private practice should disappear. Do doctors in public employment fully realize that all their professional standards, including the financial, are maintained by the outside pressure of independent practice? The "never-ending audacity of elected persons" is curbed, to some extent, by the fact that the employed doctor can walk out and set up for himself if the conditions of his employment should prove unbearably vexatious. The position of the teaching profession carries an instructive lesson for doctors. The standing of teachers under the State is in every respect inferior to the standing of doctors, for the simple reason that few teachers can walk out of public employment without walking out of their profession. As a result, teachers are subject to restrictions, indignities, and modes of interference which doctors have not yet learned to tolerate. But, once the area of private practice is reduced to insignificance, the hard lesson will begin. They will learn while they earn.

But the personal welfare of doctors is of public interest only in so far as the contentment of all important workers is socially desirable; and there is no room for an outsider to advise them on their own interest. The standard of medical service is a vital consideration for everyone, but here again doctors are better able than any layman to estimate the inevitable deterioration of standards under a State monopoly and to judge the full force of such a grimly monitory phrase as "lax certification." There can be few doctors who imagine that their professional integrity will be easily preserved when they must advise and prescribe with one eye on the patient and one on the state of the public funds.

No layman has anything useful to say on those aspects of the controversy which are specially understood by doctors, but there is a wider aspect which directly and vitally affects the whole public and on which it may not be impertinent for a layman to write. For a full generation we have watched a steady extension of State power. The necessities of war greatly assisted the development of the omniscient, omnipotent, and omniscient State, but the development has increased in rapidity since the end of the war, because it has the authority of a truly monstrous political philosophy.

That philosophy makes use of high-sounding phrases, "the will of the people," "the will of the majority," "the sovereignty of Parliament," but these phrases thinly cover an abyss of tyranny, for they mean that a man must surrender his private conscience at the command of a majority.

The liberties of Britain were not won by majority decision, or by accepting the sovereignty of Parliament over all persons and in all causes. Religious toleration was won by lonely men who sought exile or met their death rather than submit their conscience to the sovereignty of the State. The trade unions gathered their first strength by defying the sovereignty of Parliaments which sinned against natural justice by denying to working-men their right to combine. The Tolpuddle Martyrs were martyrs to State sovereignty. Liberty is won by the few, and is held by the many. Who did it become a rule of British life that the sense of right must abdicate and the cry for justice be silenced before the majesty of a majority decision?

It must be said that the philosophy of majority totalitarianism has some singular advocates. It is advocated by men who had a record of highly combative conscientious objection during the first Great War, and by a few who were equally careful of their conscience during the second. There is a Minister in the present Government who must still remember how he chose to appear before a conscientious objectors' tribunal, although he suffered from a disability which made it totally certain that he would not be called upon to serve. It was not enough for him that the sovereign will of the majority had exempted him from service: he insisted on formally rejecting the sovereignty of that will.

There are other Ministers of the Crown who still count it as virtue that they thwarted Parliament by putting an end to intervention in Russia. They achieved this end by strikes and the threat of strikes. One of them, who still likes to recall that campaign, has a soft spot in his heart for manly independence, which tempted him to say a good word for the Grimethorpe strikers. Admitting that they were rather awkwardly stubborn, he was yet pleased to see that the spirit of vigorous independence still flourished in the land. If the doctors show vigorous independence in the plebiscite, we shall wait to hear a chuckle of approval from the same Minister. We may have to wait some time.

It must be said that the Minister of Health has not formally claimed that the sovereign will of Parliament suppresses the private conscience of the doctor. Indeed, for a long time he was careful to assure the doctors that they were free to enter the service or stay out, as they chose. But, as the critical day drew near and the mind of the doctors was unmistakably shown, Mr. Bevan issued a reminder that Parliament was still sovereign, and his broad hint became an outright declaration in the mouths of his supporters. Indignant totalitarians positively bellowed their rage in the *Daily Herald* and the *Sunday Pictorial*. They cried "Havoc" and "Treason" because the doctors showed an inclination to disagree with Mr. Bevan, whose own career of docile conformity surely entitled him to a better response.

It would be interesting to know how the totalitarians square their principles with their practice, for they have gone very far at times in condoning affronts to Parliament. They have kept a silent tongue over strikes which were conducted in open defiance of a law which they themselves had renewed, and they are rather fond of talking about what the organized workers will or will not stand, without reference to Parliamentary sovereignty. The trade unionist may steal the horse, while the doctor may not look over the hedge. Is it possible that the sovereignty of Parliament is another name for the dictatorship of her proletariat?

In fact, the doctors have not so much as hinted at any defiance of the sovereignty of Parliament. If the sale of practices becomes illegal, they will not break the law. When hospitals are seized by the State, they will not strike against that seizure. If a minority of doctors choose to serve the State their colleagues will accept and respect that decision. All they claim is the right to choose an option which the same sovereign Parliament has allowed to them, a right which would still be theirs even if Parliament denied it. It is said that Louis XIV once ordered a Minister to do something which was against his conscience. When the Minister refused, Louis said, "But I, your

King, can command you." The Minister replied, "No. You can command me to do this, or resign. I resign." Louis accepted the justice of this answer, but he, after all, was only an absolute monarch.

The importance of the plebiscite to the general public is this—that it gives the first gleam of hope that we may all live to see liberty recapture lost ground. The advance of authoritarianism has been almost completely unchecked, for the resistance has been individualistic and unorganized. Now, for the first time, the authoritarians are meeting a well-armed enemy in prepared positions. If the doctors have the will to join issue, the battle is already won. If the majority is sufficiently emphatic, the Minister will not be merely defeated; he will be routed, and the doctors will not have to suffer even a temporary inconvenience. There will be a new Minister of Health and a new approach to the problem. It must be remembered that a politician's claim on the respect of his colleagues is largely dependent on his powers of persuasion, his skill in turning awkward corners. If Mr. Bevan's offer is overwhelmingly rejected, even those who regard the rejection with grief and rage will admit, and even insist, that the fault was largely Mr. Bevan's. That will be easier than admitting that the scheme is profoundly wrong. A more plausible politician will take over negotiations, knowing that his own reputation is dependent on success. The doctors have literally nothing to fear, so long as they are true to themselves and to each other.

What is likely to happen on the national scale has already been most instructively rehearsed on the local scale. Although the authoritarians have not lost a big engagement, they did suffer a check in one skirmish, and that, significantly enough, was a medical skirmish. The nurses and doctors of Willesden told the Council that they would seek other employment rather than accept the forcible baptism of trade union membership. Finding that the closed shop carried the uncomfortable corollary of a closed hospital, the Council climbed down as hastily as a small boy getting down from a forbidden wall. But that was not all. Prominent Ministers and trade unionists vied with each other in making clucking noises of disapproval at Willesden Council. Willesden had really gone too far: doctors and nurses must not be interfered with. There will be much clucking at Mr. Bevan if he loses the vote.

There was great public relief at the Willesden decision, a general feeling that an almost intolerable thing had at last met with a check. If the doctors of Britain stand as firm on the national issue, the whole social atmosphere will be lightened and cleansed.

It has fallen to the doctors to meet and break the authoritarian demand. They have not asked for this responsibility and they have not welcomed it, but the layman may well be thankful that it is the doctors who have been called upon to fight liberty's Battle of the Marne, because they have all the means of conclusive victory, if they have the will. Far more depends on this than the future of medical practice. The future of personal liberty is in the balance. The doctors can strike a blow that will not only free themselves but will give hope of freedom to us all.

That is why the plebiscite is a matter of the gravest national concern. Our liberties are still large, but they are contracting, and an evil idea is gaining dominance. Now is the time to reject and refute the idea. Doctors have not sought this fight, but they cannot now avoid it, and they have the decisive weapon in their hands. Let them strike home for all of us.

It may be that doctors feel the public has shown little sympathy and understanding, but they have one infallible means of enlisting sympathy and provoking interest—throw out the scheme. The public will conclude, and rightly conclude, that the doctors must have a solid case because they gave a solid vote. This vote will rouse a general and startled interest, and the force of private opinion against public policy will be clear.

It is true that a small number of doctors will vote for Mr. Bevan's conditions because they honestly believe that the Minister should be the master of the situation. There are fewer doctors now who are ready to do this than there were two years ago, but the vote is still a vote of respect because it is a vote of "Yes" from conviction. That

is respectable. Others may vote "Yes" because they fear the consequences of voting "No." They vote from calculation. That, at least, is understandable.

But to vote "Yes" in a spirit of meek submission to the common will is scarcely respectable and scarcely understandable. To submit your moral and professional judgment to a majority vote is to give away the command of your conscience and accept, in exchange, an insignificant holding in the rule of your own soul. Those who are tempted to this abdication might reflect on the verdict passed, one hundred years ago, by a Frenchman on his fellow countrymen. The average French citizen was then much exhilarated by his share in the irresistible authority of the sovereign mass. Looking in the mirror, said the critic, a Frenchman flatters himself that he sees one-twenty-seven-millionth of a tyrant. But he forgets that he sees all of a slave.

If the men and women of the British medical profession remember the rightness of their cause and the practical strength of their position their vote will shake the air like a sudden shot of cannon. Men will rediscover that they have no wish to be any part of a tyrant, and no need to be any part of a slave. For the first time the invasion of liberty will have been met by something better than compromise, concession, and pleading. But we can expect the first shot of national deliverance only if the answer is nearly unanimous and fully determined. There are few doctors who do not know in their hearts and minds what answer they must give to the demand that they accept State service and dependence. But the answer must be firm and it must be final. It is, No. Not now. Not ever.

MEDICAL PRACTICES COMMITTEE

In a letter to the Secretary of the Negotiating Committee from the Minister of Health the Minister has notified his intention shortly to set up the Medical Practices Committee under Section 34 of the National Health Service Act, 1946. We publish below this letter, a reply from the Secretary of the Negotiating Committee, and the subsequent correspondence.

Ministry of Health,
Whitehall, S.W.1.
Jan. 2, 1948.

SIR,

Medical Practices Committee

I am directed by the Minister of Health to state that a part of the preparatory work which must be carried out to make the National Health Service ready by July 5 next is proposed shortly to take steps to set up the Medical Practices Committee under Section 34 of the National Health Service Act, 1946. The Act provides that the Committee shall consist of a chairman who shall be a medical practitioner, and eight other members, of whom six shall be medical practitioners of these six medical practitioners, at least five shall be personally engaged in medical practice.

The chairman and members are to be appointed by the Minister after consultation with such organizations as he may recognize as representative of the medical profession, and the Minister would accordingly be glad to receive any views the Negotiating Committee may wish to express on the following proposals.

The Minister proposes that the normal period of office of members of the Committee should be three years, members being eligible for reappointment, but that the first chairman and two of the other eight original members should be appointed for a period ending on March 31, 1950, three of the remaining members retiring on March 31, 1951, and the rest on March 31, 1952.

It is anticipated that in the first instance the chairman and some, at least, of the members will probably need to give nearly full time to the work, but that the work is likely to diminish later on. It is therefore proposed that the remuneration of the chairman at the outset should be £2,000 a year, subject to review if and when the work diminishes, but that he should not be debarred from also undertaking private work if he wished. The other members would be remunerated at the rate

f seven guineas a day. Travelling expenses and subsistence allowance on the same rates as are payable in the Civil Service could be payable in addition.

Of the medical members the Minister considers that one at least might have experience in Wales.

As regards the two non-medical members, the Minister suggests that one might be a barrister or solicitor of experience and the other a non-professional member of an Executive Council.

The Minister would be glad to receive any suggestions from the Negotiating Committee as to the names of persons who might be included by him in his consideration of suitable membership for the Medical Practices Committee.

It will be helpful if any suggestions or observations which the Negotiating Committee may wish to make could reach the Minister as soon as possible, and in any case not later than Jan. 21, 1948.

I am, Sir, your obedient servant,
D. RUSSELL-SMITH.

B.M.A. House, W.C.1.
Jan. 10, 1948.

DEAR SIR, /

I refer to Miss Russell-Smith's letter of Jan. 2. Following its meeting with the Minister, the Negotiating Committee decided to refer the Minister's reply to its constituent bodies and not to meet until those replies were available. As the Minister is aware, steps are being taken to ascertain, by plebiscite and otherwise, the views of the profession as a whole on the issue of service or no service, and it would be improper for the Negotiating Committee to respond at this stage to the invitation to comment on the Minister's proposals for the Medical Practices Committee or to put forward the names of suitable practitioners for membership. Not until the profession has determined its attitude to the Service as a whole will it be possible for the Negotiating Committee to consider putting forward such observations and suggestions, its action then depending upon the character of the profession's decision on the larger issue.

Yours faithfully,
CHARLES HILL,
Secretary.

Ministry of Health,
Whitehall, S.W.1.
Jan. 16, 1948.

DEAR SIR,

The Minister asks me to refer to your letter of Jan. 10 and to say that he notes that the Negotiating Committee are unwilling to join him in the consultation which he has offered regarding the choice of medical members for the Medical Practices Committee. If, at any time before he has completed the constitution of this Committee in accordance with the Act, the Negotiating Committee wish to offer any suggestions he will, of course, still be happy to consider them.

Yours faithfully,
J. M. K. HAWTON.

B.M.A. House, W.C.1.
Jan. 23, 1948.

DEAR SIR,

I refer to Mr. Hawton's letter of Jan. 16 in which it is stated that the Minister "notes that the Negotiating Committee are unwilling to join him in the consultation which he has offered regarding the choice of medical members for the Medical Practices Committee." Mr. Hawton's reply and these words in particular suggest that the invitation to the Negotiating Committee to nominate medical members of the Medical Practices Committee was sent at a time when it was perfectly clear that the Negotiating Committee could not comply in order to relieve the Minister of the legal obligation placed on him by the Act to consult the medical profession.

The Minister and his advisers were fully aware that when the letter of Jan. 2 was sent, the profession was in process of deciding its attitude to the Service as a whole and that the Negotiating Committee could not possibly compromise itself and the profession by nominating medical members for a body the need for which is one of the subjects of dispute. Having received the only answer which could in the circumstances be

given, the Minister now accuses the Negotiating Committee of unwillingness to join him in consultation and to hint that he proposes to proceed to appoint the Committee without such consultation.

The matter—and the method employed—is of such importance that it is proposed to publish the correspondence.

Yours faithfully,
CHARLES HILL,
Secretary.

Ministry of Health,
Whitehall, S.W.1.
Jan. 26, 1948.

DEAR SIR,

The Minister asks me to refer to your letter of Jan. 23.

It is the Minister's clear responsibility to carry out the decisions of Parliament and to bring the National Health Service Act into operation. To do that in proper time requires the setting up, stage by stage, of the various administrative and other bodies for which the Act provides. The stage at which the Medical Practices Committee needs to be considered having arrived, the Minister offered the profession's Negotiating Committee the opportunity of consultation, as he would himself prefer—and has often made clear—to act throughout in the closest consultation with the profession. While he notes that the Negotiating Committee felt unable to join him in consultation in this instance, it remains his wish and intention to continue to offer the opportunity at all similar stages in the preparation of the new service.

The Minister has, of course, no objection whatever to your publishing this correspondence, including the present letter.

Yours faithfully,
J. M. K. HAWTON.

THERAPEUTIC SOCIAL CLUBS

AN ADVENTURE IN SOCIAL PSYCHIATRY

A meeting organized by the Institute of Social Psychiatry was held in London on Jan. 14 to further the idea of therapeutic social clubs for patients both in and out of mental hospitals.

Dr. E. B. Strauss, who presided, said that of the "big three" in medical psychology it was Adler who paid most attention to man's relation to his neighbour. Freud and Jung were more concerned with his internal harmony and integration. Psychotic patients were disoriented in time and space, but what was not so usually recognized was that any form of emotional or mental disturbance caused disorientation in a third dimension—that of the community. The therapeutic social club was one of several devices intended to counteract this. Among patients in mental hospitals, in addition to the disorder for which they were admitted, there tended to develop an "asylum psychosis," as a result of which they felt that they had sunk in the social scale and did not belong to the community.

Dr. J. Bierer, director of the Institute of Social Psychiatry, said that experience of therapeutic social clubs now extended over a period of nine years. He spoke in particular of the club started at Runwell Hospital in 1938-9. Many problems had to be faced in the establishment of such a club—how to combine freedom of action and self-government, including the mixing of the sexes, with existing regulations, traditions, and responsibilities. If patients were put in charge there was, of course, the risk of an aggressive patient taking possession of and misusing the club for the exploitation of his aggressive instincts. On the other hand, if a psychiatrist or nurse were in complete charge the patient would feel that he had no say in the matter at all. The best solution was to let the patients have charge of the club, the nursing and other staff attending by invitation, but to have honorary members, including the medical superintendent, the matron, and the psychiatrist.

In the club of which he spoke a few marriages of members had taken place and had been surprisingly successful. Two friendships had to be interfered with in order that they might not develop into a more serious alliance—one concerned an epileptic and the other a patient with multiple sclerosis—but in the majority of cases there was no reason to suppose that any harm would follow, either from the eugenic or the human point of view. Conditions in the club approximated more or

less to everyday life. The majority of patients behaved more naturally in the club, and this made it possible to use it for diagnostic purposes. A second club was established in the institution for chronic and deteriorated patients, and gave them some opportunity to exercise initiative.

One difficulty was that patients got so accustomed to active social life in the hospital that they missed it after discharge, and this led to the formation of extra-mural clubs. This idea underwent a large extension when they were confronted with the large number of asocial, solitary, and retiring people attending out-patient departments. In forming such extra-mural clubs it was important to avoid any stigma, and therefore the club premises were away from hospitals and the name of the club was non-indicative. In most of the clubs friends and relatives were also members; some of these were potential patients, and thus the club was of assistance in prophylaxis.

Dr. Donald Blair, deputy physician-superintendent at St. Bernard's Hospital, gave some practical directions on the starting, management, and financing of a club. The maximum number of members, he thought, should be between forty and fifty. It was important to have a nucleus of patients of reasonably high intelligence and initiative, and the regular attendance of the psychiatrist at club functions was of the utmost importance. These functions should include discussions, lectures, dances, and dramatic presentations. Therapeutic measures should be confined to talks to patients with proper encouragement and suggestions.

Other short addresses were given by Miss K. Thompson, social therapist at Runwell Hospital, Dr. Noel Harris, Dr. Doris Odlum, and Dr. Maxwell Jones, and much interest was shown in the discussion which followed.

Reports of Societies

MANAGEMENT OF UTERINE INERTIA

At a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on Jan. 16, with Mr. A. J. McNair presiding, the subject for discussion was the management of uterine inertia in the first stage of labour.

Mr. D. M. STERN said that uterine inertia might be said to occur when the contractions of the uterus during labour were shorter, less frequent, or weaker than normal. Normal labour might be assumed to last up to twenty-four hours, and prolonged labour was anything beyond that time. The first group of causes of uterine inertia in the first stage might be described as a badly fitting presenting part, including abnormalities of the foetus and the birth canal, and also, of course, placenta praevia. The second group of causes might be described as fear—not a surprising thing when women were educated to expect that labour would be painful. Less common causes included hormonal ones, of which little was known, excessive multiparity, drugs and poisons, accidental antepartum haemorrhage, and, of course, a full bladder or bowel. He did not agree that general debility was a cause; on the whole, debilitated patients had a rather more rapid labour than normal. Treatment was principally the correction of the abnormal presentation and reassurance of the patient.

In an analysis of 23,000 cases during the period 1936–46 labour was found to have lasted for more than 24 hours in 4.85, or 21%. Among these were a fair number of women who had previously had one or two confinements, but generally the proportion of primiparae was found to increase among the group which had the longest labours. There was little increase in duration with length of labour, and maternal mortality was not noticeably increased. The foetal mortality rate was estimated if the labour extended only over three days, but it was found to double if labour reached the fourth day, and to triple if it reached the fifth day. In the course of the analysis, 50 of the mothers who were admitted had lost their babies in their previous confinements, and in 28 cases the mothers had died, but among these 28 all the second attempts at delivery were successful, and in 15 the second attempt was prolonged and

Three Types of Primary Inertia

Prof. H. J. DREW SMYTHE described three main types of primary uterine inertia. The first was characterized by ineffectual pains from the beginning of labour, everything else being normal. Such pains might continue for three days, as the cervix did not dilate nor did the membranes rupture; relaxation or retraction of the uterine muscle was absent. The second was the clonic uterus, exemplified by the patient who from the beginning of labour had strong contractions, but in spite of these the cervix did not dilate and the membranes frequently ruptured early, with foetal and maternal distress. A posterior presentation, with which this delay in dilatation of the cervix was often associated, added to the difficulties. The form of primary inertia was found most often in the "male" type of patient. The third type of primary uterine inertia was associated with fear. Patients of this type from the very first pain shouted for the doctor to deliver them and became more and more hysterical, so that instead of relaxing they contracted against the uterus as much as possible. These cases were not common in hospital practice but were extremely common in private practice, and, he regretted to say, among doctors' wives.

In patients of the first of these types, if sedatives were given, the ineffectualness of the uterine contractions was prolonged. Sedatives should not be given during the day, but the patients should be ensured sleep at night, preferably with morphine. Rupture of the membranes in the first stage of labour was the danger with these patients. The thing to do was to get the patient on to full dilatation, which might take one, two, or more days, and when this was reached and the head was fairly down they should be delivered by forceps. Special care must be taken in the third stage of these labours, because then the same kind of inertia might be experienced. He never allowed the placenta to remain in the uterus for more than two hours. Definite shock was associated with longer retention of the placenta.

Patients of the second type, in whom the uterus went on contracting and the cervix failed to dilate, did require sedatives. The question whether there was foetal or maternal distress which demanded delivery of the patient depended entirely on how far the cervix was dilated. If it was not dilated up to half there were two choices—caesarean section or incisions of the cervix. Of the latter he had no experience. If the cervix was more than half dilated it responded well to some of these cases to further manual dilatation.

In the third type of patient in whom the inhibitory mechanism was an emotional one, namely, fear, treatment must start in the antenatal period. It was important that so far as possible the patient should be under the same doctor during the whole period of pregnancy and parturition. His condition was partly due to entering a strange environment and coming under different medical care when labour was imminent. With the anxious patient reliance must be placed during the first stage of labour on fairly strong sedatives. Often one was more or less compelled to use the forceps on these patients owing to pressure from their families. The alternative was to give them the old "twilight sleep," but this prolonged labour and might tip the balance against the child. Secondary uterine inertia during the first stage of labour was almost certainly due to disproportion, which demanded operative intervention.

Points in Treatment

Mr. J. V. O'SULLIVAN said that he took inertia to mean the prolongation of the first stage of labour over thirty hours. The classification might be into primary and secondary, primary where the cause of the weak pains was not known, and secondary in those cases in which the cause could be found. Everybody agreed that post-maturity and endocrine imbalance gave rise to inertia, and so did interference with the polarity of the uterus. He had never been able to understand how the uterus, which appeared to be one organ, could contract in the upper part and relax in the lower, and in fact he did not believe it; he believed that the upper portion simply contracted more strongly than the lower.

Sedation was necessary at some stage in all these cases. His practice was to use drugs as far as possible only by night, and indeed to avoid all sedative drugs for as long as was reasonably

possible. He reserved morphine for those cases in which there was clonic uterine contraction and those in which the inertia was due to fear. The difficulty with morphine was that once the patient had it she would not do without it. He found a high foetal mortality in cases in which morphine had been used. He had not much faith in uterine stimulants. He believed in 2 oz. (57 ml.) of castor oil, followed by an enema and a hot bath, as a suitable stimulant on the second day.

Sepsis was a danger, and for that reason he recommended a routine vaginal culture. On the third day he put the patients on prophylactic sulphonamide, and if necessary added penicillin. The important day was the third day. After 72 hours the risk of caesarean section became rapidly less serious. On the third day he always had an x-ray anteroposterior and lateral view taken. Where medical treatment failed surgical measures became necessary. In cases where the cervix was two or three fingers dilated and where pains were regular (very rare cases, perhaps 3 in every 1,000) he still cut the cervix at the 9 o'clock and 3 o'clock positions. Cases which required this were those where the head was deeply engaged, the membranes ruptured, and the cervix very thin. Caesarean section in his practice had only a very limited use. In conclusion Mr. O'Sullivan quoted figures from one hospital last year with 1,739 labours; there was inertia in 100, among which spontaneous delivery took place in 35, forceps delivery in 51, the cervix was cut in 7, and 3 caesarean sections were done. He quoted an old admonition which seemed specially applicable to inertia: "In all cases we seek to determine not what the woman can endure, but what she can accomplish."

Prevention of Inertia

Prof. W. C. W. NIXON said that in many obstetric clinics labour lasting longer than 48 hours was put into the category of uterine inertia. Whether such a statistical compilation was useful was open to doubt. Prof. Nixon showed some tables illustrating the incidence of uterine inertia among the cases at University College Hospital. Prolonged labour (over 48 hours) was recorded in 7.6% of the cases during the two years 1946-7. About three-fourths of the women delivered themselves. Was it possible to prevent uterine inertia? Although Mr. Stern had shown that it was not entirely a condition restricted to primiparae, yet on the whole it might be taken as such. Prophylaxis should start early in pregnancy and should be continued into the delivery period. Encouragement, sympathy, and the administration of the proper sedative at the proper time would do much to allay fear and to inhibit its effect on the dilatation of the cervix. Active movement in the early part of the first stage should be encouraged. Attention must be paid to fluid control and the condition of the patient. Among the established cases of uterine inertia the most anxiety was caused by those in which the contractions were feeble and the cervix remained stationary at two to three fingers' dilatation.

On the assumption that it was on the parasympathetic side that help was needed, in a recent case at University College Hospital where labour had been in progress for 52 hours, and the membranes had been ruptured for the same length of time, prostigmin was tried. Bundle contractions were slightly increased, though only temporarily, and the dilatation of the os remained the same, namely, three fingers. This patient weighed nearly 95 kg., and had put on nearly 18 kg. in the last six months of her pregnancy. There was so much distension of the distal colon that only a small area on the right side of the uterus could be palpated. Although the foetal heart could not be heard caesarean section was done and a live baby delivered. All that the prostigmin did was to reduce the blood pressure, the systolic from 172 to 128, the diastolic from 104 to 78 mm. Hg. The only complication in the puerperium was a urinary tract infection.

The haphazard use of pituitary extract was to be condemned, but there were cases of uterine inertia in which it could be given provided there was no disproportion, that the woman was not of excessive parity, and that there was no malpresentation. Prof. Nixon demonstrated an improved instrument, devised in Budapest, for measuring uterine tone. The instrument made it possible to determine in which cases pituitary could be given with safety. If the tracings of the uterine contractions showed the uterus to be in a state of hypertonus, then

obviously it was inadvisable to give pituitary extract. The reason why this drug had fallen into such disrepute was because cases had not been selected properly. When hypotonic inertia was shown it was quite safe to give the drug, and the effect of the first injection was to be seen in a few minutes.

In discussing surgical procedures Prof. Nixon said that when labour was allowed to be so protracted that there was excessive clonic distension with the drawing up of the bladder almost to the umbilicus he made it a rule to terminate the case by caesarean section. Much harm had resulted from the teaching that the delivery, if the membranes had been ruptured, must at all costs be by the vagina. Unnecessary vaginal mutilation, predisposing as it did to infection, had resulted from the adoption of this inflexible attitude in obstetric practice. He had never yet regretted doing a caesarean section for cases of protracted labour, but in some cases he wished he had not shown so much zeal for vaginal delivery.

General Discussion

Dr. ALECK W. BOURNE said that he entirely supported Prof. Nixon in what he had said about the use of pituitary extract. It should not be given in any circumstances in which there might be mechanical difficulty in labour. With regard to manual dilatation of the cervix, it was worth bearing in mind that there might be as the hours passed no apparent increase in size, but there was an increase in softness, and, for example, even though one had failed to dilate manually at 8 a.m., one might find six hours later that, while the cervix was no bigger, the fingers would open it up perfectly easily. If the head was fairly well down and the cervix was pressed over the head there was no place for caesarean section. Incision of the cervix would never enable it immediately to dilate because the constricting power of the cervix was in the ring.

Dr. GRANTLY DICK READ said that in his view there were three types of uterine inertia. The first was found in the women who went into apparently definite labour and stayed there, starting with weak regular contractions, prolonged into severe and painful contractions, coming on a fortnight or three weeks before the baby was expected to be born. These patients got a tender and sensitive uterus. The contractions caused distress to the mother, not to the baby, in his experience. These cases were not true labour at all. When, later on, normal labour did begin the women knew the difference at once. They would say, "Now that is different; now I am in labour." In nearly every such case, on investigation, an anxiety state was disclosed. The second type included those whose labour lasted from 36 to 50 hours, with weak contractions, though not distressing to patients who had been told how to conduct their labours, nor causing distress to the child. It would be found in most of these cases that there was some psychological factor working towards neuromuscular imbalance. The third type had a good labour until about three fingers dilatation of the cervix, and then there was an emotional storm, many women giving way entirely to the emotional state.

Treatment was to give fluids, to give rest, but, above all, to give confidence. There should be no hurry, no disturbance, but an atmosphere of complete calm. Sleep must be induced, particularly at night; exercise during the day was better than lying in bed. One of the greatest evils in obstetrics was the impatient attendant. If after three days there was no evidence of labour he suggested that the mind of the patient be investigated as well as the pelvic mechanism.

Mr. JOHN HOWKINS related particulars of a private case in which epidural anaesthesia was employed. This was a patient whom he had "conditioned according to the best Grantly Dick Read technique," and she went into a good labour. Then epidural anaesthesia was given, the anaesthetist, against his advice, giving her 45 ml. This led to an intractable primary uterine inertia—or really a secondary inertia, for the prime cause was the anaesthesia. Eventually she was delivered by the vaginal route. Unlike Mr. O'Sullivan, he was convinced that the uterus was two muscles differently innervated, one presumably by the parasympathetic, and the other by the sympathetic.

Two of the opening speakers made brief replies.

Correspondence

Censorship

SIR.—The letters from Mr. J. Johnston Abraham (Dec. 27, 1947, p. 1053) and from Mr. R. F. West (Jan. 10, p. 69) draw attention to what is one of the great dangers in any State medical service: the fettering of free expression of opinion. The strength of medical practice in Britain has been the doctor-patient relationship. The patient knows his doctor as a man. He knows his wife, his children, his dog, his car, his way of life. He chooses him when he is ill because he trusts him as a man. He comes to him for his opinion and his help, believing that the opinion will be honestly given and the help the best he can provide. Were he to think, or even to suspect, that he was being handed out the stock doctrines of authority, or given the treatment enjoined in the latest circular from headquarters, he would lose this belief.

We have passed through a long period in which truth has been at a discount and honesty an unpopular virtue. Speakers and writers have uttered advisedly rather than freely. They have said what they were told to say, what they felt they ought to say, what they were afraid they might-cause-alarm-and-despondency-and-let-the-side-down by not saying, rather than what they passionately desired to say. We want truth and freedom to walk among us again. How many enjoy them to-day?

Men who enlist in a service lose the right to publish as they like. Those who work for the Medical Research Council must submit to a benevolent guidance. Servants of Government departments must express opinions that fit the policy of the moment. Experts who are asked to report must suppress their report if its findings fail to confirm the views of the Minister who asked for it. Ration analyses, health statistics, nutrition surveys, all fall obediently into line with the propaganda programme. Are potatoes plentiful?—they are magnificent food. Are they scarce?—they are starchy rubbish.

Medicine can advance only while the right to speak and publish freely is open to all medical men; while the small man working without a research grant or the help of a well-equipped laboratory can put forward his humble thesis with as much right to be heard as the hall-marked and salaried professor; while new ideas gain ground because they are backed by facts and not because they are backed by authority, and old ones disappear because they are disproved and replaced by something better, and not because they are suppressed.

Magna est veritas et praevaleret. Will it after the appointed day?—I am, etc.

London, W.1.

HENEAGE OGILVIE.

SIR.—My attention has been drawn to the letters of Mr. Johnston Abraham (Dec. 27, 1947, p. 1053), and Mr. R. F. West (Jan. 10, p. 69). Their insistence that the medical press must at all times and at all costs be kept free from official interference is one which appeals to my heart and one which specially concerns tropical medicine. To this subject workers of all nations have contributed, and for this development unfettered and unbiased criticism has been most necessary. On many occasions when official views have been promulgated—as, for instance, in the manner of transmission of yellow fever, malaria, cholera, or plague—they have proved erroneous. Therefore I cannot imagine any Government in this country being so foolishly as to press for a muzzling of medical publications, and if there is any tendency to do so we must fight.—I am, etc.,

London, W.1.

PHILIP MANSON-BAHR.

SIR.—Among those called upon to vote in the plebiscite are medical men who devote most or all of their time to research. One point which has been discussed in your correspondence of late (Mr. J. Johnston Abraham, Dec. 27, 1947, p. 1053; Mr. R. F. West, Jan. 10, p. 69) concerns them directly and is the freedom of publication. In the absence of freedom of publication, which does not seem to have been given, the freedom of research will be endangered. The Health Act.

Other points at issue between the Minister and the profession may not concern the research worker so directly; nevertheless the freedom and the conditions conducive to good work which he enjoys depend upon the maintenance of the freedom of the profession as a whole. If we as research workers feel that the refusal of the Minister to grant the desired concessions do threaten that freedom, then it is our duty to place ourselves alongside our colleagues who are in practice and return a decided "No."—I am, etc.,

London, W.C.1.

J. A. FRASER ROBERTS.

SIR.—Mr. J. Johnston Abraham's letter (Dec. 27, 1947, p. 1053) raised questions of such fundamental importance to medical education that I expected his challenging communication would be followed by correspondence from those better qualified than myself to express their views. The absence of this, combined with a belief that Mr. Johnston Abraham sounded a note that, if not heeded by the profession, may lose us one of our birthrights, causes me to call attention to the fact that, except in the case of medical literature issued by or on behalf of, the Ministry, the Ministry of Health, while sponsoring a complete health service for the nation, has not established a single priority for medical literature in the important matters of delivery of paper from the mills, printing, and bookbinding. Consequently medical students' textbooks take their turn for paper, printing, and binding with manuals of greyhound racing and "How to Play Poker."

As yet, none of the priority Government publications designed for the use of medical students, but one must presume that in due course trainees for a Civil Service will be issued with official handbooks. While I am open to conviction, after a critical examination of Government medical publications, have formed the opinion that the Ministry of Health's official student textbooks, if and when they are available, are not likely to appeal to medical students as those compiled and produced by private enterprise. In my view something is lacking in the official publications; they fail to reveal the spirit of an unfettered Aesculapius striving to pass on the torch of knowledge for the good of mankind and the advancement of the profession. Undoubtedly it is the censorship which Mr. Johnston Abraham deprecates that tends to stultify these and other communications that emanate from the pens of medical writers who must obtain official permission to write.—I am, etc.,

London, W.1.

HAMILTON BAILEY.

SIR.—I entirely agree with the remarks of Mr. R. F. West (Jan. 10, p. 69).

While serving during the war, as M.O. to an Ordnance Depot, I had occasion to write to *B.M.J.* a report of what I considered to be an unusual case of idiosyncrasy to strychnine. I soon discovered that it was not as easy as all that. It had to go through the usual channels. First the C.O. (R.A.O.) had to peruse the report, and on his profound knowledge of medicine, acquired as a business executive, allowed it to go through to the A.D.M.S. He in his turn allowed it to go through to the D.D.M.S., who after a considerable delay passed the document as fit for publication.

I take it that this procedure was necessary to protect the Editor of *B.M.J.*, who must have been considered to be incapable of deciding whether this sinister report would have been of use to the enemy.—I am, etc.,

London, E.9.

P. R. SAVILL.

A Decisive No

SIR.—To one who has followed this controversy as anxiously and closely as I have done, ending up with the masterly analysis of the situation by our Secretary on Dec. 31 and attendance at the gallery at the S.R.M., there will be no difficulty in answering the plebiscite. But I am well aware that there are many doctors who have no time, or no inclination, for study of complicated issues which have been raised, especially by the astute appeal made by the Minister. I therefore offer what I think is a legitimate simplification of the problem which will face all recipients of the plebiscite.

In a body so large as ours it is impossible to attain unanimity on any point, but on one point we have approached it so nearly as makes no matter. To those who are doctors first and

politicians after, a whole-time salaried service is hateful. Well, look at the following facts: (1) The policy of the Labour Party is to have such a service. It has never been disguised. But Mr. Bevan as a strategist realizes that sapping is his policy and not a frontal attack. (2) He therefore enacts that any doctor entering the Service must (a) sell his practice to the State, and (b) accept a basic salary, the amount of which can be varied at the will of the Minister. The rest is easy. The "ripening" process is entirely in his hands. It seems to me to follow logically that if we are still against a whole-time salaried service the answer is a decisive "No." But for the sake of our credit as consistent people let it be decisive. If it is not, then for heaven's sake let us stop talking of our "principles."

I am still sufficient of an optimist, even in these fantastic days, to believe that the answer will show that "surely in vain the net is spread in the sight of any bird"—a remark made in the book of Job, who was as patient under provocation as our Negotiating Committee seems to have been.—I am, etc.,

London, S.W.7.

ALFRED COX.

Twelve Reasons for "No"

SIR.—There are at least twelve reasons why we should vote against entering into contracts under the National Health Service in its present form.

1. If we do not look after our own interests no one else will do so for us.
2. Those who may be inclined to approve the Act on the grounds that, in their opinion, the terms offered are acceptable should reflect how much better those terms will become if we reject the Minister's offer now with a united voice and subsequently negotiate our own terms.
3. If the general practitioners allow their goodwill to be filched from them the last vestige of medical independence will go.
4. If they once accept even the theory of basic salary the same thing is likely to occur.
5. The remuneration proposed for general practitioners is arbitrarily determined by Ministerial regulation, and once we enter such a service our incomes are entirely within the Minister's power.
6. The consultants and specialists do not yet know what their remuneration is likely to be.
7. At present a Public Health Officer can seek employment under another local authority if he is not satisfied with his position. In the National Health Service terms and conditions of service will be uniform throughout the country, so there will be no advantage in moving.
8. It will undoubtedly redound to the benefit of the public if the Act is amended to ensure professional independence and freedom.
9. I am quite sure the public can rely on getting a square deal from a free profession. I am equally sure the profession cannot rely on getting a square deal from a politician.
10. Not a single one of the principles enunciated by the Negotiating Committee has been conceded by the Minister.
11. The Minister's reply to the Negotiating Committee is full of misleading statements and leaves the question of partnership agreements in a complete legal fog.
12. The Minister's reply states the Act will be amended as it is found wanting. It has already been found wanting in respect of partnership agreements and yet remains unamended.—I am, etc.,

Harrow

J. B. WRATHALL ROWE.

No—and Why

SIR.—On Dec. 15 last I was informed in a letter from the local insurance committee that I may use only drugs in their list, or appendix, when treating insured patients. I may not therefore use, for instance, penicillin tulle gras. On Jan. 15 I received from the regional petroleum office exactly half of the amount of petrol for which I had applied, although the signed log that I enclosed with my application clearly showed the amount of petrol that I use each month. Just two examples of bureaucracy, and just two more reasons why I shall vote "No."—I am, etc.,

Kirkbymoorside.

RICHARD N. THEAKSTON.

No

SIR.—I had not intended to add to the many letters *re* the Health Service Act, but I have been stung into so doing by a happening to-day. Obviously the only line of action surely to prevent the surrender of Medicine to Socialist doctrine is to say "No, take it away," to the Act as it stands. What will happen after saying "No" one cannot say, and I was in some doubt as to whether the B.M.A. had thought of all eventualities. After listening to Dr. Hill at the local B.M.A. meeting I was in doubt no longer, and could see clearly how "No" could be sustained, how it would gain its end, and both the personal and general likely course of events. The case for "No" is unassailable compared with "Yes." It is dangerous even to think "Yes," for this leads to confusion of thought and inability to see that "No" can, and must, be sustained whatever happens. Yet immediately after the meeting I was flabbergasted to find an intelligent fellow doctor (not a G.P.) toying with the "Yes" attitude from personal considerations, and apparently unable to see how a united "No" could be consistent with continuance of his employment, etc. I assessed him as a nitwit on this, told him so, and tried to explain what Dr. Hill had just explained with complete clarity! Are there many nitwits?—I am, etc.,

Birkenhead.

A. M. FRASER.

Medical Students Say No

SIR.—I am amazed how little consideration has been given to the opinions of to-morrow's doctors. We medical students must stand by and watch others decide our future. We place all our hope in the good sense of those who are to vote in a few days' time. Let them remember that it is not merely their own private interests which are at stake, but the freedom of thousands of would-be doctors who have no say in the matter at all. If doctors accept the State Medical Service as it stands, with its many good points but several entirely unacceptable ones, they will condemn us to a life of State service which we had not bargained for when we took up medicine. If they do but stand firm, they can insist on a form of service which they would not be ashamed to hand on to us.—I am, etc.,

Cambridge.

PETER LYNE.

SIR.—May we—medical students—take up some of the valuable space in your *Journal*? On reading some of the letters printed in your correspondence columns one feels that their authors are chiefly afraid of the attitude of the young newly qualified doctors towards the National Health Service Act. We can only say that from our small experience of our fellow students, including many who have qualified during the last eighteen months or so, we do not believe that the majority of the younger members of the profession are so attracted by the present form of the Act as your correspondents fear.

Dr. Dan E. Davies, in his letter in your issue of Jan. 10 (p. 70), scorns the stated first principle for which the profession stands, or rather he refutes its sincerity. He declares that it really ought to read, "The medical profession in its own interest is opposed to," etc. He declares that our interests are purely selfish in opposing the Act. But how does this agree with the statements made by the Minister and all those who support the Act, when they say that in fact the Act is a good thing for the doctors as they will be financially better off and their "working conditions" will be much better? If our interests are selfish and the Act is to our benefit, why then do we oppose it?

As has been pointed out in your columns hitherto, the Lord Chancellor said, during the third reading of the Bill in the House of Lords, that the success of all their Socialist schemes—particularly their National Insurance scheme—depended upon satisfactory control of certification. Apparently they do not trust doctors to be honest in certification. We are selfish! We cannot be trusted! Altogether we're a pretty roguish lot! Let us for a moment agree with these people in their estimation of doctors, and see how this unmoral profession is going to fit into their National Service. There can be no doubt that the system of remuneration, with a basic salary proposed by the Minister, is but a step towards a full-time, wholly salaried service. This has been admitted by the Minister and others,

and announced in the official Socialist programme. And when this is so, when our income does not depend upon the numbers and satisfaction of our patients, we could not hope to gain anything by taking the extra care which differentiates the treatment given by a good doctor and that given by an indifferent doctor. Why should we, then, who have no real interest in our patients, give ourselves coronary thromboses by working a bit too hard? True, the State could sack the bad doctor who really wasn't doing his job, but what would it do with the whole host of indifferent doctors who would certainly not make the Service such a wonderful thing as the Minister apparently would wish? (Indeed, the excellence of the new Service is his only interest!) If the doctors are such a shocking lot, would it not be better to ensure their good work by giving them the inducement of capitation fees rather than a fixed salary? This would be the logical course for the Minister to take.

If the members of the medical profession are as the Lord Chancellor and others of the Socialist Party and Dr. Davies seem to believe, reactionary, Conservative, true-blue, worthless money-grubbers, then heaven help the patients under the form of Health Service at present envisaged in the Act!

Perhaps we may be young and innocent, and do not know the ways of the big bad world; but, though we do not believe that doctors are all saints any more than any other section of the community, we do believe that by far the majority of the medical profession are sincere in their concern for the welfare of their patients and in their desire for a good and comprehensive Health Service available to all. And we do believe (as we know do many of our fellow students—especially after a closer study of the Act and its implications and the Minister's type of negotiations during the last twelve to eighteen months) that the Act in its present form will *not* provide the improved Health Service that we wish to see in this country; and that the clear duty of every medical practitioner, in the name of everything that the medical profession holds sacred, is to refuse to have anything to do with the National Health Service Act in its present form.—We are, etc.,

PETER J. STEVENS.

M. OKELL.

J. E. KEEN.

F. WILKINS.

P. A. CROWTHER.

West Bromwich

Treasury Control

SIR.—As it is clear that many doctors, including apparently all those belonging to the Medical Practitioners' Union, have not yet read or digested the new Health Service Act, may I repeat the gist of some remarks I tried to make at the Special Representative Meeting?

The trouble with this Health Act is that it ties up medicine with financial insurance benefits, and this makes it a gigantic financial gamble, especially as sickness absence, in spite of the five-day week, which has reduced it, is still much higher than the Government estimates allow for. This being so, the last word is not, as commonly thought, with the Minister but with the Treasury, for Section 75 (3) of the Act clearly states: "Any power conferred on the Minister by this Act to make regulations shall, if the Treasury so direct, not be exercisable except in conjunction with the Treasury." We all know that it is the regulations even more than the framework of the Act that will decide what sort of service it is to be, and this is the clearest possible warning that Treasury control will be the dominating factor, as indeed we have most of us known it will be if the funds are to remain solvent. When, therefore, the Minister writes that the doctor "is left to look after his patients in his own way and to the best of his clinical ability. He is not 'under orders,'" and again, "There is no reason whatever why . . . the professional independence of the doctor should be affected by a switch-over from private fees to public funds," he is writing a demonstrable untruth, for even if Mr. Bevan should wish it he has no power to enforce it.

When the present spendthrift policy is changed, as it will have to be if the country is to survive, it is clear that the strongest possible pressure will be exerted on doctors to cut down present expenditure and individual judgment. Medicine will be a State business and the State will touch minds and souls as well as bodies, and the Act makes Treasury control the final arbiter.

The choice will be "submit, or change your job." How clinical freedom is to be maintained in a State health service is a difficult question, but this Act provides that the question should never arise. Treasury control—i.e., financial considerations—will settle the matter, and there is no appeal.

I also drew attention to Section 43, which gives the Minister power to do or dispense with practically anything in areas where he considers the services inadequate. This is Mr. Bevan's provision to break any "doctors' strike," being sure that, whatever happens, the doctors will not let their patients suffer medically. Section 43 states: "If the Minister is satisfied . . . as respects any area . . . that for any . . . reason any considerable number of persons in any such area . . . are not receiving satisfactory services under the arrangements in force under this Part of this Act, he may authorize the Executive Council to make such other arrangements as he may approve, or may himself make other arrangements and may dispense with any of the requirements or regulations made under this Part of this Act so far as appears to him to be necessary to meet exceptional circumstances and enable such arrangements to be made." This provision goes far beyond the Trades Disputes Act and should make any trade unionist blush with shame. The two sections I have quoted should also frighten patients as well as doctors who might be tempted to accept the Minister's blandishments at face value. Together they make this so-called social security measure one of the most retrograde pieces of legislation passed for a century. They are far more fundamental for medical practice than any of the details discussed by the Negotiating Committee, and amendments to secure their repeal or to introduce proper safeguards should most certainly be introduced before doctors think of accepting service under the Act.

A Minister who with Hitlerian cunning and honeyed word inserted such a dagger blow at professional and personal freedom should be disowned by any Government that claims to represent the people. In their opposition to this Act the doctors are not fighting to exploit the patients but to protect them, and with Treasury control they will need some protecting.—I am etc.,

Winsford, Cheshire.

W. N. LEAK.

The Fight

SIR.—We believe we represent many of the junior hospital doctors. We understand that those serving whole-time appointments at voluntary hospitals will be asked to vote with the consultants and general practitioners in implementing their "No" votes (if so they be) by an undertaking not to accept service under the Act as it stands. This group, which comprise registrars (including those with ex-Service grants) and resident forms a considerable number, and their decision generally may well influence considerably the extent of the majority against the Service. For this reason we urgently request information on the following points, as we believe it may help to clarify the issue for many in our position.

In the event of a majority of "Noes" from consultant G.P.s (including at least 13,000 of the latter), and resident those of us who have pledged our support will be asked to refuse to accept service.

(1) Will this be binding if our particular group (the residents) is in a minority, even though there is an overall majority?

(2) Though we are all to continue our medical work we may find this difficult for several reasons. We shall be working in hospital owned by the Minister and we shall be the only group of doctors with no possible source of income (except possibly for a small payment from the fighting fund). It is unlikely that the Minister will pay us unless we are prepared to join the Service, and he will not allow us the freedom of a token strike. In spite of current opinion to the contrary, he may well offer us terms and conditions of service on July 5, either temporary or permanent. If he cannot start the general scheme, he may well attempt to save face by starting the hospital service. Either we resign our jobs and starve, and the patients in hospital will be left to nature and the nursing staff (admittedly this is quite adequate in the majority of cases), or a sufficient number of us stay, who can staff the hospitals while the rest remain unemployed and fulfilling no useful opposition to the Act. It is useless for us to make local agreements because the

hospitals in all areas must carry on. Which of these alternatives shall we be asked by the B.M.A. to pursue?

(3) Those whose appointments come to an end in mid-summer will be automatically debarred from applying for any other hospital appointment in the country. This will apply to many residents whose appointments are limited to six months.

(4) What will be the effect on those at present working in teaching hospitals? They will be to some extent autonomous. Will this autonomy extend to allowing continuation of work (with or without pay) to those who do not sign on the Minister's dotted line?

Though, unlike the G.P.s, we have no capital at stake and therefore less to lose, we find that we are in a peculiar position, and we should be grateful for a more informative statement on the practical measures before signing the second and third questions in the plebiscite. At present many of us feel that this will be like signing a blank cheque to the B.M.A. (admittedly the alternative will be one to the Minister). We should be grateful if you, Sir, could provide this information.

We are opposed to the principles of the Act and we should like to do all in our power to resist it, but some of us have families to support, which we find almost impossible to do at the moment on very restricted incomes. We also think that an assurance that the B.M.A. (when they are in a position to state their terms) will press for better pay for us will give greater confidence to many of our friends. There are many who just cannot survive indefinitely on present salaries, and they feel that in the past insufficient support has been given them. All we desire is that many valuable votes to enhance the cause of freedom shall not be lost through want of clarity.—We are, etc.,

F. J. FLINT.
R. S. WEETCH.
A. J. BAILEY.
E. A. BROOMHEAD.
R. W. TEMPLE.

Sheffield.

* The Secretary of the B.M.A. comments: If the situation described in this letter arises, voluntary hospital medical officers will be advised to continue with their work as if no dispute were in operation, renewing appointments or taking new appointments in the hospital field if necessary. They will simply be asked not to enter the field of conflict—that is, that they should not enter the Service as a general practitioner or as a consultant or specialist until the conflict is over.—ED., B.M.J.

A Sufficiency of State Hospitals?

SIR,—As a physician who has served a municipal hospital for a number of years I hope I may be forgiven if I insert a few platitudinous observations. There has been some attempt in the past to represent the municipal doctor as an apathetic creature tied up in red tape and complacent in these curious bonds. In point of fact many of us have long been striving actively to meet demands which will be increased when the National Health Service comes into being and so cannot but foresee the increasing difficulties which will then be encountered.

These difficulties, met even in a live, supple, and efficient organization, include: (1) Insufficient beds to meet all the demands made throughout the year for the treatment of seriously ill patients. (2) The housing in hospital beds of infirm and homeless, but not sick, old persons, with consequent increase of difficulty. (3) The use of a number of wards, quite inadequate for the district, for cases of pulmonary tuberculosis who would be more conveniently treated elsewhere. (4) An insufficient number of nurses and orderlies to keep all the hospital wards open, further increasing difficulty. (5) An insufficient number of domestic staff and cleaners, which further aggravates difficulty.

When I consider these shortages of hospitals, hospital personnel, sanatoria, and of homes for the aged I do not forget that they probably occur much less severely in this progressive and wealthy county than in many other places. I do not inquire what possible shortcomings of a similar type there may be in the organization of the service outside the hospitals, but I hope that in these days of national poverty the general public is

not being led to expect something expensive and valuable which will neither be in existence this July nor for a long time afterwards.

We all look eagerly forward to the completion of a full hospital service throughout the length and breadth of the land, but can we now be assured that we shall soon see the end of the building difficulties which have so long balked those who would otherwise have built more hospitals and homes? Can we also be sure that there are available sufficient and suitable recruits for the nursing and domestic staffs just waiting to be attracted into the service by the ideal conditions of employment in State hospitals? But if both the "bricks and mortar" and the staffs are not assured, then surely we are contemplating a premature start of the scheme, and it is, at present, unjust to offer it to the public as a National Health Service.—I am, etc.,

Edgware, Middlesex.

G. H. JENNINGS.

Payment of Hospital Staff

SIR,—It is somewhat disingenuous for the Dean of University College Hospital Medical School to suggest (Jan. 10, p. 71) that the acceptance of salaries at this moment (part-time or not) by the honorary medical staff of his hospital, post-dated to January, 1947, has nothing to do with the imminence of a State medical service. At the meeting of the Marylebone Division I did not criticize them for so doing: I merely gave that hospital, among others, as an example of what was happening, and asked whether the B.M.A. (several leading members of Council were present) advised that this example should be followed by other hospital staffs. Nobody answered my question, but I cannot help thinking that if the honorary staffs of our leading hospitals had refused to contemplate accepting part-time salaries at this juncture it would have set a good example and helped to keep our profession united.—I am, etc.,

London, W.1.

R. SCOTT STEVENSON.

Unity of Profession

SIR,—The Minister's reaction to a plebiscite majority against accepting service will furnish a useful yardstick of his sincerity towards the general public. He states that he is actuated in the ultimate resort solely by his concern as responsible Minister of the Crown in the welfare of the men, women, and children whose care he undertakes (through the profession) and who are wholly dependent on that care. If his concern is sincere then by no stretch of his political imagination could he envisage an efficient service manned by resentful personnel forced by circumstances, chiefly financial, to become unwilling participants. Greater men than Aneurin Bevan have attempted and failed to enslave free peoples, and I am convinced that this would-be dictator will fail to enslave the profession.

The issue now confronting each individual is whether he wants to decline or accept participation in a whole-time State salaried service, whether he is prepared to stand by or reject the well-considered and matured advice of the Council of the B.M.A. If a majority of the profession shows at the plebiscite that it wishes to participate, we, the antagonists, will throw in our lot with it and hope for the best, but should the state of affairs be reversed I would appeal to the minority to stand by the majority vote. Such unity is absolutely essential. I would also exhort those contemplating accepting service, or those who may be wavering, to think carefully on the main issue once again. Loyalty to the majority vote and to the Council's advice should be an honourable duty. Self-interest, especially thoughts of financial gain, must be eliminated. The retention of freedom for patient and doctor ought to be the dominant consideration.—I am, etc.,

Burbage, Leics.

CHARLES O'DONOVAN.

Strong Position

SIR,—In your leading article of Jan. 10 (p. 53) occur the words: "The medical profession is in a strong position and should be more conscious of that fact." Personally, I would state the case more emphatically and say our position is not only strong but can become unassailable if we choose to make it so. United, we are all-powerful. We have only to decide if we are justified in applying such power. Some might hesitate to use it arbitrarily, but I think the vast majority must

feel so sure of the justice of our case—which is nothing less than safeguarding our profession from utter serfdom and degradation—that the end justifies the means. Standing together, we have absolute power and the Minister is helpless. On the other hand, if we work the Act we hand this power to the Minister on a platter and deliver ourselves into bondage. Already the Minister has attempted to crack the whip while we in fact still hold it. What if we allow him to obtain a firm grip? Almost unanimously we have agreed upon certain principles regarded as absolutely essential for the future welfare of both patient and profession. These principles are *not* embodied in the Act. It therefore follows automatically that the profession must condemn the Act. Are we to be so misguided as to work an Act we have no choice but to condemn?

The position is simple. We know the Act is bad; we know we have the power to prevent it ever coming into force; and we know also we can compel an amended Act embodying our principles. Then let us do so without fear, since there are signs everywhere that the doctors are rallying and will stand fast. This letter is to appeal to any in doubt. There is nothing to fear except disunity. In unity our power is absolute and victory certain.—I am, etc.,

Tiverton, Devon.

R. E. J. PEMBREY.

For the Service

SIR.—In the spate of letters about the National Health Service many writers give their personal opinions as if they were the unanimous views of the profession. May I, therefore, for a start disclaim to be speaking for or expressing the views of anyone but myself. In the first place the overriding factor must be finance. I cannot afford, nor, I suspect, can more than a negligible percentage of my colleagues afford, to throw away my capital assets which have been acquired through many long and anxious years of toil. Yet this is precisely what I am invited to do by the Representative Meeting of the B.M.A. Unless I have misread the Act, those who decline to enter the Service on the appointed day forfeit all claim to compensation. Let us think earnestly upon this important point.

I understand that the B.M.A. has a fighting fund. How, may I ask, will that sum compensate all the G.P.s of Great Britain for throwing away their substance for the shadow of "freedom"? Do my colleagues really mean to tell me that they are prepared to make this colossal sacrifice? On the other hand, if we enter the Service we shall be in a much stronger position to argue. You cannot carry any weight in any institution of which you are not a member. If you wish to reform it you must first join and then use your *inside* influence for its reformation. I personally intend to do all in my power to make the new Service a success, not because I think it perfect, but because it is a beginning and can only be improved and amended by discovering its faults in the ordinary everyday exercise of our profession. Faults can only be pointed out when they have been shown by experience to exist, and they can then be rectified.

Personally, I feel with the other 52% who voted that way that the abolition of the buying and selling of practices is a good thing. Nor does the basic salary of £300 distress me. On the contrary, I am glad to think that my less fortunate brethren will be helped over the stile. The abolition of the basic salary would only swell the net profits of the big practices. *Per capita* the overhead expenses of a small practice are much higher than those of a big practice.

When two protagonists get up and go for one another I never believe that either is speaking the whole truth, nor does any thinking man. I do not share the gloomy prognostications of the B.M.A., nor do I swallow all of Mr. Bevan's rosy promises. At the meeting of the Metropolitan Counties Branch in B.M.A. House on Jan. 7, 1948, one man who sat next to me said to me: "Under this Act everyone will become a panel patient, and we know that panel patients are never as well treated as private patients." I was horrified. Anyone who takes such a drastic line to our great profession and plays right into the hands of our enemies. Personally, I think my panel patients are a far better deal as I don't have to worry about

To sum up: Let us all join the new Service and put our best into it and make it the finest medical service ever seen. The eyes of the world are upon us. Let us cease this unseemly wrangling and show ourselves men of public spirit with our patients' (as opposed to our own vested) interests at heart.—I am, etc.,

London, E.17.

ST. GEORGE B. DELISLE GRAY.

Resist Now

SIR.—If we are going to fight this megalomaniacal attempt to enslave the medical profession surely our past experience of dictators has taught us to fight with every means at our disposal, and to hit hard and often until victory is ours. To ensure a united front to the present Minister it is necessary for the B.M.A. to maintain the strong leadership which they have recently evinced, and by showing an understanding of the problems of all practitioners to bring over the waverers to our side.

Attack has always been the best mode of defence; therefore let the B.M.A. (1) insist that all medical members of executive councils, regional boards, etc., should resign *forthwith*, as suggested by Dr. Russell (Jan. 10, p. 72), and refuse to collaborate with the present Minister. (2) Counteract the Minister's inducement to the younger practitioner anxious to establish himself in practice but hindered by lack of capital, by immediately forming a fund from which money can be lent for the purpose of purchasing a practice or partnership—such money to be lent at purely nominal interest with easy method of repayment. Alternatively, establish a list of doctors who are prepared to accept payment out of income for a share in their practice. The younger man must be given his chance to vote on the Act without fear that a refusal means financial disaster to him. (3) Make it a definite part of our fight that the present Minister should be replaced by one who is more reasonable and whom the profession can trust.

It is ridiculous to ask us to fight when some of our professional brethren are already working on behalf of a scheme which we as a profession reject. Nor can one expect that the incentive of establishing a practice as held out by the Minister would fall on stony ground unless some equally attractive incentive is offered by those prepared to fight. Lip service alone is not sufficient.—I am, etc.,

Plymouth.

A. S. BRADLAW.

I.M.S. and N.H.S.

SIR.—It was a condition of the granting of compensation money for loss of career to officers of the I.M.S. that should they thereafter join "a permanent and pensionable Service under the Crown" the sum paid should be refunded to the Treasury except for a resettlement grant of £500. Since arriving in this country from India in early September last I have been endeavouring to find out from the powers that be in Whitehall whether the National Health Service will come under this definition. I first approached the Commonwealth Relations Office (old India Office), under whom I still technically serve, but after a month or so they disclaimed all interest in this matter and said it rested with the Ministry of Health and the Treasury. So the Ministry of Health has been requested to give a ruling, but, in spite of being pushed by the B.M.A., by my M.P., and by myself, can produce no better answer than that "the matter is receiving attention." To-day I have requested my M.P. to ask the question on the floor of the House at the earliest opportunity, as it seems time that the matter should be made public.

Now, my point in writing this letter is to warn all brother I.M.S. officers who are similarly placed to think carefully before committing themselves, and especially their capital, to any type of practice likely to be engulfed in the belly of the State. It seems to be causing a good deal of Ministerial head-scratching to decide the point raised, and personally I have no doubt that this should be read to imply that that head has in it a plan for an eventual fully salaried and pensionable State Service such as would come under the definition in question. Straws in the wind can give much information!—I am, etc.,

Leicester Forest East.

CHARLES F. GARFILL.

Years of Conscription

SIR,—“Conscripted, R.A.F.V.R.” (Jan. 10, p. 7), is in a similar position to myself. I was conscripted at the age of 23 and hope to goodness that I shall be out of the Army before I am 25. I was married at the age of 23 and shall therefore draw no more than half marriage allowance all the time I am in the Army. Further, my assistant M.O. and I spend the greater part of each day trying to think of a good sound way to shed our uniforms for ever, while doctors all around us are overburdened with work. Cannot something be done to get the young doctor out of the Services before it is too late and bone-idleness sets in for ever?

I have heard older doctors say that if a State service does come in it will be because the younger doctors vote for it. Not so, because the years of “conscription for no purpose” are the soundest pieces of propaganda against any form of controlled service where individual liberty is lost. As there is no appeal to the courts I would be glad if you would allow me to sign myself

CONSCRIPTED, R.A.M.C.

The E.M.S.

SIR,—In your leading article on “Consultants and the Act” (Jan. 3, p. 17), you quote Dr. Alan Wigfield:

“Whatever may be the case we must keep before us the possibility that sooner or later a political group for the time being in power may yet seek to introduce a State Medical Service,”

and you go on to say that “Dr. Wigfield has proved to be a safe prophet.” Dr. Wigfield’s letter was dated Dec. 23, 1939, and his protest was considerably weakened by the fact that he commended the E.M.S. proposals as a peacetime arrangement “which must commend itself to the majority of consultants.”

May I point out that Sir Ernest Graham-Little, in a letter published in *The Times* nearly three months previously—i.e., on Sept. 19, 1939—said:

“Supporters of the voluntary system—and they constitute the large majority of the medical profession—inevitably see in these arrangements (i.e., for the E.M.S.) the first step to a State Medical Service, which is one of the most conspicuous planks in the programme of a great political party. Surely the national emergency should not be used to cover an approach to so controversial a settlement as a State Medical Service?”

—I am, etc.,

Brookwood, Surrey.

H. M. STANLEY TURNER.

Medical Representatives in N.H.S.

SIR,—I think it essential that provision should be made for a proportion of the medical representatives on the various boards, committees, etc., to be elected by the profession in the various areas, etc., from the central board to local committees. Only in this way can we be certain that membership of these bodies is not a matter of political opinion. All boards, etc., should be entitled to elect their own chairmen.—I am, etc.,

Monmouth

P. G. HARVEY.

Municipal Doctors and the Plebiscite

SIR,—There is one point which, in my opinion, is fundamental, and which, if not given sufficient emphasis, may adversely affect the result of the plebiscite. It is this. The numerous practitioners at present in whole-time municipal appointments—either in hospital or local government service—should be assured not only of financial help but also of the Association’s active co-operation in preventing their posts being filled by other practitioners if, as a result of their undertaking not to enter the Service, they should on July 5 lose, however temporarily, their source of income.

Too often does one find practitioners holding such appointments who, although desirous of undertaking not to accept service under the Act as it now stands, are resigned to letting things go by the board—understandable, without the backing of the Association, in view of the necessity for bread-and-butter, but an attitude which could be just sufficient to destroy the unanimity of the profession’s determination not to accept service under the Act as it now stands or even to sway the vote in favour of the Minister’s scheme.

To ensure that such practitioners will, by their vote, agree not to implement the Act until amended the B.M.A. must stand behind them in the matters of security of tenure and of their financial commitments.—I am, etc.

London, E.11.

G. ELIZABETH KEITH.

A Binding Agreement

SIR,—I do not think that any of the fine words and rallying calls made in your correspondence columns upon the forthcoming issue facing the profession to be worth one whit unless we are prepared to back them up by a legal binding agreement signed individually by each one of us. Given a majority prepared to sign, we would then know where we stood in relation to one another. Even with a 100% plebiscite we would probably be jockeyed into another “1911.”—I am, etc.,

Shoburyness, Essex.

P. M. FEA.

A Party Political Issue

SIR,—As an individual with no very pronounced political leanings, and as one who could see more good than bad in the original Beveridge Scheme, I am grateful to Mr. Bevan for making it quite beyond doubt that I shall vote “No” in the forthcoming plebiscite, for two reasons.

First, he has made a party political issue of the whole scheme. His insistence that he must be the final arbiter without right of appeal, his insistence on part-payment by basic salary, the retention of his powers of indirect direction, and his stubborn adherence to the principle of expropriation of capital values of practices on his own terms cannot be regarded as anything but the arrogant declaration of political opinion. As an individualist, I have a personal antipathy to Socialist “collectivism.” I might, however, submit to its imposition with as good a grace as I could muster if I could see even one single instance of its success in the wider economic and social field of the country as a whole.

Secondly, the Minister has been—almost incredibly—careless enough to let fall the velvet glove at this stage in the matter of the right to practise midwifery. If this clause does not mean interference with the professional liberty of the doctor, what does? In this connexion I would express my unqualified agreement with Dr. D. C. Williams (Jan. 17, p. 121). I am one of the first to admit that the average newly qualified doctor is not a fully competent obstetrician, but unless he is also a fool he can always command more experienced professional advice in this country. The onus lies with the profession—with the examining bodies—for the necessary improvement in this respect, not with a politician.

May I also add my reinforcement to the views of Dr. H. J. Houghton (Jan. 17, p. 122)? If the present Government really wants to improve the amenities of the people, and particularly of those sections of the population whom it claims particularly to represent, it might well begin by assisting the profession to abolish the delays at present inseparable from hospital out-patient attendance, and the further delays, often of months, before in-patient treatment can be obtained by any but the most urgent cases. This will be problem enough in itself, but perhaps £66 million will go some way towards it.

In conclusion, may I repeat that I am not opposed to the introduction of a health service with 100% inclusion on a contributory basis. What I do oppose most strongly is such a scheme vitiated by unnecessary and vexatious political bias of no conceivable value to the persons whom the scheme purports to serve.—I am, etc.,

Chippenham, Wilts.

IAN MOORE.

Organization and Liberty

SIR,—The depressing tone of Dr. F. E. S. Hatfield’s letter (Jan. 17, p. 118) prompts me to make an urgent protest lest others should accept his axioms that “increasing organization can only take place at the expense of the individual’s right to do what he likes,” and that “the whole evolutionary process is in the direction of increasing organization.” The first phrase might have been more tersely expressed in five words: “Increasing organization spells individual frustration.” The second phrase would suggest that progress and “increasing organization” are synonymous terms. This pathetic fallacy

has surely been exposed by the downfall of Nazi Germany, the most highly organized State of the age, both socially and medically.

Let Dr. Hatfield, if he seeks a truly organized society, betake himself to the Prison Service and practise his medicine in an atmosphere where "increasing organization" has taken place at the expense of the individual to do what he likes; but let others of us, who value the freedom of the individual, continue to treat patients for the benefit of their health and not for the fulfilment of bureaucratic regulations. "Let us make an important contribution to this problem" by refusing to sacrifice our profession to the mercies of an ambitious doctrinaire Minister whose political theories breed the mentality that regards "rights" as personal benefits to be accepted without corresponding duties to society, and security as the height of ambition.—I am, etc.,

Weymouth.

D. J. ROSS STEEN.

The Word of the Minister

SIR,—Though many doctors may not be in disagreement with Mr. Bevan on the principles over which the Negotiating Committee are making a stand, yet the Committee is undoubtedly right in asking for a 100% "No" from each section of the profession to the working of a scheme many details of which seem to depend entirely on the word of the Minister only, and in which we have no appeal beyond Caesar to the civil courts.

One is given to understand that amount and method of remuneration and terms of service (whatever they may be) can be changed overnight merely by regulation and the Minister's signature. Therefore, until these details are cut-and-dried and in black and white by Act of Parliament, so that we know where we stand in the future, it would be professional and financial suicide to put our necks into a noose which can be tightened at the will or whim of the present or any future Minister. Also the public should be told at once clearly—so that there is no doubt in their minds—that we are not fighting against the inauguration of the kind of N.H.S. which we believe would be to their advantage, but simply against the dictatorship of a single man, or Party, on medical matters about which as technicians we have reason to believe that we know best. Let Mr. Bevan decide strategy by all means, but tactics must obviously remain in the profession's own hands.—I am, etc.,

Englefield Green, Surrey.

W. E. R. BRANCH.

Mr. Bevan's Attitude

SIR,—As reported in the *News Chronicle* of Jan. 14:

"Mr. F. Richards, chairman of the (Truro Council) Housing Committee, said it was a lack of courtesy on the part of the Minister (Mr. Bevan) that he should visit sites in the City without contacting his committee or housing officials. The first thing they knew about it was when they read of it in the Press. Afterwards alterations of houses were made without the Housing Committee being consulted."

Mr. Bevan's attitude to the Negotiating Committee was, I understand, in keeping with his behaviour reported above and clearly shows how he will deal with the medical profession when he has the power to do so—as he will have if we join under the conditions of the present Health Act, in which the Minister retains full power to elect chairmen of committees and ultimately to approve all members, lay and medical.

We must remember that there will be *no appeal* from any decision of the Minister or of a politically appointed tribunal of three persons consisting of a chairman (a barrister or solicitor) appointed by the Lord Chancellor, and two others appointed by Mr. Bevan himself. The only remedy is to vote "No" to service in the present Act and so defeat it, as Birmingham doctors did on Jan. 12 when their City Council proposed to extend municipal trading against the wishes of an overwhelming number of its retail traders.—I am, etc.,

Birmingham.

WM. WATSON NEWTON.

Alternative Proposals

It is stated that the present Act is rejected as completely unacceptable by a large majority and that general dissatisfaction with the ownership of their practices, are we to be asked to accept the Minister's alternative proposals? Any proposal that would be a threat to the whole community and

be such that all G.P.s would be willing to take part in it, whatever type of practice they now have. The essential feature of the scheme must therefore be to give all patients the time and attention now given to private patients, and to accept no lower standards. The overcrowded waiting-rooms and hurried, overworked doctor must be no more.

The number of public patients must be severely limited and the fees raised. I suggest a limit of 1,500 and a fee of 25s. for the first 1,000 and 20s. for the next 500. In addition, midwifery should be allowed, at a fixed fee per case. With the present number of general practitioners this scheme would not provide attention for the 45 millions at once, so I suggest that at first the service should apply only to persons of 18 years and over. Later the age could be reduced until the whole population is covered, but whatever happens the numbers for each doctor must not be increased.—I am, etc.,

London, W.8.

CHRISTOPHER L. CARTER.

The Public Interest

SIR,—Those who write and speak on the N.H.S. seem to have it well in the forefront of their minds that the public interest comes first; our own interests as a profession must then come second.

When a patient comes to us individually for advice we are bound first to tell him what we think best to be done; if he is unable or unwilling to follow our advice, we do not necessarily refuse to have anything more to do with him. It happens quite often in practice that satisfactory results follow the co-operation of patient and doctor in a line of treatment which may seem far from ideal to the latter. Might not a similar attitude of compromise prove helpful to both the public and the profession as a whole?

If the results of the proposed plebiscite are against us entering the National Health Service could we not take some such course as the following? We could explain our point of view to the public in the columns of the lay press and ask the public itself to signify if it would still desire us, in spite of our adverse vote, to co-operate with it in a scheme which we do not regard as being in its best interest. If the public does desire it, then we should naturally acquiesce. How far this suggestion is a practical one I do not know; but I do not think it is illogical.—I am, etc.,

Ditchling, Sussex.

F. WALLACE LINTON-BOGLE.

Hours of Work

SIR,—During all the correspondence about the doctors and the medical service I have not seen a single remark about the hours doctors will be required to work. Doctors are on duty or on call 24 hours a day; most of them work a good 10 hours a day and are often up several nights a week. Miners and railwaymen do a 44-hour week, as do most other workers irrespective of their profession or trade. I think it is near time the Negotiating Committee did something about this matter. I should appreciate the views of other medical practitioners.—I am, etc.,

Cambridge.

A. V. McMASTIFF.

Bad Law

SIR,—Another case of Satan rebuking sin—this time Mr. Aneurin Bevan warning the doctors against their judgment being "distorted by slogans." This comes ill from one who airily dismissed the reasoned misgivings of the Negotiating Committee with the slogan: "Hard cases make bad law." Actually, the elder statesmen of the profession have patiently contested the totalitarian intransigence of the Minister in order to convince him that, in this instance, the very reverse is the case—i.e., that a bad law makes hard cases!—I am, etc.,

Epsom.

A. H. GALLEY.

Money and Freedom

SIR,—Thank you for your leading article (Jan. 24, p. 153) entitled "Money and Freedom"—surely the most clear and true statement we have had. Close study will reveal, I think, that the very keystone of freedom is the retention of the goodwill of practice. Moreover, the freedom thus conferred will by no means be confined to the owners of goodwill but will be reflected throughout the profession. As a whole-time medical officer remarked to me the other day, "Your freedom is our

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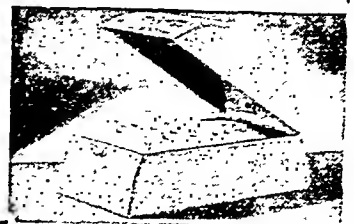
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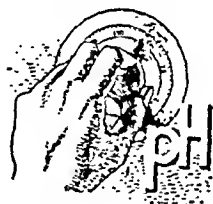
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freedom. The more free you are, the greater our negotiating power with our councils." It is not unlikely that Mr. Bevan's hidden appreciation of this truth accounts for his particular animus against the principle.—I am, etc.,

Wirksworth, Derby.

E. D. BROSTER.

Vacancies in N.H.S.

SIR,—According to Section 9 of the Negotiating Committee's memorandum (*Supplement*, Dec. 20, 1947, p. 142), it would appear that before a death vacancy can be filled the matter must be considered by (1) the Local Executive Council, (2) the Medical Practices Committee, (3) the Local Medical Committee, and that unsuccessful candidates may appeal to the Minister—as you say, a cumbersome and slow-moving business. I feel that it would be helpful to the younger members of the profession if you were to indicate the probable composition of his council and these committees.—I am, etc.,

Nettlebed, Oxon.

JOHN BRUNTON.

* The Local Executive Council consists of a chairman appointed by the Minister and 24 other members, of whom 4 are appointed by the Minister, 8 by the local health authority, 7 by the Local Medical Committee, 3 by the Local Dental Committee, and 2 by the Local Pharmaceutical Committee. The Medical Practices Committee consists of a chairman, who must be a medical practitioner, and 8 other members of whom 6 must be medical practitioners, and at least 5 of these 6 must be actively engaged in medical practice. All are appointed by the Minister. The Local Medical Committee is a committee formed in the area of an Executive Council to represent medical practitioners of that area and accepted by the Minister as representing them.—Ed., *B.M.J.*

Financial Struggle

SIR,—After the recent glut of letters I do not want to add to your troubles, but I should like to stress one further very important point. What is going to be done for those medical men who, as the result of the war, are financially unable to join us in opposing this State monopoly in medicine?

I do not refer to those eligible youngish men who went for a few months at the end of the war, forced into it against their will, having sheltered themselves so far in some "indispensable" post. They lost nothing tangible, for they were not away long enough to matter. Being very careful men, they saw to it that their colleagues at home did not spare themselves on their behalf. No, I mean the real men, the faithful men—the men who gave up practices, wives, and families, etc., simply because they thought it was their duty.

Some of the elderly came back to find their practices almost disappeared. Others have recently bought practices and are just beginning to emerge from financial difficulties to be faced with the present crisis. Others, younger, are just biding their time, but cannot wait much longer on account of a wife and young family. Most of them loathe the thought of a salaried State medical service, but what is going to happen to them?

I have read the leading article entitled "Why Be Fearful?" (*Jan. 17*, p. 104) and seen other vague references to temporary help for them. They want to know something definite and to be relieved of their anxieties. Could the B.M.A. come forward with a real scheme of concrete proposals, and let these men sleep easily at night? It will have to be done tactfully, for these men are proud men, or we should have heard much more about them.

It is due to them if we expect them to wait and come in with the rest of us. Otherwise they are going to be forced by circumstances, and against their own wills, to form one thin wedge for our dictator's purpose. That title is not bred of my emotion. It is only too true, and fits the man and his doctrines. We cannot afford to give him many wedges, and that is why I am so anxious to see some definite policy emerge now. It will be too late after the plebiscite.—I am, etc.,

Hampstead.

H. V. DEAKIN.

Doctors' Lists in N.H.S.

SIR,—I should like to draw your attention to what seems to me to be an incomprehensible anomaly contained in the Negotiating Committee's statement to the Minister, recently circulated

to all doctors. This particular point has not, so far as I know, been brought up in the correspondence in the *Journal*.

In para. 41 of its report the Negotiating Committee states: "On and after the appointed day a proportion of the population will sign on doctors' lists. Of the remainder, a proportion, varying in different areas, will sign on doctors' lists when the need arises to consult a doctor." Now it appears to me that if the last sentence he correct there will be no obligation on patients to sign on with a doctor until their first illness after the appointed day, when they will be immediately entitled to free treatment. Naturally then, knowing this, no patient will trouble to select a doctor until the first time that he needs one, for he can at any time present his card and get free treatment, without the bother of a preliminary visit merely for the purpose of registration. In other words, the doctor's list will be only gradually compiled, being made up of such persons in his district who have fallen sick and consulted him, as and when they do so.

At this rate it will take years to build up a sizable practice. The whole basis of payment by capitation is surely the fact that a large proportion of the patients insured are never ill at all for long periods. Those seeking advice soon use up more than their capitation fee's worth of the doctor's time, and one's income depends, in effect, on one's well patients.

Surely, Sir, it should be a simple administrative procedure to ensure that every member of the population selects a doctor by a given date, before the appointed day. They have to select a butcher and a grocer, so why not a doctor? Then, on the appointed day we shall know exactly where we stand and how much our first quarterly cheque is likely to be. Under the Negotiating Committee's arrangement it will be small or non-existent. A simple measure to ensure that patients do, in fact, get on a doctor's list would be a provision that everyone who fails to do so by the date given will not be entitled to free medical treatment for three months after he first registers with a doctor. Similarly, persons moving to a new area, or babies born, should be given a reasonable time, say one month, in which to register on a doctor's list, failing which they also may be charged fees for the first three months.

At the present time this iniquity still exists in the N.H.I. scheme. Here is a unique opportunity to end it once and for all.—I am, etc.,

Morden, Surrey.

ARVID SAUDEK.

National Health Service

SIR,—At this eleventh hour, when all that our profession stands for is at stake, a brief recapitulation of events may not come amiss. The National Health Act was placed on the Statute Book by a Minister who had not the courtesy to consult those who would be primarily responsible for working it. At the ensuing plebiscite the profession showed very clearly that it disapproved most strongly of this legislation as it stands and refused to negotiate. Then, by whose mandate it is not clear, the heads of the Colleges advocated negotiations with the Minister. The profession, having already expressed its opinions in no uncertain way, made a complete and pusillanimous *volte face*, and the sorry spectacle was seen of our representatives going almost cap in hand to negotiate with a man who never had the slightest intention of conceding anything and who is relying upon his hoped-for success in regimenting the doctors to offset the dismal failure of his housing programme and preserve his political "face" at all costs.

Let us be quite clear what it is that this Mr. Bevan hopes to do. He will compel the sale to him, at a price as yet unspecified, of the goodwill of our practices, so that to sell to anyone else what we have built up by our own hard work will become a crime. His talk of "buying and selling patients" is, as he well knows, arrant nonsense, for anyone who has ever bought a practice knows very well that the patients he has "bought," both private and panel, have complete freedom to go elsewhere if they so desire.

He will tell the doctor where he may or may not set up in practice, and, what is far worse, he will decide whether a doctor shall or shall not be retained in the Service. From this decision we are told that there will be no appeal. He will attempt to make our allegiance primarily to the State and not to our patients.

Let us in heaven's name unite as never before and refuse to be cozened out of all we hold dear by specious arguments based on nothing but political expediency. Nothing less than our freedom and the freedom of those who come after us is at stake. Let us show this man, who would be our master but who is in reality our servant, that, though likened by him to fruit, we will refuse to be plucked, whether ripe or green. Let the faint hearts who fear that they will suffer financial loss if they do not answer "Yes" take courage. We hold the cards, and if we play them the Act cannot be worked and the financial loss will not arise. Let us therefore answer the plebiscite with yet another resounding "No," for only by so doing can we continue to preserve our self-respect and the traditions of a great calling in refusing to become the salaried lackeys of a demagogue.—1 am, etc.,

Andover, Hants.

J. LEIGH COX.

SIR,—The medical profession as a whole is far from unsympathetic towards the establishment of a national medical service, but they are (and I hope will continue to be) very much opposed to virtual dictatorship from the present or any future Minister of Health. I am one of very many medical men who willingly, and at personal loss, served their country during the war years, putting the interests of the country before those of the individual. Can Mr. Bevan not now learn to subjugate his own personal views and interests to those of his country? The medical profession have always been most unselfish in their devotion to duty and the care of the general public. Surely this generous public-spiritedness should be fostered and not smothered.

Not even a criminal is denied the right of appeal against any conviction. Is it then not an insult to the intelligence of the members of the profession that they should be expected to support a service from which the Minister of Health may dismiss them with no such right of appeal? This is surely too unreasonable for any sane person to suppose, yet Mr. Bevan seemingly thinks it possible. If Mr. Bevan can't co-operate with the profession to get the best possible service for the country, then I suggest that the present Government appoint another Minister in his place. The scheme is of too great value to the country as a whole to have it wrecked in its inception by any individual so dictatorial as the present Minister—himself proving the greatest stumbling-block in the way of a service which the profession would welcome if properly conceived.—I am, etc.,

Keith, Banffshire

J. LENNEL TAYLOR.

SIR,—I notice the letter (Jan. 17, p. 120) signed by eight doctors present at a meeting of doctors practising in "Fleet and the surrounding district." Two practise in Basingstoke. The *Medical Directory* for 1944 gives the number of doctors in Fleet, Basingstoke, Farnham, Farnborough, Camberley, and Aldershot as 135, so that we can scarcely assume that the eight are representative of the district. The same applies to most of our local meetings, where the militant opponents of the Act attend most regularly, and they in turn elect our representatives. This was demonstrated by the former plebiscite, which showed that the majority of the doctors refuse to be controlled by the militant minority.

The Act is to come into force on July 5, and plans are being carried out rapidly so that the switch-over can be done efficiently. The medical representatives have been elected upon the executive councils, and are bound in honour to work upon the councils to make the Act successful, and for that reason they should encourage their colleagues to accept service.

I have been in practice since 1904, and have welcomed the great improvements in preventive medicine. Since 1904 we have established school clinics, infant-welfare centres, ante-natal and post-natal clinics, and a tuberculosis dispensary. The old poor law has passed, and the workhouse has changed into the general hospital. In the counties we have seen the building of better and efficient hospitals under the council.

When the National Health Insurance Act came into force in 1912, I remember the Area Committee before the Act was passed. I was a member of the B.M.A. Committee, how we

the debacle in the last days of December, 1911. Those anxious days in the beginning of January until we were released from our pledge by the B.M.A. and signed on are still vivid in my memory. I have been a member of the Panel Committee since the beginning, and their representative on the Insurance Committee since 1931, and am now vice-chairman of the Finance and General Purposes Committee, and can vouch for the cordial relations between the Insurance Committee and the medical profession.

I have been a member of the committee of the Borough of Reading Medical Society since we established it in 1911 in order to attend to the dependants of insured persons and others. In 1939 we bought a building in the centre of the town, partly rebuilt it, and have as our tenants the Reading Insurance Committee, the Berkshire Medical Society, the Reading and District Dental Service, and other bodies, in anticipation of the extension of the National Health Insurance Act.

I am convinced that this National Health Service Act will prove of great benefit to doctors and patients alike and to the country as a whole. There are certain defects over-emphasized by the opponents of the Act which can be remedied after a fair trial, when the atmosphere is more peaceful. In the meantime I shall uphold my freedom to join in July, whatever the decision of the B.M.A. may be.—I am, etc.,

Reading.

S. GILFORD.

Natural Position for Childbirth

SIR,—An Englishwoman born in Hammersmith went out to Australia. She there met a Pathan from Afghanistan, a horse-dealer and camel-driver. She married him and went home with him to a place in Afghanistan just beyond Ghazni. She was his only wife, and contrary to Eastern custom she always ate with the men. Women in the East usually prepare the food and eat after the men have finished. When travelling they were in tents, but at home in a village they lived in a one-story house made of adobe (mud and straw) with a flat roof. Two rooms below and the floors were of beaten earth, the roof was flat. One room, the inner one, was the man's room; the other was for the family.

This woman was 29 when her first child was born and she had seven children. She was delivered in the native way. (She is now a fully trained midwife.) Plenty of hot water was available both day and night and was kept in tall copper jugs with spouts but no handle.

The women are very clean. They are Mohamiedans and wash five times a day before prayers. They also wash even after passing urine and keep their hands very clean to knead bread, prepare meal, etc. They walk about as usual until labour pains prevent them; then a ring of twisted cloth is made for them to sit on like the roll they make to carry a basket or water pot on the head.

Three women were present with hands well washed. The expectant mother squatted on the ring of cloth supported by a woman at the back and one on either side. The one behind sat with knees apart and held the knees of the parturient woman. Women at either side held knees or arms or hands of the patient as needed. Another woman waited in front to take the baby as it emerged. There was no touching, interference, or examination of any kind before, during or after the birth. The women just waited until the child was born. She says she saw hundreds of cases and the perineum was never torn, but she complains that the pain was like "the pains of hell which encompassed me." She remained in the same squatting position, while the woman in front, who had taken the baby as it emerged, waited until pulsation in the cord had ceased, then cut it. She left the maternal end to bleed but tied the foetal end with a bit of rag. There was no massage of the abdomen. They waited, and after two or three minutes the patient coughed and the placenta came away.

She had seven children, and with the last—a fine boy—she was quite alone, and so squatted on the ring of cloth and placed her back against a wooden support holding up the roof, and as the head emerged she "slithered off the cloth ring" on which she was squatting on to her back on the ground so as not to hurt the child. She then sat up, cut the cord herself, and the placenta came away with no trouble. She washed the baby with muslin she had boiled. Three hours later her husband brought water and soap for washing.

The Afghan women were all confined in this way, squatting on the floor. In twelve years she only saw one case of puerperal fever—a rich girl, daughter of the Governor of Ghazni. No doctor or midwife to be had—and one case of death due to locked twins, she thinks. Our informant never saw any trouble in childbirth among the Afghan or Powindah people.

no displacements of uterus, no breast abscesses, no perineal tears. These people are the ones who travel into India with horses to sell. The women ride astride, gallop about, and show off the horses' paces. I have taken snapshots of these girls in India on their horses.

The girls have their periods at 12, 13, or 14. Then they cover their faces and are considered unclean. But they are quite free



FIG. 1



FIG. 2

to go about and are never assaulted by men, because the father would kill him at once. Result—no illegitimate births, no courtship, no walking out. The father finds the husband for them. There is no adultery. Dancing takes place at the birth of a son (silence is considered befitting the birth of a daughter as in India). Everyone dances, the men by themselves in the street, the women by themselves in the house. These dancers are of another tribe and have a morality of their own. No man would be allowed to see a confinement. This would be considered most indecent, for "this is women's work and must be kept for them only."

I enclose photograph (Fig. 1) of a girl in the confinement position sent by Dr. Stephens, of Ilorin, Nigeria. It will be seen it is precisely the same as that depicted on an ancient Peruvian piece of pottery (Fig. 2) and the same as illustrated Plate XI in my book, *Safe Childbirth*—in fact the natural posture for childbirth as practised from prehistoric times.—I am, etc.,

London, N.W.11,

KATHLEEN VAUGHAN.

Chronic Ulceration after Irradiation of Wart

SIR.—Mr. Mortimer H. Shaw's article on chronic ulceration after irradiation of plantar wart (Jan. 3, p. 11) has reminded me again to my continual surprise that patients are submitted to numerous treatments by irradiation for plantar warts. In my experience the treatment of this condition by CO₂ snow is so simple, safe, and efficient that it can be undertaken in the out-patient department or consulting-room with the greatest of ease by use of an ordinary CO₂ outfit.

The essential part of the treatment is to raise a blister between the epidermis and the true skin so that the wart is lifted up with the epidermis. At the end of a week the blister is cut away with the wart in the centre of it (with the usual aseptic precautions), and the depth of the dimple which the wart leaves in the floor of the wound gives some indication of the degree of pain it must have caused.

The snow pencil should be firmly applied over the wart for from five to seven minutes (exceptionally 10 minutes), but even in children the skin of the sole is so thick that the necessary blister will not form unless the wart and the surrounding thickened skin have been pared with a razor or sharp scalpel to a depth where the individual fronds of the wart are seen in cross-section, and on occasions even a small capillary opened in the wart. This is quite painless and requires no anaesthetic. The application of the snow varies in the amount of discomfort it causes, but even in children the treatment can be carried out without causing excessive discomfort.

A small protective dry dressing is applied with strapping, and if an adequate blister has not formed after a week the skin

should be further pared down and a second application of snow made for the same period. A dry dressing is applied after cutting away the wart and blister and can be removed after a further week, when healing should be complete. The patient is fully ambulatory throughout.

As I have never known it to fail the only reason that I can think of for this simple treatment not being more generally adopted is that insufficient paring of the skin has prevented adequate blister formation, and the method and not the technique has been blamed.—I am, etc.,

Rochdale.

A. M. McMASTER.

Convulsive Properties of Thiopentone

SIR.—I feel sure many of us are grateful to Dr. R. L. Wynne (Jan. 10, p. 48) for putting forward a theory of causation of the convulsive movements and tremors that not infrequently accompany induction of anaesthesia with a barbiturate by the intravenous route. The phenomenon is also seen when hexobarbitone is used, although this drug, so far as its side-chain structure is concerned, does not so closely resemble the convulsant barbiturates cited as does thiopentone.

One feels, however, that it is not necessary to postulate a convulsant action—i.e., a stimulant effect on motor nerve cells—on the part of thiopentone to explain these manifestations. The pronator activity is especially marked in, and often confined to, the arm in which the injection is made: it seems almost a purposive effort to get the needle out of the vein, suggesting that it is a withdrawal reflex which becomes manifest when consciousness is lost. During the conscious phase the movement is suppressed either totally or almost completely.

It seems reasonable to suggest that these movements represent the second stage of anaesthesia, when the activity of lower motor centres becomes evident as a result of their release from cortical control; when these lower centres are depressed by deepening anaesthesia to stage 3 the movements cease. It is to be expected, therefore, that this phenomenon will be more commonly seen when premedication has been inadequate or ineffective and the lower motor centres are accordingly more active than in a well-sedated case. Muscular, highly trained males leading an open-air life are especially liable to fall into this group. It is not to be anticipated in such cases that a barbiturate alone will provide good relaxation at a level of anaesthesia short of severe respiratory depression. If the tremors were due to a convulsant property of thiopentone it would be expected that increasing the dose would lead to enhanced severity of the movements, but this is not the case.

A close parallel to this action of intravenous barbiturates is the so-called "stimulant" action of alcohol, where the differential depression of the highest centres leads to a phase of enhanced activity on the part of lower centres.—I am, etc.,

Barnet, Herts.

C. F. SCURR.

SIR.—Those of us who make frequent use of the intravenous barbiturates must have welcomed Dr. R. L. Wynne's paper on the convulsive properties of thiopentone (Jan. 10, p. 48). The following observations may also be of interest. When dealing with Army patients I acquired the habit of giving thiopentone rapidly (0.5 g. in less than a minute and maintenance doses at a similar rate). Many of these patients showed pronation of the forearm as described by Dr. Wynne; these and other limb movements often appeared to be a response to surgical stimuli and were attributed to light narcosis. Later a sample of hexobarbitone ("evipan") was found in some German equipment, and this was used in similar dosage and rate. The results in three fit soldiers were surprising, and fully comparable to those described by Dr. Wynne as the "shudder reflex." Further injection of comparatively large doses of hexobarbitone had no effect on these movements, but the inhalation of ether vapour soon stopped them, and the operation could be started. The movements seemed to occur as a response to a surgical stimulus.

In a few similar cases hexobarbitone was given at the rate of one minute to each ml. and no "convulsions" were seen. It was then decided to try thiopentone at the rate of 20 to 30 seconds to each ml. of 5% solution, with the result that muscular contractions were no longer observed. Incidentally much less thiopentone was required for each case.

More recently, when dealing with lists containing several minor cases, an attempt was made to save time by giving an

estimated dose rapidly and continuing with nitrous oxide and oxygen, if necessary by passive ventilation. On several occasions this technique caused hiccup, which could only be stopped by adding ether. A return was made to a slower rate of injection (2.5 to 3 minutes for 0.5 to 0.7 ml. of thiopentone), and diaphragmatic spasm was no longer seen.

Statistical evidence is unfortunately lacking, but a strong clinical impression was formed that the "convulsive" effect of thiopentone is closely related to the rate of administration. It would be interesting to know at what rate Dr. Wynne gave his thiopentone, and whether in the case that he reports it was given at the same speed on each occasion.—I am, etc.,

Barkeley, Cheshire

C. T. BARRY.

Orchitis of Mumps

SIR.—In the article by Dr. Desmond Laurence and Mr. Donald McGavin on the complications of mumps (Jan. 17, p. 94) decompression of the testis is, I think, too lightly dismissed. It is disappointing to see the damage done to the testes by the orchitis of mumps assessed by the degree of atrophy and sexual vigour and not on semen analysis, which would have revealed grave impairment in many of these cases. Biopsy frequently shows extensive or complete spermatogenic atrophy with no lessening of virility.—I am, etc.,

London W.C.1

REYNOLD BOYD.

Fatal Air Embolism

SIR.—I would like to add the following case of fatal air embolism to the literature, following the case reported by Hewer and Coombs (Jan. 17, p. 97).

In October, 1946, a man fell off his bicycle in Camberwell and was admitted to hospital, where he was found to be suffering from a fracture of the right acetabulum. He was transferred to a sector hospital, where traction was applied to the femur. He was in very great pain, and further x-ray examination showed that a sharp piece of the acetabulum was adjacent to the bladder. It was decided to replace the fragments of the acetabulum digitally through an abdominal incision.

The man was in agony, and he was brought to the theatre in his bed on wheels under the influence of morphine gr. 1/6 (11 mg.) and atropine gr. 1/100 (0.65 mg.). Gas and oxygen were administered on the bed, and subsequently with the aid of ether and carbon dioxide blind intubation was performed. The patient was then transferred to the table and the operation commenced with the patient in Trendelenburg position. The fragments were replaced satisfactorily and the operation was uneventful until, as the peritoneum was being sutured an hour and a quarter later, the respirations ceased and the temporal pulse was no longer palpable. The face immediately became greyish-blue in colour. The table was brought to the horizontal and artificial respiration commenced in association with forced respirations through the anaesthetic bag. Adrenaline was injected intracardially without response.

Post-mortem examination revealed that the right side of the heart was bulging, and when the right auricle was incised air escaped. There was a very small quantity of pink blood in the auricle. The thoracic line was found to be fractured and a sharp fragment was lying under the femoral vein. This could well have been the site of the air entry when the peritoneum was pulled upon.

—I am, etc.,

Uxbridge, Middlesex

T. DAVID LAMBERT.

Digitalis in Chronic Heart Disease

SIR. It is usual to find in acute wards digitalis applied in cases of auricular fibrillation. There it is usually given in large doses until effective blockage is achieved. In other cases of heart disease digitalis is usually omitted. This way of applying digitalis is not satisfactory in old age. The old muscle being either atrophic and brown or flabby and fibrous could never tolerate a treatment with doses used in middle age.

Cardiac failure in old age is of more complex nature. The condition old people suffer from, frequently termed senile cardiac failure, is not due only to infective organisms. In the presence of heart failure congestive bronchitis and congestive pneumonia are prevalent. In addition long-sustained recumbency causes fracture of neck of femur or senile hemiparesis and pneumonia. The old person suffers from hypostasis and hypostatic pneumonia. The failure of the heart is caused not only by cardiac weakness but also by venous congestion but also by senile paralysis of the heart and a reduction in the output of urine and promotes

accumulations not only of sulphonamides but of other drugs as well, and makes it necessary for us to apply what I can only call infant-doses in many cases. That is why small doses of digitalis appear to be effective in senile cardiac failure.

In cases where normally high blood pressure of old age is going down to the norm of middle age and other signs of cardiac failure supervene a very small dose of digitalis will be sufficient to correct decompensation—for instance, digitalis 1/2 gr. (32 mg.) b.d. or even a smaller dose. In cases where the systolic B.P. approaches the diastolic pressure or the diastolic pressure sinks down to 70 somewhat larger doses used will prove very effective. Only cases of infarction may be excluded there. In these cases we do not use the blocking power of digitalis—blocking the senile heart which is already in a state of disposition to blockage naturally being dangerous although it seems to me that less danger comes from a blocked heart than from medical narcosis. With regard to life expectancy, we are trying to use the inotropic action of digitalis on the heart, its direct action on the heart muscle or what is left of the muscle (a part of it substituted by fibrous tissue). The force to be applied to bring the old motor forward, without causing it to crumble down, depends entirely on the judgment of the treating physician—or otherwise, plainly spoken, the way that art is used.

There is no doubt that treating old patients involves a certain amount of chance being taken. If one loses the patient or may fear for reputation, or wastage of drugs, but one will find consolation in those many one will be able to help and some times to bring on their feet again—at least to overcome the crisis. One will be astounded how quick the response of an organism occurs in many instances.

We mentioned above that senile pneumonia is a term comprising conditions of a very complex nature. It is important to know that the temperaure does not give us any clue in supporting our diagnosis in old age. Old people have usually subnormal temperatures under normal conditions. A temperature of 98.4° F. (36.9° C.), which is considered to be still normal in middle-age, already indicates a rise, and the temperature of 100° F. (37.8° C.) therefore will be considered as being relatively high in senescence.

In view of this fact bacteriological examination of sputum germs, especially with regard to sensitiveness to penicillin, will be an important measure to determine severity of accompanying infection.—I am, etc.,

Carlisle.

W. WEISS.

Penicillin and Blood Coagulation

SIR.—The investigations carried out by Sir Alexander Fleming and Dr. E. W. Fish (Aug. 16, 1947, p. 242) go to show that the effect of penicillin on blood is to retard coagulation. I cite the following case to request an explanation.

A boy aged 11 was brought to me on Jan. 10, 1946, for bleeding from nose and mouth. The trouble had started eight hours previously. He had been operated on elsewhere for enlarged tonsils and adenoids a week before, and at that time bleeding had ceased within a few hours. He had already received injections of calcium gluconate and "coagulen-Ciba," but with only little and temporary effect.

On examination the tonsillar bed was found to be clear, so blood was evidently coming from the adenoid area, and one could see blood oozing out from behind the soft palate. The nose was not at fault. Injections of calcium gluconate, coagulen-Ciba, and ascorbic acid were given at 10-minute intervals, with only temporary effect.

As these late bleedings are often due to secondary infections the patient was given 20,000 units of penicillin intramuscularly. Bleeding stopped within five minutes. The same dose of penicillin was repeated three-hourly until a total of 100,000 units was given. Next day, 26 hours after the first injection of penicillin, bleeding started again. As the patient had already received 100,000 units of penicillin, he was given injections of coagulen-Ciba, ascorbic acid, and vitamin K, without any effect. Bleeding gradually became profuse and alarming. Intramuscular injection of penicillin, 30,000 units, was given. It acted like magic. Gradually the bleeding became less severe and stopped entirely within 10 minutes. Injections of 20,000 units of penicillin were repeated at three-hourly intervals until a total of 400,000 units was given. There has been no recurrence of the complaint.

Now, one would like to have information on the following points: (1) Did penicillin have any direct effect on the

coagulation time of blood? (2) Or, Did it help the coagulant drugs by combating sepsis? (3) And, if so, could the effect be so rapid?—I am, etc.,

Ahmedabad (Bombay Province), Indian Union.

H. M. DESAI.

Renal Function in Disease

SIR,—The *Journal* of Jan. 3 (p. 22) contains extracts from an address given by Prof. Robert Platt before a meeting of the Manchester Medical Society on Dec. 3, 1947. These extracts raise problems of considerable interest, especially to those concerned with the clinical application of fact and theory. With your permission I would put forward the following points which arise out of the published context.

1. Rose Bradford has shown that surgical removal of most of the kidney caused the remainder to secrete copious, dilute urine of low specific gravity. Prof. Platt expresses the opinion that it was inconceivable that in the circumstances the remaining nephrons should suddenly have developed tubular failure. Might it not be suggested that it was even more inconceivable that such a delicate and highly specialized system as is the nephronic system could fail to be disorganized if the whole were mutilated by the extirpation of a major part? The kidney is a vital organ, and is fashioned by Nature to act physiologically as a separate and distinct unit. The traumatic effect of such vivisection must be taken into consideration when assessing the function of the portion of kidney left *in situ*. Further, is it known for how long the surviving section of the kidney showed the defect in function? Was there any attempt at recovery with improved function? Or did the death of the remnant and/or the subject supervene too soon?

2. More recent investigations have shown that the filtration fraction in chronic renal disease was high, which suggested that there was in fact a high glomerular pressure. But assuming that the glomeruli are themselves involved in renal disease, one must infer that Bowman's capsules must also be involved with a corresponding disturbance of their contribution to the filtration fraction. Is it not possible that in the pathological process filtration becomes leakage, independently of pressure in the glomeruli? If the synovial membrane of a joint becomes damaged or diseased an increased amount of fluid appears in the joint cavity. Does not this suggest a raising of the filtration fraction of the synovial membrane?

3. Prof. Platt states that glycosuria was never present in chronic renal disease. Would this still be true if a patient with chronic nephritis suddenly developed diabetes? It is difficult to see why the blood should wish to give up its normal natural sugar content just because the kidneys were diseased. Are the kidneys controllers of the sugar content of the blood in health? In diabetes they do try to get rid of the excess of sugar which they regard as a waste product, and which as such it is their function to excrete.

4. Prof. Platt states that the histology of chronic nephritis showed in general that in those areas where there was tubular atrophy the glomeruli were non-functioning. Does this mean that the glomerular capillaries were occluded, and that no blood was passing through? If so, at what stage of tubular atrophy did the glomeruli cease to function, whether as filter or leak?

5. Finally as to the question of oedema in acute nephritis. Could not this be approached from the angle of obstruction to the return flow of body fluid from the tissues back into the general circulation? The vascular system is fixed in capacity; the body fluid is not only in constant circulation, but requires constant replacement from without. Hence the necessity of a free and constant overflow from the vascular system. The main overflow is situated at the kidneys. If this is obstructed, as in acute nephritis, then the return flow of fluid waste from the tissues back to the circulating system must also be obstructed, with the result that it becomes dammed up in the tissues—hence oedema—or is this altogether too simple?

—I am, etc.,

New Buckenham, Norfolk

R. G. BLAIR.

Varicocele of Canal of Nuck in Pregnancy

SIR,—As I can find no mention of this condition in any of my textbooks, it seems to me that this case may be of interest.

In September last I saw an expectant mother, 2 para, aged 34, then 5 months pregnant, with a left inguinal hernia, soft and easily reducible, about as large as a pigeon's egg. There were three possible times to deal with this—at once, post partum, or when the child was viable. I discarded the first for fear of miscarriage, and the second because of the necessary interruption of the child's upbringing, and decided to operate at the 36th week.

On Dec. 30 I operated and found that the hernia was a large varicocele intimately surrounding the round ligament in the canal of Nuck. I ligated both ends and removed the mass, closing

the inguinal ring in the usual way. Within 12 hours the patient was in labour, and she delivered herself of a 7½ lb. (3.5 kg.) baby quite normally.

To my great surprise, she was quite unconscious of any discomfort in the operation wound throughout labour, except when I grasped the fundus uteri during the third stage. Puerperium was quite uneventful. I was very much struck by the complete absence of any discomfort at the inguinal ring during the violent expulsive efforts of labour, and also by the prompt oxytocic effect, presumably of interfering with the round ligament.

I am now speculating whether the varicocele was a temporary result of pregnancy which would have spontaneously cured itself after delivery, or if I did in fact do the correct thing.—I am, etc.,

Sheborne, Dorset.

RICHMOND MCINTOSH.

Intravenous Alimentation

SIR,—Dr. H. E. Magee is to be congratulated on his very lucid article (Jan. 3, p. 4) on this very important subject. In my own work on this subject (*Med. Pr.*, 1947, 217, 497) I have confirmed most of the points made by Dr. Magee. I have had considerable clinical experience in the use of intravenous amino-acid mixtures—all made in America—and I can confirm that nitrogen balance can be restored readily in conditions where nitrogen loss is considerable—e.g., in trauma, after operations, and in infections.

Reactions in my series do not appear to occur in more than 1% of cases treated, a figure which compares favourably with transfusions of whole blood or plasma.

Thrombosis has occurred where more than 1 litre has been given into one vein only, but I have had no trouble where I adopted the American technique of giving large amounts in divided doses into several veins—not more than 300–500 ml. being given into any one vein. It must not be forgotten however, that amino-acid mixtures are by their very nature excellent culture media, and particular care must be taken to avoid contamination, and the intravenous technique must be as aseptic as possible.

Most commercial preparations contain pyrogens, and it is advisable to have batches of the solution tested for these before use. There can be no doubt that an appreciation that ten of the amino-acids are essential—that is, not replaceable by any of the other amino-acids—is fundamental in this form of therapeutics.

I would therefore suggest that we abandon the present method of saying that so many grammes of protein are required by a patient in any given condition. After all, many proteins do not contain all the essential amino-acids, or the amounts contained are so small as to be of no value. Finally, it would seem that certain specific conditions—e.g., hepatic failure—require larger quantities of amino-acids, such as methionine, than do normal healthy individuals.

What is required, in my view, is an authoritative statement on the total amino-acid requirements of any given patient rather than the total protein. Perhaps it may be possible in the near future to supplement this information with a table giving the total daily requirements of each essential amino-acid in health and disease. With this information in our hands we have available one of the most important therapeutic advances made in recent years.—I am, etc.,

Southport.

JOHN H. HANNAN.

A Sign of Carcinoma

SIR,—The very useful manoeuvre which Mr. A. Dickson Wright describes (Jan. 3, p. 27) has been in use for some time. It is described by Auchincloss in Nelson's *Surgery*. In the same place is described another method of accentuating some of the physical signs in the breast. The patient is made to kneel with the arms forward on a support. The breasts then fall into a pendulous position, so that the relations between the tumour and the chest wall are clearly demonstrable. Some breasts may be transilluminated with advantage in this position. I have found both the manoeuvres most informative and have often regretted that they were not taught to me when a student.—I am, etc.,

Hull.

REFERENCE

Auchincloss, Hugh. *Nelson's Loose Leaf Surgery*, Vol. 4, p. 571, New York.

J. CLAPHAM COATES.

Leprosy and its Problems

SIR.—Dr. Niels Dungal's letter (Oct. 18, 1947, p. 631) raises the question as to whether other insects besides cockroaches may transmit the disease and suggests that lice and fleas are more likely to be the instruments of transmission than any other. It is quite possible that different insects may be the vectors in different parts of the world—i.e., acting as true intermediate hosts, in which a stage of development takes place rendering the bacilli infective to man.

Ehlers, Bourret, and Wirth investigated lice and fleas in 1911 without coming to any definite conclusion. Flies, ticks, bugs, mosquitoes, scabies (acari) have all been examined as possible direct carriers of infection, but I do not think that any attention was paid to the possibility of any of the insects acting as true intermediate hosts, and certainly no inoculation experiments of infected faeces of insects into man were carried out. I am of opinion that such experiments are the only means by which the mystery of transmission will be solved.

Cockroaches date from carboniferous times and existed all over the world, the climate being hot and moist. The species *lapponica* was the most common variety in Europe in the sixteenth century and dwelt in woods and thickets, and is still found in the mountains of Norway and Switzerland as high as shrubs extend, and when sheltered by human dwellings can endure the extreme cold of the most northern parts of Europe (Miall and Denny). Is it not possible that cockroaches have existed all along in Iceland?—I am, etc.,

Nairobi, Kenya.

BERNARD MOISER.

A Suggested Hospital Unit

SIR.—Having read with interest the correspondence concerning the plans suggested by Mr. H. J. McCurrieh (Nov. 22, 1947, p. 832), and in particular his letter in the *Journal* of Jan. 10 (p. 77) in which he mentions the contradictory advice which he has received "from persons of no experience," I feel that I may usefully draw attention to the services provided by the Central Bureau of Hospital Information, in conjunction with the British Hospitals Association.

For more than a quarter of a century the Bureau has collected and disseminated information and opinions bearing on every aspect of hospital administration, design, and equipment, and its services—with those of its honorary advisers—have always been available to anyone interested in such problems, both in this country and overseas. As an instance of its work before the war, the Building Centre Hospitals Committee was set up jointly with the Building Centre, Ltd., and in due course published schedules of requirements in the planning of hospitals which could be filled in by any hospital authority who wished to give information to architects engaged to prepare plans. This committee had perforce to lapse at the outbreak of war, but collaboration with the Building Centre has continued.

A more recent development, at the instigation of the British Hospitals Association, has been the setting up of an Advisory Committee on Hospital Equipment within the organization of the British Standards Institution. The work of this committee is likely to assume considerable importance from the point of view of hospital design as the range of equipment for which specifications are made is widened to embrace the larger types of fixture.

I do not wish to suggest that Mr. McCurrieh would necessarily find within the compass of the Bureau itself all the information for which he has been looking, for the Bureau has never claimed to be self-sufficient. It may well be, however, that it could give guidance as to where authoritative information might be found if not in its own possession, since it remains in a unique position to correlate the opinions of those interested in hospital problems today.—I am, etc.,

General Secretary of the British Hospitals Association,
21, Colindale Avenue, London, N.W.9.

J. P. WETENHALL,
Director.

Asthma and the Inhaler

SIR.—In the first years of my infancy, I have been using a bronchodilator, the inhaler, for about ten years. Not being a doctor, I am not worried by its use, but I am, however,

able to carry out a full day's work and in winter to sleep under the pillows instead of on them. I am also much less troubled by bronchitis than I used to be. Although ephedrine spray may be, as Dr. Clement Francis (Jan. 10, p. 76) states, less harmful, I find them also much less effective. Normal saline would probably be even more gentle with bronchial mucosa. If my life has been shortened by using adrenaline sprays, at least I shall have had more hours of useful activity on earth than I should otherwise have had.

To the patient the advantages of this form of therapy are (a) Saving of doctors' fee; (b) there is no dreaded injection; (c) there are no side-reactions comparable with systemic adrenaline injections and work may be resumed forthwith; (d) there is no malaise and dyspepsia, so often associated with ephedrine administered by mouth.

The disadvantages to the doctor are: (a) Loss of fees; (b) with all asthma remedies, the effect is not the same with all patients; (c) when an acute attack is fully developed, the method is uncertain and dosage unregulated. I think that bed, warmth, hot drink (especially tea and coffee), and injections of adrenaline or preparations of suprarenal and pituitary are then a safer and more reliable system of treatment. (d) In the presence of acute bronchitis the solution seems unable to pass the barrier of mucus and is usually ineffective.

I consider that any asthmatic should be given the opportunity to try out this method. He should be instructed never to wait for an attack to develop, when overdosage without relief may well be possible, but to use his spray for two or three minutes as soon as he is aware of the aura of an impending attack, he fails to abort the attack, the patient should not continue with the spray, but send for his doctor. In deference to the rhinologists and because it is wasteful, the inhalation should never be made through the nose.—I am, etc.

Ewell, Surrey.

PAUL WINGATE.

Radiological Evidence of Age

SIR.—The *Palcor News Agency* of Nov. 26, 1947, reports from Jerusalem that a youth found guilty of exploding a train was established to be over eighteen by an Army radiologist, thus making him liable to the death sentence. When his parents challenged the age and produced a recently issued birth certificate, the court queried it. The father of the accused said that until his son's capture he had not required a certificate. It was only when the aged man who had circumcised the boy on May 1, 1930, could be produced that it was established that the boy was only 17½ years of age and so not liable to the death penalty.

This case, if correctly reported, raises the serious issue of the reliability of radiological evidence of age. One wonders whether the majority of radiologists would care or dare to fix an age with certainty within six months, and, if so, on what evidence. From my knowledge of radiology I think most radiologists would hesitate to be exact even within a year. It seems that this important question has received no publicity in this country and it should not be allowed to pass without comment from the profession.—I am, etc.,

Urmston, Lancs.

BERNARD SANDLER.

Test of Death

SIR.—On reading the abstract of "Les signes de la mort absolue" (Daniel and Daniel, *Avenir méd.*, 1946, 71-5) in *Abstracts of World Medicine*, December, 1947, I was reminded of a simple procedure which I used to employ in clinical work as a confirmatory test of absolute death.

I observed that the retinal vessels took on, after death, a curious appearance. The blood column was broken up into segments of varying length, each segment ending quite abruptly and separated from the next segment by a well-defined gap. The extent of this disintegration of the blood column varied from case to case. This sign was never present when other signs of life were in evidence, and was often obtained within a very short time of their disappearance.

I am not aware that this sign has been described; it certainly does not seem to be generally taught. My series was too short to form a definite opinion, but I had the impression that the test might prove useful.—I am, etc.,

Sealand, Cheshire.

E. A. HARRIS.

Treatment of Rheumatoid Arthritis

SIR,—In connexion with my article on the above subject, published in the *Journal* of Aug. 16, 1947 (p. 252), I have received various inquiries, some of them through the correspondence columns of the *Journal*, and some of them direct. Several correspondents ask me about the necessity of blood typing. My answer is that blood typing is absolutely necessary. Moreover, cross-typing must also be carried out in order to exclude sub-groups and particularly the Rh factor, especially if the transfusion is repeated.

Other correspondents ask me for an explanation of the astonishing phenomenon that a pregnant woman's blood is able to cure some cases of rheumatoid arthritis. I purposely refrained from giving an explanation. I do not believe in guesses which are not based on positive facts. But I have, of course, pondered the problem, and my first idea—which I think must occur to everyone—was that the effect of the blood should be attributed to the multiplication of hormones during pregnancy. Everything, however, seems to contradict this hypothesis. Hormones given in a peroral and parenteral way have not achieved any result, even in strong doses; this disappointment must, I think, have been experienced by everyone. Besides, the effect of pregnant blood is not similar to the effect of the hormone. The effect of all hormones hitherto used for medical purposes has been ephemeral; it lasts only so long as the hormones circulate in the organism. When the hormones have been destroyed or excreted by the organism, which occurs very soon, their effect also ceases, and the symptoms of the disease recur. Pregnant blood, on the other hand, when its effect is favourable, starts a process of recovery which continues even if the dose is not repeated. To find an analogy, we should compare its effects rather with those of the immunization sera; and if we look for a hypothesis, I think it more probable that the foetus and its attachments create, as antigens, such antibodies in the mother's body as are able to counteract the causative agents or toxin of rheumatoid arthritis. We know of analogies for this—i.e., the Rh factor or the Weil-Felix reaction. From this point of view the globulin content of the pregnant blood should be examined.

As regards the possibility of shock, it is difficult to give a categorical answer. I can at any rate state that in my own practice I have found that pregnant blood can be effective without causing fever.—I am, etc.,

Budapest

IMRE BARSÍ

Penile Carcinoma

SIR,—With regard to this controversy, is it necessary to bring in "mixed bacterial flora of the prepuce"? In spite of our ignorance of the causes of cancer we do know that syphilis is a predisposing cause in certain situations—e.g., the tongue. The commonest site for a primary chancre in the male is the prepuce. The spirochaetes gaining entry in an abrasion or tear; that in the female is the cervix. In the circumcised the delicate mucous membrane of the glans is replaced by stratified epithelium, which is much less liable to abrasions, therefore to infection and becoming a source of infection.—I am, etc.,

Dumfries.

A. P. BERTWISTLE.

SIR,—We must get back to the fundamental facts raised by Mr. W. Sampson Handley (Nov. 22, 1947, p. 841). We either accept his contention that circumcision in the male will greatly reduce the incidence of carcinoma of the cervix, in which case we must support his plea for operation of the prepuce, or we do not, in which case evidence to the contrary should be produced. So far, his conclusions have not been seriously challenged. It is on the type of operation to be performed that I dared to differ from so distinguished a surgeon. I confess I have had no experience of fenestration operations on the prepuce of the infant, but suggest that if anything requires to be done in that region then there is a simple operation which has stood the test of time—i.e., "ritual" circumcision.

As regards the history of the operation, a slight correction requires to be made in the statement that "Abraham learnt its advantages from his Arabian wife Zipporah, who circumcised their son." Zipporah, wife of Moses, lived in a later epoch and only circumcised her son on the threat of Divine wrath. The Covenant, that in the future all males were to be cir-

cumcised on the eighth day of life, was made with Abraham, who underwent the operation at the same time as his son Ishmael. Abraham was then 99 years old (the science of geriatrics seems to have arisen later with King David and his two hot "water-bottles") and Ishmael 13 (hence, presumably, the Arab custom of circumcising at that age). The operation, therefore, may be said to have been practised by the Jews, without interruption, from the time of Abraham to the present day. I did not say they originated it but merely suggested that an element of proficiency must by now have crept into the proceedings.—I am, etc.,

London, W.1.

DAVID PREISKEL.

SIR,—In the original annotation (Nov. 1, 1947, p. 699) which started this correspondence the statement is made that "circumcision and personal hygiene are the only two prophylactic methods which are likely to reduce the incidence of carcinoma of the penis."

Most of your correspondents have advocated the first method, but surely the simpler and more aesthetically correct method is to insist on personal cleanliness. Every mother should be shown by her medical attendant how to retract the prepuce and cleanse the glans and sulci of her infant son; the son in turn being instructed by his mother. Personal cleanliness in this direction is surely just as important as brushing the teeth or washing the ears, and I have never yet heard the suggestion that the cure for dirty ears is amputation.—I am, etc.,

Ilkley, Yorks

R. JOHN GOURLAY.

D.D.T. as an Anthelmintic

SIR,—In your issue of Nov. 15, 1947 (p. 805), there is a query and a reply on the subject of D.D.T. as an anthelmintic. Some time ago I thought of the possible use of D.D.T. in treating helminth infestations and conducted a short trial of its use in patients showing ova of roundworm, hookworm, or whipworm in their stools.

I had no data available concerning the toxicity of D.D.T. in milligrammes per kilo of body weight, so after various calculations I decided on using a dose of 1 gr. (65 mg.) of pure D.D.T. powder. To test the safety of this dose I took two treatments myself first, using 2 gr. (0.13 g.) as the dose. The only symptoms arising from the D.D.T. were very slight nausea and a mild warm sensation in the epigastrium lasting about three hours and commencing about an hour after ingestion of the powder. No delayed effects were noticed.

Only patients whose stools showed heavy infestations were chosen for treatment, and all were adults, some male and some female. The following routine was employed: (1) At 20.00 hours the previous night sodii sulph. 1/2 oz. (15 g.) was given and no further food allowed. (2) At 06.00 hours D.D.T. purc. gr. 1 (65 mg.) with gr. 5 (0.32 g.) kaolin were given in a gelatin capsule. (3) At 08.00 another dose of sodii sulph. 1/2 oz. (15 g.) was given. (4) After the bowels had worked well, food was allowed. (5) The patient was kept in hospital for forty-eight hours after the treatment. (6) While in hospital all the patients' stools were collected and examined carefully for worms, the number being tabulated. (7) Two weeks later a further stool examination was done.

Results were disappointing. In a small series no roundworms or whipworms other than an odd one purged out were recovered, but with hookworm (all *A. duodenale*) death of worms did occur. However, eradication of the hookworm infestation did not occur and follow-up stool examinations were always positive. Speaking generally, I would say the effect of D.D.T. was approximately about a half to three-quarters that of tetrachlorethylene if estimations of such vagueness are permitted.

On the grounds of these early indications that D.D.T. was no good in the eradication of roundworms and whipworms, that where hookworm was concerned it was inferior to one of the cheapest effective anthelmintics, and bearing in mind the dangerous nature of the substance being used, I did not extend the experiment on more scientific lines.

If anyone else has had any experience of the therapeutic use of D.D.T. internally, I would welcome their comments on my investigations.—I am, etc.,

Kuala Belait, Borneo.

K. F. D. SWEETMAN.

The Lazy Eye

SIR.—I would like to answer Mr. S. Black's accusation (Jan. 10, p. 77) that the School Ophthalmic Service is essentially curative. Admittedly this is so in many parts of the country, but in Devon the preventive side is considered the most important. For the past ten years the Devon County Council has entrusted the Ophthalmic Service to the care of two full-time ophthalmic surgeons under the County Medical Officer. There is complete liaison between the Maternity and Child Welfare Department and the School Ophthalmic Service, and infants are seen and followed through their pre-school and school years.

Any infants suspected, even remotely, of eye defect by medical officer, health visitor, or parents are referred to the ophthalmic surgeon for full examination, and having once been referred they become the responsibility of the ophthalmic department. In this way congenital defects, squints, errors of refraction, particularly high degrees of anisometropia, are treated at an early age and the development of amblyopia prevented.

On attaining school age every child in every school has a visual acuity test every year, the most important group being that of the school entrants, who, though they are not conversant with letters, are tested by other reliable and scientific methods. Any child not attaining the standard of 6/6 in each eye separately is referred for ophthalmic examination, through which it is possible to find visual defects early so that treatment can be instituted before it is too late to be effective.

Naturally many cases referred are found to have no ophthalmic defects at all, but the principle is maintained that it is better to examine the normal than miss the defective.—I am, etc.,

Exeter.

MARGARET L. FOXWELL.

The Dangers of Going to Bed

SIR.—Dr. R. A. J. Asher's article on "The Dangers of Going to Bed" (Dec. 13, 1947, p. 967) prompts me to record the following case.

Some five years ago a middle-aged female patient was transferred to me by another surgeon who had performed a cholecystectomy on her two weeks previously. Since operation she had had a persistent, profuse biliary fistula and clay-coloured stools. I operated on her about a week later and found that the common hepatic duct had been completely divided where it emerged from the liver, the right and left hepatic ducts having united intrahepatically. A bougie was passed down the duct into the duodenum without obstruction. The divided ends were sutured together round the upper limb of a T-tube, which was inserted into the common bile duct.

About three weeks after this operation, when the amount of bile draining externally was slight, the tube was removed. Thereafter the bile loss became copious and the stools almost clay-coloured. When this had persisted for a further three weeks and the patient's condition was deteriorating, I considered that it was necessary to repair the leak, but the ward sister appealed to me to allow her to try getting the patient out of bed. I did not think this would have any effect on the fistula, but agreed that it would at least be good for "morale" in view of the impending third operation. However, within forty-eight hours of her starting to get up the fistula was dry and the stools normal. Further recovery was uneventful.

In my opinion the complete healing of the duct was prevented by being constantly bathed in a pool of bile which collected while the patient was lying in bed. Since this lesson I have not postponed getting-up choledochostomy cases until the wound was dry, and have found that this earlier ambulation accelerated complete healing of the duct.—I am, etc.,

Edinburgh.

J. P. PHILP.

SIR.—Regarding as a jocose article Dr. R. A. J. Asher's contribution (Dec. 13, 1947, p. 967) makes thoroughly enjoyable reading. "Look," he says, "at a patient lying long in bed. . . . The blood clotting in his veins, the lime draining from his bones, the sebums sticking up in his colon, the flesh rotting from his feet, the urine leaking from his distended bladder, the sweat evaporation from his soul." It is a picture worthy of Edgar Allan Poe. But Dr. Asher is pulling our legs just a little. It is not as bad as all that "really," and rest is essential in the treatment of many diseases," he admits. Under the heading "The patient in bed" I suggest going even one better than Dr. Asher, and that the tuberculous patient with a large cavity should go to bed, because nearly all fatal cases of tuberculosis occur when the patient is at rest.

Dr. Bruce Williamson (Jan. 3, p. 26) still further enlarges on the dangers of treatment by rest. He tells us that for cases of rheumatic fever "in bygone days months in bed was considered sound practice, with *mitral stenosis as the inevitable end-result*" (the italics are mine). I am not supporting too-prolonged treatment by rest after rheumatic fever, but I would like to know what scientific evidence he can adduce by way of proof that it was the rest in bed that was answerable for the mitral stenosis. To say that it is the inevitable result is putting it strongly. Can't he think of just one case out of the whole lot that escaped mitral stenosis? He also says: "If we wish to *stenose*" (again my italics) "any part of the body immobilization is the accepted procedure." Then, if we immobilize a fracture are we "stenosing" it?

Nearly fifty years ago—in those "bygone days"—it often seemed to me, as a medical student at hospital in London, that just the rest in bed was more than half the battle, especially with hard-worked East End housewives, who had never known before what real rest meant, and what it felt like to be for once waited upon, instead of doing everything oneself. But it is the evils of *overdose* (Dr. Asher's italics) with bed that Dr. Asher is tilting against, and I have little doubt Dr. Asher would agree with me here.—I am, etc.,

Southborough, Kent.

E. WEATHERHEAD.

Prickly Heat: A Simple Remedy

SIR.—With reference to Dr. C. J. Wilson's letter on the above subject (Jan. 10, p. 76) describing the use of perchloride of mercury, 1 in 500, I use a rather similar treatment which I find very effective. The following lotion is used: Biniodide of mercury and spirit, 1 in 1,000, 1 oz. (28.4 ml.), diluted with an equal quantity of water, with the addition of menthol, 10 gr. (0.65 g.). This lotion is dabbed on the affected parts after bathing and allowed to dry. A little menthol powder is then dusted on to the area. This treatment gives a marked "hot and cold" sensation which lasts about 10 minutes. One or two applications are usually sufficient to clear the condition. As a precaution I warn patients to test the treatment on a small area first before treating the whole area. Also, if they find that the lotion causes too much "burning," they may dilute the lotion with an equal part of water. I should be interested to hear the results of any cases treated with "benadryl."—I am, etc.,

Accra, Gold Coast.

M. P. BROWN.

Aetiology of Prickly Heat

SIR.—In support of Dr. C. J. Wilson's letter (Jan. 10, p. 76) regarding the use of a solution of perchloride of mercury, 1 in 500, applied locally in the treatment of prickly heat, may I confirm his findings by my own observations in the use of this drug when treating cases amongst Service personnel in Assam during the late war? In the Shurma Valley area of Assam there is during the monsoon period a high incidence of prickly heat amongst Europeans, and it was on the advice of a doctor: long residence in the district that I commenced treating cases with perchloride of mercury. In most cases this treatment led to a rapid cure comparable with the findings of Dr. Wilson. No other treatment was so effective, and it would appear that mercury when applied to the skin is a specific for this complaint.

The aetiology still remains obscure, but the fact that mercury appears so effective in treatment suggests that a mercury-sensitive organism—probably a fungus—is the cause. I would be interested to know whether research has been conducted on these lines and whether a predominating organism of this type has been isolated: obviously secondary infection with pyogenic organisms occurs. That a few isolated cases fail to respond to the above treatment suggests more than one aetiological factor.

The following observations are noted: (1) The incidence of prickly heat varied directly with the atmospheric humidity. (2) Whilst high temperatures favoured the condition—i.e., over 90° F. (32.2° C.) shade temperature—the incidence showed direct relation to the humidity rather than the temperature. (3) Europeans who habitually wore no clothing apart from loose-fitting pair of shorts during daytime were less affected. (4) The wearing of silk or closely woven cotton garments favoured the condition. (5) Loose-fitting "aertex" garments of the bush-shirt type, frequently changed, appeared to be the

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ideal clothing. (6) Medicated dusting powders, etc., whilst of some use in alleviating the irritation, had no curative value.—I am, etc.,

Bishopsteignton, S. Devon.

W. F. WALTON.

True Hermaphroditism

SIR,—In reply to Dr. J. R. Edisbury (Dec. 27, 1947, p. 1056), may I refer him to my *Hermaphroditos: The Human Intersex* (second edition, Heinemann, 1946), embodying my Thomas Vicary lecture of 1941? I endeavoured to demonstrate in this work that "true hermaphroditism" cannot be accepted in humans in the light of recent biological work and that this erroneous conception had infiltrated into our science from the daemonology of the ancient Eastern people, repeated naively by the Renaissance teratologists, and accepted uncritically by writers of more modern textbooks.

Only in certain lower animals is true hermaphroditism seen, but these are double animals consisting of a male and female united. They result embryologically from a parallel development of masculinizing and feminizing sex-formative genetic impulses. In higher animals sexes have separated, and in these "gonochorists" hermaphroditism is a contradiction in terms.

Such animals and man are genetically either males (XY) or females (XX), but through certain experimental conditions feminization of a genetic male or masculinization of a genetic female can be obtained. This sex reversal shows according to experimental conditions three degrees. In the first degree the intersexualization bears only on the morpho-psychological characters. In a second degree the genital organs and tract are involved. In a third degree the gonads themselves partially submit to the intersexualizing process. This corresponds to the three forms of human intersexuals. Genetic males may show feminization only of their morpho-psychological sexual features (morpho-psychological androgynoidism); others proceed to feminization of the genital organs and tract (genital androgynoidism), and others show partial feminization also of their gonads (gonadal androgynoidism). The same applies to masculinized women, or gynandroids.

Morpho-psychological androgynoidism and gynandroidism are designated feminism or virilism. Genital androgynoidism and gynandroidism are designated with the barbaric clumsy terms male or female pseudo-hermaphroditism. Gonadal androgynoidism and gynandroidism are included in "true hermaphroditism." Thus, true hermaphrodites are simply genetic males or females in whom the intersexualizing process has progressed up to the gonads. The term "true hermaphroditism," which reminds us of old daemonology, should be discarded—but daemonology dies hard.—I am, etc.,

London, W.I.

A. P. CAWADIAS.

Medical Treatment of a Sprinter

SIR,—My attention has been drawn in recent weeks to the anxiety caused by a report published in the *Evening News* (Sports Edition, Oct. 27, 1947), wherein appear my comments on the treatment of an injury sustained by Macdonald Bailey, the international sportsman, at the White City on Aug. 3, 1947. On that occasion Macdonald Bailey collapsed on the running track and was found to have injured certain muscles of the thigh.

I examined Macdonald Bailey some weeks later and understood from him that the injury had not been seen by a specialist for ten weeks and that he, Macdonald Bailey, did not realize the true nature of the injury.

My comments, referred to above, were based on this information. However, from information subsequently placed before me by professional colleagues who were then responsible for the care and treatment of Macdonald Bailey consequent upon receipt of this injury, it seems clear that the runner did receive, on return to his Air Force unit, a full medical examination by the medical officer concerned and also, within a short space, by a specialist attached to the Royal Air Force Medical Service.

I now desire to make it clear that my comments were not intended to impute, to those responsible for the care and treatment of Macdonald Bailey at the material time, any lack of professional care, and if such an interpretation has been placed upon my words as reported, then I regret it.—I am, etc.,

London, W.I.

C. R. WOODARD.

POINTS FROM LETTERS

All Resign

Dr. W. C. COLVILLE (Rowrah, Cumberland) writes: As a younger member my bias is in favour of the Act, perhaps because I stand to lose much less materially than my older well-established colleagues. After all, as has been said, we are living under a quiet revolution. I admit, Service medicine did make my faith falter with regard to regimentation. Mr. Bevan's attitude has also shaken my faith. . . . Have we any constructive suggestions? We should certainly all abide by the majority result on the plebiscite. . . . If there is an overwhelming majority all concerned should resign from the N.H.I. in April next and let the public know why the doctors are resigning. That would leave private practice only, just as in the good old days—payment for work done—and give the public three months to help the Minister of Health to come to his senses as far as negotiation is concerned. Strong words need strong action as well. If the Act is to be amended I make the following additional suggestions. Night work should receive additional remuneration. This will act as a material palliative. It will also open the way for a rota system, for the doctor on night call will get extra payment for his night shift.

If the capitation system is to succeed, the public should be charged —e.g., as a fine—if they have been living in the area for over six weeks and yet haven't got themselves on a doctor's list. There is nothing more exasperating than a panel patient rolling up with his card the first time he is ill and yet he has been living in the area for months. . . .

N.H.S. and Reality

Drs. C. E. BIGGER and DOROTHY L. BIGGER (Birmingham) write: (1) Those thousands who never go near a doctor now because the chemist is cheaper will be able to get their bottle of aspirins, etc., from the doctor—free. (2) The mother of every baby in the country will come to the doctor for syrup of figs or milk of magnesia—free. (3) Those who now attend the welfare clinic will get their own doctor's advice—free. (4) Doctors will have to get a permit before they can do midwifery. If they are foolish enough to do so, they will find that every pregnant woman in the district will elect to have a doctor, even for her eighth—free. (5) There will only be the same number of doctors to do three or four times the work. What chance will the patient who is genuinely ill have of getting a better service when the doctor is swamped by the "Something for Nothing" brigade?

Trying the N.H.S.

Dr. T. MILLER (Trimdon Station, Co. Durham) writes: On reading Dr. William Parker's letter (Jan. 17, p. 119) I had a feeling of indignation. "The Minister states he is not prepared to alter the Act before the new Service has been tested. . . ." So Dr. Parker wishes to have it tried out in N. Ireland. Does Dr. Parker know that N. Ireland will have a new service of its own which I think would be welcomed by the majority of doctors here? . . . After all, the people of N. Ireland have their own government capable of forming a Health Bill in accordance with the wish of the people. . . .

Penile Carcinoma

Mr. W. SIMPSON HANDLEY writes: Dr. I. Gottlieb (Jan. 10, p. 79) quite rightly sends me to the bottom of the class in Biblical history. Ziporah was the wife of Moses, not of Abraham, and I am indebted to Dr. Gottlieb for his courteous correction of my error. I think, however, that my main conclusion remains unaffected. Circumcision is specifically Jewish only as a ceremonial rite. As a hygienic practice many races inhabiting hot climates had independently realized its advantages.

Post-operative Scar

Dr. R. S. CAREY (Brislington, Bristol) writes: Having recently undergone a major abdominal operation involving a long vertical scar, I would like to suggest to surgeons that such cases should be nursed, where possible, with the spine in an overextended position for the first few days. In the usual sitting-up position the abdominal wall tends to crumple, with the result that the healing scar is from one to two inches shorter than it should be. Stretching this after the patient is allowed to get up is a painful proceeding and inevitably delays full ability to stand erect. Incidentally, the extended position gives more room in the thorax and should aid in preventing hypostasis in the lungs.

Under the National Health Service Act the property of hospitals will be transferred to the Minister of Health on the appointed day. A circular has therefore been sent from the Ministry of Health to voluntary teaching hospitals requesting a return listing all the properties and interests specified in the circular, irrespective of their destination on the appointed day.

Obituary

Dr. **FREDERICK JOHN CARLYLE JOHNSTONE** died in King's College Hospital, London, on Dec. 20, 1947, at the age of 54. He had been flown to England from Kenya only a few weeks previously, and to his colleagues and friends there the news that he was seriously ill and might not recover had come as a shock. Dr. Johnstone was born in 1893 in Melrose, where his father was the medical superintendent of one of the largest mental hospitals in Scotland. He was educated at St. Mary's School, Melrose; at Edinburgh Academy; and at the University of Edinburgh, where he graduated M.B., Ch.B. in 1916, proceeding M.D. in 1920 and taking the D.P.H. in the same year. He obtained the Liverpool D.T.M. in 1924. On the outbreak of war in 1914 he received a commission in the Royal Field Artillery, with which he served as a combatant officer in France and Salonika till 1916, when he was recalled to complete his medical studies. On graduating he was appointed to the R.A.M.C. and sailed towards the end of that year for East Africa, where he served until the end of the war, being mentioned in Van Deventer's dispatches. He also took part in the Turkana Expedition of 1918-19. He went out to Kenya as a medical officer early in 1921. He was promoted senior health officer in 1926, and deputy director of medical services in 1933, serving in the Kenya Medical Department until 1944, when he was transferred to the Gold Coast on promotion to the post of D.M.S. in that colony. Invalided from the Colonial Medical Service about a year later he returned to Kenya, free at last to make farming, which had always been his hobby, his life's work. Throughout his service in Kenya, Johnstone was an outstanding personality, and though his contributions to medical literature were few, his contribution to medical thought on the health problems of Kenya was large. He inspired and influenced not only his medical friends but his colleagues in the administration. On arrival in Kenya he was posted to the large native reserve of Central Kavirondo in the Nyanza Province, where, as he had no hospital, he was almost continuously on safari. He gained the confidence of the Luo people to a remarkable degree, and on his own initiative was responsible for what was probably the first biological survey of a native tribe ever carried out in East Africa. The data which he then obtained were of inestimable value and provided for the first time a sound basis for the formulation of policies for the promotion of the people's health in the native reserves and, indeed, outside them. He was also a pioneer in the matter of improved African housing and was responsible for the erection of the first model village buildings in Kenya. Johnstone was a first-class administrator, an excellent judge and manager of men, and the most loyal of colleagues. Apart altogether from his efficiency and enthusiasm in the field of public health, he will long be remembered for his bluff heartiness, his hospitality, his cheery friendliness, and his most eagerly proffered helpfulness wherever help was required. To his family we offer our sympathy in their great loss—A. R. P.

Dr. **HERRERT RAMSDEN**, of Saddleworth, Yorks, died on Dec. 23, 1947, aged 82 years, after a short illness. He received his medical education at Owens College, qualifying L.S.A., M.R.C.S., and L.R.C.P. in 1889. He graduated M.B., B.Ch. at Manchester in 1890, and took the London M.B. in 1892, proceeding M.D. in 1894. In 1899 he obtained the D.P.H. After serving as house-physician at Manchester Royal Infirmary he joined his father, Dr. W. H. F. Ramsden, in medical practice in Saddleworth. He was medical officer of health for the urban district of Saddleworth for thirty-four years, and was also certifying factory surgeon and medical officer for the Post Office for many years. He was always keenly interested in the work of the St. John Ambulance Association, of which he was an honorary life member. He was also a member of the British Medical Association for forty-three years. In spite of the heavy work of a busy and scattered practice his interests were not confined to medicine. He had been J.P. for many years and was a member of the Manchester Literary and Philosophical Society. A keen botanist, he also took the greatest interest in the study of molecular physics.—W. P. B. S.

Dr. **HENRY WILLIAM LATHAM** died suddenly, at the age of 54, on Dec. 24, 1947, at home in London, N.7. He was the last surviving member of a family of seven brothers who were all doctors. As a first assistant at the London Hospital, he qualified in 1900. He was then posted to St. Helier Road in West London, where he remained for many years and was a member of the British Medical Association for many years and was a J.P. for many years.—W. P. B. S.

Dr. **WILLIAM RIDDOCK MCLINDEN** died on Jan. 3 at his home in Oldham at the age of 53. He was born in Glasgow and educated at Glasgow University, where he graduated M.B., Ch.B. in 1918. Immediately after qualifying he served in the R.A.M.C. in Italy and was honoured by the Italian Government for his services. After demobilization he practised for a short time in Scotland and finally settled in Oldham in 1922. He was first of all the assistant and later the partner of Dr. Low, and took over the practice when his principal retired just before the recent war. At the same time Dr. McLinden became the examining factory surgeon for Oldham East. During the war he was medical officer to one of the first-aid posts, and afterwards his failing health made it necessary for him to give up part of the practice and devote himself only to those patients who were within easy reach of his home in Ripponden Road. At the time of his death he was president-elect of the Oldham Medical Society and he had been secretary of the Local Medical and Panel Committees. He was also an active member of the British Medical Association. Dr. McLinden had many hobbies, and he was particularly fond of gardening and of music. He was of a retiring disposition, but during his long period of general practice in Oldham he made many friends, all of whom mourn his death and extend their sympathies to his widow and his daughter.—W. B.

Dr. **JOHN MCMILLAN** died at his home in Shotts, Lanarkshire, on Jan. 4 at the age of 78. He was a student of Glasgow University, where he graduated M.B., Ch.B. in 1899. He saw service in the Boer War and held two assistantships before settling in Shotts in 1902. Ten years later he was appointed visiting physician to Shotts Sanatorium. His wife, who died in 1944, was matron of the hospital for eight years before their marriage. In the 1914-18 war Dr. McMillan served on the recruiting board at Motherwell, and during the recent war acted as its chairman. He was chairman of the County of Lanark Panel Committee for over ten years and a J.P. for the county. He had been an active member of the British Medical Association for many years and was chairman of the Lanarkshire Division in 1940-1. He retired in 1942 after forty years in general practice in Shotts.

J. A. M. H. writes: I wish to pay a tribute to the memory of Dr. John McMillan. He was of the old school, and relied more on his five senses than on modern instruments and laboratory methods. He had a strong constitution, and thought nothing of doing eighty visits a day in addition to his surgeries. In the early days he spent many hours, mostly at night, at confinements, often assisted only by the woman next door. His scanty leisure hours were devoted to gardening and reading. He was a good raconteur and had many an interesting tale to relate, especially of his experiences as a civil surgeon in the Boer War. Dr. McMillan was a man of high character, but with decided views. In close association with him during the past twenty-six years, I do not remember ever hearing him say ill of anyone. In my mind's eye I can see him yet, standing at the high desk in his surgery prescribing to his patients not only medicine but also sound advice in his customary calm, capable, and cautious manner.

Dr. **ALEXANDER BENJAMIN STICH** died from coronary thrombosis on Jan. 6 at the Kent County Hospital. Dr. Stich, who was 59, was educated at Paisley Grammar School and Barbour Academy. He graduated B.Sc. at Glasgow University, and for a few years acted as chief chemist to a firm of brewers. He went back to the University in 1913 and took the M.B., Ch.B. in 1918. He acted as a house-surgeon at the Royal Maternity Hospital in Glasgow, and later as R.M.O. at Smithson Asylum, Greenock. He then went into general practice in Co. Durham, in partnership with Dr. N. Davie. He remained there for sixteen years, during which time he took an active interest in the work of the British Medical Association. He was chairman of the Gateshead Division in 1929; a representative at annual representative meetings for ten years; and he also served on the Panel Committee for more than fourteen years, finally as vice-chairman. He was later in practice at Spray Hill, Lamberhurst, Kent, retiring only in 1947 when ill-health made it impossible for him to continue.

Dr. **WILLIAM CHARLES WATSON GLENNY** died on Jan. 7 at his home at Warrenpoint, Co. Down, at the age of 72, following a prolonged illness. He was the eldest son of the late Rev. Robert Edmund Glenny, Rector of Clonallan, Warrenpoint, and was educated at St. Bee's School, Westmorland, and the College of Surgeons, Dublin. He served in the South African War and wrote a book about it, and was a captain in the R.A.M.C. in the 1914-18 war. About the beginning of the

century he went into private practice at Omeath, Co. Louth, where he was a J.P. for the county, and later went to reside in Warrenpoint, on the other side of Carlingford Lough, where he received a similar honour. He held high office in the Masonic Order, and in the Church of Ireland. Dr. Glenny was well-known and loved throughout the countryside for his unsparring care of those who sought his help, help often given while he himself was suffering acute pain. Unable to get about in his later years, he retired in 1939, and was succeeded by his nephew, Dr. Rex Glenny. He is survived by his widow and four brothers, one of whom is a surgeon in Singapore, and three sisters.—R. G.

Dr. FRANCIS WILLIAM CHANDLER died in a nursing home in Sidmouth, at the age of 79, on Jan. 7. As a student at University College Hospital he was well known as a boxer, and before graduating in 1908 he travelled abroad for some years. He sailed before the mast round Cape Horn, and he spent some time as a cowboy in America. He went into general practice in Woodseats, near Sheffield, in 1911, and there he remained until his retirement in 1945.

Dr. JOSEPH BARCROFT ANDERSON died in Dublin on Jan. 10. He was educated at Trinity College, Dublin, and at Guy's Hospital, graduating in 1892 and proceeding M.D. in 1897. He took the Cambridge D.P.H. in 1901, and he was also a barrister-at-law. Dr. Anderson went out to South Africa to take up a Government appointment in 1901. He was an advocate in the Supreme Court of the Cape Province Division of the Union of South Africa, and he represented the South African Branches on the Council of the British Medical Association in 1925-8, during which time he also served on the Dominions Committee. Towards the end of his life Dr. Anderson became increasingly interested in the study of Hebrew, Greek, and Assyrian, all of which languages he used in a commentary on the Old Testament which he was preparing. It was largely in order to further his knowledge of Assyrian cuneiform characters that he returned to this country in 1947 so that he might work at the British Museum.

Dr. JOHN LEWIS THOMAS died recently at his home in Brynmawr, Breconshire, at the age of 85. Even when he had reached his eightieth year Dr. Thomas was able to deputize for some of his former medical colleagues in order that they might have a holiday. For the last few years he had been confined to bed and had suffered much discomfort and pain, but bore it patiently and courageously. His father was one of the pioneers of local government in Breconshire during the last century, and Dr. Thomas was the first pupil to be enrolled at Lewis School, Pengam. From there he went to the University College of Wales, Aberystwyth, winning at the early age of 15 one of the first exhibitions to the College. From Aberystwyth he went to St. Bartholomew's Hospital, where he qualified in 1887. The first permanent post Dr. Thomas had was with the International Navigation Colliery, Blaengarw. In those days the colliery doctor received little assistance in dealing with his problems. There was no local hospital in which serious injuries could be treated. The doctor had to be a capable surgeon, a skilled obstetrician, and a well-informed physician if he was to gain the confidence of his patients and keep it. That Dr. Thomas achieved this in full measure was proved by the high testimony paid to his services when he left Blaengarw to become M.O.H. to the Brynmawr, Nantyglo and Blaina Urban District Councils and to continue general practice in his home town. In 1912 Dr. Thomas proceeded M.D. at the University of Durham. From 1914 to 1931 he was one of the physicians of the Welsh National Memorial Association. Dr. Thomas was a capable doctor and a great personality. Up to the last few months of his life he was a constant reader of the most recent medical volumes and was conversant with modern movements in surgery and medicine. But he combined thoroughness with versatility and was a first-rate clinician. He was in advance of the majority of his colleagues in appreciating the importance of social and industrial conditions in preventive medicine. Throughout his life he was a voluminous reader of current literature, history, and books on religious subjects. His friends will long treasure memories of many of his talks, especially when he was in a reminiscent mood. Like his father, he used words sparingly, his phrases were picturesque, and a kindly humour pervaded his talk. He published some delightful sketches of the quaint personalities who lived in the Brynmawr district when he was young. After many years of happiness together, his wife, Mary, died a few years ago. Her great charm and unflinching generosity endeared her to many friends and to large numbers of her husband's patients.—E. O. L.

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CONTRACEPTIVES AND CONSUMMATION

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

Up to 1857 the usual procedure for obtaining a declaration of nullity of a marriage was to bring suit before the Ecclesiastical Courts, and a decree could be obtained on proof of incapacity of one of the partners to consummate the marriage. The jurisdiction of these courts was taken over under the Matrimonial Causes Act, 1857, by the High Court, and this Act provided that the principles applied by the former courts should still be observed in such cases. In 1913 it was decided by Sir Samuel Evans in the case of *Dickinson v. Dickinson* that the wilful and persistent refusal of a wife to consummate the marriage was sufficient ground for a declaration of nullity, but this decision was overruled by the Court of Appeal in the case of *Napier v. Napier* on the ground that this would be going beyond the limits allowed in the Ecclesiastical Courts. It was felt, however, that the position was unsatisfactory, and the Royal Commission on Divorce, presided over by Lord Gorell, recommended in 1912 that such wilful refusal ought to be allowed as a ground for annulment of the marriage. It was not until 1937 that this recommendation was given legal effect in the Matrimonial Causes Act of that year—the "Herbert Act."

The question of the use of contraceptives was raised in several unreported cases in the Divorce Court during the next few years. In one such case (mentioned by Mr. William Lacey in the course of an address to the Medico-Legal Society¹) heard in 1941 a husband petitioned for nullity on the ground that his wife insisted on his using a sheath, which he did against his own inclinations. Mr. Justice Langton was disposed to grant a decree of nullity on these grounds, but felt bound to accept the wife's evidence that there had in fact been complete intercourse without any contraceptive. Four years later the same plea was raised in the case of *Cowen v. Cowen*, when the Court of Appeal decided that insistence by one partner on the use of contraceptives against the wish of the other partner defeated one of the fundamental purposes of marriage—namely, the procreation of children—and hence afforded proper grounds for a declaration of nullity for non-consummation of marriage.

This decision has now been declared wrong in law by the House of Lords in the case of *Baxter v. Baxter*. In this case the husband petitioned for a decree of nullity on the ground that his wife insisted, against his will, on the use of a contraceptive; he declared that during the ten years of their married life he had persistently pleaded in vain for the abandonment of this device. His petition failed in the court of first instance, which was not satisfied that he had not in fact acquiesced, albeit unwillingly, in this practice. In the Court of Appeal a similar result followed. Both these courts were, of course, bound by the decision in *Cowen v. Cowen* to give the desired relief to the husband if he had been able to establish his plea of non-acquiescence, but they came to the conclusion that a reluctant acquiescence was nevertheless an acquiescence, and so disentitled him to a decree.

The House of Lords, with that refreshing habit it has so often displayed of going straight to the root of the matter, examined the nature of the marriage contract, and decided that the procreation of children was not in fact an essential part of that contract—indeed, in many marriages there can be no possibility of offspring. The Lord Chancellor quoted with approval the words used by Lord Stair in his *Institutions*, published in 1681:

"So then it is not the consent to marry; as it relateth to the procreation of children, that is requisite; for it may consist, though the woman be far beyond that date; but it is the consent, whereby ariseth the conjugal society which may have the conjunction of bodies as well as of minds; as the general end of the constitution of marriage is the solace and satisfaction of man."

The Lord Chancellor recalled that long before the passing of the Herbert Act in 1937 the practice of contraception had become widespread and that young married people often had

recourse to birth control clinics for advice on the founding of a family. When, therefore, the legislature passed that Act, including its references to consummation, it must be presumed that Parliament had it in mind that contraceptives were in common use by married persons. It would therefore not be proper to hold that a marriage had not been consummated merely on the ground that such intercourse as had taken place had involved the use of such appliances.

This decision appears to have caused some perturbation, as judged by a number of letters to the Press in which the fear is expressed that it detracts from the sanctity of the marriage contract in this Christian country. The procreation of children is certainly given prominence in the Prayer Book as one of the chief aims of marriage, but—as has been pointed out by more than one correspondent—the Prayer Book is concerned with theology rather than law. Perhaps a more cogent criticism is that if the parties enter matrimony with the avowed desire to have children, and one partner then refuses to do so, there is a breach of contract, which ought by rights to imply a release of the other partner from any obligations involved in the marriage. However, this would no doubt have the effect of reducing marriage simply to an affair in which the partners are alone concerned, whereas of course it must always be more than this—the State is vitally concerned, too, in a contract which normally has such far-reaching social consequences.

¹ *Med.-Leg. Crim. Rev.*, 1946, 14, 52.
² *Times Law Report*, Dec. 17, 1947.

Medical Notes in Parliament

THE APPOINTED DAY

The Minister of National Insurance, Mr. James Griffiths, has made two orders under the National Insurance Act, 1946, and the National Insurance (Industrial Injuries) Act, 1946, which fix the "appointed day" on which both Acts come into operation. In each case the orders were made on Jan. 13, laid before Parliament on Jan. 20, and came into operation on Jan. 23. The appointed day for all purposes of both Acts will be "the fifth day of July, 1948." The new National Insurance Scheme will thus come fully into operation on July 5, and the present National Health, Unemployment Insurance, Contributory Pensions, and Workmen's Compensation Acts will at the same time be repealed. An Order-in-Council made on Jan. 26 also prescribes July 5 as the "appointed day" for the National Health Service Act, 1946.

The 4,000 Limit

On Jan. 20 Sir ERNEST GRAHAM-LITTLE asked whether Mr. BEVAN knew that the average number of panel patients on an individual doctor's list under the conditions of the National Insurance Act was 1,000 and the regulation limit 2,500; that his proposal circulated to all medical practitioners that the number of patients allowed to any one doctor under the Act could be expanded to 4,000, while the practitioner was also allowed to take private practice, would make it impossible to give any proper attention to patients; and what consultations he had before making this proposal.

Mr. BEVAN said the figures quoted did not include dependants of insured people or private practice. Sir Ernest would be reassured to know that the figure of 4,000 was accepted by the Negotiating Committee of the profession.

U.S. and Canadian Qualifications

Asked on Jan. 21 to what extent or under what circumstances colonial medical practitioners trained in the U.S.A. and Canada might practise in British colonies, Mr. REES-WILLIAMS replied that in the United Kingdom with regard to the registration of practitioners obtained in the U.S.A. and Canada, certain conditions of registration were registrable by the General Medical Council, but there was no reciprocity between the U.S.A. and the United Kingdom, and the U.S.A. qualifications were registrable in the United Kingdom in the legislation of some Colonies. He said that the Medical Council of the United Kingdom did not know of any reason why Colonial practitioners should not continue to follow the

practice of the General Medical Council, but he was considering, in consultation with the Governments concerned, the possibility of special temporary arrangements being made to permit the registration of doctors who, because of the war, studied in North America instead of in the United Kingdom, provided that their qualifications were satisfactory. Mr. REES-WILLIAMS added that it was as important for the public in the Colonies to be protected as for the public in the United Kingdom.

Obstetric Analgesia.—On Jan. 22 Mr. SORESENSEN asked for the approximate cost of simple analgesic apparatus as compared with other apparatus for a similar purpose and to what extent specialists in his department had considered the respective merits of different methods of whole or partial anaesthesia in confinement. Mr. BEVAN said he was not clear what comparison Mr. Sorensen had in mind. Portable apparatus approved for use by midwives cost £20 to £25. Midwives used apparatus and methods approved by the Central Midwives Board on the advice of the Royal College of Obstetricians and Gynaecologists. Production and distribution of apparatus were satisfactory, and 220 institutions had been approved for training.

Blood Donors.—Colonel STODDARD-SCOTT, on Jan. 22, asserted that many hospitals found it increasingly difficult to obtain blood donors for blood transfusion services. Mr. BEVAN said that apart from isolated cases he was not aware that hospitals experienced difficulty in meeting their needs. In the first three quarters of 1947 the estimated effective strength of donor panels rose by nearly 40%, from 267,000 to 369,000, and the response of donors to calls rose from 36% to 41%.

Patients Going Abroad.—Sir WALDRON SMITHERS reported on Jan. 22 that British tuberculous patients in sanatoria abroad were required to submit two doctors' certificates, a full-size x-ray plate and the sum of four guineas every three months in order to apply for funds to continue their treatment. Mr. BEVAN said he was not aware of these difficulties, but would look into the position.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

Wing Commander R. H. Winfield, D.F.C., A.F.C., M.B., B.Ch. R.A.F., will deliver a course of three lectures on "Some Effects of Polar Conditions on Man" in the Scott Polar Research Institute of the University on Fridays, Jan. 30 and Feb. 13 and 27, at 5 p.m. The lectures are intended primarily for medical students but are open to all who are interested. Admission is by ticket, which may be obtained, without fee, from the institute.

UNIVERSITY OF ST. ANDREWS

The following candidates have been approved at the examination indicated:

M.B., Ch.B.—M. S. Boyd, Herta Braunova, I. A. Campbell, Margaret Dougall, W. B. M. Howie, I. R. Lindsay, E. M. Little, R. A. Maxwell, Robert Soutter, Moyra R. Treasure, J. E. H. Tullis.

UNIVERSITY OF GLASGOW

At a ceremony of graduation held on Jan. 10 the following medical degrees were conferred:

M.D.—J. T. N. Fraser, W. A. Parker, A. H. Imrie, N. R. Cowan, T. J. Cowie, W. P. D. Logan, Eileen S. M. Wybar, J. Berkeley, R. J. Gentry, D. N. Ross.

M.B., Ch.B.—Joan M. S. Armstrong, J. B. Brennan, A. G. Chrysides, A. I. Craig, M. B. L. Craigmyte, J. M. Cuthill, D. E. Donald, J. A. Ferguson, A. Garven, I. MacD. Hall, J. Harper, J. S. H. Inglis, J. W. Junor, R. E. Margaret M. Kerr, D. G. Landells, A. McCawley, K. McCreath, A. McDuff, R. L. McGhie, R. W. L. McLeish, M. C. Macnaughton, R. Mathison, F. Meichen, Elizabeth McG. Miller, Mary S. Mowat, Christine L. H. Nisbet, J. P. Ommer, D. H. Paterson, I. T. Patrick, J. J. Pollock, D. C. T. Ryle, J. A. W. Reid, J. F. Robertson, J. W. Scott, M. Shearer, Joan M. S. Smith, D. A. Smith, Jean M. Struthers, D. R. H. Urquhart, J. G. Walker, H. W. White, Joan A. S. Wilson.

¹ With honours. ² With high commendation. ³ With commendation.

UNIVERSITY OF LONDON

Bruce Arnold Dunbar Stocker, M.D., has been appointed Demonstrator in the Department of Bacteriology of the London School of Hygiene and Tropical Medicine.

The following candidates have been approved at the examination indicated:

M.S.—*French III (Ophthalmology)*: P. N. Banaji, J. H. Dobree, Ph.D. (Faculty of Medicine)—R. H. Thorp.

UNIVERSITY OF WALES

The following candidates at the Welsh National School of Medicine have satisfied the examiners at the examination indicated:

D.P.H.—E. B. Meyrick, E. C. Powell, I. M. Watkins.

QUEEN'S UNIVERSITY, BELFAST

Alan Carruth Stevenson, M.D., M.R.C.P., D.P.H., Reader in Public Health in the University of London at the London School of Hygiene and Tropical Medicine, has been appointed to the newly created Chair of Social and Preventive Medicine in Queen's University.

John Edgar Morison, M.D., lecturer in morbid anatomy, has been appointed Lecturer in Pathology.

At a Graduation Ceremony held on Dec. 19, 1947, the following medical degrees were conferred:

M.D.—G. T. C. Hamilton, *R. F. L. Logan, *Agnes J. A. Maybin, A. S. Boyd, V. G. F. Gibson, D. G. F. Harriman, J. Lightbody, Joan B. T. Logan, T. C. T. McFetridge, Kathleen G. McKee, I. B. Millar, T. S. Wilson.

M.B., B.Ch., B.A.O.—J. Y. B. Hamilton, *Helen A. Lynas, *J. McKelvey, *H. I. Anderson, F. S. Black, Wilbert F. I. Brown, Gladys M. Caskey, A. S. Tenaghan, S. J. Cupples, K. E. Donnan, Harriet E. Faris, J. K. Fulton, N. E. Jordan, W. J. Gourley, T. M. Hanna, T. P. Harriott, G. Hinds, T. O'H. Johnston, J. C. Keenan, D. B. Kerr, E. W. Knox, J. Kyle, J. N. Lewis, L. McArdle, J. G. McAuley, S. S. McCann, R. R. McCrea, E. P. McGrath, J. A. McNeill, M. J. G. MacSorley, S. Mercer, R. J. Miller, T. J. M. Monteith, A. Mulholland, J. F. Sullivan, Mary C. T. Mullan, T. J. M. Myles, E. J. E. Parker, B. J. Reubin, James L. J. Robinson, H. G. I. Shanks, H. W. H. Shepperd, H. H. Sloan, I. Stinson, E. J. Thompson, I. D. Thompson, Irene M. Thompson, J. J. Tomb, I. H. Williamson.

*With high commendation. 2 With commendation. 3 With second-class honours.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

The Oliver-Sharpay Lectures will be delivered by Dr. J. F. Wilkinson, M.R.C.P., before the Royal College of Physicians of London (Pall Mall East, S.W.) on Tuesday and Thursday, March 9 and 11, at 4 p.m. His subject is "Concerning Megalocytic Anaemias."

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

At a meeting of the Council held at the College House on Jan. 24, with the President, Mr. William Gilliat, in the chair, W. A. Dafoe was admitted to the Fellowship, and S. J. Aptekar, S. Bender, Elisabeth McCallum, and Dorothy M. Satur were admitted to the Membership of the College.

The following candidates were elected to the Membership of the College: S. G. Aitken, S. C. Anderson, I. C. Barne, W. Barr, F. Benjamin, Margaret E. M. Boulton, J. M. Bowen, J. C. McC. Browne, E. C. Bryat, J. T. Burrows, R. W. Burslem, Agnes U. Campbell, A. W. Chester, J. Crawford, L. A. Cruttenden, P. C. Denham, J. Dunlop, S. Evans, J. F. Foulkes, D. C. Galloway, S. F. Hans, Betty Hargreaves, J. R. Hassard, Rosa Hertz, J. B. Hurll, P. S. Jaikaran, Mary S. Jolly, E. W. Jones, M. M. Kriesman, Sylvia Lerer, Una G. Lister, Florence P. Logan, J. T. Louw, S. D. Loxton, Silvia C. Lucas, D. S. Matthews, A. M. Michalowsky, N. V. Mody, Cecilia M. Murray, G. S. Musgrove, M. J. D. Noble, K. Pasricha, R. G. Patel, A. E. Perera, P. T. Por, R. W. K. Purser, F. F. Redman, O. A. Schmidt, F. Shaw, B. H. Sheares, D. M. Sheppard, B. S. Suri, D. A. Thomson, J. G. Thurston, S. N. Upadhyay.

Medical News

N.H.S. Act Regulations

On Jan. 20 the Minister of Health laid before Parliament regulations under the N.H.S. Act governing the functions of the Regional Hospital Boards, Hospital Management Committees, and Boards of Governors of teaching hospitals. Thus the regulations confer on Regional Hospital Boards powers to enable them to guide and control the planning, conduct, and development of the services in their area; on Hospital Management Committees powers for the administration of the hospitals and services under their control; and on Boards of Governors powers for the administration of the teaching hospitals and the services provided in connexion with them. Other subjects on which the Minister has issued regulations include superannuation and the amendment of the Acts concerned with mental deficiency and mental treatment.

To Lecture in Stockholm

Dr. G. L. Brown, Director of the Physiological Department at the National Institute of Medical Research, will leave on Feb. 6 for a fortnight's visit to Sweden and Denmark under the auspices of the British Council. He will lecture on neuro-muscular transmission.

British Council Official's New Post.

Dr. N. Howard Jones has resigned from the directorship of the Medical Department of the British Council and the editorship of the *British Medical Bulletin* on appointment as Chief Medical Editor to the World Health Organization (Interim Commission). The Medical Department responsibilities undertaken by Dr. Howard Jones will be temporarily assumed by the following: Directorship of the Medical Department: Dr. Margaret Sutcliffe; Editorship of the *British Medical Bulletin*: Dr. A. Dewar Duff. During the past two years Dr. Howard Jones has combined with his other duties that of the administration of the Science Group of Departments. This responsibility will temporarily devolve upon Mr. H. R. Mills, M.Sc.

Psychiatrist Visits Scandinavia

Dr. J. R. Rees, Physician to the Tavistock Clinic and Consulting Psychiatrist to the Army, is paying a short visit to Denmark and Sweden. He will speak at meetings of the Danish Psychiatric Society and Mental Hygiene Society, both in Copenhagen. His visit is in connexion with the forthcoming International Congress on Mental Health, whose organization is entertaining him. He is travelling under the auspices of the British Council.

Leverhulme Research Fellowships

Applications are invited for Fellowships and Grants in aid of research, which are intended for senior workers who are prevented by routine duties or pressure of work from carrying out research. They are limited to British-born subjects normally resident in the United Kingdom, but in exceptional circumstances the Trustees may waive the condition as to residence. The Trustees are also prepared to consider applications from groups of workers engaged upon co-operative programmes of research, particularly from those engaged upon long-distance programmes or in institutions in which the normal facilities for research have been curtailed by the war. The duration of the awards will not normally extend over more than two years or less than three months, and the amount will depend on the nature of the research and the circumstances of the applicant. Forms of application may be obtained from the secretary, Dr. L. Haden Guest, M.C., M.P., Leverhulme Research Fellowships, 7, Bedford Row, London, W.C.1. Applications must be received by March 1; awards will be announced in July and will date from Sept. 1, 1948.

Royal Medical Foundation of Epsom College

The Conjoint Committee of Epsom College will award in May an annuity of £34 to a sposter daughter of a duly registered medical practitioner. Candidates must not be less than 65 years of age and their annual income must not exceed £120, irrespective of help received from the Royal Medical Benevolent Fund. Forms of application may be had from the secretary's office, Epsom College, Surrey, and must be returned by April 17.

Bovine Tuberculosis

Under Section 20 of the Agriculture Act, 1937, the Ministry of Agriculture and Fisheries was empowered to pay cattle owners to help them eradicate bovine tuberculosis. His powers under the Act expire on Sept. 30 of this year, and therefore a Bill known as the Animals Bill has been introduced to extend the conditions of the Act for another ten years. The annual expenditure incurred is roughly estimated at £2,500,000.

Visit of Czechoslovak Doctors

Eighty Czechoslovak doctors will visit British hospitals this year to study the latest medical and surgical methods. The scheme, which has been devised through informal conversations between the Ministers of Health of Britain and Czechoslovakia, provides for the doctors' coming in succession, each spending two or three months here.

Viking Fund Award

R. E. G. Armatao, L.R.C.P.&S.Ed., director of the Lomeshie Research Centre for Anthropology and Race Biology, in London, who has just returned from a scientific tour of Swedish centres, has been granted a Viking Fund award of some \$3,000 to enable him to undertake a field trip to West Africa this year.

Freedom of Kendal

Theodore Howard Somervell, M.B., F.R.C.S., is to receive the Freedom of Kendal.

Micro-organism Collection

The Report of the British Commonwealth Scientific Official Conference recommends the establishment of an organization to be known as the British Commonwealth Collections of Micro-organisms. This organization should foster the maintenance of existing collections of cultures, make them more readily available, and establish new collections if necessary. A permanent committee should be set up in London to administer the organization.

Handbook of Birmingham

The *City of Birmingham Handbook*, which has just been issued by the City's Information Department, price 2s. 6d. (3s. post free), contains much within its 200-odd pages to interest those concerned with the health of the people, with chapters on public health, mental deficiency and mental hospitals, the school medical service, and the Birmingham Hospitals Centre. The handbook contains over 100 illustrations.

10% Illiterate

Ten out of every 100 recruits can neither read nor write, commented Field-Marshal Viscount Montgomery at Canterbury recently. He added that another 10% suffer from some physical disability.

Wills

Dr. Frederick Keiller Smith, late senior surgeon of Aberdeen Royal Infirmary, left £49,389. Dr. William Glasse Watson, of Cambridge, left £3,780; Dr. Douglas David Ritchie, of Northwood, Middlesex, £49,653; Dr. Vera Thompson, of West Hartlepool, £24,436; and Dr. Charles Philip Brentnall, of Manchester, £27,219.

COMING EVENTS**Paddington Medical Society**

The Paddington Medical Society is holding two meetings in connexion with the plebiscite for the National Health Service Act. The first will be on Feb. 3 at 8.45 p.m., and will be attended by Dr. Weply, of the Medical Practitioners' Union. The second will be on Feb. 10 at 8.45 p.m., and will be attended by Dr. Maerac, of the British Medical Association. Both meetings are to be held at St. Mary's Hospital Board Room, Paddington.

Chadwick Public Lectures

The Chadwick Trust (204, Abbey House, Westminster, London, S.W.1) announces the following public lectures: Tuesday, Feb. 17, 2.30 p.m., at Royal Society of Tropical Medicine and Hygiene, 26, Portland Place, London, W., Prof. René Sand (Brussels), "How Medicine became Social"; Tuesday, March 16, 2.30 p.m., at Sir Edward Meyerstein Lecture Theatre, Westminster Hospital Medical School, 17, Horseferry Road, Westminster, London, S.W.1, J. R. Nicholls, D.Sc., "Adulteration of Food and Its Detection"; Thursday, April 15, 2.30 p.m., at Architectural Theatre, University College, Gower Street, London, W.C., Bossom Gift Lecture by Mr. Thomas Ritchie, "Sanitation of Buildings"; Thursday, May 13, 4 p.m., at University College, University Park, Nottingham, Sir Arthur MacNalty, "Advances in Preventive Medicine during the War of 1939-45." Admission to the lectures is free, without ticket.

International College of Surgeons

The 6th International Assembly of the International College of Surgeons will be held in Rome on May 16-23 under the Presidency of Profs. Bastianelli, Paolucci, and Dogliotti. Attendance is not limited to membership of the college. A special exhibition of ancient texts on surgery has been arranged. Information may be obtained from Dr. Max Thorck, 850, Irving Park Road, Chicago, 13.

Physical Education at Prague

The Seventh International Medical Congress of Physical Education will be held at Prague on July 1-5. The principal subjects to be discussed will be the physiology and pathology of physical education, and injuries caused by physical training. A course will take place during the festival of the Sokol Gymnastic Organization in Czechoslovakia. Inquiries should be addressed before Feb. 29 to Prof. MUDr. Jiri Kral, Praha II, Vladislavova 15, Czechoslovakia.

Conference on Psychosurgery

An international Conference on Psychosurgery will be held at Lisbon on Aug. 5, 6, and 7. Inquiries from those who wish to read papers or who might be present should be sent to Dr. E. Cunningham Dix, Netherne Hospital, Coulsdon, Surrey, immediately.

SOCIETIES AND LECTURES**Monday**

10.30 a.m. Lect. by Dr. John Adam Street, Adelphi, London, W.C. "The Medical Man of Paris." Cantor Lecture.

8 p.m. Dr. Meyerstein Lecture. "The Medical Man of Paris." Cantor Lecture.

Tuesday

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—Feb. 3, 5 p.m. Pathological demonstrations. Dr. I. Muende.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHARMACOLOGY, Gower Street, W.C.—Feb. 3, 5.15 p.m. "Symptomatic Drugs: Parasympathomimetics and Spasmodics." Mr. F. Bergel.

Wednesday

SOCIETY OF PUBLIC ANALYSTS.—At Chemical Society's Rooms, Burlington House, Piccadilly, London, W., Feb. 4, 7 p.m. "The Micro-analytical Test for Purity in Food, with special reference to Cereals." By Messrs. D. W. Kent-Jones, A. J. Amos, P. S. Elias, R. C. A. Bradshaw, and G. B. Thackray.

Thursday

FACULTY OF HOMOEOPATHY.—At London Homoeopathic Hospital, Great Ormond Street, W.C., Feb. 5, 5 p.m. "Some Uses of Endocrine Therapy in Gynaecology." Miss Edith M. Hall, M.D., F.R.C.S., F.R.C.O.G.

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—Feb. 5, 5 p.m. "The Seborrhoeic Dermatoses." Dr. L. Forman.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, S.W.—Feb. 5, 4.30 p.m. Neurological lecture-demonstration. Dr. A. Feilding.

Friday

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHYSIOLOGY, Gower Street, W.C.—Feb. 6, 5 p.m. "The Living Fabric: Growth, Movement and Sensation." Dr. E. A. Underwood.

LONDON CHEST HOSPITAL, Victoria Park, E.—Feb. 6, 5 p.m. "Laboratory Diagnosis of Bronchial Biopsies." Dr. K. F. W. Hinson.

ROYAL MEDICAL SOCIETY, 7, Melbourne Place, Edinburgh.—Feb. 6, 8 p.m. "The Enigma of Death." Dissertation by Mr. A. Taylor.

WHIPPS CROSS HOSPITAL MEDICAL SOCIETY.—At Whipps Cross Hospital, Feb. 6, 8.30 p.m. "Milestones in Medicine." Dr. Donald MacIntyre.

BIRTHS, MARRIAGES, AND DEATHS**BIRTHS**

Boal.—On Jan. 13, 1948, at 7, Winn Road, Southampton, in Elspeth, wife of Dr. R. Basil Boal, a son.

Daynes.—On Jan. 11, 1948, at Westminster Hospital, London, S.W., to Janifer (née Justham), wife of Dr. Guy Daynes, a son—Simon Timothy.

Martin-Jones.—On Dec. 10, 1947, at Salisbury, to Margaret, wife of Dr. J. P. Martin-Jones, a daughter—Gillian Elizabeth.

Proctor.—On Jan. 14, 1948, at St. Johnstone's Nursing Home, to Jean (née Scallon), wife of H. Proctor, M.B., B.S., Craigour, Blair Atholl, Perthshire, a son.

Stevens.—On Jan. 20, 1948, at Middlesex Hospital, London, W., to Suzanne, wife of Dr. A. V. Stevens, O.B.E., M.C., M.R.C.S., a daughter.

Warren.—On Jan. 19, 1948, to Josephine Barnes, F.R.C.S., wife of Dr. H. B. S. Warren, of 46, Chester Square, London, S.W., a daughter.

MARRIAGE

Chase—Murray.—On Jan. 20, 1948, at St. John's Church, Edinburgh, Wifred H. Chase, M.A., B.Ch., youngest son of the Rev. and Mrs. F. A. Chase, of Cambridge, to Isobel J. Murray, M.B., Ch.B., elder daughter of Dr. and Mrs. W. P. Murray, of Edinburgh.

DEATHS

Berry.—Recently in Eire. Winslow Seymour Sterling Berry, O.B.E., M.B., B.C., F.R.Sy., On Jan. 16, 1948, Noel Constable Forsyth, M.D.Ed., of Malton, Yorks, aged 69.

Ghosh.—On Jan. 11, 1948, at Calcutta, Bimal Ghosh, M.B., aged 71.

Gordon.—On Dec. 31, 1947, at Monkseaton, Northumberland, John M. Gordon, M.B., Ch.B., Surgeon Captain, R.N., retired.

Graham-Bissell.—On Jan. 23, 1948, at Inverness, Frederick Edward Graham-Bissell, L.R.C.P.S.Ed., Lieutenant-Colonel, R.A.M.C., retired, of The Cottage, Ardervic.

Hendry.—On Jan. 17, 1948, at "Leysdown," Avenue Road, New Mills, Hants, Alexander Hendry, M.B., Ch.B., Lieutenant-Colonel, R.A.M.C.

Lloyd.—On Jan. 22, 1948, at 40, Harborne Road, Edgbaston, Birmingham, Bertram Arthur Lloyd, F.R.C.S., Emeritus Professor of Forensic Medicine, University of Birmingham, aged 63.

McMahon.—On Jan. 17, 1948, at Fairley Glen, Ridgeway, Newport, Normanshire, Thomas Browne McMahon, M.D.

Petrie.—On Jan. 16, 1948, John Petrie, M.B., Ch.B., of Crosslee, Strathclyde, Lanarkshire, aged 47.

Ritchie-McKinlay.—Harold Victor Ritchie-McKinlay, L.R.C.P.S.Ed.

Stalner.—On Jan. 23, 1948, at Sly Corner, Lee Common, Gl. Misterton, Evesham, Edward Stalner, M.D., F.R.C.P., aged 78.

Waters.—On Jan. 16, 1948, John Patrick Francis Waters, M.B., B.Ch., aged 47.

Wright.—On Jan. 22, 1948, at Summers, Cambridge, Isle of Wight, Patrick d'Auvergne Wright, F.R.C.S., aged 80.

No. 2

INFECTIOUS DISEASES AND VITAL STATISTICS

For the print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Jan. 10.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	60	3	18	2	1	56	7	34	2	1
Deaths ..										
Diphtheria ..	216	23	68	19	5	232	15	60	18	11
Deaths ..	3	1	—	1	—	2	—	—	—	—
Dysentery ..	114	17	17	1	—	87	11	14	—	—
Deaths ..										
Encephalitis lethargica, acute ..	2	—	1	—	—	3	2	—	—	—
Deaths ..		1	—	—	—		—	—	—	—
Erysipelas ..	—	—	49	12	3	—	—	56	7	3
Deaths ..										
Infective enteritis or diarrhoea under 2 years ..	—	—	—	23	—	—	—	—	28	—
Deaths ..	48	5	5	6	1	79	8	16	13	—
Measles* ..	3,746	226	1,344	231	11	10,223	291	445	34	755
Deaths† ..			2	2	—	10	2	3	—	4
Ophthalmia neonatorum ..	56	3	13	—	—	74	5	14	—	1
Deaths ..										
Paratyphoid fever ..	8	—	1(B)	—	—	4	—	1(A), 1(B)	—	—
Deaths ..	1	—	—	—	—	—	—	—	—	—
Pneumonia, influenza ..	975	70	5	5	13	1,264	100	39	2	8
Deaths (from influenza)‡ ..	23	5	1	1	1	74	14	11	1	—
Pneumonia, primary ..	—	—	329	37	—	—	—	455	41	—
Deaths ..	501	60	—	11	9	—	92	—	—	20
Polio-encephalitis, acute ..	6	—	—	—	—	2	1	—	—	—
Deaths ..										
Polio-myelitis, acute ..	52	5	6	—	1	14	3	1	7	—
Deaths§ ..	4	—	—	—	—	—	—	—	—	—
Puerperal fever ..	—	3	10	—	1	—	3	14	—	—
Deaths ..										
Puerperal pyrexia|| ..	108	7	16	—	—	142	12	20	—	—
Deaths ..		1	—	—	—		1	—	—	—
Relapsing fever ..	—	—	—	—	—	—	—	—	—	—
Deaths ..										
Scarlet fever ..	1,525	104	307	21	45	1,058	81	266	19	33
Deaths† ..						1	—	—	—	—
Smallpox ..	—	—	—	—	—	—	—	—	—	—
Deaths ..										
Typhoid fever ..	3	—	1	3	—	4	—	—	2	—
Deaths ..				1	—					
Typhus fever ..	—	—	—	—	—	—	—	—	—	—
Deaths ..										
Whooping-cough* ..	2,057	163	64	61	3	1,928	132	465	128	65
Deaths ..	6	—	—	1	—	9	—	3	2	1
Deaths (0-1 year) ..	435	47	55	33	14	533	62	91	55	20
Infant mortality rate (per 1,000 live births) ..										
Deaths (excluding stillbirths) ..	5,257	845	701	211	146	6,750	1,177	860	290	155
Annual death rate (per 1,000 persons living) ..			14.6	13.2	—			18.9	—	—
Live births ..	8,357	1,268	1,125	377	282	9,838	1,552	1,223	467	298
Annual rate per 1,000 persons living ..			22.7	23.6	—			24.6	—	—
Stillbirths ..	225	34	28	—	—	272	47	47	—	—
Rate per 1,000 total births (including stillborn) ..			24	—	—			37	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

|| Includes puerperal fever for England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Poliomyelitis

Notifications of poliomyelitis for the week ended Jan. 17 were 47 (52) and of polio-encephalitis 2 (6). Figures for the previous week are shown in parentheses. The fall in notifications now seems to be going on very slowly, and the figures are high for this time of the year.

Discussion of Table

In England and Wales large decreases in the number of notifications of measles 744, scarlet fever 261, acute pneumonia 123, and paratyphoid fever 31 were recorded. The only diseases showing an increased incidence were whooping-cough 166 and dysentery 28.

Although the total notifications of measles declined the incidence in a number of counties continued to rise or remained at the level of the preceding week. The largest rises in the notifications of measles were Northumberland 48, Kent 30, and Middlesex 35; the largest falls were Durham 117, Lancashire 87, Monmouthshire 85, Sussex 65, Northamptonshire 48, and Derbyshire 58.

A small decline in the notifications of scarlet fever occurred in most areas, but only in one county was a large fall recorded, that of Lancashire 50. The incidence of acute pneumonia declined in all regions except the West Midlands and Yorkshire.

The local trends of whooping-cough fluctuated. The largest increases in incidence were Yorkshire West Riding 99, Essex 33, and London 28; the largest decreases were Lincolnshire 27, Kent 25, and Glamorganshire 25. The only change of any size in the local returns of diphtheria was an increase of 11 in Staffordshire.

Of the 8 cases of paratyphoid 7 were notified from the outbreak in Suffolk, where 12 and 21 cases were notified in the preceding two weeks. The largest rise in the incidence of dysentery was in Kent, where the cases notified rose from 4 to 19 (Tenterden R.D. 15). The other large returns of dysentery were Lancashire 20 (Liverpool C.B. 7); London 17 (Lewisham 11); Glamorganshire 13 (Pontypridd U.D. 11); Surrey 12 (Woking U.D. 8); and Yorkshire West Riding 11.

Notifications of acute poliomyelitis fell by 7. Multiple cases of poliomyelitis were notified in Gloucestershire, Bristol C.B. 3; Warwickshire, Birmingham C.B. 3; London, Kensington 2 and Lambeth 2; Cornwall, Penzance M.B. 2 and St. Germans R.D. 2; Middlesex, Ealing M.B. 2 and Heston and Isleworth M.B. 2; and Essex, East Ham C.B. 2.

In Scotland there was a rise in the notifications of most infectious diseases, including measles 1,181, acute primary pneumonia 45, whooping-cough 44, and diphtheria 37. Measles has reached epidemic proportions in Glasgow, where 1,206 cases were notified to the Public Health Department. Notifications of diphtheria increased throughout the country; the largest rise was 17 in Glasgow.

In Eire an increase was recorded in the incidence of measles 57 and diphtheria 9, while a decrease was reported for scarlet fever 21 and diarrhoea and enteritis 13. The largest returns for measles were Dublin C.B. 112; Dublin, Dun Laoghaire U.D. 27; Wicklow, Rathdrum R.D. 15.

In Northern Ireland the notifications of scarlet fever increased by 11 while cases of measles fell by 12. The rise in the incidence of scarlet fever was mainly due to the experience of Belfast C.B.

Quarterly Returns for Northern Ireland

The birth rate during the September quarter was 22.4 per 1,000 and was 0.7 below the average for the third quarters of the five years 1942-6. The infant mortality was 42 per 1,000 registered births and was 17 below the five years' average for the third quarters. Maternal mortality was 1.6 per 1,000 births, being 1.3 below the average for the corresponding quarters of the five preceding years. The general death rate was 9.8 per 1,000, the same as the rate for the September quarter of 1946 but 0.8 below the five years' average. Deaths under two years attributed to diarrhoea and enteritis numbered 67. Deaths from pulmonary tuberculosis were 169 and there were 48 from other forms of tuberculosis; these were 24 and 12, respectively, below the five years' average.

Week Ending January 17

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,754, whooping-cough 2,343, diphtheria 203, measles 3,304, acute pneumonia 787, cerebrospinal fever 47, acute poliomyelitis 47, dysentery 96, paratyphoid 4, and typhoid 2.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Posture in Diphtheria

Q.—During the past three years I have seen some fifty children suffering from diphtheria in Malta, both in hospital and in their homes. I have been struck by the position commonly assumed by these patients—chest down with knees flexed, both hips unequally flexed and abducted, elbows flexed, and shoulders abducted to above 90 degrees. The face looks to the side but the patient keeps turning his head restlessly from side to side. He creeps to the corner of the bed nearest to the door or window, to which his head is directed. Has this posture been noted in the cooler climate of Britain, and, if so, is it considered to be of any therapeutic value?

A.—The stage of the disease at which this position was observed is not mentioned, nor whether the patients were suffering from a hypertoxic form of diphtheria. The position described is one of general weakness and lethargy produced, in this disease, by toxæmia or circulatory failure. It would be assumed (a) by a patient in the early acute stage suffering from severe toxæmia which had been only partially neutralized by antitoxin, and (b) by a patient in the late second or third week suffering from circulatory failure or cardiac weakness. It should be remembered that diphtheria toxin always has a depressant effect. Hot weather would be a predisposing factor. The position has no particular therapeutic value, except that it is the position of ease, but it should be varied frequently by the nurse in order to avoid injury to the skin over pressure points.

Radon Ointment

Q.—How is radon ointment prepared, and in what type of case is it used?

A.—Radon is soluble in petrolatum, and radon ointment is prepared by permitting radon to dissolve in petrolatum made liquid by warming at 60° C. The steps in its preparation are in principle as follows, although the technical details are somewhat complicated: (1) Sterile petrolatum is introduced into a tooth-paste tube and the folding end sealed off. (2) A capillary tube containing somewhat more than the desired amount of radon is broken under such conditions that the molten petrolatum can absorb the radon. The conditions vary according to the apparatus used, but the proportion of the radon absorbed can be read off from a graph plotting absorption against time for the apparatus used. About 70% is absorbed in three-quarters to one hour. (3) The stopper is then screwed on to the tooth-paste tube, after the latter has been unscrewed from the capillary, and the screw joint sealed with rubber solution. The radon ointment is then ready for dispatch. The concentration ranges from 0.1 to 0.5 mc. per ml.

The use of radon ointment for treating radiation necrosis was described by Uhlmann (*Radiology*, 1942, 38, 445). The principle is to apply the radon ointment to the area to be treated and prevent the radon from diffusing into the air by applying an airtight covering. Uhlmann used rubber or oilcloth sealed at the edges with plaster strapping for eight hours. The writer uses cellophane sealed with collodion, and leaves the ointment in place for two days. The application is repeated up to ten or twelve times if necessary. In the intervals between blind or specific antiseptic dressings are used. The type of radiation is under the necrotic ulcer, which will depend on the technique of radiation used, determines the type of treatment to effect healing of the ulcer. The necrotic floor of the ulcer is gradually removed by the action of the radon ointment until granulation tissue appears.

The radon ointment is applied to the ulcer into the slough, which is then covered with a sterile, an intense alpha radiation, which is absorbed by the ulcer. The radon will diffuse through

the sloughing and fibrotic tissue to tissue with a blood supply. In tissue with a blood supply, however, the radon will be carried away from the region by the blood stream and exhaled in the breath. Thus the radon ointment will cauterize only the tissue with a blood supply which is too poor to carry away the radon gas. In this way it seems likely that the radon acts as a microcautery affecting only the ischaemic tissue and leaving practically undamaged the normal tissue which it reaches.

Syringomyelia

Q.—I have a case of syringomyelia in a man of 47, whose chief complaint is pain and rigidity in his thighs and inability to extend the knees. He has had two courses of x-ray therapy: the first led to improvement in the movement of his arms, but the second, applied lower down, has not much improved the legs. He has had physiotherapy to his legs; he has also taken pethidine, and latterly tablets containing belladonna alkaloids. These drugs have given only temporary relief. Is there anything else I could try?

A.—No medical remedy is known which can relieve the symptoms of syringomyelia. It is possible, of course, that some of the troubles in the lower limbs may be due to spinal compression, the result of an unusually large intramedullary cavity. Should neurological testing confirm this suggestion, surgical treatment—that is, myelotomy—might lead to improvement.

Smoking and Peptic Ulcer

Q.—A lecturer in the United States is reported to have said that any patient with gastric or duodenal ulcer should be instructed: "You must not smoke for the rest of your life." Are such unequivocal statements usual in Britain, and, if not, why not?

A.—Clinical evidence points clearly to an aggravation of the pain of peptic ulcer by smoking. Furthermore, this is pronounced when the stomach is empty and absent when it is full. It seems probable that smoking is a factor leading to heightening of the morbid process by nicotine; no experiments have, so far as the writer knows, been carried out with the many other irritants of tobacco smoke in relation to peptic ulcer. The physician who is impressed by symptomatology will forbid smoking either entirely or, if he knows the patient to be strong-willed, will limit it to the half-hour following a meal. A lecturer who thinks that animal experiments form the road to truth will permit his ulcer patients to smoke and thus encourage relapse. See also a more general answer on the effects of tobacco (1947, 1, 166).

Muscular Relaxation during Anaesthesia

Q.—What is the physiological reason for muscular relaxation during surgical anaesthesia?

A.—By "muscular relaxation during surgical anaesthesia" is meant a state in which the muscles are both toneless and quiescent, with no reflex response to strong stimuli from the operation area. In the case of abdominal operations, these stimuli include the cutting of the skin, retraction of the muscles and handling of the peritoneum and viscera. In addition the anaesthetic may give rise to stimuli affecting the larynx. The inactivity of the muscular reflexes is produced by the effect of the general anaesthetic on various parts of the brain, chiefly the cerebral cortex and the nuclei of the cranial nerves, and on the spinal cord. In the case of certain anaesthetics—notably ether—the muscle fibres themselves are affected, their elasticity and irritability being reduced or obtunded. At any time during anaesthesia, anoxia, if present, will increase the depression of the brain and cord and further heighten the effect of the general anaesthetic.

"Prostigmin" in Rheumatoid Arthritis

Q.—I have read glowing accounts in the lay press on the effect of prostigmin in rheumatoid arthritis. Is a trial justified? Are there any contraindications? What dosage is advised?

A.—Prostigmin has been advocated in the treatment of rheumatoid arthritis because it relaxes muscle spasm and thus prevents painful contractures, or relieves them and so helps to correct malposition, which permits of better positions for

the application of splints. This effect is most probably due to its action on the neuromuscular junction. Overdosage may give rise to dizziness, fibrillation of the facial muscles, salivation, intestinal cramps, or bradycardia, and to lessen these effects it is usual at the same time to give atropine, which also tends of itself to relieve spasm and may be responsible for some of the effect. In the hands of the writer it has proved disappointing, and thus far evidence of any favourable effect on the progress of the disease itself is lacking, but this need not deter a trial in suitable cases. Subcutaneous administration is the most effective, but the drug is usually given orally in rheumatoid arthritis. Tablets containing 15 mg. of prostigmin bromide and also ampoules are marketed, and with each dose a tablet of atropine sulphate should be given or an equivalent amount of tincture of belladonna. A daily dose of prostigmin is generally enough, but it may be prescribed two or three times a day for short periods, or an initial dose may be given subcutaneously followed by oral administration.

Repair of Cleft Lip

Q.—A child aged 6 had a right-sided cleft-lip repaired when she was 6 months old. The palate was not involved; the alveolus only to the extent that the second right incisor has erupted sideways. The scar is now outgrown by the surrounding tissues and distortion is taking place. What is the optimum age at which further plastic procedures should be undertaken? Will one operation be enough, or would it be better, from the final cosmetic point of view, to have a series of operations at intervals until she has reached adult life?

A.—Some secondary trimming is nearly always indicated in cleft-lip cases. This is best postponed until the child is 10 or 12 years old. A properly designed operation at that age should give an excellent permanent result, as a good scar grows with its surroundings. If, however, the present deformity is sufficient to make the child self-conscious, repair could be undertaken at once, with the prospect of a good cosmetic result which would not require anything further.

Thyroidectomy and Urticaria

Q.—Is there any connexion between thyroidectomy and recurrent urticaria? Two months after subtotal thyroidectomy a patient aged 30 began to develop recurrent attacks of urticarial eruptions. Is this an unusual phenomenon or not? How are the two related, and what is the best line of treatment?

A.—This association has been described previously and is not rare. The role of the thyroid gland in urticaria has been the subject of speculation and controversy for many years, and the exact relationship is still not known. If there is clinical evidence of thyroid dysfunction, preferably confirmed by estimation of the basal metabolic rate, then appropriate therapy is indicated. If the urticaria persists search should be made for a focus of infection or a drug or food allergen, while symptomatic relief can be obtained with "benadryl" or "anthisan." Other forms of therapy such as calcium, autobaemotherapy, vitamin K, etc., may be tried.

Enuresis

Q.—(a) Can ephedrine, gr. 1/4 (16 mg.), be continued indefinitely to control enuresis in a boy of 13?

(b) What types of nocturnal enuresis should be submitted to urethroscopic investigation and treatment, and is the value of the procedure generally accepted and likely to be profitable in a fair proportion of cases?

A.—(a) Yes, ephedrine, gr. 1/4, may be given indefinitely to a boy of 13 years, as is often done in asthma. However, it would surely be wise to see whether a dummy tablet containing lactose would not be equally effective after some time.

(b) Only those cases of nocturnal enuresis which have failed to improve under the usual treatment need be submitted to cystoscopy and urethroscopy. It is in the writer's view exceptional for enuresis to be caused by a urethral or bladder lesion, but there are those who think differently and who relate the trouble to minor changes in the appearance of the posterior urethra. Enuresis is much more likely to yield to psychological treatment than to treatment of the posterior urethra.

Bad Taste during Pregnancy

Q.—Is a persistent bad taste in the mouth common during pregnancy? In the cases I have in mind there is no oral sepsis, bronchiectasis, or alimentary disease to account for it. Excessive salivation is also present, but does not appear to affect this taste. How can this condition be relieved?

A.—A bad taste in the mouth, like various perversions of appetite, is not uncommon in pregnancy. Such symptoms, as well as excessive salivation, nausea, and vomiting, are reactions to the pregnant state, but the mechanism whereby they arise is unknown. Achlorhydria appears to be a factor in some cases of alimentary upset. Treatment of these cases is empirical, and except for nausea and vomiting is mostly unsatisfactory. Among the remedies which might be tried in this case are:—ac. hydrochlor. dil., or alternatively various alkaline mixtures or powders; astringent mouth washes; a simple diet; attention to bowels; calcium gluconate; vitamin B complex; and belladonna or atropine. Following a previous answer to a question on typhalism in pregnancy (1945, 1, 543) one correspondent (1945, 2, 414) suggested treatment with 20 drops of 25% benzyl benzoate in 90% alcohol taken in water every two hours for three doses, and then four-hourly, while another (1945, 2, 108) had found thin slices of lemon held in the cheek successful in some cases.

Persistent Hiccup

Q.—What treatment is suggested for persistent hiccup?

A.—Persistent hiccup is often most resistant to treatment and when of long duration a neurological or general cause should be suspected. In some instances the disturbance is psychogenic and it often ceases while the patient eats. Inhalations of 5% carbon dioxide are often effective and many patients have obtained relief by rebreathing the contents of a paper bag. Atropine in large doses arrests the condition in others. Traction on the tongue, pressure on the eyeballs, mechanical dilatation of the oesophagus, and firm pressure on the ribs at the level of the diaphragmatic attachments have all been successful. Some experienced practitioners are firm believers in the efficacy of pineapple juice.

Taking Blood for a Wassermann Test

Q.—In taking blood for Wassermann tests, is it adequate to rinse the dirty needle and syringe through saline and then through acetone, and can the same needle be used for the next patient?

A.—It has been shown that repeated washing out with ether and/or spirit will not sterilize a syringe, and it is most unlikely that acetone would have any better effect. If sterilization by heat is impracticable, why use a syringe at all? In most patients, when taking blood for a Wassermann test it is enough to insert a needle into a distended vein and let the blood run into a tube. It should not be too difficult or expensive to acquire a sufficient stock of needles (which can be sterilized in batches by dry heat) so that a separate one can be used for each patient.

Ethyl Alcohol Levels

Q.—What is the significance of ethyl alcohol in the urine? Is 0.288 g. per litre an excessive amount?

A.—The investigation of alcohol in the urine has been found to be less satisfactory than that of alcohol in the blood. The observations of Balthazard, Gerant, and others show the concentration in the urine to be higher by a third than that of the blood. 0.288 g. per litre is not an excessive amount. It would merely indicate that alcohol had been taken and would not determine the clinical effect on the individual. The committee on tests for intoxication set up by the National Safety Council (Chicago, 1939) has published a report which states: (1) A person having a concentration of alcohol lower than 0.5 per 1,000 in weight in the blood or its equivalent in the urine, saliva, or breath would not be charged with being under the influence of alcohol. (2) A person with a blood concentration higher than 1.5 per 1,000 would be considered as being under the influence of alcohol. (3) A person having a concentration between 0.5 and 1.5 per 1,000 would be proceeded against only when the circumstances and medical examination

gave a definite confirmation that he was under the influence of alcohol. A complete review of the problem of alcoholic intoxication by Louis Truffert may be found in the *Annales de Médecin Légale*, October, 1941.

Myxoedema

Q.—What is the explanation in a case of myxoedema, controlled by gr. 3 thyroid extract daily, of the fact that any diminution of this dose is followed by headaches. Is any other treatment indicated? In such cases can anything be done to stop the hair falling out?

A.—The writer of this reply can only speculate on the first part of the question. Headaches are associated with overactivity of the pituitary gland, such as that following surgical excision of the ovaries, or physiological castration such as occurs at the climacteric, and abolition of the excess of pituitary gonadotrophic hormone by oestrogens causes cessation of the headaches. It is possible that the withdrawal of thyroid in myxoedema causes excessive secretion of thyrotrophic hormone and overactivity of the pituitary, which may or may not be associated with excess of follicle-stimulating hormone; the latter has been recorded after experimental thyroidectomy. Thyroid gr. 3 (0.2 g.) might be the correct dose in this case, and this could be ascertained by basal metabolism and cholesterol estimations. If less than this dose results in hair falling out, additional thyroid is the logical treatment, and oestrogens locally or generally might be an adjuvant.

NOTES AND COMMENTS

Fitness for Work in Compressed Air.—Mr. ROBERT MILNE (London, W.1) writes: In "Any Questions?" (Jan. 10, p. 85) there is a reference to fitness for work in compressed air. Whilst in agreement with the advisability of a complete medical examination, there are two points which I would like to emphasize. The hazards of work depend on the rapidity of decompression, and the pressure under which the workmen have been employed comes into the picture only because the higher the pressure the longer will decompression take. The other point is that these workmen are agreed that some men are more susceptible to "bends," etc., than are others, and this lay view is borne out by tests in the experimental chamber of Air Force candidates in this country and in America. Without assuming that decompression from two or three atmospheres is exactly the same as decompression from ascending in an aeroplane, there does seem to be a definite susceptibility in some people. If a man, therefore, were destined for work in compressed air one would suggest that, in addition to the ordinary thorough medical examination, tests be carried out in an experimental chamber. It would seem that in this way men who were unduly susceptible could be weeded out.

Constipation in an Infant.—Dr. JOAN MALLESON (London, N.W.1) writes: I am in agreement with Dr. Ann Mower White in criticizing (Jan. 3, p. 34) the advice given (Nov. 29, 1947, p. 896) to treat a constipated baby by mechanical measures. The insertion of soap sticks can cause intense pain, and an infant so treated tends to protect himself by screaming and throwing himself into opisthotonus. This "conditioning" to expect pain may have the gravest consequences in later life, and appears to be the basis of many sexual neuroses, including severe psychogenic vaginismus. Details of a number of cases are given in an article I wrote which appeared in the *Journal* of Aug. 22, 1942 (p. 213). In a series of 150 cases of vaginismus well over 35% gave, on questioning the patients' mother, some history of painful manipulation of the rectum (either for threadworm or constipation) or more rarely of the urethral or genital areas. The younger the infant at the time of the trauma the more indelible the effect appears to be. It is now understood that in infancy any part of the distal mucosa is intensely sensitive to pleasure and pain, so that all manipulations should obviously be reduced to a minimum. Cases are on record where the frequent giving of rectal suppositories, or the taking of rectal temperatures, have conditioned the child to becoming passive homosexuals. It would seem, therefore, that it is undesirable to risk disturbing an infant in these ways, and that the old-fashioned nursery practice should surely be

a relaxation of the soft tissues in which the Eustachian tube is invested. Further, the head of the condyle intruding into the glenoid fossa involves the tympanic structures. The relaxation of soft tissues (tensor palatine muscle and upper head of the external pterygoid muscles) causes occlusion of the tube, with the classic symptoms of tinnitus. Other symptoms, not all concurrent, are trismus, glossodynia (burning tongue), and neuralgia. Several cases have been published recently in the *American Dental Journal*, and complete cures effected by construction of dentures to restore molar support—i.e., full vertical dimensions or opening of "closed bite." For patients who have their teeth occlusal splints are indicated.

Dr. C. J. SCOTT (London, E.) writes: With regard to the reply to the sufferer from intractable tinnitus (Jan. 3, p. 34), he may obtain some relief from the following treatment, which I have been using at my clinic on similar cases. The level of the tinnitus is estimated on the "puritone" audiometer, and the affected ear is subjected to this tone at an 80-decibel level for 10 minutes twice a week. After the first few treatments the tinnitus is usually relieved for a few hours, and in six to eight weeks it generally disappears. I have carried out this treatment in only a few cases, but it has been more successful than treatment by sedation. The object is to exhaust the cochlear level of irritation.

Enuresis in Young Adults.—Dr. J. K. PAMEIJER (Utrecht, Holland) writes: After reading the question and answer about enuresis in young adults (Dec. 20, 1947, p. 1016) I want to bring the following to your knowledge, as I do not agree with the hopelessness of these cases. My future father-in-law, Colonel C. van Luitj, surgeon at the Military Hospital at The Hague, successfully treated a number of ten patients during the last five years with epidural injections of 5 to 10 ml. (depending on the age) of 1% "novocain." The longest period of control is 3 years; this patient is now 20 years old. Never have more than 3 injections been given; in every case improvement was found after the first injection; enuresis never came back after the last one. Of course neurological and urological examination should be negative and the injections must be given by a surgeon. The patients concerned were met by Dr. van Luitj in his private practice, 10-20 years of age, and consulted him for appendicitis, hernia, etc. The enuresis was an accessory complaint and had been treated before by other specialists without success. This treatment is not generally known in Holland, and I could not find out about the physiological or pharmacological explanation in the medical literature. I should be obliged to hear your judgment.

British Diaries.—Prof. WILLIAM MATTHEWS (c/o 21, Palace View, Shirley, Croydon, Surrey) writes: I am compiling an annotated bibliography of British diaries. The work on printed and manuscript diaries in British and American libraries is complete; but some English scholars have suggested that I should add privately owned diaries. May I appeal to your readers, therefore, to send me the following details of any privately owned diary which seems to have scholarly or general interest: (1) the diarist's full name, dates, abode, and occupation; (2) the beginning and the end dates of the diary, and two or three lines characterizing its chief contents and interest; (3) its page length; (4) the name and address of the owner?

Books for Democratic Germany.—A number of German scientists, scholars, and artists have formed the Cultural League for Democratic Regeneration. It is a non-party organization and in great need of support from the democratic world outside Germany. The Düsseldorf branch of the Cultural League wishes to set up a research library to enable Germans to learn of the progress of science and art in all countries. Gifts of money, books, and music of a scholarly nature would be deeply appreciated. Mrs. Naomi Mitchison, Dame Sybil Thorndike, Mr. R. Vaughan Williams, and Prof. C. L. Wrenn appeal for them to be sent to the British Council for German Democracy, c/o Notable Press Limited, Bishop's Bridge Road, London, W.2, labelled Düsseldorf Research Library.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Albion Westend, London*. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* and unless the contrary be stated.

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MEMBERS' SUBSCRIPTIONS should be sent to the SECRETARY of the Association, TELEPHONE: EUSTON 2111. TELEGRAMS: *Medisecra, Westend, London*.

B.M.A. SCOTTISH OFFICE: 7, Drumshough Gardens, Edinburgh.

Intractable Tinnitus. Dr. J. SCOTT (London, E.) writes: With regard to the question and answer on intractable tinnitus (Jan. 3, p. 34), I have been using the following treatment, which I have been using at my clinic on similar cases. The level of the tinnitus is estimated on the "puritone" audiometer, and the affected ear is subjected to this tone at an 80-decibel level for 10 minutes twice a week. After the first few treatments the tinnitus is usually relieved for a few hours, and in six to eight weeks it generally disappears. I have carried out this treatment in only a few cases, but it has been more successful than treatment by sedation. The object is to exhaust the cochlear level of irritation.

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY JANUARY 31 1948

British Medical Association PROCEEDINGS OF COUNCIL

Wednesday, Jan. 21, 1948

A LEAD TO THE PROFESSION

A meeting of the Council of the Association was held on Jan. 21, with Dr. H. Guy Dain in the chair. Forty-six members were present.

Preliminary Business

The deaths of four former members of Council were reported, and the Chairman was authorized to forward letters of condolence to their families.

A letter was read from the Home Secretary conveying the sincere thanks of Their Majesties for the loyal and dutiful address on the occasion of the marriage of T.R.H. the Princess Elizabeth and the Duke of Edinburgh.

The Council extended its congratulations to 45 members of the Association whose names appeared in the recent Honours list.

Representatives of the Association on a number of outside bodies and delegates to forthcoming conferences were appointed.

An invitation was received from the General Secretary of the Federal Council of the B.M.A. in Australia to send a representative to the Australasian Medical Congress (B.M.A.) to be held at Perth, W.A., in August, 1948. The Council received the invitation with pleasure; the President (Sir Hugh Lett) and other members spoke of the importance of sending someone who could fully represent B.M.A. ideals, and the matter was referred to a committee to suggest a name or names to a later meeting.

The National Health Service and the Plebiscite

Dr. Dain, as chairman of the National Health Executive Committee of the Council, reported that the Special Representative Meeting had approved the form of plebiscite, and arrangements were in hand for its issue to every member of the profession at the end of the following week, and for the subsequent counting, auditing, and classification of the returns. The Hollerith system would be used for this last purpose. At the meeting of the Executive on the previous day it was decided that a letter from the Council should go out to the whole profession, giving a clear lead, to be signed by the Council members. A document called "Some Practical Questions Answered" would also be issued to every practitioner.

The letter which was proposed to be sent out was placed before the Council, and after some slight verbal amendment was adopted as follows:

To every Member of the Medical Profession:

We are now on the eve of a decision of the profoundest importance to the public and to the medical profession. For years the British Medical Association has been working for the extension, improvement, and consolidation of the country's health services, publishing its constructive proposals in a series of reports. It is now confronted with an Act of Parliament directed to the establishment of a comprehensive health service but embodying forms of organization which are in conflict with the principles of the profession. The conflict is based on the profession's conviction that the Act leads unmistakably towards a whole-time State medical

service, and that such a service would be harmful to medicine. This conviction is strengthened by the knowledge that the Act of 1946 is in the hands of those who profess as their objective a whole-time salaried State medical service. We have sought a number of changes, some of principle, some of detail. The answer has been a refusal to modify one word of the Act. The Council recognizes that some points of the profession's case make a stronger appeal to some members of the profession than to others. But it firmly believes that, viewed as a whole, the Act in its present form is in conflict with the best interests of the community and the profession.

After years of discussion the time has come for the profession to translate words into action. The issue is one not of money or compensation but of the intellectual freedom and integrity of a great profession. The Council of the Association will abide by the result of the plebiscite, as defined on the plebiscite form. It would be lacking in its duty, however, if it did not make abundantly clear to every member of the profession its carefully considered and determined view that the profession should not take service under the Act in its present form.

On the question whether this should be signed by the individual members of the Council or only by the Chairman on behalf of the members, 39 voted in favour of the former course and 7 in favour of the latter. The letter was then signed by the individual members, and it was intimated that it would be sent for signature to the few members who were absent.

Discussion took place on the question of continued membership by members of the profession on Regional Hospital Boards and Local Executive Councils, and by a large majority it was resolved to recommend to the Representative Body that such members be requested to continue their membership for the present.

The Secretary stated that the first announcement of the result of the plebiscite would be made at the special meeting of Council called for Feb. 18, three days after the plebiscite had closed. The Council would publish the result and make a report to the Divisions, which would be asked to instruct representatives for the final decisions to be taken at the Representative Meeting called for March 17.

Dr. E. A. Gregg, in reporting for the Insurance Acts Committee, mentioned the lead given by that committee to insurance practitioners in the statement published in the last *Supplement* (p. 15).

The Council returned to its ordinary business. Reports from as many as thirty standing and special committees were on the agenda.

Organization

Dr. J. A. Pridham, chairman of the Organization Committee, brought forward a recommendation that approval should be given to the establishment of a Group of Otolaryngologists in the Association. A petition for the formation of such a group had been signed by 39 members engaged in that specialty. The recommendation was approved.

He also reported that the membership of the Association on Dec. 31 last stood at 57,719, as compared with 54,175 at the

corresponding date in 1946. The percentage of the working profession—that is, excluding the retired—in the United Kingdom who were members of the B.M.A. was 77.4. It was stated that the number of resignations during the period under review was below the average; such resignations as there had been were mostly due to retirement from practice, and very few arose out of disagreement with policy.

The Council approved an alteration of articles of the New South Wales Branch, the result of which was to bring the articles more into consonance with those of the parent Association.

Dr. Pridham added that his committee had given further consideration to the formation of regional consultant and specialist committees and to the establishment of a Hospitals and Specialist Services Committee in place of the existing two committees of the Association. The provisional proposals would be submitted to a meeting of representatives of the various hospital staffs associations.

Dr. H. R. Frederick, for the Welsh Committee, detailed some highly successful steps taken to reawaken interest in an inactive Division.

Consultants and Specialists

Mr. A. M. A. Moore, for the Consultants and Specialists Committee, brought forward a recommendation that steps be taken to secure the adoption of a revised scale of fees for medical referees under the Workmen's Compensation Acts. The proposed fees were in general double those now obtaining, but it was recommended that when a medical referee sat as assessor with the judge of a county court he should be paid 20 guineas a day, or 10 guineas a half-day, irrespective of the number of cases. The recommendations were agreed to.

On a further matter appearing in the report of this committee Mr. Lawrence Abel drew attention to a definition of "consultants and specialists" by the Consultant Services Committee in suggesting the factors which should govern the organization of a permanent representative machinery for these branches of the profession—namely, that the regional consultants committee should be "elected by all members of hospital staffs." Mr. Abel pointed out that the Association had never defined "consultants and specialists," and now there appeared this definition. The matter certainly wanted clearing up.

The Secretary said that the object was not to define consultant status but to secure that there was within the Association's machinery a regional committee representative of those who were in contract with Regional Hospital Boards.

Dr. S. Wand, chairman of the General Practice Committee, brought forward a revised statement of evidence on the question of the fees payable to medical witnesses in civil courts, for submission to the committees on procedure in the High Court and County Court. The statement, which had been revised in the light of observations by the Consultants and Specialists Committee, related to the minimum fees recommended for specialists appearing in court. The statement was approved.

Industrial Medical Officers

Dr. Vaughan Jones brought forward a further report from the Industrial Medicine Committee concerning the salaries of whole-time industrial medical officers. The Council had already agreed to proposals concerning the range of commencing salary for a whole-time officer and the minimum commencing salary for an assistant, but the question of scale of increment had been left undetermined. The committee felt that the system of scale of increments in the Public Health Service was not readily applicable to the case of industrial medical officers for various reasons, the first of which was that the Public Health Service was well established and the holding of the D.P.H. was a necessary criterion for entry, whereas the industrial medical service was young and the majority of industrial medical officers held no equivalent diploma. The development of the service was largely dependent upon the financial ability of private employers. But while the committee felt that no step should be taken which would prejudice the development and expansion of industrial medical service, this did not mean that the industrial medical officers should not look forward to regular increments and to a scale of salary. The committee therefore made a recommendation to that effect, and this was agreed to by the

The Question of Compensation for Part-time Public Assistance Medical Officers

The National Assistance Bill will enable the Minister of Health to make regulations for payment of compensation in respect of loss of employment to persons in such full-time work as may be prescribed. Part-time public assistance district medical officers whose appointments become redundant are therefore not provided for.

Dr. J. A. Ireland, chairman of the Special Committee on the National Assistance Bill, said that there were two types of appointment with which his committee was concerned, one being the permanent appointments in respect of which security of tenure was given under the Public Assistance Order, 1938 and the other the appointments nominally temporary which were of such long standing as to have taken an element of permanence. The committee's view was that officers in the former category had a particularly sound case for compensation and that those in the latter had also a claim.

The feeling of the Council with regard to the second category was that the legal difficulty that the appointments were temporary in character could not be set aside, but that those in the former category—very few in number—had a clear case. It was stated that the matter was being brought before the Parliamentary Medical Group.

Scottish Business

Dr. G. MacFeat, chairman of the Scottish Committee, brought forward a recommendation that as a temporary measure, and without prejudice to subsequent adjustment, the scale of fees for reports required by procurators fiscal which had been proposed by the Crown Office should be accepted, subject to the substitution of a fee of five guineas for the three guineas offered for a post-mortem examination.

This was agreed to.

Authority was given for the calling of a conference of representatives of Scottish Divisions previous to the Special Representative Meeting to be held in March. Dr. MacFeat said that the Scottish Act differed in some respects from the English Act, and Scottish conditions of practice had certain divergences from English, so that it was felt desirable that there should be some talk amongst Scottish representatives, especially in view of the fact that a number of them would not be able to attend the London meeting. He added that there could be no question of Scotland expressing any contrary views on matters which related to both countries.

Operation of the Coroners Acts

Dr. R. Forbes, chairman of a special committee which was appointed to review and report on the working of the Coroners Acts, with special attention to the difficulties attendant upon existing facilities for pathological examinations, the fees payable to practitioners as witnesses, and the experience of the profession in carrying out the directions of the coroner, introduced a report containing a series of recommendations. He said that one time it looked as if the committee, which included the members nominated by the Coroners Society, would not reach agreement, but in the end it was able to present an agreed report, offering criticism of the working of the Coroners Acts and proposals for their amendment. The report also set out the obligations of practitioners with regard to coroners, which would be of considerable value to the profession, not all of whose members were fully informed on that subject. One of the recommendations, which was agreed to, was that a consultative committee—a permanent body to be called upon when required—comprising representatives of the Registrar-General, the Ministry of Health, the Home Office, the Coroners Society, the British Medical Association, and the professional defence organizations should be established to consider generally matters affecting the duties of coroners.

Several recommendations dealt with mortuary accommodation and pathological facilities, and one of them, which laid it down that in general the local hospital mortuaries should not be used for necropsies undertaken at the request of the coroner, was objected to by Mr. Dickson Wright, who said that in general facilities at hospital mortuaries were better than at coroners' mortuaries. In answer to this objection it was pointed

out that in not a few cases the hospital itself was involved in the matter under inquiry, and that it would be desirable to have the examination conducted away from the hospital and not by the hospital pathologist. The recommendation of the committee was accepted.

Another recommendation which caused discussion turned on the necessity of furnishing a copy of the report of the examining practitioner to the practitioner last in attendance on the deceased. The recommendation of the committee was that "where the practitioner in previous attendance so requested" the report should be furnished, and some members urged that such reports should be furnished as a matter of routine. Dr. Forbes said, however, that the coroners on the committee had informed them that often it was not discoverable what practitioner was last in attendance, and that the coroners could not assume the responsibility of issuing these reports without formal request. The same consideration applied to the notification to the practitioners in previous attendance of the date, time, and place of the necropsy. The recommendation included the words "wherever practicable."

A recommendation which was agreed to by the Council on a majority vote was that in the inquest on a suicide the Press should be prohibited from publishing an account of the proceedings, and should be permitted only to publish the fact that an inquest had been held, the name and address of the deceased, and a verdict that the deceased died by his own hand.

The recommendations included a scale of fees for making examinations and giving evidence, and also proposed that the fees payable to medical practitioners should be defined not by the present cumbersome method of statute but by ministerial regulation.

All the recommendations will be submitted to the Representative Body, and Dr. Forbes undertook to indicate what should be done to ensure that they did not remain mere pious resolutions, but were followed up perhaps by the establishment of some commission to consider the amendment of the Coroners Acts.

Public Health

Dr. James Fenton introduced a report from the Public Health Committee. It was stated that an invitation from the Ministry of Health had been received and accepted to send representatives to an informal discussion with the Ministry's Midwifery Working Party on problems connected with the midwife's functions. The committee had also sent a questionnaire to medical officers of health of existing county welfare authorities inquiring as to their position and preference. As a result of the National Health Service Act county district councils which are at present welfare authorities will lose that status and certain medical officers of health will lose a large part of their present work. They will be asked to become for part of their time assistant medical officers of the county council, but it is felt that some of them may prefer not to accept part-time duty under the county council, and that it should be possible for them to elect to take compensation instead.

Dr. Fenton also reported that a deputation from his committee had attended a conference with representatives of the Ministry of Health and the local authorities associations to discuss the revision of the scale of fees for doctors called in by midwives. The first offer made was for a uniform 20% increase. This was refused, as was a revised offer of 30%, and the deputation intimated that the minimum which it was prepared to consider recommending the Council to accept was a 50% increase operating retrospectively from April 1, 1947, and subject to an early revaluation of the items of service in the scale. The Ministry and the local authorities' representatives had agreed to examine the 50% proposal.

Mr. R. L. Newell said that the Hospitals Committee had been considering a memorandum from two of its members on the difficulties caused by the growing demands made on hospital accommodation by subacute invalids, including elderly patients. In the view of the committee the solution of the problem was to be found in the geriatric organization proposed by the Committee on the Care and Treatment of the Elderly and Infirm, and it had invited that committee to consider what immediate steps could be taken to stimulate the authorities to act upon its recommendations.

The recommendation was brought forward from the Hospitals Committee that no further action should be taken at the present time with regard to the negotiation of a scale of salaries for junior house officers of voluntary hospitals. It was felt that in view of the danger of prejudicing the negotiations for the payment of house officers under the National Health Service it was inadvisable at this late date to formulate any such scale for the few remaining months of the period. The recommendation was agreed to.

Equal Status

General R. W. D. Leslie, for the Armed Forces Committee, reported that the resolution of the last Annual Representative Meeting affirming equality of status as between men and women doctors, including equal status in the Services, had been considered by his committee, which had found itself unable to endorse the view of the Representative Body and of the Medical Women's Federation. There was no question that women in the Services had rendered very great service, but if admission to complete equality of status with men was conceded it would involve, for instance, liability to front-line service. There could be no variation once admission to equal status was granted. He suggested as an alternative a special commission in the R.A.M.C. for women. At present women were given commissions only in the women's Forces.

Dr. Janet Aitken said that the Medical Women's Federation had always agreed that within the Service there might be limitations on what a woman was permitted to do, just as there were men doctors commissioned in the Army who, for various reasons, were not permitted overseas service. She did not see that the "front line" argument was valid as against admission to equal status in the Service itself.

The Chairman suggested that the Armed Forces Committee should arrange to discuss the subject with representatives of the Medical Women's Federation.

Special Committees

Mr. Dickson Wright, for the Film Committee, presented estimates for the setting up by the Association of a Film Library, for the establishment of which, it was considered, an initial sum of £2,000 was required. The Treasurer (Dr. Bone) took exception to the lack of detail with which the estimate was presented, and criticized the proposal for this expenditure at a time when the Association was very heavily committed in other directions. The matter was referred to the Finance Committee.

The Committee on Nutrition reported, through its vice-chairman, Dr. R. G. Gordon, that it had got to work and had appointed four subcommittees to consider different aspects of the problem—namely, basic nutritional requirements, family consumption of food, the bearing of wartime and present diet on the health of the community, and practical dietetics, including psychological aspects of the problem of nutrition.

Dr. Mary Esslemont, chairman of the Committee on Nursing, said that her committee had given preliminary consideration to the report of the Working Party set up jointly by the Ministry of Health and other Departments. There appeared to be a large measure of agreement between the views of the committee and those provisionally adopted by the British Hospitals Association and the Royal College of Nursing, and it was suggested that these views should be submitted to the Ministry in the form of a joint memorandum. The Council agreed that, subject to complete agreement between the bodies named, a joint memorandum should be produced and presented.

Dr. R. G. Gordon reported that after two years' work the Medical Curriculum Committee had completed its report—a very long document—which would be submitted to the Council at its meeting in March. The Chairman of Council said that this would probably prove to be one of the finest documents the B.M.A. had ever produced.

Dr. J. G. Thwaites, for the Committee on Psychiatry and the Law, presented a memorandum on enuresis which it was hoped to publish in the *Journal* and to circulate to Government Departments, local authorities, and other interested persons and organizations. Dr. Cockshut hoped that steps would be taken to circulate the report to all education officers.

Dr. Thwaites said that the committee's next task would be to deal with the subject of criminal law and sex offenders. A resolution which had been sent to the Council from the National Council of Women of Great Britain calling attention to the number of cases of appalling cruelty to children in which the offenders had received inadequate sentences in the courts was referred to the Psychiatry and Law Committee.

A progress report from the Health Centre Committee was made. The Committee had had before it an interim report from the Assistant Secretary (Dr. Revans), who has been making a field inquiry into the conditions of group practice.

Internal Affairs

Dr. L. D. Callander presented the report of the Building Committee, which recommended the repair and repainting of the memorial gates and the installation of fluorescent lighting in the Garden Court Wing of the Association House. The report was approved.

A superannuation scheme for the house staff of the Association was agreed to.

The Council considered a design for the coat-of-arms and seal of the Association, but the design submitted was criticized on various grounds and the subject was referred back.

A report of the Public Relations Committee was presented by Dr. Dain and approved.

Dr. O. C. Carter brought forward a recommendation from the Journal Committee that an Annual Review of Pharmacology and Chemotherapy be published by the Association, with the support of the British Pharmacological Society and in co-operation with the Scandinavian pharmacological societies, if a request to that effect was received. This was agreed to, subject to such support being forthcoming.

After mentioning that a monthly edition of the *British Medical Journal* in one or more foreign languages for circulation overseas was being considered, Dr. Carter took occasion to congratulate the Editor on the high standard maintained during the first and most difficult year of his editorship.

Dr. Janet Aitken, in moving the report of the Charities Committee, mentioned that the amount of subscriptions had increased. Unmarked subscriptions included a legacy of £2,500 from the estate of the late Dr. C. P. Colls, which amount had been distributed equally between the Royal Medical Benevolent Fund and Epsom College. Grants to the amount of £565 had been made during the year from the Dain Testimonial Fund.

On the recommendation of the Science Committee it was agreed that the Stewart Prize be awarded to Dr. Leonard Colebrook, F.R.S., for his work on puerperal infection and its treatment with sulphonamides and his investigations into burns and their treatment.

Prof. Samson Wright was invited to be the Association's representative at the Royal Society Scientific Information Conference to be held in June and July, and Mr. A. M. A. Moore to represent the Association on the Surgical Equipment and Appliances Industrial Standards Committee of the British Standards Institution.

Dr. J. A. Pridham, reporting for the International Relations Committee, said that since the last report three B.M.A. lectures had been delivered on the Continent—in Denmark, Norway, and the Netherlands—and other lectures had been arranged. It was proposed to hold in April the first reception for foreign medical visitors who might be in London at that time.

The Council approved the Association's membership of the World Medical Federation for 1948, the subscription due being approximately £527, being 20 Swiss centimes for each member, apart from members in countries of the Empire which had separate representation in the Federation.

Dr. Pridham also presented a brief report from the committee set up to consider the relationship of the Association to the medical profession in India, Pakistan, Burma, and Ceylon. The number of branches and the membership of the Association in these various countries. The Indian Medical Association has a membership of 10,000, has been a member of the Federation since 1946, and recommended the Council to accept its application for affiliation.

Dr. Pridham also reported that 114 applications had been received in 1947 for affiliation to the Association. The Medical Director of the

proposed British Medical Advisory Bureau. The Staffing Committee was authorized on behalf of the Council to make the appointment.

On the motion of Dr. N. E. Waterfield, for the Central Ethical Committee, a small committee was set up to consider the legal implications of counsel's opinion with regard to the powers of the Association to enforce by expulsion the view that certain conditions of employment are unacceptable.

The Council, which had assembled at 10 a.m., concluded its business at 5.15 p.m.

HEARD AT HEADQUARTERS

The Professional Man's Freedom

The new president of the Institution of Mining Engineers Prof. J. A. S. Ritson, when he addressed the annual meeting the other day, discussed the position of the professional man in a nationalized service, and his remarks have some appositeness from the point of view of medical men. He asked whether their changed status as servants of the State (which is in fact what most mining engineers now are under the National Coal Board) was to affect their freedom to express professional opinions? They were not Civil Servants in the ordinary accepted sense of the term, but they must accept the example of that great body in loyalty to their masters. Nevertheless they claimed their rights as professional men to express their own views so long as it was understood that their views were their own and did not implicate their employers. Prof. Ritson added that if they claimed freedom of speech and discussion for their members they must accept fully the corollary that there were limits which must be observed and duties under taken. He thought it would be wrong at Institution meeting to challenge the nationalization of the collieries or to assai the constitution or general plans and policy of the National Coal Board.

Would medical bodies be prepared to accept a similar self denying ordinance in respect of the Ministry of Health?

Correspondence

Married Doctors in the Services

SIR,—May I, as another young married doctor who works with sufficient diligence to qualify and earn a living sufficient to support a wife before my twenty-fourth birthday, heartily endorse the sentiments expressed by "Conscripted, R.A.F.V.R." in the two letters in your columns (Dec. 6, 1947, p. 113, and Jan. 10, p. 7). To conscript a married man of professional standing into the Forces and then to offer him 28s. 5d. per day, is sufficiently insulting, to say nothing of the statement that this remuneration compares favourably with that of civilians of similar age and qualifications, which statement is utterly false, as a study of the "Assistantships Vacant" column of the *B.M.J.* will readily prove.

Can the B.M.A. not convince this bone-headed and nationalization-mad Government that if it insists on conscripting men into its Armed Forces then it is in duty bound to conscript their responsibilities in life along with them. Those of our profession who intend voting in favour of accepting the Government proposals regarding the State medical service would do well to ponder on the treatment and entirely negative amount of consideration given by the present Government to the members of the profession already in its clutches.—I am, etc.,

R.A.M.C.

Australian Medical Service

SIR,—Your paragraph in "Heard at Headquarters" entitled "From Down Under" (Dec. 27, 1947, p. 170), while no doubt accurate in the matter with which it deals, may convey to your readers a false impression of developments in Australian medical politics. The situation here is dominated by the fact that the Council of the B.M.A. as a result of exploratory discussions

with the Minister of Health, came to the conclusion that the Government intended the sure, even if slow, extinction of private practice. Having ascertained this fact, the Council considered that further discussions would simply amount to co-operation towards an end which it felt was in the interests of neither public nor profession. This position was revealed to the profession generally at a series of meetings of local associations, one of which I attended. At this meeting a resolution was carried unanimously to the effect that the profession could not be expected to co-operate with the Government in a policy designed to lead to the extinction of private practice, and that consequently further discussions would serve no useful purpose. I understand that similar resolutions or the same one have been carried overwhelmingly at the other meetings. The strong lead given by the Council was observed with acclamation.

While we do not anticipate that the Government will precipitately abandon its schemes, we are confident that they will "fade away," just as did the earlier proposal for an insurance scheme on the pattern of the English (really German) scheme in the face of opposition by the profession generally. If, however, the Government wants to do something, a fee-for-service scheme with no strings of central control of either patients or doctors might be possible.—I am, etc.,

Canberra.

BRYAN W. MONAHAN.

H.M. Forces Appointments

ROYAL NAVY

Surgeon Commander N. B. de M. Greenstreet has been placed on the Retired List.

ARMY

Colonels G. P. Kidd, C.B.E., M.C., and D. G. Cheyne, C.B.E., M.C., late R.A.M.C., have retired on retired pay and have been granted the honorary rank of Brigadier.

ROYAL ARMY MEDICAL CORPS

Lieutenant-Colonel (Temporary Colonel) C. M. Marsden to be a Consultant, and has been granted the local rank of Brigadier.
Lieutenant-Colonel J. F. Shepherd, M.B.E., I.M.S., retired and employed in the rank of Colonel as a Consultant, has been granted the local rank of Brigadier.

Lieutenant-Colonel G. W. B. Shaw, from R.A.M.C., to be Colonel.
Major J. L. O'Neill to be Lieutenant-Colonel.

REGULAR ARMY RESERVE OF OFFICERS

ROYAL ARMY MEDICAL CORPS

Lieutenant-Colonel J. H. Ward, D.S.O., M.C., having exceeded the age limit of liability to recall has ceased to belong to the Reserve of Officers, and has been granted the honorary rank of Colonel.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

Captain R. J. V. Battle to be Major.
University of London Senior Training Corps (Medical Unit).—Lieutenant (Acting Major) I. L. MacKinnon and Lieutenant D. Home have ceased to serve and have been transferred to the Unposted List. Lieutenant (Acting Captain) C. B. B. Downman, supernumerary for service with University of London Senior Training Corps (Medical Unit) has resigned his commission.

TERRITORIAL ARMY RESERVE OF OFFICERS: ROYAL ARMY MEDICAL CORPS

Major R. J. V. Battle, from Active List to be Major, and has been granted the honorary rank of Lieutenant-Colonel.
Major E. M. R. Frazer, T.D., from Unemployed List to be Major, and has been granted the honorary rank of Lieutenant-Colonel.

WOMEN'S FORCES

EMPLOYED WITH THE R.A.M.C.

War Substantive Captains E. Khaliq and A. L. Ashforth have relinquished their commissions and have been granted the honorary rank of Captain.

Miss E. Winton to be Captain.

ROYAL AIR FORCE

Air Commodore (Acting Air Vice-Marshal) T. J. Kelly, C.B.E., M.C., has retired and is re-employed.

Group Captain C. A. Lindup has retired on account of medical unfitness for Air Force service.

Flight-Lieutenant (Substantive) (War Substantive Squadron-Leaders) R. D. Bruce and W. D. Peock have relinquished the temporary rank of Wing Commander.

Squadron-Leader J. M. Ritchie has retired, retaining the rank of Wing Commander.

To be Squadron-Leaders (Substantive): J. P. Sewell, J. B. Ross, P. J. Macnamara, K. L. G. Nobbs, G.M., and J. A. MacCarthy, O.B.E., G.M., M.C.

D. Malloch to be Squadron-Leader (Temporary).

To be Flight-Lieutenants: J. A. B. Mounsey and C. G. White.

J. P. Sewell to be War Substantive Squadron-Leader.

To be Flight-Lieutenants (Substantive): T. J. G. Price, H. A. N. Hamersley, and S. C. Farman.

Flying Officer R. E. Woolley to be Flight-Lieutenant (Substantive).

To be Flight-Lieutenants (Temporary): P. M. Anderson, M. J. Blunt, S. Z. Hulman, N. Meller, D. Ryan, T. K. Davies, D. L. B. Farley, D. I. Jenkins, and P. F. Philip.

To be Flying Officers (Temporary): J. H. Atteridge, H. Cohen, W. A. D. Combe, J. K. Craig, D. W. J. Cullingford, A. R. Curtis, D. P. Fitzgerald, J. M. Gill, R. W. Hughes, J. D. Kerr, P. B. Kunkler, P. D. Livingstone, J. Parkyn, R. M. Powell, W. L. Sewell, G. R. B. Whitaker, D. A. Watson, D. A. B. Ashcroft, A. Benjamin, A. G. Bradford, G. K. Davies, D. M. D. Evans, F. C. B. Harvey, C. H. A. Hoy, A. G. Jessiman, P. A. W. Lea, J. J. Morland, D. Seymour, L. S. Smith, J. J. Teeuwen, P. Timmis, J. A. Turner, and A. T. Wilson.

RESERVE OF AIR FORCE OFFICERS

Squadron-Leader I. Shaw has resigned his commission, retaining the rank of Wing Commander.

V. T. Powell to be Squadron-Leader (Substantive).

ROYAL AUXILIARY AIR FORCE

The notification concerning "E. C. Cross" under the above heading in the Supplement of Dec. 6, 1947 (p. 135), should have read "E. C. Gross."

ROYAL AIR FORCE VOLUNTEER RESERVE

War Substantive Squadron-Leader J. Tate to be Squadron-Leader (Substantive).

Flight Lieutenant B. Haring has resigned his commission, retaining the rank of Squadron-Leader.

Flight-Lieutenant G. H. Seale has relinquished his commission on account of medical unfitness for Air Force service, retaining his rank.

Flight Lieutenant T. Bell has relinquished his commission on account of medical unfitness for Air Force service.

The following have been granted the substantive rank of Flight-Lieutenant: J. D. Abbott, D. C. Adamson, T. L. Adamson, F. Aiberts, E. M. Allen, R. A. Allen, E. A. J. Alment, J. R. Anderson, M. M. Andrew, G. J. E. Ansell, D. Anthony, J. A. Ardis, R. A. Armstrong, E. R. Arnold, W. E. Arnold, P. W. Arundell, N. D. Ashe, R. J. Aspinall, W. H. R. Auld, G. F. Bacon, C. E. Bagg, G. M. Bailey, N. L. Bailey, K. Baker, R. A. H. Bannatyne, T. C. G. Barnes, D. N. Baron, J. Barr, R. F. McG. Bassett, R. W. Baxter, H. S. Bennett, F. M. Benton, G. E. R. Bibbings, G. L. Bickler, E. Bindman, M. Binnie, J. D. Blainey, N. N. Blackland, J. H. Boydell, J. L. Braithwaite, A. F. Bromwich, N. Broughton, R. J. Bruce, N. F. W. Brutton, P. D. Bryant, J. Buchanan, G. N. Burns, R. Burns, D. E. St. J. Burrows, J. H. Burt, I. Butler, A. D. Caird, J. S. Coldwell, J. A. Cameron, A. Campbell, J. D. C. Campbell, F. E. V. Cant, R. B. Carr, J. A. Chalmers, D. A. Chandler, A. D. Charley, W. K. Christopher, H. E. Claremont, C. Clark, G. I. Clarke, J. A. Clarke, K. S. Clarkson, G. Clayton, K. D. Cochran, A. A. Cohen, E. de M. Connell, N. C. Connell, L. N. Cook, J. A. Cooney, N. Coulshead, J. G. Coxon, A. W. Craig, W. G. C. Craig, D. S. Cramond, W. A. Crawford, J. S. Creighton, R. S. Crow, P. W. Dagger, D. G. Davidson, R. Davidson, L. D. Davidson, D. L. Davies, E. C. Davies, E. J. L. Davies, J. E. Davies, L. G. G. Davies, N. N. Davies, S. Davis, A. M. Dawson, P. S. Dearden, H. Debovitch, W. H. Dempster, E. Dillstone, R. I. Dixon, W. J. A. Dobson, T. W. G. Donohoe, A. Douglas, E. C. K. Douglas, B. Dover, A. C. Dresser, R. W. Drewer, E. F. Ducat, L. G. Duff, T. D. Duke, J. G. Duncan, S. Edelman, A. C. Edwards, D. A. W. Edwards, J. Edwards, J. H. Edworthy, R. Ellam, J. G. R. Ellis, T. Ellis, R. T. D. Emond, D. Emslie-Smith, M. Evans, T. J. Evans, R. F. Ewing, D. I. Ferguson, I. S. Ferguson, A. G. C. Findlater, J. K. Fleming, J. M. Fleming, J. J. Fleminger, D. D. Forbes, K. J. R. Ford, P. Foster, D. Fox, I. H. Fox, J. Fraser, T. M. Fraser, J. Freedman, T. T. Fulton, J. D. Galletly, J. A. Gavin, C. Gethinge, D. F. Gibbs, J. H. Gibson, A. W. Gilles, T. M. Glaister, J. D. Glanville, R. E. Glenn, K. L. G. Goldsmith, J. B. Good, W. H. Graham, C. W. Graham-Stewart, D. P. Greaves, B. A. J. C. Gregory, H. B. W. Greig, G. E. Griffiths, L. Griffiths, J. Hacking, F. J. Hallinan, M.B.E., J. C. Ham, W. Hamilton, E. A. Harris, W. C. Harris, L. M. Harrison, R. Harrison, T. Harvey, W. E. Hassan, A. G. Hayter, H. S. Heddle, A. C. Hill, B. R. Hillis, S. Hillman, G. L. Hindson, R. Horn, C. Hougie, C. A. Houlder, E. P. G. Houssemayne du Boulay, R. A. Houston, R. R. Houston, J. F. Hudson, A. S. Hughes, J. T. Hutchison, E. J. Innes, W. McI. S. Ironside, J. D. Jack, J. G. Jackson, R. F. Jackson, W. A. Jackson, P. G. Jagger, D. W. James (203698), D. W. James (202981), J. A. Jamieson, D. M. Jeffreys, D. C. W. Jenkins, W. J. Jenkins, E. G. Jenner, F. F. Jerichow, A. T. Johnson, W. R. Johnson, D. C. R. Jones, P. M. P. Jones, P. R. B. Jones, R. F. McN. Jones, W. K. Jones, M. C. Joseph, P. K. S. Joynson, R. Just, H. R. Kelford, A. C. Kennedy, M. M. A. Kenny, C. H. Kinder, W. N. Kingsbury, C. R. Kirkpatrick, S. J. Krister, J. D. Lacon, F. M. Langan, O'Keefe, F. Latham, J. G. Latimer, W. McR. Laverie, J. Lawson, W. T. W. Lawson, W. R. Lee, D. Leigh, D. R. Levinson, L. F. Levy, D. O. Lewis, S. Lewis, D. G. Lindsay, R. Lineham, J. W. Little, R. H. Little, W. A. S. Llewellyn, G. H. Lloyd, P. S. London, K. Lowe, D. J. Lyall, D. W. R. Lyle, G. R. B. McCarter, W. R. MacCrossan, W. H. Daniel, G. McL. McGillivray, D. D. McGrath,

R. C. McGregor, K. E. McIver, I. MacKenzie, C. B. McKerrrow, R. S. MacLachlan, A. H. MacLaren, W. J. MacLaren, I. C. Maclean, D. MacLeod, J. McMillan, G. R. McOwan, J. R. McPherson, R. J. McWilliam, E. W. F. Mack, T. P. Magee, A. R. Makey, H. B. Maliphant, N. B. Malleson, A. E. Malone, S. H. Manners, L. V. Martin, A. Maiher, R. M. S. Matthews, M. Mattinson, J. B. Maxwell, E. V. de C. Medill, R. W. P. Mellish, I. H. Mercer, J. G. Millers, A. D. Moffat, P. R. Montgomery, J. Y. Moore, G. W. Morrison, J. A. B. Mounsey, I. S. Mudie, S. S. F. Munro, J. H. Murphy, J. D. Nelson, C. R. Neve, P. F. New, N. Newman, R. R. W. Nichols, T. C. Nicol, W. D. Nicoll, W. S. Noble, J. P. Nowlan, E. S. Odbert, A. C. F. Ogilvie, H. I. O'Hare, D. O'Kieffe, K. W. Oldham, D. W. J. O'Neill, P. R. Ormerod, A. O. Osbaldstow, A. S. Oscier, C. Ounsted, K. W. E. Paine, D. A. A. Parker, A. C. Parry, J. D. Paterson, R. F. Payne, D. R. L. Peill, M. J. Peto, J. G. Piccaver, W. A. J. Pike, T. R. E. Pilkington, A. G. Pollacehi, I. A. Porter, G. D. Powell, I. H. Pratt, A. E. Pritchard, J. M. Pugh, C. W. A. Pullan, R. J. Rabett, R. W. Rapiet, W. T. D. Ray, T. H. Redfern, G. P. Reed, P. A. Reed, J. C. Reid, D. F. Reynolds, D. Richardson-O'Keefe, J. H. Ridgwick, W. Ritchie, R. C. Robb, A. P. Roberts, C. G. Roberts, G. F. Roberts, K. I. Roberts, F. L. Robertshaw, D. F. Robertson, J. H. Robinson, J. O. Robinson, K. W. Robinson, W. E. Robinson, R. Rodger, N. Rosedale, R. A. K. Ross, T. M. Roulston, H. A. K. Rowland, C. M. Ruben, J. Rubin, J. B. Russell, and R. C. Rylance.

Flying Officers D. F. V. Brunsdon, M. F. Butler, B. L. Crystal, J. R. Dickson, E. D. Edwards, G. E. Flatman, G. L. Grant, J. R. Groves, R. J. H. Guy, M. J. Harman, C. F. Lascelles, K. Pickworth, L. Roodyn, D. E. Rowlands, J. Swale, J. V. Thurston, D. G. L. Trust, P. P. Turner, A. G. Bearn, K. W. Bolt, P. E. Brown, W. Campbell, D. A. Dawson, J. S. Dismorr, A. S. Dunn, E. Ellis, T. R. L. Finnegan, A. E. Fyfe, T. A. Harrison, H. A. Lane, J. Mackinnon, K. E. Rimmington, and A. Stewart to be Flight-Lieutenants.

Flying Officer W. G. A. Begg has relinquished his commission on account of medical unfitness for Air Force service, retaining his rank.

DENTAL BRANCH

W. D. Clarkson-Webb has been granted the substantive rank of Flight-Lieutenant.

WOMEN'S FORCES

EMPLOYED WITH THE MEDICAL BRANCH OF THE R.A.F.

Violct I. Wilson to be Flying Officer (Temporary).

COLONIAL MEDICAL SERVICE

The following appointments have been announced: N. R. E. Fendall, M.B., B.S., S. R. S. Godkin, M.R.C.S., L.R.C.P., and G. T. M. Hayes, M.B., B.Ch., Medical Officers, Kenya; J. C. McNeilly, M.B., B.Ch., Medical Officer, Tanganyika; H. W. Woolner, L.R.C.P.S., Medical Officer, Nigeria; S. Wozniak, M.B., Ch.B., Medical Officer, Gold Coast; R. A. Wesson, M.R.C.S., Medical Officer, Fiji; C. O'Colmain, M.B., B.Ch., J. J. O'Sullivan, M.B., B.Ch., and C. H. Wood, M.R.C.S., L.R.C.P., House Doctors, General Hospital, Singapore; R. S. McElroy, M.B., B.Ch., Assistant Director of Medical Services, Kenya; R. C. Speirs, M.D., Deputy Director of Medical Services, Uganda.

Association Notices

Diary of Central Meetings

FEBRUARY

12 Thurs Journal Committee, 2 p.m.

18 Wed Council, 10 a.m.

Branch and Division Meetings to be Held

BATH, BRISTOL, AND SOMERSET BRANCH—At Large Physics Lecture Theatre, the Royal Fort, Bristol University, Wednesday, Feb. 4, 8.30 p.m. Discussion to be opened by Dr. D. P. Stevenson (Assistant Secretary, B.M.A.). Plebiscite in connexion with the National Health Service. All medical practitioners and medical students in the area of the Branch are invited.

LEICESTER DIVISION—At County Hospital, Herford, Thursday, Feb. 5, 9 p.m. Final Consideration to be given to the Plebiscite on the National Health Act. All medical practitioners in the area of the Division are invited.

LEICESTER DIVISION—At Pathological Laboratory, St. John's Hospital, Leicester, S.E., Thursday, Feb. 5, 8.30 p.m. Demonstration by Dr. K. E. A. Hughes: Pathological Advances of Interest.

STAMFORD DIVISION—At Stamford Hall, Altrincham, Sunday, Feb. 7, 10 a.m. A. A. Lawrence Abell: The National Health Service. Open to all members of the medical profession.

ATHENS DIVISION—At Red Lion Hotel, Athens, Thursday, Feb. 5, 8.30 p.m. Lecture by Lady Forey: Progress of the National Health Service and Other Aspects.

ATHENS DIVISION—At Red Lion Hotel, Athens, Thursday, Feb. 5, 8.30 p.m. Lecture by Lady Forey: Progress of the National Health Service and Other Aspects.

SWANSEA DIVISION—At Mackworth Hotel, Swansea, Thursday, Feb. 5, 7.30 p.m. Annual B.M.A. lecture by Mr. D. Charles Reader: Post-menopausal Haemorrhage.

Meetings of Branches and Divisions

DORSET DIVISION

A meeting of all practitioners in the area was held at the Old Shire Hall, Dorchester, on Jan. 11; 65 doctors were present. Dr. J. A. Pridham, Member of Council, gave a lucid and comprehensive account of the implications of the National Health Service to an enthusiastic audience. A motion pledging full support to the British Medical Association in its fight to amend the Act was carried by an overwhelming majority.

DUMFRIES AND GALLOWAY DIVISION

A meeting was held in Dumfries on Jan. 11 to discuss the Minister of Health's Memorandum on the statement of the Negotiating Committee's views on the National Health Service Act. There was a large attendance and the meeting emphatically agreed that the National Health Service Act is unacceptable to the medical profession.

GUILDFORD DIVISION

A meeting of the consultants and specialists of the Guildford Division was held on Jan. 18 to consider the National Health Service Act. A paper vote was unanimous in disapproval of the Act. There was a unanimous vote (with one abstention) against taking service under the Act, and a unanimous vote supporting the policy of the B.M.A.

The feeling of the meeting was that, though an Act which would improve the hospital service of the country would be welcome, the Act as it stands will have the opposite effect.

LINCOLN DIVISION

A General Meeting of the Division was held on Jan. 13 at the Saracen's Head Hotel, Lincoln, with Dr. A. M. Maiden in the chair. Sixty-five members and non-members were present.

After an excellent dinner the chairman announced that cheques for 49 guineas had been forwarded to the Branch Secretary, King, the amount collected from the Division for the Baylis Testimonial Fund. Dr. L. S. Potter, Assistant Secretary of the B.M.A., spoke on the N.H.S. Act, and then answered many questions. A vote of thanks proposed by Dr. S. Wray and seconded by Mr. A. H. Briggs was carried with acclamation.

MID-ESSEX DIVISION

An open meeting was convened by this Division on Jan. 11, 21 medical practitioners resident in the area being notified. Sixty-five attended, and after a free and stimulating discussion on the present state of negotiations with the Minister the following resolution was passed:

"That this meeting is definitely opposed to joining the National Health Act Service as at present constituted and made unworkable for us by the Minister's refusal in any way to negotiate in the proper sense of the word with our representatives. We, after this, will have to work this scheme and bear the brunt of all its unfair innovations into the practice of medicine, and the Minister's refusal to make even the smallest concession to our views leaves us with no alternative but to refuse to work this Act."

In favour: 63. Against: 4. Abstained from voting: 2.

NORTH OF ENGLAND BRANCH

The following resolutions were passed at a meeting of consultants and specialists of Region 1, representing Newcastle-upon-Tyne, Durham, and the Counties of Northumberland, Durham, Westmorland, and Cumberland, held on Jan. 16.

(1) This meeting of consultants held at the Royal Victoria Infirmary, Newcastle-upon-Tyne, on Jan. 16, is strongly opposed to the National Health Service Act in its present form and supports the lead given by the Special Representative Meeting.

Passed by a majority of 67-1, none abstaining.

(2) This meeting of consultants further affirms its intention to support the result of the plebiscite in the event of a majority vote against accepting service under the Act.

Passed unanimously, 68 voting.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Poplar.

Non-County Borough Councils.—Dartford, Radcliffe (limited to future appointments), Tottenham, WallSEND.

Urban District Councils.—Denton, Droylsden, Houghton & Spring, Huyton-with-Roby, Portslade, Redditch (restricted to new appointments), Stanley (Co. Durham), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

BRITISH MEDICAL JOURNAL

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EFFECTS OF WAR ON CHILD HEALTH*

BY

RICHARD W. B. ELLIS, O.B.E., M.D., F.R.C.P.
Professor of Child Life and Health, University of Edinburgh

The influence of any environmental factor on a growing organism must be measured in terms of the immediate effect produced and also of the ultimate effect on subsequent development. When the growing organism is a child the matter becomes infinitely complex, since the health of the child is intimately bound up with his physical, intellectual, emotional, and moral development. The last of these is least accessible to scientific evaluation but is of profound importance in determining the child's immediate and subsequent adjustment to society.

Furthermore, war conditions themselves are so fluid and variable that by their very nature they are ill-adapted to planned survey or statistical assessment. It will be clear, therefore, that my subject is one where the broad generalization, the clinical impression, and all the uncheckable quotations so anathematized in modern scientific medicine still hold pride of place. In saying this I have not lost sight of the many excellent surveys of children under war conditions which have in fact been carried out. But it is true in general that many of the effects of total war involving the child population will necessarily be unassessable. One has only to consider the unorganized movement of populations and the disruption of civilian services and records for this to become plain.

My own direct interest in the subject dates from the Spanish Civil War, when in 1937 I was brought abruptly into contact with the problems of large-scale evacuation of children from a city in a state of siege. During the succeeding ten years I have had the opportunity of seeing something of the effects of war on children in a dozen different countries, and of comparing the problems arising and the methods adopted for their solution.

The particular points I wish to illustrate are these: the disruption of home and family life of the individual child; the instability of his environment, varying from constant movement before an advancing army to evacuation under aerial bombardment; the lowered and often conflicting moral standards with which the child is likely to be brought into contact; the commonest disease processes likely to affect the child; and the means taken to safeguard the welfare of particular childhood populations in countries at war.

Broadly speaking, total war as it affects the child may be considered as an infectious disease: the first phase or period of incubation is that during which a peacetime economy is being rapidly turned over to wartime needs; the second phase is the period of eruption or invasion, which is likely to be fulminating, when a rapidly moving front will result in mass movements of civilian refugees; the third

phase is the long-continued period of sickness represented by life under enemy occupation or aerial bombardment; and, finally, we have the stage of convalescence, often protracted and incomplete, which continues through the immediate post-war years. The individual child may succumb at any stage of the disease, and those that survive the period of convalescence may well carry the effects of the illness throughout their lives.

The biological effects of the pandemic will also affect the race as a whole. Against the advantages of earlier marriage and reproduction which commonly result from war conditions must be set the prolonged separation of couples during the reproductive period, the rise in illegitimacy, and the increased number of divorces and broken homes.

Periods of severe nutritional deprivation will result not only in a rising infant mortality but also in a lowered conception and birth rate. Thus in Rotterdam and The Hague, where there was a period of acute undernutrition affecting the whole population for a relatively short and well-defined period in 1944-5, it was calculated that 50% of the female population became amenorrhoeic, and that nine months later the birth rate was less than a third of the normal for the same cities (Smith, 1947). In Berlin the infant mortality rate in the British zone rose to well over 200 infant deaths per thousand live births between July and December, 1945—approximately four times the pre-war rate in Germany.

But in spite of these large-scale disasters there is one feature of the recent war which personally I consider of the utmost social significance—namely, the attention paid to the protection of child life during the war years in almost every country involved. This was in marked contrast to conditions in the past, when children were to a large extent treated as members of the general civilian population, and were likely to be the first rather than the last to suffer during periods of prolonged deprivation. It may reasonably be argued that war conditions themselves have changed; that the introduction of large-scale aerial warfare has directly involved the civilian population to an unprecedented extent; and that the occasional sack and elimination of cities in the Middle Ages are more than counterbalanced by the systematic destruction of newborn infants and children which was practised in certain concentration camps. Without questioning the validity of this argument, the fact remains that in most countries the importance of preserving child life was realized from the outset.

Movement of Refugees in Spain

I make no apology for taking many of my illustrations from the Spanish Civil War. This is now an old story; but while the conflagration in Spain was at first on a smaller scale it illumined many of the problems which were to

*An address delivered to the Royal Medical Society, Edinburgh, on Dec. 12, 1947.

develop world importance later. As in every war, the movement of refugees in Spain was conditioned by a number of different factors, including not only the movement of the front line but also the nature of the terrain—e.g., the relationship of agricultural land to the larger cities, the position of the sea coast, and the nature of the frontiers. Though not the first war in which aerial bombardment had been deliberately used against civilians, this modern weapon introduced new and unexpected factors into civilian behaviour. The picture was further complicated by the fact that the war was essentially a civil war, in which the presence of a fifth column introduced the atmosphere of mutual distrust and betrayal which was to prove perhaps the most degrading of all the attributes of war.

The first movement of refugees—trekking by road and under shell-fire from the sea—was from the southern extremity of Spain toward the north; the greater part of this mass movement was to Barcelona and the province of Catalonia, bordering the French frontier in the Pyrenees. With the evacuation of Madrid through the narrowing life-line linking the capital with any agricultural area, the refugee population in the north steadily increased, whilst living accommodation and food supplies as steadily deteriorated. The number of refugees in this comparatively small province was subsequently swollen by the arrival of Basques, whose native province had been overrun, and later by an increasing number of Catalans who had been rendered homeless by the enemy advance. Ultimately, with the final defeat of the Republican Army, over half a million refugees poured over the Pyrenees into France.

The clearest impression that remains after talking to many of these refugees while still in Catalonia is not so much of their often appalling living conditions, inadequate food, and lack of soap and fuel as of their complete insecurity and homelessness (Ellis and Russell, 1937b). Many women with young children had literally been on the road for weeks, while they knew they might be moved on at any moment to some other very temporary asylum. A small boy of 5, who arrived in Barcelona with forty others from a children's colony which had just been machine-gunned, told me with pride that he had already been evacuated three times from the neighbourhood of an advancing army. I was to see him moved three more times before he finally reached France, though even here the prospect of his finding any permanent refuge was remote. A peasant woman from near Malaga, with an infant in arms and two other small children, told me that a fourth child of 5 had left her side during the first panic exodus from the south and had been lost in the stream of refugees on the road, and that she had never seen her since.

Although many had left home with such household goods as they could carry or pack into carts, by the time they reached France their belongings had for the most part been lost, bartered, or stolen on the way. The few donkeys that remained were slaughtered for food in the final trek over the Pyrenees, while any valuables that had been retained were requisitioned by the Sudanese troops guarding the concentration camps in France or finally exchanged for food.

My impression, and I can hardly call it more than this, is that the child can forget physical hardship (as distinct from deliberate cruelty) remarkably quickly, but that if he is brought up with no settled home that he can remember, no personal possessions, and no permanent friends he has a handicap which he can never completely overcome. This handicap is a lot of the refugee child.

To see these children, and in many ways more fortunately than Spanish children in detail I must go back to the beginning of the Spanish Civil War. In 1937 the evacuation of the Atlantic end of the Pyrenees became

an active theatre of war. By May of that year the main port, Bilbao, had been encircled by land and blockaded by sea, and in spite of the efforts of blockade runners and fishermen it was in a state of siege. Refugees escaping by boat or through enemy-occupied territory were still reaching France, but there remained a large child-population in the city, which at that time was living almost entirely on rice, dried beans, cabbage, and 35 g. of black bread a day per head. Unlike the refugees from the south, who in the early days of the war had been shelled from the sea but had not been bombed or machine-gunned from the air, the inhabitants of Bilbao were having the first bitter taste of aerial warfare. Since Bilbao was almost entirely lacking in effective air-defence, it lay open to continuous air attack by day, and full use was made of this weapon in keeping the population in a constant state of disturbance and anxiety. Although the tonnage of bombs dropped on the city and the loss of life may appear trivial by comparison with what was to happen later, the complete destruction of Guernica from the air was still fresh in the mind of every Basque, and had already shown how effective air attack could be against an unprotected civilian objective.

Evacuation of Spanish Children to England

It was at this time that the growing concern for the fate of Spanish children which was felt by many people in both Europe and America was expressed in England by an offer of the National Joint Committee for Spanish Relief to receive and support four thousand children from Bilbao until such time as they could safely return. Whilst the number of refugee children cannot be considered large by present standards, and indeed hardly touched the Spanish refugee problem as a whole, the venture can be taken as representing a considerable act of faith and something of a pioneer venture at the time it was undertaken. It must be remembered that it was allowed by the British Government only on the understanding that no expense should fall on public funds; that the length of time for which the children were to be supported was quite unknown; and that most of the lessons of large-scale evacuation of children had still to be learnt. Medical examinations in Bilbao were undertaken in circumstances which later became only too familiar; but at that time it was a new experience to see the population orientated around air-raid shelters, schools closed to dispersal, and every normal activity continually interrupted by raids (Ellis and Russell, 1937a).

After the inevitable delays, the children were embarked at night in an old passenger liner which had been gutted and used as a refugee ship. Every available foot of space was utilized, children sleeping tightly packed on the floor of the saloon, in corridors, and in the hold. The ship was escorted across the Bay of Biscay by a British destroyer.

The after-story of these children can be told briefly though it illustrates in miniature many of the effects of war on childhood and their repercussions. First, the possible spread of disease by refugee movement had to be guarded against. The main dangers which were feared were the introduction into England of typhus and trachoma. The fears proved to be exaggerated, and although two cases of trachoma were subsequently diagnosed no case of typhus occurred.

The Commoner Diseases

The diseases which were found to be of greater significance were typhoid fever, pulmonary tuberculosis, pediculosis, and scabies. In spite of a much more thorough medical examination by the port medical authorities at Southampton than had been possible in Bilbao, a small outbreak of typhoid occurred in the tented camp into which the children were first drafted on arrival. This, however, was limited to five cases, and was rapidly controlled (Taylor, 1937; Gibson, 1937).

Tuberculosis

Pulmonary tuberculosis continued to be a source of anxiety throughout the children's stay in England, and a number of fatal cases occurred during the subsequent two years. It is difficult to estimate how far war conditions were directly responsible, though there can be no doubt that the period of severe nutritional deprivation which both children and the accompanying adults had suffered and the crowded life in air-raid shelters would favour infection, and that their subsequent life in residential colonies would increase the likelihood of spread.

The subsequent world war has also emphasized the increased mortality from childhood and juvenile tuberculosis; the two age groups most likely to be affected are children under 5 and adolescents. The figures given by the International Red Cross (Comité International de la Croix Rouge, 1947) for post-war Germany have been severely criticized as being grossly inaccurate (Hart, 1947), and indeed they might well be regarded as a classical example of "sentimental arithmetic"; but if we take those for Scotland, where aerial bombardment and destruction were minimal, the effects of war are even here clearly evident. Comparing the mortality from tuberculous meningitis in 1940 and 1941 with the 1938 figures, the increases in the 0-5 age group were 66 and 28% respectively, and in the 15 to 25 age group 70 and 135% respectively. Although 1941 proved the peak of the war years for the overall mortality from tuberculosis in Scotland, it must be remembered that in most countries in Europe conditions deteriorated rapidly between 1941 and 1945, and in some they continued to deteriorate after the cessation of hostilities. There would be little question that the mortality and morbidity from tuberculous infection in the children of Europe as a whole seriously increased owing to war conditions, and in many countries is still a matter of the greatest concern.

✓ Pediculosis and Scabies

I would say from ten years' experience that these two so-called "minor horrors of war" are in fact two of the major problems of war in dealing with a childhood population. In every country under war conditions there are likely to be lack of soap, lack of clothing, lack of hot water and washing facilities, and crowding in air-raid shelters. Add to these the closure of schools and the disruption of the school medical service, which are often inevitable, and it will be obvious that every factor favouring cross-infection and spread is present. The appalling incidence of typhus in the concentration camps in Germany is well known, and it was generally agreed that ambulant or mild cases occurring in children in Naples during the typhus epidemic in 1944 were an important source of spread. Had it not been for the magnificent work of the Typhus Commission in dusting the population of Naples, of which it was estimated some 50,000 were living in air-raid shelters, and the later large-scale importation of D.D.T. into Europe by Unrra (Sawyer, 1947), pediculosis might well have been responsible for a disaster having world-wide repercussions.

Although the possible effects of scabies are less dramatic, the degree of misery which it can cause in an untreated population is very great. This was well seen amongst the Spanish refugees in concentration camps in France after the major exodus in January, 1939, and could probably be paralleled wherever there has been mass refugee movement. Even in Holland, with its notoriously high standard of cleanliness, one of the major problems of relief work after the occupation was the treatment of scabies, particularly among children. Although I cannot give statistical support for this statement, several European colleagues have commented on the greatly increased incidence of osteomyelitis in childhood during the war and immediate post-war years, which was attributed as much to skin sepsis as to malnutrition. If this observation is correct it would suggest that scabies, as the principal cause of skin sepsis under war conditions, may have more far-reaching effects on child health than the primary infection would at first indicate.

One further disease the local spread of which has been favoured by war conditions is malaria, which in spite of

active antimalarial measures is still causing grave concern in Italy and the Balkans. An example of how it was disseminated by refugee movement was seen in the autumn of 1939, when many of the Polish refugees entering Rumania were drafted into camps in the Dobrudja, a highly malarious area where a large proportion became infected (Ellis *et al.*, 1939).

Disruption of the Family

That this is apt to occur with refugee movement is again well illustrated by the Spanish Basques; I have been able to follow the fate of many of these families over a period of ten years, and a typical example may be cited. At the time the Basque country was invaded, a number of countries, including France, Belgium, and Russia, were giving hospitality to child refugees. Although in the group selected for England an attempt was made to include so far as possible children from the same families, it happened in many cases that an older child was sent to a different country and a younger child remained with the mother. With the imminent fall of Bilbao many of the parents themselves escaped into France, thence back into the Catalan province of Spain, and from there back again into France with the final fall of Republican Spain. In the mass entry of half a million Spanish refugees into France husbands and wives were forcibly separated and drafted into separate concentration camps. Those who for political reasons were unable to return to Spain under the new regime either remained in France or were able to leave France for Mexico, North Africa, or elsewhere. I was able in 1944 to visit in French North Africa the mother of two Basque girls who were still in England. At that time the mother had with her in Algeria two younger children; one son was in Russia, the father had died in a German concentration camp in France, and the son who had been with him had reached Mexico. Her own mother was destitute in Spain, whilst the two girls in England she had not seen for seven years.

Although it was possible for the great majority of the four thousand children who came to England to be reunited with one or other parent within two years in Spain, France, England, or elsewhere, there remained a considerable number whose parents were untraceable, were dead, or were political prisoners, or who were separated from their parents and remained in England for a much longer period. In the case of younger children who were 5 or 6 years old on arrival, the difficulty of maintaining a working knowledge of their own language was often considerable. Although at first all had been maintained in Spanish-speaking groups, every effort had been made to encourage English foster-parents to take an interest in individual children, and when England was herself involved in war a number of children were adopted into English homes. There was the further complication that some of the parents were purely Basque and not Spanish-speaking or were illiterate, so that even when their whereabouts were known the children inevitably tended to become more and more out of touch with them.

Even within the microcosm of this small group, therefore, it was possible to see how soon children separated from the parents might acquire a completely different outlook and way of life, and even lose the capacity for writing or speaking the same language. Where children become separated from their parents before the age of 5, as happened in innumerable cases during the recent war, all these difficulties are infinitely magnified. The infamous policy of "Nacht und Nebel," by which the identity of parents and children was deliberately obliterated, was designed, amongst other objects, to make reunion of parents and children impossible, and was only too successful. The work of the International Red Cross and the Tracing Bureau of Unrra and the Allied Military Government after the liberation of the concentration camps in Europe was beset with insuperable difficulties where young children were concerned. That even some measure of success was achieved is a high tribute to those responsible for producing some sort of order out of the chaos left by war.

Enemy Occupation

The life of the child in a country suffering enemy occupation is lived under conditions which require the recognition,

if not the observance, of two completely different standards of behaviour. There is the code laid down by the occupying Power, which demands collaboration by the civil population and the unmasking of saboteurs; there is at the same time the code of the patriot, who regards sabotage and even terrorism as a duty and to whom the informer is a traitor. The example I have in mind, and with which I am most familiar, is that of Belgium; but I fully realize that the child of Jewish parents in Palestine may have been in essentially the same predicament. The parents and those most respected no longer represent the forces of law and order but are ranged against them. The child is required to bear a burden which has broken many an adult back. He must outwardly adopt a standard laid down by an enemy whom it is his duty to hate, since failure to conform may endanger not only himself but his immediate family; at the same time he will earn the admiration of his contemporaries by running counter to this standard and undermining authority in any way he can.

I do not wish to exaggerate or over-dramatize this situation. Indeed, from talking to many Belgian children of the "gang" age I was forced to the conclusion that the situation had been widely used as play-material, and that pin-pricking of authority when a spice of danger was added was not by any means alien to their inclination. The smuggling-in of potatoes from the country, the dropping of a lighted cigarette-end into a German overcoat pocket in a crowded tram, or even the insertion of a pinch of sugar into a military petrol tank all demanded ingenuity and received approval. An attempt to suppress the Scout movement resulted in an unprecedented increase in membership during the German occupation. Probably the children who suffered most were those whose parents were suspected of being collaborators. Nevertheless, there can have been few older children who were not affected to some extent, consciously or unconsciously, by the atmosphere of anxiety and distrust which prevailed. Since arrests were frequent, and an increasing number of able-bodied men were transported into Germany for forced labour, many families were dismembered and large numbers of children were cared for in children's colonies and orphanages.

Again, it is impossible to assess the permanent effects which such a period of enemy occupation will have on children who have experienced it during their formative years. But the fact that use of the black market became universal and virtually the means by which the civilian population could survive (Ellis, 1945), and that innumerable means of subverting authority became not only widespread but respectable, inevitably rendered difficult a return to normal standards of social behaviour. It speaks highly for the quality of the Belgian people that within three years of the liberation life in Belgium is as normal as it is at present; but there is nevertheless an appreciable difference between the social standards in any country which has suffered prolonged enemy occupation and those of a neutral country, such as Switzerland, which has not known the deprivations and subterfuges which such an occupation entails.

Aerial Bombardment

Child health in a country suffering prolonged and intense aerial bombardment will be considered from the point of view of the secondary effects that aerial warfare will have on the organization of the community rather than from that of the direct effects due to enemy action. These effects are related to three major factors: evacuation of children from the danger areas to reception areas; the evacuation of the civilian population; and conditions of life in the reception areas.

Evacuation of Children

Evacuation of children from vulnerable areas to reception areas was carried out on the largest scale and was most highly organized in England and Wales, and since the difficulties involved are well known I need only briefly recall a few points germane to our present subject. The official history of what must be regarded as a major triumph of civilian organization is told in the Report on the State of Public Health during Six Years of War (Ministry of Health, 1946), one of the most interesting documents which these years produced. Before the declaration of war, plans had been made for the evacuation of some three million persons, including young children accompanied by their mothers, expectant mothers, unaccompanied school-children, blind deaf, and crippled children and adults.

Needless to say, this mass movement of an urban population into predominantly rural areas involved innumerable minor and some major difficulties. It was a rude awakening to many of the families who received evacuees into their homes to find what low standards of living still existed in certain sections of the community. Since the first evacuation took place at the end of the school holidays more children were found to be verminous than if they had been under regular school supervision, and the large-scale organization of inspection and cleansing facilities was necessary. In many reception areas the school population was so much increased that the buildings had to be used in shifts, and children could spend only half the day in school.

The unaccompanied school-children who were evacuated fell into three obvious classes: those who were fortunate in their foster-homes and who rapidly became adapted to their altered circumstances; the misfits; and the unbiliable. Of the first group little need be said except that their position was rather less stable than that of normal children in their own homes and that some loss of contact with their parents was inevitable; these children suffered relatively little, and many benefited physically from their change of environment. The child who was a misfit, usually owing to being billeted on foster-parents with different standards from those of his own parents, became an increasing problem. If the first foster-home were not a success, the child was liable to arrive at the second with the feeling that he was unwanted, and the scales were heavily weighted against a successful adjustment to new surroundings. With each subsequent move the difficulties became greater: delinquency, truancy, enuresis, or other behaviour disorders more or less directly due to the instability of his background were finally apt to bring him into the group of children who could not be billeted in private homes. The last group, of whom enuretics formed a high proportion, required special handling in children's colonies. As might be expected, the results achieved in these colonies varied very greatly, depending to a large extent on the quality of the house-mother and staff. In some instances the grouping together of children whose main need was usually individual attention and affection resulted in their condition deteriorating. In others, children were found to adapt themselves to community life organized on family lines better than they had done to a foster-home where the foster-parents had not had the understanding or devotion necessary for their proper care. Many of these more successful colonies have been retained since the war for the care of problem children referred by education authorities or child-guidance clinics.

Infants and pre-school children were so far as possible kept with their mothers, but with the intensification of aerial bombardment and the recruitment of women into war work there was an increasing necessity for the setting-up of

day and residential nurseries. In the case of day nurseries there was general agreement that these fulfilled a valuable function, and that such increase of infection as occurred was outweighed by their advantages. Residential nurseries were a much more serious problem, since these had for the most part to be housed in country mansions, often quite unsuitably constructed, or in day-nursery schools, which also had not been built with the sanitation necessary for residential homes. Except for a few serious outbreaks of gastro-enteritis, however, the infection rate was much less than had been originally feared. The psychological effects of community life on these "infants without families" have been made the subject of an interesting monograph by Burlingame and Freud (1943).

Black-out; Air-raid Shelters

Black-out.—While children of all ages suffered the minor discomforts of the black-out which were universally familiar, the life of the older child was radically changed during the winter months. He had either to remain entirely indoors after five o'clock on moonless nights or to wander about in complete darkness. The mounting number of street deaths during black-out hours made most parents prefer the former, with the result that the majority of children were largely cut off from youth organizations and other normal evening activities. Lack of parental control, as was inevitable in the case of evacuated school-children, was apt to lead to juvenile delinquency after school hours, and there can be no doubt that the black-out, coupled with the presence of great numbers of troops of different nationalities, was partly responsible for the many sexual offences against children and young adolescents which occurred.

Air-raid Shelters.—In spite of the measures taken for evacuation many children remained with their parents in danger areas, while some reception areas were also subject to air attack. An idea of the child population of London in 1944 can be gathered from the fact that over half a million children left in the organized evacuations which were restarted when flying bombs were first utilized against the city. During the periods of intense bombardment choice lay between children sleeping every night in crowded air-raid shelters or being roused from sleep and taken down to the shelters when the alarm was given. In any case, loss of sleep over long periods, overcrowding in a vitiated atmosphere, continual contact with adult anxiety, and the risk of cross-infection were inevitable. More thoughtful parents have complained that one of the worst features of this and other forms of overcrowding during the war was that every anxiety had to be discussed before children, and that circumstances made respect of personal privacy impossible.

Nutrition

The starvation conditions which occurred in central Europe after the 1914-18 war served to focus attention on the vulnerability of infants and young children in periods of nutritional deprivation: relief work was largely concentrated on children and expectant mothers, whilst the scientific study of deficiency diseases occurring among the childhood population was largely responsible for clarifying the aetiology of rickets and famine oedema. The blockade which was carried on after the signing of the armistice in November, 1918, served to increase the already high infant mortality and permanently crippled many of the children who survived.

The humanitarian reaction to this was the formation of the international Save the Children Fund, and the endorsement by many Governments of the Declaration of the Rights of the Child, which included amongst other provisions that the child must be the first to receive relief in times of dis-

stress. Needless to say, when war again broke out in Europe blockade was immediately used, and I repeatedly heard the view expressed in this country during the Spanish Civil War that it was in the last analysis a humane weapon, since starvation of the civilian population would bring the war to an end relatively quickly. The argument was used less glibly during the subsequent world war, since blockade and submarine warfare proved a double-edged weapon; I do not propose to discuss the somewhat tortuous rationalization of the view quoted except to say that the main premise was proved untrue. In every country involved the length of time for which nutritional deprivation could be endured proved far longer than was generally imagined, and it is doubtful if starvation was in any instance the crucial factor in determining defeat. This does not mean, however, that starvation as a war weapon was without profound effect. But many of its cruellest repercussions are seen only after the cessation of hostilities, and I think a reasonable case might be made out for regarding blockade and the systematic destruction of food supplies as the surest method of producing a further war within a generation.

Although by the time of the Second World War the lesson had not been learnt that it is a short-sighted policy to kill or starve other peoples' children, every nation had at last realized that it was essential to protect its own. The means by which the nutrition of children was safeguarded naturally varied from country to country according to local conditions, and in some was much more highly organized than in others. But certain general principles were almost universally followed.

Dispersal of children from large industrial areas into rural districts served not only to protect from air attack but also to take the child to the food rather than the food to the child. In many instances the principle of dispersal was carried further, and children were transported from war areas to neutral countries such as Switzerland, or to countries such as America and Canada which, though belligerent, were remote from devastation. Whilst the deepest appreciation of this hospitality was felt by the countries to which it was shown, the numbers of children received were of necessity only a very small proportion of those in Europe as a whole. With the increasing strain on shipping it became less and less practicable to transport children by sea, and the sinking in the Atlantic of a liner filled with children put an end to any large-scale evacuations by this route.

The great majority of children, therefore, had to be fed within war areas where food supplies were reduced and where at the same time maximum efficiency was demanded both of industrial workers and of military personnel (either of the country concerned or of the occupying power). The fact that priority rations, particularly of milk, were in almost every instance allocated to children and pregnant women is again an index of the importance attached to the preservation of child health. Thus in Belgium, when the official rations for adults provided only 1,230 calories a day (1941-2) those for children of 3 to 6 provided 1,500 calories and those for infants under 3 actually more than their estimated requirements (Ellis, 1945).

Communal feeding of school-children was widely practised, both as an economy in the distribution of supplies and often as a necessity owing to shortage of domestic fuel or to facilitate release of women for war work. This method was not always practicable in cities where schools were closed owing to aerial bombardment, but as a general rule it was found much the most equitable means of distributing food to the school-age group. In Great Britain the provision of school meals and milk was undoubtedly one of the most successful measures adopted for the welfare of children during the war years, and was carried out in spite

of the difficulties of inadequate accommodation, reduced staff, and limited transport in rural areas.

National Milk Scheme

One further measure which was worked out with singular success in Great Britain was the National Milk Scheme, which made milk available to priority groups at an economic price or free in necessitous cases. This is now taken so much for granted that the fundamental importance of the measure is apt to be forgotten unless it is viewed in some historical perspective. Even under peacetime conditions the consumption of milk by children of the lower, and sometimes even of the higher, income groups fell considerably short of the optimum. With the reduction in available agricultural labour and the unreliability of transport during the war, the difficulties of supplying clean milk in adequate amount to the childhood population became multiplied. The production of a standard national dried milk was then put into the hands of commercial firms having the necessary plant, and the price and distribution to infants were controlled by the Government. In addition, a priority distribution of liquid milk was made to older infants and expectant mothers at considerably less than the standard retail price, and dried or liquid milk was distributed in schools. Therefore, although both the quantity and the quality of milk available in the country deteriorated owing to war conditions, the National Milk Scheme resulted in infants being ensured an ample supply of absolutely safe milk, and children and pregnant women a more uniformly adequate amount of liquid milk than the majority had received before the war. The same general principle of priority distribution to these groups was adopted in most European countries, and though this inevitably meant that others had to go short the principle was universally accepted as the right one. It is an interesting reflection on the social conscience that it required a national emergency to put it into practice.

Forewarned by the experience of the 1914-18 war and aided by the great extension of knowledge of deficiency diseases which had been made since that time, widespread provision for distribution of vitamin supplements to infants and young children was made by most Governments, substitutes being provided for the normal sources where these were not available. It cannot be said that the "take up" of these supplements in Great Britain was satisfactory, but there is little evidence that the incidence of rickets (British Paediatric Association, 1944) or infantile scurvy was significantly increased. In fact, in countries which have suffered much greater deprivation than has Great Britain the relative rarity of manifest deficiency disease in childhood, other than rickets, which in Hungary increased alarmingly in 1945 (Kerpel-Fronius, 1947), is in marked contrast to the state of affairs in Central Europe in the early nineteen-twenties (F.A.O. WHO, 1947). The main nutritional needs of children in Europe at the present time are calories and protein.

Nutritional Surveys

Any attempt to give an overall picture of the nutritional state of children in even a single country is apt to be so misleading, and the accounts of different observers so contradictory, that the layman is naturally confused and puzzled by the lack of concrete evidence available. Having been hypnotized during the past twenty years into believing that human nutrition is an exact science, and having seen terms of nutritionists descend like locusts on hungry children, he is left to glean most of his information from official statements about calories or from the impressions of dieticians and planners. It is worth while, therefore, to consider some of the difficulties which are presented by nutritional surveys and their interpretation.

In the first instance the central administrator is concerned with the amount of food coming into or being produced within the country and its distribution as rations. Of the food coming in there will be a variable leakage into the black market which may assume very large proportions. Similarly the official returns for food produced within the country will inevitably differ widely from the reality, particularly in the case of a country under enemy occupation. Add to this the fact that some of the perishable food distributed will be inedible when it reaches the consumer, that some will be wasted in packing, preparation, and cooking, and that some of the rations will never in fact be supplied, and it will be seen that the chances of error when the official rations are compared with the food eaten are very considerable even when a standard percentage is allowed for wastage.

The child himself, on the other hand, is concerned primarily with what goes into his mouth. If he is cold and badly clad he is likely to want more food than he normally would; if he is sick he may want less. However hungry he may be, his appetite is likely to be affected to some extent by the palatability of the food and whether it is adequately cooked. Surveys have been undertaken on the basis of food actually eaten by individual children over a given period, but even under peacetime conditions these are extremely laborious, and where homes are liable to be broken, mothers employed on war work, or children evacuated the difficulties of their large-scale application to a childhood population are increased. The method has, however, been usefully employed on selected communities even during the war years (Bransby and Wagner, 1945). One such study undertaken in 1939 (Widdowson, 1947) served to illustrate the very large variation in the food intake of normal children: except in a closed community, such as a children's colony or orphanage, the standardization of rations in a country at war would probably be offset by the composition of the family group, access to the black market, home production of food, or other factors tending to maintain this variation in food intake between individual children. Indeed, when the official rations have fallen very low it has repeatedly been noticed that the possession of an allotment or articles that can be bartered may make the difference between borderline starvation and reasonably good nutrition. As would be expected, the nutrition of children in agricultural districts even in countries most affected by war has usually been found higher than could possibly be accounted for by the official rations.

A point that has hardly received the attention it deserves in nutritional studies made on older children and adolescent under war conditions is the possible effect of severe nutritional deprivation on the age of onset of puberty. There is good reason to believe that starvation may delay puberty and it is known that more mature children will on the average be both heavier and taller than immature children of the same age. There is also a significant difference in the rate of increase in height and weight during successive phases of development (Ellis, 1946, 1948). If, for instance, it was desirable to compare the heights and weights of 14-year-old girls in a German school to-day with those of a similar group of 14-year-olds from the same school in 1938, the comparison would be much more informative if the maturity-composition of each group—i.e., the percentage immature, pubescent, and adolescent—were known, and comparisons made between groups who were both the same age and at the same stage of development. In the absence of routine maturity-grading in school medical examination it is very seldom possible to make retrospective comparisons on this basis. The practical result has been that priority rationing has been related to chronological age rather than

o physiological development, and many children ceased to get supplements at the phase of development when extra food was most needed.

Assessing the Nutrition of the Individual Child

In Europe this problem is not so much that of distinguishing optimum nutrition at one end of the scale or manifest efficiency disease at the other, but in deciding where the child should be placed in the wide region of suboptimal nutrition which divides the two. Innumerable formulae have been suggested, based on physical measurements, performance tests, and the like, their very number indicating the inadequacy of any one. It is interesting historically to remember that the American Relief Administration in Austria after the war of 1914-18 based its relief on the election of children according to two formulae constructed by von Pirquet. The nutritional index used—namely, the cube root of ten times the weight in grammes divided by the sitting height in centimetres and multiplied by a hundred—showed on subsequent tests that whilst the error in estimating the sitting height was up to 5 cm, a difference of 1 cm might cause a child to be placed in or out of the malnourished group (Faber, 1923).

Since this time the value of the haemoglobin, of physical performance, and of muscle tone in assessing nutritional status has been more clearly recognized; attempts have been made to standardize the measurement of subcutaneous tissue; the biochemist has added his contribution in estimating vitamin levels and saturation, blood pyruvic acid, phosphate, and the like; the cornea has been examined for vascularization, and night vision has been tested. But despite the punching of innumerable cards and the clatter of concatenations of calculating machines it is still largely left to the clinician to decide what is or is not a malnourished child. I need not labour the fallacies of unaided clinical appraisal: this has now become almost a credo of medical education. But I would emphasize once again the difficulty of assessing the effect of malnutrition on subsequent development. A short-term loss of weight can usually be made good; but long-continued deprivation may result in retardation of growth or infantilism, which will partially mask, on a single examination, the degree of malnutrition from which the child is suffering. This difficulty cannot altogether be overcome by the use of standard height-weight-age tables, particularly when these have been prepared from normal children of a different race. It is only the long-term study of individual children which can in the analysis tell us the ultimate effects of such malnutrition as has been the result of the war years.

Conclusion

It would be only too easy to end on a note of disillusion and despair. We have widespread evidence in Europe of unrest, bitterness, disease, and destitution among those who suffered as children in the early war years and are now approaching manhood. But I feel rather that the experience of the recent war can give us certain grounds for hope. The general recognition that children must be preserved at any cost, the good will that alone made possible the evacuation of children from danger zones, and the equal distribution to children of rations on a scale which made the already heavy burden of the adult community even harder to bear all point to a new understanding of the child's importance to society. These may seem small advantages to set against the havoc and chaos occasioned by war. But they are certainly symbolic of the new spirit which has entered into the protection of child life and health. This is becoming less and less a matter of sentiment or charity and increasingly one of vital concern. The fact that every country

has put children first instead of last when survival was at stake is surely an omen for the future, and we can only hope that this at least of what has crystallized in the crucible of war may not be lost in the uncertain years which lie ahead.

Part of the subject matter of this address was included in a Mayo Foundation Lecture delivered at Rochester on July 21, 1947. An abstract of this was published in the *Proceedings of the Staff Meetings of the Mayo Clinic*, 1947, 22, 441, and I am indebted to the editors for permission to republish it in more extended form.

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OBSERVATIONS ON RATIONING IN TUBERCULOSIS

BY

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Investigations into the adequacy of the diet of tuberculous patients carried out during the earlier war years (Ross, 1943; Keers, 1945) seemed to confirm the official view that the dietetic restrictions imposed by rationing had exercised no deleterious effect and that the patient's nutrition had been maintained at a level high enough to enable him to combat his disease successfully. In those investigations the average gain in weight was used as an index of the nutritional state of the patient, although it was recognized that this method did not provide full information regarding possible dietetic deficiencies such as mild degrees of avitaminosis. The years 1938 to 1942, as they affected the patients in certain Welsh sanatoria and a Scottish sanatorium, were covered, and the figures produced indicated that on the whole the average gain in weight recorded was no less than in the years preceding the outbreak of war.

The investigation has recently been reopened and extended at Tor-na-Dee Sanatorium, as it was felt that during the past two years the average gain in weight had been less satisfactory—an impression which it was considered necessary to confirm or refute by a detailed examination of the weight records. The method of investigation adopted was that which was used in the previous publication. Each patient in the sanatorium is weighed once a month, and the gain or loss in weight during the preceding month is noted. These gains and losses throughout the patient population, added together and divided by the number of patients

weighed, give the change in weight of the average patient for that month. This average monthly variation has been plotted in graphs showing the variations for the years 1938 to 1942 (Chart 1) and the years 1943 to 1946 (Chart 2).

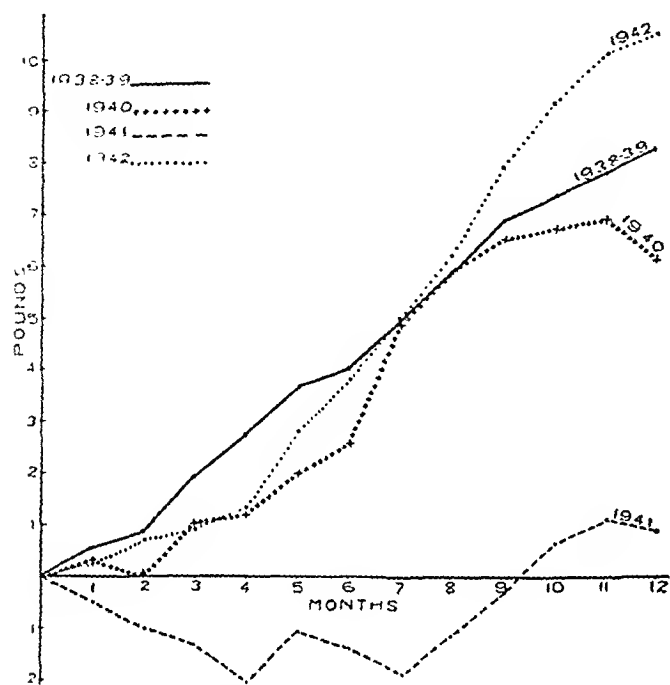


CHART 1.—Monthly variations in weights of all patients, 1938 to 1942.

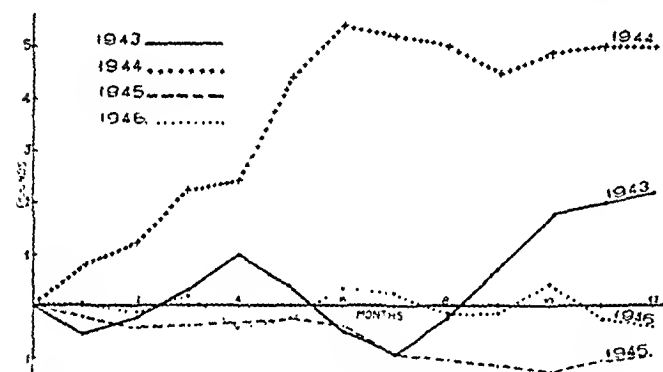


CHART 2 Monthly variations in weights of all patients, 1943 to 1946.

A survey of these graphs shows that during the years 1940 and 1942 the average gain in weight was well up to the standard of pre-war years, but that from December, 1940, there was a steady decline which lasted until May, 1941, when there was an average gain of 1 lb. (453 g.) throughout the sanatorium. This was followed by a further decline in June and July before the normal upward trend was resumed in August. In searching for a possible explanation of the decline it was noted that the final month of 1940 and the first three months of 1941 saw a fall in the meat ration from 2s. 2d. weekly to 1s. weekly, at which level it remained until it was finally stabilized at 1s. 2d. weekly in July, 1941. Furthermore, in May, 1941, cheese, previously an acceptable and freely used alternative to meat, was rationed for the first time. The initial allowance was 1 oz. (28 g.) weekly, and this was raised to 2 oz. (56 g.) in June and to 3 oz. (85 g.) in July. It is felt that these two rationing measures must have played a part in the loss in weight noted at that time. Although substitute fare was available, it did not appear to be well appreciated to the palate, and a period of readjustment was necessary before the weight of the average patient showed a satisfactory upward trend. During the

early months of 1942 the gain in weight was poor until May, when it rose more sharply and continued to climb steadily throughout the remainder of that year. Here again it should be noted that the cheese ration was increased by stages from the end of May, 1942, reaching its maximum of 8 oz. (226 g.) in July of that year, where it remained until January, 1943, after which it declined gradually to 3 oz. in May, 1943. The reduction to 3 oz. weekly coincides with an average loss of weight during May, June, and July, 1943, from which one is again tempted to postulate a period of readjustment to altered diet, followed by a gradual recovery. No further notable fluctuation in basic commodities took place until March, 1945, when cheese fell to 2 oz. weekly, followed in May by a reduction of 1 oz. in the bacon ration.

The position with regard to unrationed foodstuffs deteriorated steadily throughout the years under review, poultry and even the humble rabbit becoming increasingly scarce until from 1944 onwards a meal of poultry for the sanatorium was practically unobtainable.

During 1944 a further factor entered into the picture owing to the increasing numbers of 'Service persons' admitted and the gradual elimination of civilian patients. Thus at the end of 1944 the ratio of civilian to Service case was 2 : 1, at the end of 1945 it was 1 : 2, while by the end of 1946 our patients were drawn entirely from the Services. Practically all these were admitted from Service hospitals where they had been enjoying a scale of rations considerably more generous than that allowed in civilian hospitals. The result of this change was that the majority of the patients lost weight after admission, in contrast to their civilian predecessors, whose initial response to treatment was usually a substantial gain. This loss in weight is of course reflected in the graphs for the later years.

Apart from this influx of Service cases other factor which might be considered to have a possible bearing on the subject remained relatively constant throughout the course of the investigation (see accompanying Table).

	1940	1941	1942	1943	1944	1945	1946
No. of patients admitted	66	97	106	97	107	110	102
Average age of patients	35.7	32.6	33.4	36.6	32.08	32.09	32.4
Ratio of male to female admissions	2 : 1	2 : 1	2 : 1	3 : 1	2.5 : 1	2.5 : 1	11 : 1
No. of cases requiring collapse therapy	46	38	33	66	66	60	115

The sudden alteration in sex ratio noted in 1946 is due to the fact that by that time the sanatorium was reserved entirely for Service or ex-Service personnel, in which naturally the male element predominated; but it is not considered that this change has had any notable bearing on the investigation as a whole.

Policy regarding treatment remained the same throughout—collapse therapy, including major surgery, being always available and being freely used where indicated. Clinically the proportion of moderately advanced and advanced cases admitted remained constant until September, 1945, when owing to the great demand for accommodation, it became necessary to practise some selection of material; and from that time onwards very advanced cases were not admitted.

It is universally accepted that an adequate diet is necessary for the treatment of tuberculosis, and a satisfactory gain in weight is regarded as one important indication of the patient's progress while under treatment. During the past three or four years it has been our impression that the healing of the pulmonary lesion has been a slower process and that an infiltration which would previously have

responded to a period of rest in bed and sanatorium regime now failed to show such response, collapse therapy being required on an ever-increasing scale. The records for the years 1940 to 1946 were inspected and the amount of collapse therapy carried out during those years calculated, with the results shown in the Table.

The figures suggest that the impression of less satisfactory pulmonary healing is correct, and it would appear reasonable to regard the stringent dietetic restrictions to which the patient has been subjected as an important causal factor in the absence of clear-cut evidence pointing to any other cause operating on a general basis throughout the sanatorium. It is much more difficult to assess the degree to which the curtailment of a specific element in the diet has been responsible; for experimental evidence of the part played by protein, carbohydrate, or fat in influencing resistance to tuberculosis is scanty and inconclusive. It is worth mentioning, however, that one of the most interesting and best-documented studies of nutrition and tuberculosis (Faber, 1938) adduces evidence to show that the rise in tuberculosis mortality in Denmark during the First World War was associated particularly with a deficiency of protein in the diet. In Britain it has been possible to maintain the total calorie intake by the use of carbohydrates, but the protein and fat content of the rationed diet has suffered severely, and the weight graphs suggest that the fluctuations in the meat and cheese rations are of significance. The importance of adequate protein for the tuberculous patient was recognized in America, where Ration Boards were empowered to grant extra meat allocations to patients suffering from the disease (Pottenger and Pottenger, 1946).

Summary

Observations on the weight records of sanatorium patients during the years of rationing show that from 1943 onwards the average patient failed to show a gain in weight comparable with the gains recorded in pre-rationing years.

This failure to gain weight satisfactorily was accompanied by a diminution in the powers of natural healing of the disease.

It is impossible on the evidence to indicate definitely the specific elements lacking in the rationed diet, but there is a suggestion that the curtailment of protein and fat (meat and cheese) may be of significance.

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Sir Andrew Davidson, Chief Medical Officer of the Department of Health for Scotland, gave an address to the Royal Philosophical Society of Glasgow on Jan. 14. "Health," said Sir Andrew, "is something more than not being ill. A man cannot enjoy life to its fullest capacity if his diet is inadequate. Medical research will establish dietetic needs. He will be emotionally unhealthy if his work is too exacting or insufficiently varied—industrial psychology can play a part here—and he cannot enjoy optimum mental health if he is worried by economic insecurity and the constant dread of unemployment." He said that sickness cost the nation some 7% of its total annual income; that even before the war the work lost through illness reduced our national income by some £100 millions a year, and the cost of treatment amounted to a figure of a dimension of £185 millions. At present the expenditure on prevention of disease was only 41% of the total cost of sickness. Therefore, while sickness was a misery to the individual it was also a considerable loss to the State, both in production and in finance. As a nation we were becoming at once more health-minded and broader in our outlook on social health, Sir Andrew concluded. Instead of crying, "Can we afford some new service?" we were now tending to realize that we could not afford ill-health and the resulting loss of productive work. We were beginning to realize that expenditure on preventive services and on health research paid an enormous dividend.

GENERALIZED INFECTION WITH THE VIRUS OF HERPES SIMPLEX

BY

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AND

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Our knowledge of infection with the virus of herpes simplex has been greatly increased by observations made within recent years. Dodd, Johnson, and Buddingh (1938) showed that stomatitis in children was often a herpetic infection, and this work was confirmed and extended by Burnet and Williams (1939), by Scott, Steigman, and Convey (1941), and by Black (1942). Herpetic stomatitis is usually a primary infection occurring during the first six years of life, and antibodies to the virus of herpes simplex appear during convalescence (Burnet and Williams, 1939; Scott *et al.*, 1941). These primary infections are often associated with fever and some general constitutional disturbance, and groups of cases may occur in families (Scott *et al.*, 1941). After the primary infection in childhood persons seem to carry the virus for years and may suffer from recurrent attacks of labial herpes, although these subsequent manifestations are milder and are associated with relatively trivial symptoms. Primary infection in adults appears to be relatively uncommon, and while those who are liable to recurrent attacks of labial herpes invariably have a high titre of antibodies to the virus in their serum, those who have no history of herpetic infection possess no such antibody (Burnet, 1946).

Although the virus of herpes simplex has become so adapted to parasitism in the human host that it causes a relatively mild illness in the primary infection and for the most part remains latent in the host thereafter, primary infection is occasionally more severe. Fatal encephalitis due to the virus of herpes simplex has been recorded in an infant 1 month old (Smith, Lennette and Reames, 1941) and in three adults (Zarafonitis *et al.*, 1944; Whitman, Wall, and Warren, 1946). In these instances the virus was recovered from the brain at necropsy. Armstrong (1943) isolated the virus of herpes simplex from the cerebrospinal fluid of a 14-year-old negro boy who was suffering from meningo-encephalitis; an increase of herpetic antibody was demonstrated in the boy's serum during convalescence. Symptoms of meningo-encephalitis were also noted by Warren, Carpenter, and Boak (1940) in a group of patients who suffered from herpetic infection following fever therapy induced by physical methods.

Primary generalized herpetic infection in adults associated with severe constitutional symptoms would, however, seem to be very rare, and the following case is reported because it presented an unusual problem in clinical diagnosis.

Case Record

N., a motor engineer aged 37, a subject of plethoric build but of the type that never ails anything, made a business trip to Denmark and Sweden in August and September, 1946, and returned to this country on Oct. 3. On Oct. 15 he felt unwell, an event so unusual that he stayed at home from his work. On the 18th he sought medical advice because of backache, which distressed him more than his dirty foul tongue and throat and repeated vomiting. He was sweating profusely, with a temperature of 102.6° F. (39.2° C.) and pulse 120. There were no physical signs in the chest and nothing in the abdomen to warrant surgical intervention. The urine was not examined. Tentatively a diagnosis of virus influenza was made and he was given garg. pot. chlor. cum phenol for the mouth and throat

and mist. bism. sal. for the gastric irritability. The next day (Oct. 19) his vomiting was less troublesome, but the temperature remained at 102° F. (38.9° C.), the stools were frequent and loose, and he complained bitterly of the backache. On Oct. 21 he said he was better except for the backache, vomiting had ceased, the temperature was 99° F. (37.2° C.), but the bowels were still loose. As an afterthought he showed five "spots" on his hands and feet. Four of these were deep in thick skin, with amber heads surrounded by deep crimson areoles about 1 cm. across.

Examination of the rest of his skin showed a number of small septic papules such as are commonly seen on seborrhoeic skins under intense sweating, but the five vesicles mentioned were distinct and without any obvious explanation. Clinically the picture now appeared to be alastrim or variola minor. This diagnosis was supported by the prodromal discomfort lasting three days, the high initial temperature falling on the fourth day, severe backache for four days, and the distribution and character of the vesicles. The history of overseas travel suggested a possible source of infection and an incubation period of 12 days or longer. The case was therefore notified to the local medical officer of health as variola. This action produced three further clinical opinions—one for and two against the diagnosis of smallpox. Those against had no alternative diagnosis to offer other than "a septic state," and at no time was the true nature of the illness suspected. It should be recorded that the Ministry of Health's expert was definitely against the notified diagnosis. Because of the divergence of opinion a specimen of the patient's blood and fluid taken by swab from one of the vesicles was sent to the laboratory for examination; crusts and smears from the lesions were also sent four days later.

Inquiry into the patient's past history showed that he had been successfully vaccinated at the age of 10, and it was later ascertained that there was no history of previous herpetic infection.

Laboratory Investigations

A sample of clotted venous blood and a swab which had been moistened with the contents of one of the vesicles was received in the laboratory on Oct. 23. The blood serum failed to show variola antibody, a result which was considered of no diagnostic significance at this stage of illness. The material on the swab was insufficient for serological examination for variola antigen, and as fertile hens' eggs at a suitable stage of development were not available at this time the swab was placed in the refrigerator for examination at a later date.

Two small crusts and smears on glass slides were received on Oct. 28. No elementary bodies were seen in stained smears, and extracts of the crusts gave a negative result by complement-fixation test for variola antigen. It was considered, however, that the crust material was insufficient in amount for this result to be regarded as conclusive, and the extract was inoculated on the chorio-allantois of two 12-day chick embryos. At the same time the swab of vesicle fluid received on Oct. 23 was extracted with broth and the extract inoculated on two further membranes of developing chick embryos. After three days' further incubation all four eggs showed on the chorio-allantois numerous small raised opaque lesions about 1 mm. in diameter. That these lesions were due to a filtrable virus was shown by the finding that a suspension of these membranes was bacteriologically sterile, and subsequent tests showed that filtrates through a Chamberland L2 candle and a gradocol membrane of APD 0725 were infective for the chorio-allantois of chick embryos. Although the lesions were smaller than those usually produced by variola virus in this tissue (Downie and Dumbell, 1947) this was considered to be due to the large number of lesions present, and, as the virus of chicken-pox and zoster produced lesions on the chorio-allantois of the chick embryo, it was concluded that the virus was provisionally (and wrongly) reported as variola virus.

On Oct. 31 a further examination of the lesions on the egg membranes showed that the cytoplasmic inclusions typical of herpes simplex virus were present. A neutralization test

made by chorio-allantoic inoculation of mixtures of egg membrane suspension with antivaccinal and with normal rabbit serum showed that the virus ("N" virus) was not neutralized by the antivaccinal serum—a result which, taken with the histological appearance of the lesions, indicated that the virus isolated from the patient was not variola.

Identification of the Virus

The "N" virus was transferred repeatedly on the chorio-allantois, and after six or seven transfers had become well adapted to this tissue. The lesions did not increase in size, but 0.1 ml. of a 1 in 1,000 dilution of the supernatant fluid from an infected membrane ground up in 5 ml. of broth regularly produced several hundred discrete lesions. Histological examination of the membranes after fixation in formal-Zenker showed intranuclear inclusions which ranged in appearance from a finely granular acidophilic variety surrounded by a clear unstained zone to a type of inclusion which was homogeneous and faintly basophilic and filled the entire nucleus. In all affected cells the chromatin was displaced to the periphery of the nucleus. The appearances conformed closely to the description by Slavin and Berry (1943) of nuclear inclusions in the lesions produced by herpes simplex virus in mice.

Early attempts to produce lesions by intradermal inoculation on the pads of guinea-pigs were unsuccessful, but virus from the tenth egg passage produced a vigorous "take" by this route and also on intradermal injection of the shaved hairy skin. Virus from the first and tenth egg membranes produced fatal encephalitis when injected intracerebrally in mice, and in two of four rabbits inoculated on the scarified cornea tiny vesicles appeared along the lines of scarification within 24 hours. Material from the seventh egg passage produced an acute orchitis after intratesticular inoculation in a rabbit.

In view of these considerations it seemed possible that the agent isolated was the virus of herpes simplex. A strain of herpes simplex virus, kindly supplied by Dr. Andrewes, of the National Institute for Medical Research, produced lesions on the chorio-allantois similar in appearance both macroscopically and microscopically to those produced by the "N" virus; the possibility that the "N" virus was a strain of herpes simplex was further strengthened by neutralization tests made with human sera, using the chorio-allantoic technique (Burnet and Lush, 1939). Sera from three persons with past histories of recurrent herpetic infection suppressed infection of the chorio-allantois by both viruses, while sera from three persons with no such histories failed to reduce the number of lesions produced by either virus.

Antisera to the two viruses were prepared by the immunization of rabbits. Both viruses produced orchitis when injected intratesticularly, and a week later virus was injected intradermally and subcutaneously. After a further interval of a week virus was injected intraperitoneally, and the animals were bled six days after this last injection. The sera were inactivated by heating at 56° C. for 20 minutes before being used in neutralization tests. Serum obtained from the rabbits before immunization contained no neutralizing antibody to either virus, and was used to control tests with the immune sera. Table

TABLE I.—Lesions Produced on the Chorio-allantois by Mixtures of Rabbit Sera and Viruses

Rabbit Sera	"N" Virus				Herpes Simplex Virus			
Normal	550	740	1,000	1,000	1,000	700	360	1,000
Immune "N"	0	0	0	0	0	2	0	0
Immune herpes	0	0	0	0	1	0	0	0

The figures indicate the number of lesions on individual membranes

shows the results of the cross-neutralization tests with the two viruses and their antisera. It seems quite clear from these results and from its behaviour on the chorio-allantois and its pathogenicity for animals that the virus isolated from the vesicle fluid and from the crusts of the patient was a strain of herpes simplex virus.

Development of Antibody Following Illness

The occurrence of herpetic infection in the course of a febrile illness is not uncommon when the fever itself is due to infection with some other agent. The patient, however, had no history of previous herpetic infection; the stomatitis and the subsequent appearance of the lesions on hands and feet

were more general application of the techniques of virus investigation in the diagnosis of obscure febrile illnesses associated with vesicular eruptions may be expected to extend our knowledge in this field. The virus of herpes simplex can be isolated from human material by inoculation on the cornea or nictitating membrane of the rabbit's

TABLE II.—Results of Four Separate Tests of Neutralizing Power of Sera from Patient N. against "N" and Herpes Simplex Viruses

Virus mixed with:	"N" Virus				Herpes Simplex Virus			
	1	2	3	4	1	2	3	4
with ..	250	>1,000, >1,000, >1,000	N.T.	N.T.	>1,000, >1,000	N.T.	34, 36	730
um A ..	190, 160, 275	230, >1,000, >1,000	>1,000, >1,000, >1,000	509, 620	>1,000, >1,000	>1,000, >1,000	32, 33, 37	930, 975
um D ..	0, 0, 0	0, 0, 0	0, 0	0, 0	3, 7	0, 0, 0	0, 0, 0	0, 0, 0
um N1 ..	36, 42, 40	200, 45, 60	770, 855	116, 136	390, 500	>1,000, >1,000, >1,000	10, 13, 18	51, 67, 45
um N2 ..	0, 1, 0	0, 0, 0	67, 73, 210	0, 1, 0	6, 19	106, 26, 19	2, 4, 0	17, 5, 7

Figures indicate number of lesions produced on the chorio-allantois by mixtures of sera and viruses.

N.T. = Not tested. Serum A = Control serum containing no antibody. Serum D = Control serum containing high-titre antibody. Serum N1 = Serum from patient 7 days after onset of illness. Serum N2 = Serum from patient 42 days after onset of illness.

suggested a generalized infection with herpes simplex virus rather than a localized herpetic infection complicating another infective condition. Evidence in support of the primary nature of his herpetic infection was obtained by examination of serum taken on the seventh day of illness and again after recovery 35 days later. These two specimens of sera were amined for neutralizing antibodies against the patient's own virus and against the strain received from Dr. Andrewes. With each test there were included two human sera—one from a person liable to recurrent attacks of herpes and known to contain antibody, and the other from a person with no history of herpetic infection and devoid of neutralizing antibody. The results of four neutralization tests made by chorio-allantoic inoculation are shown in Table II.

It will be seen from Table II that, while some antibody had appeared in the patient's serum by the seventh day of his illness, after recovery the antibody titre of his serum was very much increased—a finding which supports the view that his illness was a primary herpetic infection.

Discussion

The outstanding feature of the case was the failure to cognize the nature of the patient's infection on clinical grounds. The general picture was suggestive of a mild variola in a previously vaccinated individual; the diagnosis of systemic infection with herpes simplex virus was not considered, as such cases have not often been recorded in the literature and are probably not of frequent occurrence. No mention is made of generalized herpetic infection in the differential diagnosis of smallpox in the textbooks (Price (1941) and Conybeare (1946). Once the diagnosis had been established it seemed that the significance of the severe stomatitis from which the patient suffered had not been duly appreciated.

Widespread herpetic eruptions superimposed on eczema and chronic dermatitis have been reported both in children and in adults (Thomas, 1941; Wenner, 1944; Barker and Hallinger, 1947), and virus studies have shown that at least some instances of the clinical condition referred to as Kaposi's varicelliform eruption are due to the same agent (Barton and Brunsting, 1944; Lane and Herold, 1944; Lynch *et al.*, 1945). In most of these patients, however, the herpetic rash was confined to areas of skin affected by the dermatitis. In the case reported above there was no such previous skin affection, and the distribution of the lesions suggests a dissemination of the virus by the blood stream.

The variety of clinical manifestations due to infection with herpes simplex virus has been increasingly appreciated in recent years, and it appears that this virus has greater pathogenic potentialities than is generally recog-

nized (Steigman and Scott, 1942), but the susceptibility of the chorio-allantois of developing hens' eggs makes this tissue a convenient alternative medium for the isolation of the virus.

Summary

A case of generalized infection with herpes simplex virus is described. The symptomatology and course of the illness simulated mild smallpox, but this diagnosis was not supported by the evidence of laboratory tests. Herpes simplex virus was isolated from the patient's skin lesions, and examination of the blood for antibodies supported the diagnosis finally reached.

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On Jan. 14 Lord Horder, Chairman of the Empire Rheumatism Council, gave a lecture demonstration at the Department of Rheumatism of the Royal Free Hospital. The cases were presented to Lord Horder by the Registrars to the Unit, Drs. Chalmers and Lush, and were cases picked from the Unit's wards for their general medical interest. A case of myelomatosis was presented first, and Lord Horder stressed the relation of this condition to other neoplastic blood conditions such as leukaemia. Another interesting case was one of proteinuria associated with rheumatoid arthritis, and the importance of an interpolated myxoedema was fully discussed. Further meetings of this type will be held periodically.

EFFECT OF THIOCYANATE ON BASAL BLOOD PRESSURE

BY

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Many conflicting views have been published since thiocyanates were first administered therapeutically at the beginning of this century; and although Hines (1946) and Watkinson and Evans (1947) stated that these are the only drugs capable of satisfactory use in the treatment of hypertensive disease, many are not convinced of their action. For example, Ayman (1930, 1931) endeavoured to show that their effect was not greater than that of placebos, basing his criteria of action mainly on symptomatic improvement and not so much on pressure changes. Evans and Loughnan (1939) investigated a large number of substances credited with lowering blood pressure and found that most of them, including thiocyanates, were without greater effect than placebos administered for a similar period; the results were based on periods of treatment lasting only two to three weeks. Those who hold similar opinions may find support for their belief in the excellent review by Foster (1943) in which he states that in an extensive search of the literature he had been unable to find evidence of the hypotensive effect of thiocyanates in animals, short of a toxic dose.

There have been, however, a number of careful investigations (Daley *et al.*, 1943; Beamish and Adamson, 1945; Watkinson and Evans, 1947) in which every precaution was taken to control and standardize conditions and in which it would seem that thiocyanates did produce significant falls in the systolic and diastolic blood pressures.

At Otago University Medical School special interest has been attached to the question of hypertensive disease, and the problem of what have been called the casual, basal, and supplemental blood pressures has been discussed (Muir *et al.*, 1943). By "casual" is meant

that pressure recorded under ordinary clinical conditions of examination. In the particular study to which reference is made below, the casual pressure was estimated after a few minutes' rest, usually in the recumbent position. "Basal," on the other hand, refers to pressures taken after due precautions have been instituted to remove the influence of stimuli, both extrinsic and intrinsic. Basal conditions have been recognized here as being satisfied only when the patient—to whom the whole procedure has been explained beforehand—after a peaceful sleep under the influence of a mild sedative, has become habituated to his surroundings and may be justifiably regarded as in a state of basal metabolism. The "supplemental" pressure—an independent variable—is the difference between the

casual and the basal pressures and represents the part of the casual pressure which reflects the physical, emotional and metabolic activity of the patient at the time of measurement.

The basal pressure has been shown (Smirk, 1944; J. A. Kilpatrick, unpublished communication) to be comparatively stable in hypertensive disease, and have been interested in the examination of the effect of thiocyanate in patients whose basal pressures were measured periodically throughout treatment, controlling the results against treatment with placebos in many of the cases. In 20 patients investigated so far the preliminary observations indicate a fall in the basal pressures, and I feel that the following account will be of interest. It is put forward as a preliminary communication, and a more detailed series will be forthcoming shortly.

KEY
 — SYSTOLIC PRESSURE
 - - - DIASTOLIC PRESSURE
 ···· SERUM KCNS LEVEL
 □ BASAL PRESSURES

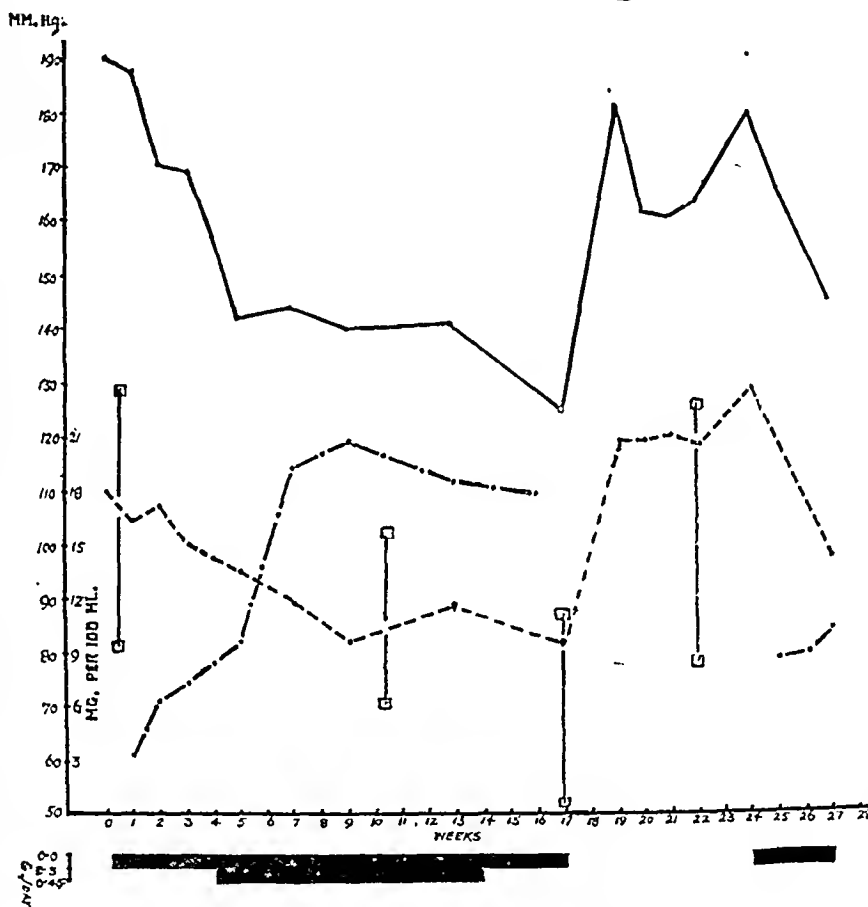


Chart showing variations in systolic and diastolic blood pressures during treatment with thiocyanate.

Case Report

The patient, a man aged 74, of rather stolid type with sluggish cerebration, was admitted to Dunedin Hospital on Aug. 29, 1946, complaining of weakness of the right face, arm, and leg for two days. The onset of the weakness coincided with an attack of giddiness. He had no history of fits, no loss of consciousness, no visual disturbances, and no pain, and had not previously experienced any similar weakness.

On examination he was in a slightly confused state, his speech was thick and slow, and he showed a slight weakness of the right face, arm, and leg. The tendon reflexes were present and

equal, the superficial reflexes were normal save for the plantar responses, which were extensor in type on both sides.

The cardiovascular system showed little abnormality for a man of his years; there was no evidence of congestive failure, the pulse was regular except for an occasional extrasystole, and the blood pressure was 190/110 mm. Hg. Radiography confirmed the clinical findings concerning the size of the heart, and revealed it to be of a shape usually associated with hypertension. The basal blood pressure at this time was 128/84 mm. Kidney-function tests were normal, and examination of the other systems showed no evidence of gross pathological change. Improvement was complete in the course of four weeks, and a diagnosis of essential hypertension of a labile variety with encephalopathy was made.

In January, 1947, when the symptoms and clinical manifestations had completely disappeared, it was decided to treat him with potassium thiocyanate in an attempt to reduce his blood pressure so as to minimize a recurrence of the complication: the accompanying chart shows the course of the treatment. He maintained high concentrations of the drug with great improvement in his general well-being, but later developed mild diarrhoea as a toxic manifestation and continued on treatment for 10 days without indicating this. The drug was stopped temporarily.

Comment

Attention was drawn to the following: (a) The casual systolic and diastolic pressures began to fall soon after treatment was instituted. (b) At the end of 17 weeks the casual blood pressure had fallen from 190/110 to 125/84, and the basal from 128/84 to the low figure of 88/52. These reductions represent a response to treatment to the extent of 65 mm. systolic and 26 mm. diastolic in the casual blood pressure, and in the basal of 40 mm. systolic and 32 mm. diastolic. (c) The withdrawal of the drug was followed by a rise of both casual and basal pressures, which two weeks afterwards had returned to the levels found before treatment was begun. (d) On treatment being restarted the casual and basal pressures showed the same tendency to fall again.

Conclusions

In some patients with essential hypertension treatment with thiocyanate causes a well-marked fall in blood pressure.

The reductions in pressure are due partly to decreases in the basal and partly to decreases in the supplemental pressures.

The falls in basal pressure are good evidence that the effect of adequate thiocyanate therapy is pharmacological and not psychological.

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The Hon. Secretary of the West Derbyshire Medical Society, Dr. H. Rhys Davies, reports that at a meeting held at Matlock on Jan. 25 the following resolution was passed *nem. com.*: "That this meeting is of the opinion that the omnipotence of the Minister under the Act in general, and in particular in regard to the power of dismissal without appeal to the courts, is contrary to the interest of the community and justifies the profession in abstaining from the Service."

TREATMENT OF ANGINA PECTORIS BY REDUCTION OF BASAL METABOLISM

BY

G. SCHOENEWALD, M.D. Berlin.

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From the therapeutic point of view sufferers from angina can be divided into three types: obese, anaemic, and slim. The first two groups are amenable to treatment by reduction of weight and correction of anaemia respectively. The others can only be given nitroglycerin either to shorten attacks or occasionally to prevent them. These comprise, in my experience, more than half the victims of the disease.

Some fifteen years ago American workers first conceived the idea of reducing the demand upon the failing heart by reducing the oxygen demand of the organism. This was achieved by total surgical removal of the thyroid gland, followed by medication with thyroid-extract sufficient to prevent myxoedema but not enough to restore the basal metabolism to normal. A new principle was thereby introduced into cardiological treatment: instead of trying to boost the output of the failing heart, the principle of "load shedding" was substituted. In many cases the results of total thyroidectomy were good, but there are objections to radical surgery in a cardiac invalid, and these, together with the inherent technical difficulties, prevented the method from attaining any great popularity.

Thiouracil and its derivatives have now given the physician the means of suppressing thyroid activity, but rather surprisingly these means have not yet been widely exploited in cardiology. In America, W. Raab (1945) treated a small group of cases of angina, with promising results, and in this country a number of cases of heart failure have been given methylthiouracil (Sharpey-Schafer, 1946).

Three cases of angina treated ambulant with methylthiouracil are here described. All had typical angina of effort, exhibited electrocardiographic abnormalities corroborating the diagnosis, and suffered from three to six attacks daily in the course of their routine activities. Two had previously had a coronary thrombosis—one four years and one nine months before the start of treatment. Their daily routine was not altered in any way during the treatment. Since it is well known that the effect of methylthiouracil is to reduce basal metabolism and eventually produce myxoedema, no attempt was made to follow up changes in basal metabolism. It was felt that this treatment had two possible end-points: the cessation of angina before the onset of myxoedema, and the onset of myxoedema without amelioration of the angina. Each of these two end-points could be determined by clinical observation and by regular control of weight, without estimations of the basal metabolism.

Case 1

R. D., a male clerk aged 64, had no history of previous illness. In March, 1946, he suffered an attack of severe substernal pain lasting for 36 hours. Heart sounds were normal, blood pressure was normal and remained so, and ectopic beats appeared during the first two days. An electrocardiogram taken on the fourth day showed the typical changes of a recent coronary thrombosis. After six weeks' rest in bed he was allowed up, but he did not resume work because of two or three attacks of anginal pain daily on minimal physical effort. A chest film showed considerable enlargement of the heart to the left, with elongated and uncoiled aorta. Methylthiouracil, 0.6 g. daily, was started on Dec. 10, 1946. It was reduced to 0.4 g. daily four weeks later. After ten weeks' medication the patient reported complete cessation of angina, and methylthiouracil was thereupon reduced to 0.1 g. a day. His weight had remained constant throughout this period.

Twelve weeks after the start of treatment he gained 6 lb. (2.72 kg.) in one week and developed typical myxoedematous facies. Treatment was then stopped completely for a week, during which time the gain in weight was lost and the facial expression returned to normal.

Throughout this episode the patient was not aware of anything unusual happening. Treatment was then restarted with 0.05 g. daily, and has continued up to the time of writing (June, 1947). He has remained free from angina, and maintains that he feels generally better than before the treatment (presumably because of the absence of attacks). He had retired from work, but now contemplates looking for a light job. The heart has not changed in size or shape. The electrocardiogram was still grossly abnormal at the start of the treatment and remained virtually unchanged (Fig. 1).

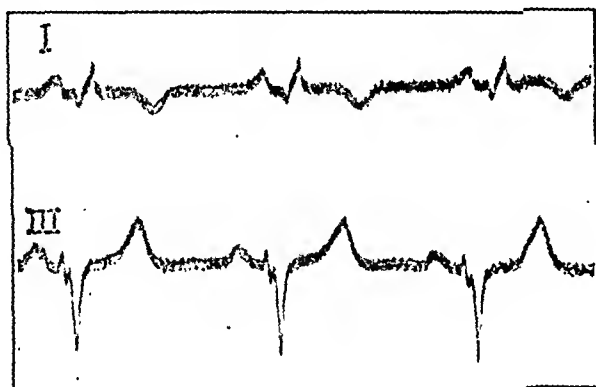


FIG. 1.—Electrocardiogram of Case 1, leads I and III.

Case 2

R. J. H., a male clerk aged 55, had coronary thrombosis four years previously. Since then regular attacks of angina, relieved by nitroglycerin, occurred approximately six times a day during mild weather and considerably more often during cold and windy spells. Two years later he had a gastric ulcer, which healed after six weeks' treatment, including rest in bed, and has since caused no trouble. Attacks of angina occurred on walking more than a quarter of a mile (400 metres), on walking up three flights of stairs (which he had to do three to four times a day in the course of his work), and on leaving the office for shopping after lunch.

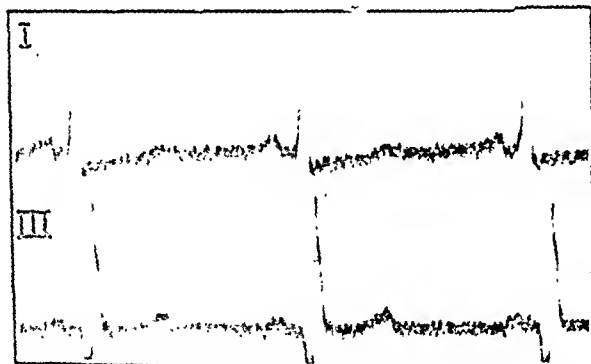


FIG. 2.—Electrocardiogram of Case 2, leads I and III.

The electrocardiogram was characteristic of long-standing myocardial damage, and has remained unaltered since 1944 (Fig. 2). His heart was radiologically normal. Treatment with methylthiouracil was started on Dec. 10, 1946, with 0.6 g. daily for 28 weeks; it was then reduced to 0.2 g. a day until March 24, 1947, when it was increased again to 0.6 g. a day.

The patient reported no change in his condition for the first two weeks, but improved to a certain extent thereafter. He was then able to perform the three flights of stairs at his office without discomfort, but still had angina on walking more than a quarter of a mile, and on shopping after lunch. A week later he was given a larger dose of 0.6 g. of methylthiouracil daily. After a few days the attacks that had occurred regularly when he walked more than a quarter of a mile, and the attacks on going to and from his office, had almost completely disappeared in intensity and no

longer occurred regularly. He now has only one slight attack each day, which is rapidly relieved by nitroglycerin, whereas before treatment he had at least six severe attacks a day. At the time of writing he had not reached the stage of myxoedema; his weight has in fact dropped by 4 lb. (1.81 kg.) during the treatment.

He says that he is at least as active at his work as before, and that his general condition has been much improved. Neither his chest film nor his electrocardiogram has shown any changes since the start of the treatment.

Case 3

F. W. B., a road surveyor aged 55, has had typical angina of effort for ten years, and latterly it had been getting worse. Because he could not walk to the station in the morning or walk any distance during the day, he reluctantly contemplated retirement. The number of attacks varied, but there was hardly ever a day without at least one, and usually there were several.

On examination the heart sounds were muffled, and the blood pressure was 190/110. Screening revealed a moderate enlargement of the heart to the left and an elongated aorta. The electrocardiogram showed evidence of myocardial damage (Fig. 3). Treatment with methylthiouracil, 0.6 g. daily, was started on Feb. 22, 1947, and 2½ weeks later the patient wrote that for the past few days he had been able to walk to the station in the mornings without stopping. On April 1 and 1 he reported that he had had one very mild attack of angina during each of the previous weeks. He had walked to and from the station at a normal pace without difficulty, had walked

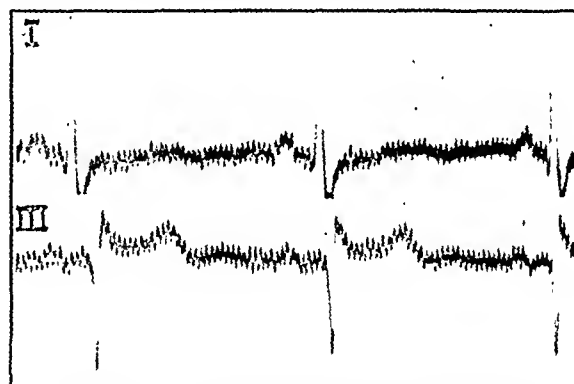


FIG. 3.—Electrocardiogram of Case 3, leads I and III.

for 15 to 20 minutes in the course of his work without having to stop and without pain, and on several occasions had done a test walk after tea over a course that previously he had never been able to traverse at this time of day without at least one attack.

His weight remains steady, his electrocardiogram and blood pressure are unchanged, and he has given up thoughts of retirement.

Discussion

No dogmatic conclusion can be reached from a study of only three cases, but angina is a condition not prone to spontaneous fluctuations in severity; thereafter daily observations on a small number of cases may have more value in this complaint than in many other pathological conditions.

In the above investigation it was a salient point that the patient should not change his daily routine. It was therefore essential to select patients who could be treated in private practice. White cell counts were checked at 48-hour intervals. In each case one or more occasions arose when the drug was discontinued for 24 hours because of a fall in the white cell count. Clearly, the number of cases treated had to be limited, but in view of the promising results obtained it might be considered worth while to treat similar cases in hospital until the onset of myxoedema and then discharge them on a maintenance dose in order to observe the results after their return to full activity.

It would seem that in order to reduce thyroid activity to any appreciable extent it is often necessary to give much

larger doses for a comparatively longer period to those with normal thyroid activity than to those with hyperthyroid activity. Since this paper was written Cases 2 and 3 have developed myxoedema and have recovered as rapidly as Case 1 did.

Summary

Three cases of angina of effort are reported. Treatment with methylthiouracil was successful in either abolishing or markedly reducing the frequency of attacks. On the whole, comparatively large doses were required. This treatment has possibilities in that patients may be restored to their former earning capacity.

I wish to thank Dr. A. Morton Gill for his advice and help in the preparation of this paper.

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CHRONIC HEPATITIS TREATED WITH METHIONINE AND CHOLINE

BY

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AND

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Experimental studies and clinical observations in recent years have focused attention on the importance of dietetic factors in liver disease. Wits (1947) gives a valuable list of references. Neither the exact effects of these factors nor their value as therapeutic agents have as yet become clearly defined. It seemed interesting, therefore, to study the effects of large doses of methionine and choline as an adjunct to the treatment of a group of patients suffering from chronic hepatitis.

Clinical Material.—Six cases of chronic hepatitis were selected for this study. The salient clinical features of each are presented in Table I. Biochemical tests showed impairment of liver function in each case, and a feature common to all was a low level of the plasma albumin with inversion of the albumin-globulin ratio (Table II).

Method.—The patients were placed on a high-protein diet, which consisted of the national ration supplemented by the extra meat and milk which are authorized for this condition. It is estimated that each patient received a daily intake of 120–150 g. of protein throughout the period under review. Case 6 had been on the diet for the previous

eighteen months, and the other five for only two to four weeks before the course of methionine was started. The dose given was 1 g. five times daily by mouth, increasing on the third day to 3 g. five times daily for six weeks. The methionine was then discontinued and choline chloride in similar doses was prescribed for a further period of three months.

A careful clinical assessment of each case was made immediately before the beginning of treatment and at the end of the courses of methionine and choline. It seemed probable that any real clinical progress would be reflected in an improvement of the plasma albumin level, with a return towards normal of the albumin-globulin ratio (Higgins *et al.*, 1944). Levels of total plasma proteins, plasma albumin, and plasma globulin were consequently estimated at the times of the clinical examinations (Table II).

Results.—No reactions to either of the drugs were observed, but the patients stated that the tastes were extremely unpleasant. In Case 5 the course of choline was abandoned for this reason. No striking clinical changes were observed in any of the patients during the period of treatment. One (Case 5) has since died in cholaemia, one (Case 3) is deteriorating rapidly, and the condition of the other four remains unchanged. There was a small rise in plasma albumin in Cases 3, 4, and 6, a small drop in plasma albumin in Cases 2 and 5, and no appreciable alteration in the plasma albumin of Case 1. It is apparent that there has been no consistent alteration of the biochemical findings attributable to the treatment. These results confirm the view that supplementation of diets already containing adequate amounts of choline and methionine is not likely to be effective (Miller *et al.*, 1947).

Summary

Six patients suffering from chronic hepatitis were treated on a high-protein diet with a supplement of 15 g. of methionine daily for six weeks and choline chloride in the same dose for a further period of three months.

There was no change in the clinical condition of the patients during this time, and the variations in the plasma proteins did not seem to be due to the treatment.

It is a pleasure to acknowledge the help of the Department of Biochemistry and to thank Mr. George Higgins for the plasma protein estimations. We also wish to thank the Medical Research Council for *dl*-methionine.

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TABLE I.—Clinical Features

Case No.	Age	Sex	Duration (Years)	Aetiology	Jaundice	Haemorrhage	Ascites Oedema	Palpable Liver	Palpable Spleen
1	67	F	5	Insidious onset	Intermittent attacks	Epistaxis	Oedema of ankles	4 cm.	2 cm.
2	34	M	10	Infectious hepatitis	" "	" "	Nil	Nil	Nil
3	54	M	4	Alcoholic history	" "	" "	Oedema and ascites	12 cm.	Nil
4	61	M	10	" "	Nil	Nil, but oesophageal varices present	" "	8 cm.	4 cm.
5	60	F	4	Insidious onset	Intermittent attacks	Haematemesis	" "	2 cm.	4 cm.
6	26	F	7	Splenic anaemia	" "	" "	Oedema ascites and pleural effusion	Nil	Splenectomy 2 years ago

TABLE II.—Plasma Proteins in Grammes per 100 ml.

Case No.	Before Treatment			After Methionine			After Choline		
	Albumin	Globulin	Total	Albumin	Globulin	Total	Albumin	Globulin	Total
1	3.10	4.17	8.10	3.15	4.10	7.80	3.05	4.00	7.10
2	3.50	3.85	8.00	—	—	—	2.90	4.20	7.70
3	2.40	5.40	8.10	3.20	4.60	8.40	2.80	4.80	8.35
4	2.50	2.90	5.75	3.00	3.70	7.00	3.45	3.07	6.60
5*	2.51	4.79	7.63	2.40	4.40	7.10	1.90	3.69	6.15
6	2.00	4.00	6.35	2.30	4.00	6.50	2.45	3.75	6.25

* Course of choline not completed.

Medical Memoranda

Resection of Two-thirds of the Small Intestine

A case of an old gunshot wound of the abdomen is presented in which 14 feet (4.26 metres) of small intestine from the mid-jejunum to the terminal ileum was removed at an operation for extensive gangrene resulting from volvulus due to a solid adhesion of the jejunum to the abdominal wall. The patient was well and gaining weight six weeks after operation.

The length of the small intestine may vary between 15 and 30 feet (4.5 and 9 metres); the average is usually stated to be about 22 feet (6.7 metres). Survivals after resections of up to 19 feet (5.8 metres) have been recorded, but there is no very clear evidence of how much small intestine is necessary for life, or, indeed, of what proportion of patients survive extensive resections such as the one here reported. This case suggests that a man may become accustomed to the non-function of part of his small intestine and as a result accommodate himself to resections which in others might well prove fatal.

CASE REPORT

W. E. B., aged 54, had received a gunshot wound of the abdomen in 1917. He had an immediate laparotomy, and was subsequently twice operated on for intestinal obstruction, in 1918 and 1926. On the latter occasion it was reported that a volvulus of the small intestine had been found and reduced. Between 1927 and 1945 he had occasional pains but no attacks of obstruction. In 1922 he sustained a fractured pelvis, and in 1934 he was shown to have a gastric ulcer, for which he received medical treatment on several occasions.

In December, 1945, he began to have colicky abdominal pain. This was diagnosed as intestinal obstruction, and he was treated conservatively by intubation with some success at another hospital. In January, 1946, symptoms recurred, and he was admitted to Queen Mary's Hospital, Southampton. Intubation with a Miller-Abbott tube gave but slight improvement, and on Jan. 18 laparotomy was performed. The upper part of the small intestine was found to be greatly distended and many adhesions were present. The patient was in poor condition, and a side-to-side anastomosis between two loops of bowel was made, excluding the most distended area. His convalescence was stormy, but by the summer he was able to get about and was almost free from pain.

On July 24, 1946, he complained of a sudden severe pain in the abdomen. The pain became colicky in nature and remained of the same intensity. He was seen at 2 p.m., four hours after the pain had started. There appeared to have been no exciting cause for the attack, and he stated that he had been as well as usual on the previous day. On examination he was in shock. His pulse was 80 and of poor quality, his extremities were cold and clammy, and his blood pressure was 60/45. After morphine and a pint (568 ml.) of serum his condition improved somewhat, and operation was decided on.

At operation (Mr. Gillis) a right paramedian incision was made. On entering the peritoneal cavity a moderate amount of bloody fluid was seen. Almost the whole of the small intestine was grossly distended and black. The cause appeared to be an adhesion of the upper jejunum to the anterior abdominal wall which had resulted in a volvulus. His condition improved markedly when the massive amount of gangrenous bowel was delivered from the peritoneal cavity. This portion was excised, and a side-to-side anastomosis made between the jejunum and the caecum, the appendix being removed. Two enterostomy tubes were inserted—one through the anastomosis, and one from the blind end of the jejunum and brought out through a stab incision in the flank. The specimen of small intestine removed was examined later. It was approximately 14 feet (4.26 metres) in length and contained two side loops where a previous side-to-side anastomosis had been done. These side-tracked loops were 1.82 metres long in all, so that about 8 feet (2.44 metres) of functioning intestine was removed. It was estimated that about 4 to 5 feet (1.22 to 1.52 metres), or perhaps less, of small intestine had been left in situ, two-thirds of the functioning small intestine having been removed.

During the first few critical hours after operation the patient was given two further pints (1.14 litres) of serum and after operation and intravenous glucose solution. He received penicillin, 200,000 units every four hours, and a high-protein and high-calorie supplementary diet as at once as he was able to take it. His post-operative course hydrolyte for

the last four weeks of his stay in hospital. The enterostomy tube came out on the seventh day and the wound healed well.

Laboratory studies after operation may be tabulated as follows:

	Aug. 1	Aug. 8	Aug. 14	Aug. 15	Aug. 21	Aug. 2
Weight (lb.) ..	113	113	115½		118½	
Serum proteins (mg./100 ml.)	4.9	2.8		4.9		5.1
Albumin (mg./100 ml.) ..	2.9	1.6		3.2		3.6
Globulin (mg./100 ml.) ..	2.0	1.2		1.7		1.5
Serum chlorides (mg./100 ml.)	560	577				
Serum calcium (mg./100 ml.)	11.0					
Blood urea (mg./100 ml.) ..				35		
Haemoglobin ..	78%					
Red blood cells (millions) ..	4.00					

Two pints of serum were given between Aug. 8 and 15. The patient's appetite was poor for the first two weeks after operation but then it improved, and when he left hospital on August 30 he was able to eat a more or less normal diet. At that time he was feeling well and his general condition was quite satisfactory. He had put on 7 lb. (7.2 kg.) in weight. He had no other complaints except occasionally a little tightness in the abdomen; his bowels were open twice in 24 hours, the motions being quite loose but not very voluminous.

Cineradiography of the gastro-intestinal tract demonstrated that a barium meal which had been swallowed 40 minutes previous was already passing down the descending colon while there was some still present in the stomach. There was no increased urge to evacuate the bowels.

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MICHAEL NEWTON, M.D.,

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Recent Cases of Methyl Bromide Poisoning

The fact that methyl bromide is a dangerous and insidious poison is not widely recognized among members of the profession, and non-medical people know little of its risks. The initial symptoms (nausea, vomiting, and urgent evacuation of bowel and bladder) soon pass off, to be followed by a later period of apparent recovery. In mild cases headache and malaise may follow, but where much of the gas has been inhaled, unconsciousness, asphyxia, anuria, and violent convulsions come on quickly after a few hours. In a recent group of eight simultaneous cases, six boys died within 24 hours of exposure. The two survivors were critically ill for several days. A detailed report by the clinicians in charge of the cases is in course of preparation, but meantime this note may serve as a warning and help to prevent similar fatalities which otherwise might occur through ignorance.

The boys, aged 11 to 14, secretly established "gang headquarters" in the hold of a barge. A fire-extinguisher of type used in naval vessels and aircraft was accidentally and intentionally discharged in the evening. All recovered from the primary effects in a short time, and employed the hours in darkness smoking, eating chocolates and biscuits, and playing cards, and probably dozing. Next morning two left the vessel and went home. The alarm was raised when they suddenly became ill two hours later. The police discovered the others almost at once—one dead and five unconscious.

Of the five boys found unconscious four died within 24 hours, and one of the two who had gone home died within the same period. The post-mortem findings varied, but the general picture was one of lung and brain haemorrhages.

The extinguisher is a copper cylinder 14 in. (35 cm.) long and marked with a warning. Other extinguishers of the same type have a larger warning but no note of the contents (methyl bromide). Similar extinguishers may be on disused vessels or in Service stores being dispersed or destroyed, thus constituting a potential death-trap to the uninformed.

W. FYFFE DORWARD, M.B., Ch.B.

Police Surgeon, City of Dundee; Lecturer in Forensic Medicine, University of St. Andrews.

Grants to a total of £133,150 towards the cost of home care of old people have been recommended by their advisers to the Governors of the National Corporation for the Care of Old People since it was established on Aug. 1, 1947. Of this sum £64,000 has so far been recommended from the resources of the Lord Mayor's National Aid and Distress Fund.

Reviews

MEDICAL RESEARCH

Medical Research. A Symposium. Edited by Austin Smith, M.D. (Pp. 169; 17 illustrations, including 10 subjects in colour. 25s.) London and Philadelphia: J. B. Lippincott Company. 1947.

Books on medical research are often rather uninviting to the medical reader—probably because medical research, like women and the American constitution, has had so many foolish things said about it. This is a great pity, for it is important that those who are engaged in research should pause now and again to consider what they are doing and why, and it is even more important that medical teachers, administrators, and practitioners should know something about the conduct of research—the growing tree, as it were, and not merely the fruits.

Austin Smith has had a useful training for editing a symposium of this kind, for he has been secretary of the Council on Pharmacy and Therapy of the American Medical Association for a number of years. It is not surprising, therefore, that pharmacology predominates, but this makes for consistency and the avoidance of repetition. Different contributors discuss the fundamental and practical aspects of research, the organization of the laboratory, the manufacture and development of new drugs, and the place of medical research in the university medical school. To counterbalance undue stress on laboratory techniques there is an inspiring article by Alvarez on clinical research with a notebook, and the book finishes with a brilliantly illustrated article on photography in medical research.

The articles on fundamental aspects of research by Sollmann and that on medical research in the university medical school by Boyd are extremely well thought out and merit reading by anyone who is engaged in medical teaching. There is no doubt in these authors' minds that "medical science cannot be adequately taught by those who stand aloof from its advances," or, in other words, that research is one of the most important functions of the medical schools. Questions such as salary, security of tenure, and publication are discussed against this background, and the book forms a valuable corrective to current thinking in Britain, where the organization of medical services and clinical teaching is considered so largely in terms of technical skill and administrative efficiency. Sollmann considers that the primary motive for research must be curiosity, though there may well be an admixture of vanity or the desire for profit. Accurate and selective observation, technical skill, and factual knowledge are the chief elements in the success of the average worker. Boyd discusses the advantages and disadvantages of a university post with a good deal of candour, and he has much to say about part-time and whole-time payment and about the inequality of salaries in different chairs. He concludes that outside work should be encouraged within limits but that a major proportion of fees should be paid into a common pool, or else subjects with no immediate practical application will suffer. He also believes in promotion and demotion, again within certain limits, to reward good work and to discourage the man who rests on his oars when he has secured a leading position.

L. J. WITTS.

COLLAPSE OF THE SUPERMAN

Essays on Contemporary Events. By C. G. Jung. Translated by Elizabeth Welsh, Barbara Hannah, and Mary Briner. (Pp. 90. 8s. 6d.) London: Kegan Paul.

The unparalleled events of the last decade have had an inevitable influence upon the mental life of individuals. Prof. Jung in his practice became aware of this influence, particularly in the dreams of patients, where appeared impersonal, collective elements. He consequently found it necessary to study contemporary events in order the better to understand the problems of his patients. This volume contains an Introduction on "Individual and Mass Psychology," which the B.B.C. broadcast in the Third Programme in 1946, and five essays. With one exception ("Psychotherapy

and a Philosophy of Life") the essays are a commentary on collective psychology in Germany, and he discusses the significance of happenings in Russia.

Readers unfamiliar with Jung's terminology will find the book difficult, but for others—and they are many—it provides a penetrating psychological study of events associated with the war. As is fitting, Jung pays special attention to the problem of collective guilt. In 1918 he wrote of the possible result of movements in the unconscious of the German people. These anticipations were accurate. Then, as here, his point of view was that of an unprejudiced empiricist whose observations rested upon facts rather than abstractions. His conclusions are undogmatic and he enunciates no general theory, though he makes suggestions towards the formulation of a scientific outlook. The opinions expressed in this book have an interest far beyond the clinical situation and open new vistas of the background of modern thought.

Jung, although Swiss, was on the Nazi black list and his books were suppressed in Germany. Despite this some have misunderstood his views, for they have been reproduced (particularly in America) in fragmentary form and inaccurately translated. A reading of the final essay should dispose of these misconceptions. This volume, well translated and presented, is on the level one would expect from C. G. Jung, who stands among the great thinkers of to-day.

E. A. BENNET.

RHEUMATISM IN PRACTICE

The Treatment of Rheumatism in General Practice. By W. S. C. Copeman, M.D., F.R.C.P. Fourth edition. (Pp. 258. 12s. 6d.) London: Edward Arnold and Co. 1947.

The fact that this work has reached a fourth edition is ample evidence that it has proved its worth. Designed to aid the general practitioner in the management of a group of diseases which crowd his surgery and occupy much of his time, it has well satisfied a real need. This edition is distinctly better than its predecessors, for the author discusses many of the more recent advances in methods of treatment, his experience of them in practice, and his opinion of their value, basing his judgment on a wide experience of the management of cases in the Forces.

He fully considers treatment in all its aspects; the chapter on doctor and patient contains much wise advice and might with advantage preface the whole section on treatment. His account of simple methods of physical treatment which the patient can carry out in his home is interesting; they should be more widely used. Among these the local contrast bath for the extremities, which is useful in rheumatoid arthritis, might with advantage be described in a future edition. We note with interest his view that psychoneurosis is not such a frequent cause of fibrositis as some would have us believe. We recommend the book without hesitation as a most useful addition to the practitioner's shelves.

C. W. BUCKLEY.

THORACIC SURGERY

La Désinsertion Extrapleurale des Symphyses Pulmonaires sous Contrôle de la Pleuroscopie. By Jean Brailion. (Pp. 120; 25 figures. 210 francs.) Paris: Librairie Maloine. 1947.

The freeing of adhesions between the lung and the chest wall when performing artificial pneumothorax is of fundamental importance in the successful management of pulmonary tuberculosis. Most operators fully realize the need for dissecting the adhesion from the chest wall in either the extrapleural or the extrapleural plane rather than dividing the adhesion itself. When the area of adherence is of any size "enucleation," or extrapleural dissection, is the only method that can be employed. There is, therefore, nothing new in the conception of extrapleural "disinsertion."

In this short book Dr. Brailion gives a detailed description of his technique, with a lucid account of the surgical anatomy. This alone makes the book worth reading by those interested in this work. More remarkable is his account of how he has adapted the operation to include really extensive freeing of the adherent lung, particularly over the dangerous paravertebral and mediastinal areas. He has performed 36 partial or complete mediastinal dissections. His technique is evidently meticulous and time-consuming; he often spends three to four hours

at a sitting. Haemorrhage has so far caused no great trouble in his 165 cases, but, as would be expected, tuberculous pleurisy has often supervened—occurring in 22 cases (13.3%). In 11 of these the infection matured to form frank pus; a staphylococcal empyema formed in one other case. Total or partial pleural obliteration occurred in 40%. In spite of this high incidence of complications the method deserves serious study, and we therefore recommend the book to specialists in thoracic disease.

R. C. BROCK.

HEALTH EDUCATION

Health Facts for College Students. A Textbook of Individual and Community Health. By Maude Lee Etheredge, M.D., D.P.H. Fifth edition. (Pp. 439; 75 figures. 12s. 6d.) Philadelphia and London: W. B. Saunders Company. 1947.

Dr. Etheredge states in her preface that "college students are naturally interested in the facts of physiology and hygiene." That her book has reached its fifth edition testifies to the truth of this statement. The writer sets out first to persuade the university student that health is essential for the full enjoyment of life and then that active steps must be taken to achieve and maintain health. The thirteen chapters on elementary physiology are excellent and constitute a useful text for sixth-formers or the intelligent layman. Those on food and its relation to health, the locomotor system, and the origins of faulty posture are particularly well done. The author then considers some of the special emotional problems of the university student in chapters on "Friendship, Love, and the Preparation for Marriage" and "Marriage, the Home and Parenthood." She discusses these problems in a straightforward way, and her treatment of them carries conviction on account of the high moral values on which she clearly bases it. The remaining ten chapters cover public health, genetics, allergy, infective agents, and cancer, and the book ends with a useful chapter on first aid.

The scope of this work is wide, but on the whole the author considers the various topics adequately. She might have devoted more space to discussing mental health and less to the signs and symptoms of organic disease. Her account of heart disease, for example, receives three pages, but that of psychoneurosis, hysteria, and neurasthenia only one. The style is on the whole clear and concise, though occasional exhortations and slogans, of which the following are examples, may slightly irritate English readers: "Try these study thoughts: A wanting to learn goes nine-tenths of the way," and "Community pride is a great hill climber."

The great need for more health education in the U.S.A. as in this country is indicated by some of the facts about drug addiction and venereal disease that the author gives. We are told, for example, that there are 750,000 addicts to alcohol in the U.S.A., and it is estimated that 20% of all mental patients are alcoholics. The problem of drug addiction is not confined to adults, however, for the book mentions a New York clinic for children addicted to marijuana. In the chapter on venereal disease the author writes, "Nearly seven million of our people have syphilis."

Considerable attention has been paid to the problems of student health in Britain recently, and a report on this subject prepared by a subcommittee of the Association of University Teachers has included in its recommendations that "a voluntary course of instruction in personal and social hygiene open to all members of the university" should be provided. *Health Facts for College Students*, with modifications necessitated by the differences between our two countries, would provide a useful basis for such a course. The work would also be instructive to teachers and others responsible for the training and education of young people. There is an extensive bibliography.

JOHN PEMBERTON.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received.]

Neurological Complications After Spinal Anaesthesia. Gunnar Thorsén. (Pp. 272. No price.) Stockholm: Ab Norda Hokhandeln. 1947.

A monograph with extensive bibliography; in English.

Surgical Disorders of the Chest. By J. K. Donaldson, B.S., M.F.A.C.S. 2nd ed. (Pp. 485. 42s.) London: Henry Kimpton. 1947.

A short account intended for the general surgeon, physician, a student.

The Postnatal Development of the Human Cerebral Cortex By J. LeRoy Conel. Vol. III. (Pp. 148. 70s.) London: Geoffrey Cumberlege. 1947.

An account of the cortex of the three-months-old infant.

Diagnostic Agents. By T. D. Whitter, Ph.C., D.B.A. (Pp. 2s. 6d.) London: The Pharmaceutical Press. 1947.

A summarized account for pharmacists of the preparation and of certain diagnostic agents.

Pathological Histology. By Robertson F. Ogilvie, M.F.R.C.P.Ed., F.R.S.Ed. 3rd ed. (Pp. 459. 37s. 6d.) Edinburgh E. and S. Livingstone. 1947.

A textbook of morbid histology for the student and graduate.

Housing and the Family. By M. J. Elsas. (Pp. 135. 8s. 6d.) London: Meridan Books. 1947.

An inquiry into housing carried out in 1944-5.

Medical Addenda. By various authors. (Pp. 158. 10s. 6d.) New York: The Commonwealth Fund. 1947.

Essays on the doctor, psychosomatic and social medicine, adolescence, and chronic disease.

Medicine, Psychiatry and their Borderland. By Alexander Frank, M.D. (Pp. 238. 21s.) London: Shakespeare Head Press. 1947.

Essays on various themes in medicine

A Textbook on Pathology of Labor, the Puerperium and the Newborn. By Charles O. McCormick, A.B., M.D., F.A.C. 2nd ed. (Pp. 514. 42s.) London: Henry Kimpton. 1947.

A textbook intended primarily for the medical student.

Safety Rules for Use in Chemical Works. Part I, Model Rules. 3rd ed. (Pp. 71. 7s. 6d. cash with order.) London: The Association of British Chemical Manufacturers. 1947.

A manual summarizing the rules, with indexes and blank pages for additions.

Catalogue of Medical Films. Compiled by the Royal Society of Medicine and the Scientific Film Association. (Pp. 125. 7s. 6d. 6s. to members of Aslib or the S.F.A.) London: Aslib. 1947.

About 800 titles are listed, and details of 200 given.

Psychiatric Research. By Cecil K. Drinker et al. (Pp. 11s. 6d.) London: Geoffrey Cumberlege. 1947.

Includes papers on biochemical problems of psychiatry and psychical seizures.

Infant Nutrition. By P. C. Jeans, A.B., M.D., and W. M. Marriott, B.S., M.D. 4th ed. (Pp. 516. 32s. 6d.) London: Henry Kimpton. 1947.

A textbook of infant feeding for students and practitioners.

The Doctor and the Difficult Child. By William Moodie, M.D., F.R.C.P., D.P.M. (Pp. 231. 11s. 6d.) London: Geoffrey Cumberlege. 1947.

An account of disturbances of personality and behaviour in children.

Breathing in Irrespirable Atmospheres. By Sir Robert H. Dott, F.R.S.A. (Pp. 386. 25s.) London: The Saint Catherine Press. 1947.

The physiology of breathing in irrespirable atmospheres and the apparatus required.

Pathology of Tumours. By R. A. Willis, D.Sc., M.D., F.R.C.P. (Pp. 992. 63s.) London: Butterworth. 1948.

A textbook intended primarily for pathologists and research workers.

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MR. BEVAN INTIMIDATES

Mr. Bevan is doing his best to forfeit what little confidence medical men may still have in him as a Minister of Health desiring to start the new Health Service with the willing co-operation of those who will have to work in it. In the House of Commons on Jan. 29, referring to the B.M.A. plebiscite, he said: "Of course open votes of this description always give rise to the possibility of intimidation"—an observation followed by Ministerial cheers. Mr. Tiffany, Labour M.P. for Peterborough, had stated that the method of the plebiscite "is bound to cast doubt on the validity of the result." Mr. Baird, Labour M.P. for Wolverhampton E., asked: "Does the Minister not think that this House should have an opportunity of expressing its views on this attempted blackmail?" The B.M.A. issued a prompt reply to these typical allegations, and stated: "A definite assurance is printed on every plebiscite form issued from B.M.A. House that how individual doctors vote will not be divulged, and that assurance will be kept." This underlines what we stated in a leading article on Jan. 17: "Needless to say, how doctors vote will not at any time be divulged." It must be said once more that there is absolutely no question of divulging to anyone—least of all to Mr. Bevan—the names of any doctors who vote in the plebiscite, and no question of exerting pressure of any kind on those who vote Yes. Mr. Bevan forgets that the B.M.A. is not a trade union but a voluntary association of medical men. Members of this voluntary association would not tolerate for one moment the intimidation of one group of members by another group. Some members have asked how the B.M.A. "will keep itself informed of the practitioners who enter, or apply to enter, the Service before the appointed day." The B.M.A. will know through clerks of Local Executive Councils the *numbers* entering, but not the *names* of those entering. It is simply a question of knowing whether the majority is being sustained. And once the plebiscite returns have been checked the forms, with the names on them, will be destroyed.

It may be that Mr. Bevan is a victim of the psychological mechanism known as "projection," and is attributing to the medical profession a mental activity of his own. He is, indeed, in the process of coercing doctors against their will by financial threats. As the prospective employer of all medical men after July 5, and as the proposed owner of hospitals and doctors' practices in the public service, he is dictating terms to his employees. A learned profession which in an atmosphere of intellectual freedom has made its great contributions to knowledge of the problems of health and disease is being forced into the position of having

to conform against conscience. This is the most deplorable aspect of the present conflict, and it is hoped that those who may feel intimidated by Mr. Bevan will have the courage to vote No if that is their sincere conviction. And those who wish to vote Yes will do so in the sure knowledge that their names will remain secret and that they will be free from any intimidation by fellow doctors.

Mr. Bevan is, with few exceptions, ill-served by those papers and publicists joining in the present controversy. There is a deliberate attempt on the part of some of these papers to foment antagonism between the public and the doctors. There is in some sections of the Press a gross misrepresentation of fact and at the same time a suppression of the viewpoint of the majority of medical men in this country. In the *News Chronicle*,¹ for example, Mr. Ritchie Calder, science correspondent to that paper, says that for the 10d. a week out of the 4s. 10d. compulsory contribution every man, woman, and child will be provided with a series of benefits which he lists. This is a serious misrepresentation, because the tenpenny item in the National Insurance contribution will not even finance the first one on his list—namely, the family doctor service. The 10d. a week will provide £30,000,000 a year to a service estimated to cost at least £152,000,000. Four-fifths of the cost of the Service will be borne by the Exchequer—in other words, by the taxpayer; and the taxes will fall most heavily on that section of the community represented by doctors, the professional and middle classes. Medical men will be paying handsomely for the Service in which they are asked to take part. We may, perhaps, expect a science correspondent to be inaccurate, but it is disquieting to note that medical men are taking part in a campaign to intimidate their colleagues. In *Reynolds News*² a Dr. Irwin Brown, described by the newspaper as "a leading member of the medical profession," writes: "But the public can make sure that the B.M.A. will not get that 13,000 votes . . . if he is wise he will make a point of telling his doctor *now* that he will expect to be treated under the new 'free at the time of service' scheme, and will not require the advice of any doctor who stays outside the service." This suggestion is also being put about, according to the *Daily Worker*, by Dr. Stark Murray, of the Socialist Medical Association. "Find out," he says, "from your panel doctor whether he is falling in with the National Health Service or opposing it." According to the *Daily Worker* Dr. Murray "called upon people insured to withdraw their names from the doctor's list if he were in opposition." We are informed that in one or two districts panel patients acting on this advice are telling their doctors that they will withdraw their names from the panel list unless the doctor will agree to enter the National Health Service in July. These are very muddy matters indeed, and no good will come from concealing them. There is only one answer medical men can give to these shameful attempts at intimidation and that is to resist them.

On another plane of activity it is distressing to find a respected figure such as Dr. Somerville Hastings adding his name to a letter signed by four medical M.P.s (Labour) in which among other things this observation is made:

¹ *News Chronicle*, Jan. 28, 1948.² *Reynolds News*, Jan. 25, 1948.

"The condition that each voting paper must be signed lays the whole thing open to the kind of intimidation, persecution, and victimization now associated only with totalitarian countries. . . ." The letter has been published in three national newspapers.

Mr. A. J. Cummings has on more than one occasion deplored in the *News Chronicle* the ill-feeling that has been stirred up by some members of the present Government between the working classes and the middle classes. The medical profession has the disadvantage of being in the "tinker's cuss" category. "To the Left, the middle class is unmistakably—pace Mr. Morrison—a class enemy," states that sober and influential newspaper *The Economist*.³ The professional class as a whole, *The Economist* observes, "is too proud to fight; too proud certainly to enter wholeheartedly into the inflationary game of mutual blackmail." It is necessary to bear these facts in mind, because they are relevant to the present medico-political situation. Blackmail and intimidation are not part of the doctor's equipment, and as a profession we have too strong a civic sense, and too great a tradition of disinterested service, to throw back the discoloured brickbats hurled at us. But we must expose the attempts at intimidation now being made and which will no doubt be intensified if the plebiscite results show a sufficient majority of Noes.

We print elsewhere in this issue an account of a remarkable meeting held at B.M.A. House on Jan. 27, convened at the instance of the Consultants and Specialists Committee of the B.M.A. Lord Horder, in the opening speech, set the tone of the discussion when he observed that the present issue was one between collectivism and individualism. "This question of freedom," he observed, "is vital to us." At the end of the meeting the following resolution was carried by 766 votes to 11:

That in the opinion of this meeting consultants and specialists should not take service under the National Health Service Act until it has been modified so that agreement has been reached between the Government and the profession as a whole.

On Jan. 5 the Fellows of the Royal Faculty of Physicians and Surgeons of Glasgow reaffirmed the views on the Health Service it had expressed on March 3, 1947. They were as follows: "That the Minister's proposals under the National Health Service Act should be amended by legislation to ensure: (1) the retention of the ownership of the goodwill of medical practices; (2) no direction of doctors either negative or positive; (3) no universal basic salary; (4) the right of appeal from the tribunal to the courts on questions of fact as well as of law; (5) free choice for patient and doctor and no interference with clinical freedom; (6) curtailment of the immense powers placed in the hands of the Minister to mould the shape of the Service by Regulations, by Orders, and by directions; (7) a more democratic appointment of professional representatives to the various statutory bodies and committees to be set up under the Act."

There have also been passed by the staffs of various hospitals and of the General Teaching Hospitals in London, resolutions in favour of an Act which may lead to a

whole-time State Medical Service, and affirming the solidarity of the consultants and specialists with their colleagues, the general practitioners. The Royal College of Surgeons made a welcome plea for professional unity. In view of these encouraging movements towards professional unity and solidarity, which all express what some of us may at times tend to forget—that the medical profession is one profession—the resolution passed by the Committee of the Royal College of Physicians at its meeting on Jan. 29 will strike many as evasive, indecisive, and lacking in courage. It was as follows: "That after the plebiscite and the Special Representative Meeting of the British Medical Association, on March 17, a special Committee should be held to determine what action could most usefully be taken in the interests of the public and the profession as a whole." The Royal College of Physicians is determined to be wise after the event. The workers' hospital, Manchester House Hospital at Golders Green, is being wise before the event by claiming exemption from the State Hospital Service.

The results of the plebiscite will be known in about fortnight's time. Whatever these results may be it is well to point out that the opposition of the medical profession is to certain fundamental parts of the Act and not to the introduction of a comprehensive medical service. The burden of anxiety among all professional groups is that service under the Act in its present form will be incompatible with professional freedom. The freedom of the practitioner must be safeguarded in a service open to the whole community and paid for out of public funds under the control of the Treasury. To compare buying and selling of practices with the previous practice of buying commissions in the Army is, of course, nonsense. The man who bought a commission in the Army bought a qualification to which he was not entitled. To state that buying and selling of practices involves the buying of patients is equally nonsense, because patients have the complete freedom to change their doctor. If the financial burden of buying practice is too heavy for the young man to bear in the days then there is a case for reasoned discussion on this point. At the moment it is difficult to see how the general practitioner can maintain his professional freedom without ownership. But if, as was suggested by the Negotiating Committee to Mr. Bevan, the Act was amended to state that remuneration for general practitioners should be by capitation fee only, with allowance for inducements in difficult areas, then this, it would seem, might offer an alternative safeguard.

In the House of Commons last week Mr. Morrison, in a reply to a question asking for a discussion on "the doctors' ballot" said that if a debate took place it would have to be on a somewhat wider issue than the plebiscite. If such a debate does take place it is hoped that political partisanship will not be allowed to obscure the fact that the medical profession has serious and well-considered objections to the present Act. Unless these objections are seriously considered and met, Mr. Bevan—and through him the Government—will be acting in an anti-social manner in trying to operate the Act in opposition to those who have to work in it.

ASTHMA AND MITES

It is not surprising, in view of the general difficulty in arriving at precise conclusions about the status of suspected allergens in individual cases of asthma, that no final conclusion has been reached about the validity of the hypothesis first advanced by Carter, Wedd, and D'Abrera.¹ They suggested that in Ceylon certain cases of asthma associated with high eosinophilia might be caused by infestation of the bronchi by mites. D'Abrera² has recently published further observations on six additional cases. Mites were found in the sputum; there was a clinical response to organic arsenicals given by mouth, and after this the mites could no longer be found. The maximal total eosinophil count in these cases ranged between 15,300 and 12,000 per c.mm. These counts fell dramatically in every case after the administration of arsenic, though they remained above the normal level. Two of the patients were pregnant women. One was treated successfully, and her subsequent delivery was easy and uneventful. The other was not treated and had severe respiratory symptoms during labour; her baby was normal and showed a normal leucocyte count. In two further cases other drugs were tried before arsenicals were given. In one case bismuth and in the other organic antimony intramuscularly in the usual doses had no effect on symptoms, eosinophilia, or the presence of mites in the sputum. In both cases "carbarsone" by mouth, 0.5 g. on the first three or four days and 0.25 g. for another three or four days, gave some symptomatic relief and led to a fall in eosinophil count. D'Abrera also reports a second case (one had been described in a previous communication) in which a relapse of asthma with eosinophilia had occurred several months after an apparent response to arsenical treatment but was controlled by a second similar course of treatment. He regards these cases as belonging to the same group as the "tropical eosinophilia" originally described by Weingarten,³ and in some of his patients there were radiological changes of the type described in that syndrome.

There have now been reported in patients who have never been to the Tropics a number of cases which conform to Weingarten's description of "tropical" eosinophilia. Hall⁴ investigated two patients suffering from respiratory symptoms of bronchitic type with distressing paroxysms of cough in whose blood high eosinophilia was found; their maximal total counts were 33,840 and 4,884 eosinophils per c.mm. One man had served in the R.A.F. in India and Colombo and had there been concerned with the supervision of stores in which he had been exposed to dust. The other had never been in the Tropics but just before the onset of his illness had worked in a store where vegetables and fruit were delivered in jute sacks. In the first of these patients examination of the sputum revealed on one occasion one degenerated mite of unrecognizable type. Both responded well to treatment with arsenic—"carbarsone" 0.2 g. night and morning for ten days; their symptoms were relieved and the eosinophil count was considerably reduced though still remaining above normal. Hall admits

that the diagnosis of "pulmonary acariosis" in the case in which mites were not actually found in the sputum must be doubtful, but is apparently prepared to accept the diagnosis in the first case on the finding of the one degenerated mite on one occasion.

The symptom-complex of asthma or paroxysmal bronchitis with high eosinophilia and possibly evidence of pulmonary infiltration demonstrable radiologically is observed from time to time quite apart from residence in the Tropics. In the discussion on this subject at the recent International Conference of Physicians it was suggested by Crofton that these cases belong to a series of clinical syndromes which pass by gradations from the benign and transient infiltrations with eosinophilia first described by Loeffler to the full-blown picture of periarteritis nodosa. It seems likely that an allergic reaction to agents unfortunately unidentified in most cases affects various elements of the lung-tissue—alveoli, bronchioles, bronchi, pleura, and arterioles—more or less severely to produce the varied clinical pictures. The only feature which clearly distinguishes the syndrome described by Weingarten is the response to arsenic, which has not generally been observed in other cases of this group. It is tempting therefore to conclude that in the so-called "tropical eosinophilia" the allergen may be connected with a living agent which can be eliminated by organic arsenicals. However, the further inference from the reported finding of mites in the sputum of some of these cases that these are the living agents postulated by this hypothesis requires much further investigation before it can be accepted. It is noteworthy that mites when present have usually been found in very small numbers and often only after the most exhaustive search. Soysa and Jayawardena,⁵ for instance, state that in some instances a single specimen of sputum might be searched for five days before a mite was found. Moreover, although Carter, Wedd, and D'Abrera made careful observations to exclude the possibility of contamination of the sputum with air-borne mites after expectoration, there has been no report of an adequate series of control observations in which the sputum of subjects living under similar conditions to the patients and not suffering from this syndrome has been routinely examined by a comparably thorough technique. The mites reported by Soysa and Jayawardena were species of the genera *Tyroglyphus* and *Tarsonemus*: those found by Carter, Wedd, and D'Abrera belonged to eight different genera, representatives of more than one genus sometimes being found in the same patient. All the species found are common inhabitants of the dust of store-rooms and old houses. Before the hypothesis of infestation of the bronchi by these mites can be accepted it is clearly necessary to establish that mites of these several genera can maintain themselves and become true parasites in the bronchial tree. If the hypothesis is simply that the mites are inhaled in dust and act as allergens so long as they remain passively in the bronchial tree, alive or dead, it would be expected that on removal of the patient from the dusty atmosphere they would be expelled in the bronchial secretions with relief of symptoms. Much work remains to be done on several distinct and separate problems before the questions

¹ *Indian med. Gaz.*, 1944, 79, 163.

² *Ibid.*, 1946, 81, 414.

³ *Lancet*, 1943, 1, 103.

⁴ *Brit. J. Tuberc.*, 1946, 40, 124.

⁵ *British Medical Journal*, 1945, 1, 1.

raised by these interesting observations from Ceylon and India can be answered. The significance of the finding of mites in the sputum must be investigated statistically. If the incidence of this finding in asthmatics is significantly high, the behaviour of the mites in the bronchial tree and their potentialities as allergens and provokers of eosinophilia in affected and in normal subjects will need investigation. Whatever the result of these investigations, there will remain, related or unrelated, the further problem of the mode of action of organic arsenicals in relieving the symptoms and reducing the eosinophilia in one group of broncho-pulmonary disorders associated with eosinophilia.

CLINICAL PATHOLOGY

The Association of Clinical Pathologists celebrated its twenty-first birthday with a dinner on Friday, Jan. 30. The birth of this association was announced in our correspondence columns on Jan. 1, 1927, in a letter signed by ten practitioners of pathology, among them being Dr. S. C. Dyke, heralded at the dinner as the founder of the new association. The B.M.A. at that time had appointed a special pathological committee to look into the question of facilities for pathology.

In a leading article in 1926¹ we observed: "Pathological investigations of clinical material are an essential to good medical work. . . . Further, the technical elaboration of many modern pathological investigations is such that a practitioner, with rare exceptions, will not himself attempt upon the assistance of medical colleagues who devote themselves to what is commonly known as clinical pathology." The B.M.A. may therefore claim to be, if not one of the parents, at least one of the god-parents of the now thriving Association of Clinical Pathologists. The B.M.A. has now been able to round off its parental duties by publishing in conjunction with the clinical pathologists the new and excellent *Journal of Clinical Pathology*. In its earlier years the association was more in the nature of a club and enjoyed the friendliness and informality found among men and women with a common interest. It has now grown into an institution with rules and regulations and officers. But the dinner last Friday showed that though it had now reached years of discretion members of the Association of Clinical Pathologists still preserved the verve and informality of its youth. The President, Dr. Cuthbert Dukes, proposed a charming toast to the past, and Dr. S. C. Dyke eloquently demonstrated that the past was still present and indeed in very good form.

The medical profession is now more conscious than ever before of the importance of clinical pathology and of the need for its services to be available to the practising doctor. During the past 21 years the advances in medical knowledge have been almost bewildering in their extent and complexity. No one small head can possibly hold all there is to be known. To meet this the idea of health centres has been mooted. We may doubt, however, whether the grouping of ten or twelve general practitioners in one building is the right answer to a difficult question. What is needed is the grouping of the facilities of medical science so that the groupings can be applied to the benefit of the patient and of the general practitioner. The clinical pathologist has a new role to play and the new weapons which both he and his colleagues have at their disposal. The problem of the

moment is to see that the medical practitioner has quick and easy access to the resources of clinical pathology. The practitioner of medicine has much to learn from, and also much to teach, the clinical pathologist. It should be made possible for the two to work in closest co-operation. This is the answer to the question we put in 1926, "Should the pathologist be a colleague of the clinician, or a veiled oracle whose methods and the quality of whose work may be unknown or very little known?"

THE WORKING OF REGULATION 33B

Defence Regulation 33B was born on Nov. 5, 1942; on Dec. 31, 1947, it passed peacefully away, to the regret of many, though in its short life it did not achieve any very spectacular results. Until the early years of the recent war voluntary methods in the tracing of contacts had proved highly successful in reducing the V.D. rate in this country, but by the autumn of 1942 the serious rise in the incidence of syphilis, with its consequent effects on the members of the Armed Forces, particularly those of the Allies, compelled the Minister of Health to take stronger action. The Regulation was directed mainly against those infected persons who declined to attend voluntarily for treatment and who therefore remained sources of infection. For various reasons the Regulation was unsatisfactory to administer, chiefly because few infected persons were willing to state the sources of their infections, and obviously in fewer cases was it possible to prove that a single individual had infected two or more persons—a necessary preliminary to formal action. Nevertheless, a not inconsiderable number of persons were found and brought under treatment as a result, though the number of occasions on which compulsion was exercised was exceedingly small. Most of the successes obtained were through the medium of Service men, who were less reluctant than civilians to name the sources of their infections, though this was offset to some extent by the fact that a very considerable proportion of these were strangers in the neighbourhood where they were stationed, and therefore less likely to know the names and addresses of their consorts, and this applied particularly to U.S.A. troops. As might be expected, the majority of notifications concerned women, and only occasionally did a woman name a man as responsible for her infection. There was always the chance that uninfected persons might be named through spite, or even for purposes of blackmail, but this seems to have been quite unusual. After the Regulation had been in force for some time it was decided that action might be taken on a single notification, though of course in such cases no compulsion could be used. This proved distinctly encouraging where it was employed with vigour and tact, and doubtless was responsible for numerous persons being brought under treatment. Nevertheless some medical officers in the U.S. Forces could not understand why in this country it was not always possible to compel a woman to undergo treatment when it appeared reasonably certain that she was a source of infection. The principal administrative objection to the Regulation was the complicated procedure necessary, and this at a time when medical officers of health were more than usually busy with other health matters, and venereologists were being overworked. However, it can be said with confidence that Regulation 33B, admittedly only a wartime measure, served a useful if somewhat limited purpose. It has at least had a marked effect in stimulating clinics and health authorities to take an interest in contact-tracing. Perhaps it is a pity that it should have died a natural death.

¹ Dalrymple-Champney, W., *Brit. J. Vener. Dis.*, 1947, 23, 151.

at a time when V.D. still takes a heavy toll, though modern methods of treatment, and especially the use of penicillin, have brightened the prospect to an extent undreamt of twenty years ago.

Although almoners have played an important part in the larger V.D. clinics for many years past, some clinics and health departments had never tackled the social problems connected with the disease until Regulation 33B came into existence.

The Ministry of Health has just issued a circular (5/48) stressing the necessity of continued contact-tracing by voluntary methods, and pointing out that particulars should be obtained from the patient only by persuasion and that his or her permission should be obtained for an approach to be made to the person thought to be the source of his or her infection. This, no doubt, is what all good clinics are doing, and results will depend on the energy and tact with which this policy is pursued.

On the other hand, the Union Internationale contre le Vénéril Vénérien passed a resolution at its General Assembly held in Paris in October, 1947, advocating that compulsory powers should be sought, nationally and internationally, to treat those in a contagious state who refused to come forward. Probably such powers would be more effective in the Continent, where, in parts at least, the population is more fluid, individuals more elusive, and contacts more difficult to trace than in Britain. The U.I.P.V. also resolved that the World Health Organization should help in defining the minimum requirements for combating venereal disease in each country and formulate the measures required to trace infective contacts beyond national frontiers. These problems and others related to the control of venereal diseases—such as general education, provision of specific information, and special measures for defaulters from treatment—will be studied by a special committee of the U.I.P.V., which will co-operate with Unesco.

A NEW SUBSTANCE FOR ASTHMA

Adrenaline is still the most reliable agent for the relief of bronchial asthma. In recent years it has been given not only by subcutaneous injection but as a fine spray pumped into the back of the throat and inhaled. For this purpose a 1% solution is used. When adrenaline fails to give relief in more severe asthmatic attacks—for example, bronchitis—theophylline may be injected intravenously, dissolved in a suitable solvent such as ethylene diamine.

A further addition to anti-asthmatic substances is a derivative of adrenaline, the properties of which Konzett¹ described in 1940. Adrenaline has an amine group at the end of its side chain in which one of the hydrogen atoms is substituted by $-CH_3$. Konzett found that replacement of this methyl group by an isopropyl group resulted in a substance which was 10 times as powerful as adrenaline in relaxing bronchial spasm produced in the anaesthetized dog. He examined other related substances: N-ethyladrenaline was 3 times as potent as adrenaline; N-propyl- and N-butyladrenaline were about equal in potency to adrenaline; and, finally, N-isobutyladrenaline was about 10 times weaker. The substance nicosynephrine or metasympatol, which differs from adrenaline in having only one $-OH$ group in the benzene ring, was also found to develop great power to relax the constricted bronchioles when an isopropyl group replaced the methyl group in the side chain.

Isopropyl adrenaline (now manufactured in the U.S.A. as "isuprel") has an action on the heart similar to that of

adrenaline, but, unlike adrenaline, it causes a fall of blood pressure. This effect is not likely to be appreciable when isopropyl adrenaline is used therapeutically, since the amount required is so small. The properties described by Konzett have been confirmed recently by Lands, Nash, and their colleagues.² It is to be hoped that isopropyl adrenaline will be made available in this country.

THE PREVALENCE OF DIABETES

The incidence of diabetes is unknown, although some idea of its prevalence can be obtained from the mortality returns. Not all the deaths of diabetic persons are recorded as due to diabetes, and since the introduction of insulin the proportion of deaths assigned to other causes has increased. Marks¹ has reviewed the recent studies of diabetes in America. The evidence suggests that the deaths from diabetes may be understated by as much as 50% and that the number of diabetics in the general population is equivalent to a rate of 3.5 per 1,000. Since the introduction of insulin the diabetic patient has had a longer expectation of life and this has been associated with an improvement in working capacity. An apparent paradox is that the death rate from diabetes has increased during recent years. This rise in mortality is due to the relative increase in the population at older ages, especially females, among whom the incidence of diabetes is higher. In America the incidence of diabetes shows a steady rise with increasing age up to a maximum in the early seventies. The National Health Survey conducted by the U.S. Public Health Service revealed that less than 1 per 1,000 of the population were diabetic at ages under 30; in the early seventies the rate was 15 per 1,000 for males and 25 for females.

Hanssen,² in a study of the mortality, morbidity, causes of death, and complications of diabetes mellitus in Bergen in the period 1925–41, found that the rate of incidence in 1941, when supplementary ratios were issued to diabetics, was 3.8 per 1,000, being 3.2 for males and 4.3 for females. The corresponding rate in Oslo during this period was 4.8 per 1,000. Although the rate of incidence in Bergen is similar to that in America, the age and sex distribution varied. The age of onset of diabetes in Bergen is apparently from five to ten years later than in America. In Bergen there was no difference between the sexes in the liability to develop diabetes up to age 60; in America the trends for males and females diverged from age 30, and between the ages of 45 and 65 the rates for females were approximately double those for males. The deaths of diabetic patients in Bergen were analysed and it was found that 58% of the deaths of male diabetics and 68% of the deaths among females were registered as deaths from diabetes. The distribution of deaths by causes, omitting those in which diabetes mellitus was recorded as the only cause of death, was: diabetic coma 8.2%, arteriosclerotic lesions 48%, infections 22%, tuberculosis 4.1%, and other causes 8.6%. Hanssen suggests that deaths among diabetics should be registered in two groups—deaths due to diabetes and deaths from other causes in diabetics. This classification would permit of a more accurate comparison of the trends in diabetes between different countries than is possible at present.

B.M.A. ISSUES WRIT

The British Medical Association has issued a writ against the editor and publishers of the *Daily Mirror*, claiming damages for libel and asking for an injunction. The matter complained of includes passages which have recently appeared in the *Daily Mirror* relating to the plehiscite.

¹ Arch. exp. Path. Pharmacol., 1940, 197, 27, 41.

² J. Pharmacol., 1947, 90, 110.

¹ New Engl. J. Med., 1946, 235, 289.

² Acta med. scand., 1946, 125, Suppl. 178.

HEALTH OF THE SCHOOL CHILD IN WARTIME

Much that appears in the report of the Chief Medical Officer of the Ministry of Education on the health of the school child during the war years¹ is familiar, though it is useful to have it embodied within the buff covers of a Government document. Assessments of the nutrition of school children, problems of evacuation, and of the incidence of infectious diseases have all been the subject of copious writings and tabulations. On the whole, whatever may have happened to other sections of the community, the health of the school child, and also of the pre-school child, was maintained and even improved during the war. From the first he was, rightly, a high priority, a most-favoured customer.

Families Sundered

It is true, of course, that the war exposed school children to many disadvantages and perils. Families were sundered, education interrupted, the normal rhythm of life broken. The three-quarters of a million children who were evacuated at the outset of the war and those who took part in the three subsequent waves of evacuation may have benefited by the change of air and scene, but it is doubtful whether this compensated for the effect of a strange and to them unnatural environment. In town areas large numbers of children remained exposed to aerial bombardment and slept in shelters. This report, by the way, sounds a little complacent when it says that "taking the child population as a whole [it] . . . stood up to aerial bombardment with its accompanying terrors with the same courage and fortitude displayed by the civilian population generally." The medical officer of one borough on the outskirts of London says, "Enfield children learned to take air raids in their stride." Surely with children it was neither a question of courage nor of timidity, but a reflection of the attitude of the adults in charge of them.

As against these factors certain advantages have to be recalled. Dr J. A. Glover summarizes them from the point of view of nutrition. A campaign for a complete school meals service reached its immediate target—a million dinners a day—in October, 1942, and by October, 1945, the number of dinners served daily reached 1,840,000, and during those same years about 3,300,000 pupils in primary and secondary schools were having extra milk. Added to this were the improved nutritive qualities of national bread and flour, and the general increase in the income of parents, which raised the standard of home feeding. An assessment of the nutritional state of elementary school children seen at routine medical inspections in England and Wales during the six war years and the five previous years of peace gives the proportion who showed "excellent" nutrition as rising from about 14.5% in the pre-war period to 16.3% in 1945. The proportion showing "normal" nutrition, about 74.5%, scarcely varied throughout the entire period. The proportion of "subnormals" fell slightly, while the proportion described as badly nourished, averaging 0.6% in the five pre-war years, stood at 0.3 from 1942 to 1945. In brief, the nutrition of the school child was maintained and almost certainly improved during the war. Deficiency diseases were hardly seen at all.

The Common Infections

As in whatever the cause, the common diseases of childhood were, in general, less frequent and showed a diminished incidence. The fall in the death rate from diphtheria is most noteworthy. Among children aged 1 to 5, during the years 1931-35 the rate was 46 per 100,000 living; by the last year of the war it had fallen to 10. Measles, whooping-cough, and scarlet fever showed the same tendency. The one disease which, notwithstanding the outbreak of war, showed a high prevalence was epidemic meningitis. The high prevalence continued from 1942 and represented a previous epidemic of that disease. It is interesting to note that thanks to the revolution in treatment brought about by the use of the sulphonamides the mortality rate fell from about 60 to 20. The other great

crippling nervous disease, anterior poliomyelitis, fortunately spared this country during the war years. Infant mortality during the recent war was only about half of what it was during the war of 1914-18. The mortality of children of school age showed a similar fall, and the mortality of children aged from 1 to 5, which was rather over 15 per 1,000 living in the decade, 1911-20 and has been falling ever since, reached the lowest figure, 2.6, in 1945.

Much was made at the time of evacuation of the prevalence of pediculosis amongst city children, and of the increase in scabies, but nothing was said about ringworm, a major problem in the early days of the school medical service, which became negligible during pre-war years, and during the war showed only a slight recrudescence in certain areas.

The treatment of school children, especially in the clinics for diseases of the eye and of the ear and for orthopaedic defects, was maintained during the war; foot clinics were actually extended. Child guidance was considerably expanded. (The setting up of a child-guidance clinic is now a duty of the local education authority in every area.) Another service which was on developing during the war was speech therapy. Before the war about 90 local education authorities, following the lead of Manchester as far back as 1906, had appointed speech therapists; by the end of the war the number was 115. It is said in this report that 500 whole-time speech therapists will be required to provide a satisfactory service, and that between 1 and 2% of English children have speech defects which require treatment.

Activities Maintained and Extended

Altogether, the school medical service has reason to be proud of its achievement. It was disrupted at the outbreak of war. In the evacuation areas its work was largely suspended; in the reception areas the conditions were chaotic. It suffered from the call-up of its personnel, and even where its numerical strength was maintained its functional strength was decreased. Nevertheless, essential activities were maintained and some activities extended. It was during the war, too, that the Education Act, 1944, was passed—an Act making medical inspection an essential and integral part of the school regime and laying it down as the duty of the authorities to ensure that, with the exception of domiciliary treatment, "comprehensive facilities for free medical treatment are available."

This report, above the signature of Sir Wilson Jameson, is a composite document made up of contributions from the medical staff of the Ministry. Some of the chapters are of special interest, notably one on the child-guidance service, another describing the adaptability and improvisation which were called for during the war by those in charge of the special schools for the handicapped, and a third a review of the medical provisions of the Education Act. The final chapter is on health education in the schools. Perhaps on this last point it might be said that the chief factor in promoting health education in the schools would be a high standard of cleanliness and sanitation in the school buildings themselves. It is encouraging to learn that steps are being taken to ensure the modernizing of school buildings and furniture, which includes lavatory and sanitary accommodation. Many schools are admittedly far below present-day standards of hygiene, and to impart health education in such circumstances must be difficult if not impossible.

The British Social Hygiene Council (Tavistock House North, Tavistock Square, London, W.C.1) has issued three interesting pamphlets (price 6d. each). In *Over-population as a World Problem* Sir John Megaw discusses some of the many problems that arise from man's remarkable capacity for the reproduction of his species. He advocates education as a key to the solution, though in 1947 it is not enough. Dr. C. Fraser Brockington in *Problem Families* discusses some of those feckless families which have in recent years been closely studied. He points out that the importance of these families is greatly in excess of their number, partly because individually they are usually large. In discussing their rehabilitation he emphasizes that each must preserve its identity. Delinquent children are the subject of W. F. Roper's *When the Family Fails*. He outlines the case histories of several young delinquents, and points out that the social defects favouring delinquency tend to be handed down from one generation to another; possibly 25% of the population is involved.

¹ Report of the Chief Medical Officer of the Ministry of Education on the Health of the School Child during the War Years, 1939-45. London: H.M.S.O., 1946. 32 pp.



Preliminary Sorting

PLEBISCITE IN PROGRESS

The posting of plebiscite forms to every member of the profession whose name is on the *Medical Register* was completed on Thursday, Jan. 29. In conducting a plebiscite of this kind the two overriding considerations are accuracy and secrecy. Two groups of people will be involved in the process of checking and counting. The initial sorting and counting will be done by clerks at the Headquarters of the British Medical Association. Their findings will be checked at every stage by the Association's auditors, Messrs. Price, Waterhouse, and Co., under whose supervision every step in the plebiscite has been conducted.

The first check that was made by the auditors was designed to ensure that forms were posted to every doctor.

Names were taken at random from the *Register* and were then checked against the sealed envelopes which were ready to be sent out. Addresses were taken from the *Directory* and the B.M.A. records since those in the *Register* are often out of date. The bags containing the batch of envelopes were controlled by the auditors until they were handed to the Post Office. The first plebiscite forms were returned on Monday, Feb. 2, and since then there has been a steady stream each day. The big majority have been returned in the business reply envelopes which were sent out with the forms. All these envelopes are delivered to what, for the moment, is known as the Plebiscite Room, which for obvious reasons is strictly out of bounds to everyone not engaged in the actual counting. The envelopes are opened in batches of 4,000, and in the first instance are divided according to the colour of the plebiscite form. Doctors in England and Wales received blue plebiscite forms, those in Scotland received pink forms, and alien doctors received grey forms.

The numbered and sorted forms are then separated into "Yes" and "No" groups under Question A—or, more precisely, into "Approve" and "Disapprove"

groups. At this stage, too, all those voting papers which are invalid are separated. Each plebiscite form is stamped with a serial number which varies in colour according to whether the answer to the first question is "Approve" or "Disapprove." Other colours are used in stamping the numbers on forms which are invalid and forms which do not indicate the voter's professional category. There follows a first check against the batch total, supervised again by the auditors. Invalid votes added to the total numbers saying "Yes" or "No" to Question A in the three main groups—England and Wales, Scotland, and alien—must total 4,000.

The next phase of the operation is the division of the same three batches into the 19 categories indicated on the plebiscite form. These are separated out into 38 baskets according to whether the first answer is "Yes" or "No." Two clerks check the total number of forms in each of these baskets and record the answers on a tally sheet. Working in pairs, they check each other's findings and totals independently, and all the figures on the tally sheets are then added up and again carefully checked. At each

stage the findings of the individual clerk are tested once more by the representatives of Messrs. Price, Waterhouse, and Co. This same procedure is repeated with the forms in categories 1 to 4, inclusive, a second time in relation to Question B, and a third time on Question C, and at each stage there is again a check against the basic figure in these categories. At the end of each day the representatives of Messrs. Price, Waterhouse, and Co. are sealing all the forms on which work has to be continued on the following day. A few doctors have returned the plebiscite forms in an ordinary envelope, which has been dealt with in the usual way in the different departments of B.M.A. House. When the last plebiscite was conducted some doctors returned their plebiscite forms in ordinary envelopes together with subscriptions, which were welcomed, contributions to charity, which were gratefully received, indignant letters, to which soothing replies were sent,

Separation into Categories



and one doctor enclosed with his plebiscite form a number of B.U.s—which was not understood. The same sort of thing is happening again, and these few forms are being specially checked. It has also been necessary to send out a number of letters to doctors who have omitted to indicate the type of professional work in which they are engaged. It would be simple enough to look these people up in the *Directory* or the B.M.A. card index to find out whether they are general practitioners or whole-time officers in the public health service, but it has been thought better in each instance to make sure that voters are classified according to their own conception of the work on which they are predominantly engaged. In these cases the plebiscite forms are not returned but are filed separately to await the reply indicating under which category the answers to Questions A, B, and C are to be counted. In the Plebiscite Room, therefore, at the end of each day it is known how many forms have been received and how the voting has gone under the three questions and in relation to the three main groups of practitioners, classified into the nineteen different categories.

All the forms which have been dealt with will be destroyed. Once the plebiscite is over there will remain only a series of totals which have been checked and rechecked.

It is worth stressing again that not only will the way in which individuals voted not be divulged, but once this complicated process of checking, counting, rechecking, and adding up is completed it will be quite impossible to find out how any individual voted.

The plebiscite forms issued to practitioners in England and Wales and in Scotland refer to the "National Health Service Act, 1946." Lest there should be any misunderstanding, it should be appreciated that the pink forms issued to practitioners in Scotland refer to the "National Health Service (Scotland) Act."

The plebiscite closes on Feb. 14, and the counting will continue over Sunday, Feb. 15. Over the fourteen-day period from the receipt of the first forms to be returned there will inevitably be some dislocation of the normal work of the Headquarters staff. Letters on the hundred and one subjects which arrive every day in the ordinary course of events may not be dealt with quite so promptly as usual.

The final results of the plebiscite will be made known to the Council of the B.M.A. at a special meeting which has been called for Wednesday, Feb. 18. The results will then be published in the *Journal* and elsewhere, and the Council will report to the Divisions and ask them to instruct their representatives on the final decisions which have to be taken at the Representative Meeting which will be held on March 17.

RETURN OF PLEBISCITE FORMS

The plebiscite forms are flowing in thick and fast. Whatever your views, please vote, and if you have not already returned your plebiscite form send it in as soon as possible.

A circular from the Ministry of Health to voluntary hospitals discusses the superannuation scheme of the National Health Service. It states that in some cases governing bodies have found difficulty in dealing with the statement of pension expectations for individual staff because there is no clear evidence of past practice or intention prior to March 19, 1946. It points out that the Minister does not wish any officer to lose superannuation benefits which he would have had in his present employment simply because the intention of the governing body had not been expressed before the date the statement of pension expectations was made. It is impossible, the Minister would say, to distinguish between intention subsequent to that date, provided that the intention existed in respect of the officer at the time of the statement, and had not been influenced by the statement itself. It points out that if forms for the statement of pension expectations have been returned the governing body may not be asked to make a statement in respect of any officer if they wish.

THE CONSULTANTS' VOTE

"SEVENTY TO ONE" REJECTION AT MASS MEETING IN LONDON

A crowded meeting of the consultants and specialists of London and the Home Counties was held in the Great Hall of R.M.A. House on Tuesday evening, Jan. 27. It was presided over by Mr. A. M. A. Moore, chairman of the Consultants and Specialists Committee of the Association, who was supported on the platform by Lord Horder, Mr. Dickson Wright, Dr. Geoffrey Marshall, and others. After the speeches, which lasted nearly two hours and a half, the following resolution was carried by 766 votes to 11:

That in the opinion of this meeting consultants and specialists should not take service under the National Health Service Act until it has been modified so that agreement has been reached between the Government and the profession as a whole.

"Towards Totalitarianism"

Lord Horder, who was received with cheers, said that when he was asked to speak at that meeting he had demurred on two grounds, the first that as it was now some years since he ceased to be a visiting physician at his hospital it might reasonably be said that his own future was not at stake, and the second that he had said all he wanted to say on the matter at a meeting in the Marylebone Division and in the Press. His objections had been overruled. As to the first, he was quite willing to let the young leader-writer of *The Times* have his gibe about elderly doctors. *The Times* leader wobbled a good deal. But the wobbling was perhaps determined by some uncertainty as to the issue of this present struggle. On the whole the Press took the side which one would expect, according to the party affiliation of the particular journal. In the widest sense of the word he thought it was a party issue—an issue between collectivism and individualism.

"Here, as I see it" (Lord Horder continued) "is the crux of the present struggle. I believe we have more and more of the thinking public with us. I believe that the public is looking to the medical profession to be the first body of responsible citizens possessing prestige and possessing—let us not blink the fact—public confidence to make a concerted stand against regimentation, to cry 'Halt' to this mad march towards totalitarianism. (Applause.)

"Well, if that is a party business, I am not ashamed of being a party man. I see that the *British Medical Journal* has begun to quote Herbert Spencer. But the most apposite of Herbert Spencer's dicta is one that I myself quoted three years ago when I asked the question, 'Shall we nationalize medicine?' Referring to Lincoln's historic remark that 'the price of liberty is eternal vigilance,' Spencer said: 'But it is far less against foreign aggression against liberty that this vigilance is required than against the insidious growth of domestic interference with liberty.' Someone has said that he would have loved freedom at all times, but in the time in which he now lived he was ready to worship freedom. We have been charged with putting emotion before intelligence. An old pupil of mine—who writes no worse for that, at all events he writes clearly—in the *Spectator* this week goes further and says that the whole issue is religious rather than political. Well, here is emotion to the nth degree, and I am sympathetic with it."

The Vital Question of Freedom

After stressing that this was a meeting of consultants and specialists and of research workers, Lord Horder went on: "This question of freedom is vital to us. The consultants' services must be open to any practitioner who advises the patient that such service is desirable, and the service must be available whether in an institution or in the home. The research worker must have full liberty to publish the results of his work uncensored.

"Is it conceivable that these freedoms will be enjoyed under the present Act? To me it is not conceivable. Although I

have said that we must stand by the general practitioner in this issue and resist to the uttermost any attempt at cleavage in the profession, I still say that in our own interests as consultants and specialists we must not be led into this trap."

It had been pointed out that the contract between hospitals and specialists would not be ready by the "appointed day." Here he read a letter which he had received from Sir William Douglas, of the Ministry of Health, to whom he had written saying that a number of his colleagues were rather worried as to their position as members of the honorary staffs of voluntary hospitals. Sir William replied that the 'general position was that there would be agreed arrangements for both voluntary and other bodies of staff, but that at first, no doubt, the Service would begin with staffing arrangements "much as they are now." Therefore there was plenty of time. Nobody need rustle to sign anything.

"What is the actual position at the moment in Greater London in this matter of payments made to members of the staff of voluntary hospitals? At my suggestion Mr. Eric Steeler took great pains about this business and canvassed 79 voluntary hospitals. He got replies from no fewer than 74, so that the interest in this matter is obviously very much alive. In 49 (66%) no payment is made so far; in 19 payment is made either on a sessional basis or in a lump sum; and in six hospitals the question is under discussion. This result struck me is not being very satisfactory because it shows that until to-day there is no sort of agreed policy in regard to this matter, and it does seem to me that there should be an agreed policy; and why not have that policy as soon as possible, if not, indeed, to-night? (Applause.)

"I say 'an agreed policy' because I personally regard the position as an unfortunate one. But this view I take presupposes that it is desirable that we should as a profession stand united on this issue."

Lord Horder said in conclusion: "If we yield to this terrific concentration of power that the Act as it now stands places in the hands of one man I say without hesitation that we are selling our heritage. The full effects will not be seen in July next: they will be seen months after that, for things will worsen and not get better as time goes on. It was a wise man who said

'Power tends to corrupt, and absolute power tends to corrupt absolutely.' That is what we shall see eventually if we give way now." (Loud applause.)

Consultants Have Lacked a Lead

Mr. Dickson Wright said that he did not think at that meeting they should discuss the general practitioner attitude at all. The general practitioners were well able to take care of themselves.

The Act would enable the Minister, without any further application to Parliament at all, to proceed to a full-time salaried service. He could, if he wished, abolish private practice, and in between such an extreme and the present arrangement he could inflict various injustices upon the profession. He was going to abolish the whole system of hospitals built up over centuries in this country.

"Once we take a salary the medical committees which play a big part in the running of hospitals will disappear. A medical committee is unthinkable when all the members sitting on it are paid a salary by the hospital in which they meet. Several boards of management have intimated to the medical members on their committee that, being in receipt of salary, while they may attend the meeting they must not vote. Presently the position will be reached in which they will come in as the matron or steward comes in and says something and then goes out. That is the menial position to which we should be reduced in a State Service.

"One thing we do not want to happen. We do not want anything that consultants may do to have the effect of weakening the stand taken by the general practitioners. (Applause.) There is nothing that would please the Minister more. Already it has been announced that the Minister has secured substantial agreement with the consultants over this hospital scheme. I should like an emphatic statement to go from this meeting that we are not going to let the general practitioners down. (Loud applause.) If we had all been rallied earlier there would have been no doubt on that issue.

The New Health Bureaucracy

"I have already mentioned that the Medical Committee will cease to function eventually. It will not do so at once. . . . But eventually any control of the hospital by the profession will vanish. In point of fact, by working for our hospitals for nothing—practically the only people who were doing so—we were able to establish a certain control. We had an independent position. In future no non-teaching hospital will be able to elect its own staff. We shall have to wait and see what the Regional Board sends down to us. We shall have no say at all in the choice of the men with whom we have to work. In the teaching hospitals almost the same thing will obtain in time. The Minister has to appoint chairmen of all these committees. Why cannot he leave the committee to elect their own chairmen? The reason is that he wants to have these chairmen paid servants of the Ministry, and then the committee no longer matters. At present we have got a part-State Service running. The chairmen of the Regional Boards are not paid, but they get expenses. Their secretaries and assistant secretaries, architects and assistant architects, treasurers and assistant treasurers, auditors and assistant auditors have been appointed. This is the Service that, the Minister said, would not cost a single servant more than we had at present. This Service is going to bring in a whole lot of people to make a jolly good living out of medicine who have not bothered to go through six years to qualify!"

The Staffs of Non-teaching Voluntary Hospitals

Mr. N. Ross Smith spoke as a member of a staff of a non-teaching voluntary hospital, though in a personal, not a representative, capacity. There had been some doubts as to the relation between staffs of teaching and of non-teaching hospitals, but the staffs of both were alive to the dangers of becoming employees in a total State medical service. They faced the same issue of personal and professional freedom. He hoped that every specialist would give a properly considered answer to the questions in the plebiscite. A year ago, when 46% of specialists voted "Yes," many of them had not studied the situation. Now, having read the report of the Negotiating Committee and the reply of the Minister, they could hardly answer otherwise than "No."

The specialist was, in his view, in an even more dangerous position than the general practitioner, for if the general practitioner gained his four points—retention of goodwill, freedom from direction, payment only by capitation fee, and appeal to the courts against dismissal—he would be a relatively free man even though operating the Service; but the specialist, who was at present a free man, limited only by the traditions of his profession, was certain to become an employee in a State-owned hospital, for a hospital appointment was vital to him. If he had no alternative to State practice he certainly had no freedom.

The nationalization of medicine was but one further step towards universal State administration and employment which had proved so disastrous to human freedom and happiness in other countries.

The Third Question in the Plebiscite

The third question in the plebiscite (Mr. Ross Smith continued), the question of undertaking not to enter the Service if the requisite majority were secured and if so advised by the B.M.A., must exercise the minds of all specialists. There would be a tremendous "No" to the first two questions, but unless the third question were answered according to the same logic, and they stood by their undertaking, the earlier answers would be of no value.

It had been said that specialists need not worry about this at present because they would not have to make their personal decision until some months later than July, and by the time they had to decide finally the fight would be over, having been won, it was hoped, by general practitioners. Moreover, it suggested rather a low level of courage for specialists to leave the fight to them. Specialists in that event would be in the extraordinary position not only of standing by while general practitioners carried on the fight, but of aiding the Minister to continue with a large and essential part of the Service. The specialist himself in hospital would continue to work in an honorary capacity or

perhaps with some interim payment, not knowing what his final terms and conditions were to be; and meanwhile the hospitals would be open without charge to persons of all grades of income, so that there would be more concentration of public patients and less private practice—the private practice to which the specialist would have to look for most if not all of his income.

If, on the other hand, the specialists decided to fight at the same time as the general practitioners, and in the same way by refusal to participate in the Service, it would mean cessation of service under the Act unless the Act was amended. That would be drastic action, but what would be the moral difference between that action and the action of general practitioners, or between cessation of service on July 5 and withdrawal at a later date?

The Chairman at this point said that the Council of the Association and the Representative Body had given this matter the fullest possible consideration. When they acted they would act, he hoped, as a united profession. If the consultants were determined not to sign contracts if presented to them, there was no possibility of the hospitals continuing to function without their assistance. They would go on working in the hospitals until the day came when the agreement was reached with the whole profession and they were ready to sign contracts which they considered suitable.

"The Best Medical Profession in the World"

Sir Reginald Watson-Jones said that in his most recent pronouncement the Minister had reminded them that since 1942 the ideal of a comprehensive health service had been actively pursued, and asked why the people should wait longer. On the face of it a reasonable question. But before it was answered, let it be said that the people who were waiting for it had already in this country the best medical profession in the world.

"It is with that background that we must consider these new proposals. It is with that background that we must refrain from being unduly hasty in seeking further improvement, which improvement, of course, it is the aim of everyone to achieve. The few years since 1942 are but an hour in the history of this profession. Let us then consider the position calmly, with none of that inflammation of the mind against which the Minister warned us in South Wales a few days ago—unfortunately going on to make a most inflammatory speech himself. In the consultant service we see a definite concession—secured, I have no doubt, as a result of much diplomacy—but, when examined, a limited concession. We still find that astonishing anomaly the "amenity bed"—the bed which has no medical justification but is only to ensure privacy and comfort. It is the kind of bed I saw in Russia, occupied by commissars and members of their families. I have great difficulty in understanding where this fits in. As for the private bed, this will depend on local availability when circumstances make it possible. Are these 'circumstances' intended to make for the free encouragement of private practice in which you and I believe?

"Why is it that the vast majority of our profession are in favour of the encouragement of private practice and against basic salary?" It is said, by the way, that on a former occasion we voted for basic salary. Of course we did, but there is a vast difference between basic salary in under-populated areas, used as a means of direction in the Service, and a universal basic salary as a step towards the introduction of a full salaried service. But why this almost unanimous opinion in favour of private practice and against basic salary—an opinion expressed in resolutions from the London, St. George's, St. Bartholomew's, and other hospitals? If our object had been to amass wealth we should have taken up a profession other than medicine. It is because we want freedom, and freedom not merely from lay interference but from the dictatorship of medical councils and universities. How would such pioneers as Florence Nightingale and Lister in surgery, Simpson in anaesthetics, Robert Jones and contrabandists, to promotion and demotion, to advancement and retirement by the medical council? We want freedom from the medical council and its interference in private practice. I have seen the medical council in Russia, and it has meant the end of the profession in that country."

Questions

A brief interval was allowed for questions, which were answered by Dr. D. P. Stevenson, who acted as secretary of the Consultants Subcommittee of the Negotiating Committee. In reply to the first question, which concerned domiciliary visiting, Dr. Stevenson said that the Act was ambiguous on this point. It was discussed between the Negotiating Committee and the officers of the Ministry, and the former indicated its view that consultants and specialists should be able to opt for domiciliary attendance if they so desired; but it would not necessarily be incumbent upon them. In his reply the Minister said he considered:

"... that specialists should, as widely as practicable (though not universally), be expected to accept as part of their duties the undertaking of domiciliary work within defined limits."

This brought up the question whether or not any remuneration attached to the extension of hospital duties to include domiciliary attendance. If the total remuneration was held to include domiciliary work it brought up the possibility that the "popular" consultants—as assessed by the public—would be rushed off their feet, while those less popular would be able to devote more time to hospital duties for the same remuneration. That possibility was behind the Negotiating Committee's recommendation that domiciliary work should be paid for on an item-of-service basis additional to hospital remuneration. The travel over the region which would be entailed by domiciliary work should also be borne in mind.

In reply to a further question concerning whole-time registrars and ex-Service practitioners holding postgraduate appointments, Dr. Stevenson said that hospital residents were advised to continue under their present contract, and draw remuneration from whatever contract they entered into, but not to enter into any field of conflict in which the general body of the profession was involved—that is to say, not to enter into contract with the Local Executive Council as general practitioners or with the Regional Hospital Board as consultants and specialists.

Asked to make a statement on the question of payment to voluntary hospital staffs, Dr. Stevenson said that the official policy of the B.M.A. and the British Hospitals Association partly influenced by the number of qualified men coming out of the Forces and having heavy commitments, was that hospital authorities be recommended to pay honoraria to members of honorary hospital staffs, and four guineas for a two-hour session had been suggested. It had been made clear that this would be without prejudice to the recommendations of the Spens Committee.

A final question concerned the right of appeal to the courts and the fact that the profession objected to the absence of right of appeal under the new Act but acquiesced in the absence of right of appeal from the decisions of the G.M.C. Dr. Stevenson pointed out that erasure by the G.M.C. concerned practitioners who had been convicted in the courts or had been found guilty of infamous conduct in a professional respect, whereas under the Act a doctor might be dismissed from the Service for some misdoing of which the General Medical Council would take no cognizance.

An Interrupted Speech

Dr. H. B. Morgan, M.P., said he wanted to see a united profession fighting a good case together and going straight to a democratic goal. Lord Horder had said that power corrupted, but, after all, power in Government in a civilized community rested upon the democratic will as expressed through the legislative assembly. They were entitled to disagree with the Act; he himself disagreed with certain parts of it—he fought more than any other member for right of appeal to the courts—but when he attended the debate in the House of Lords he did not hear Lord Horder, although he listened carefully, make any reference to that subject. But if the profession looked at this matter from a wholly sectional point of view they set a bad example to the workers of the country. ("No.") Very well, if there was trouble later on in the mines or on the railways owing to the bad example they had set, there it was. He was told that this was nationalization. The Post Office had been nationalized for years, and it was the best postal service in the world.

As Dr. Morgan proceeded he was interrupted by dissenting cries from the audience, and the Chairman asked that he be allowed to conclude his speech. The Chairman also said, in reply to a question, that Dr. Morgan was a member of the staff of the Manor House Hospital, which, he understood, had been exempted by the Minister.

Dr. Morgan said that so far as his information went that statement was entirely untrue, but like the Jewish, the Masonic, and other hospitals, Manor House had asked for exemption. Dr. Morgan went on to point out that a number of services, such as the public health service and the Colonial Medical Service, were full time and functioned satisfactorily. At this point Dr. Morgan was greeted with more cries of dissent, and said that the audience evidently did not wish to hear him further. He would have other opportunities to say what he wanted to say about the Act.

Mr. Hermon Taylor rose from the body of the hall to protest against the "rowdy tactics" of a part of the audience. A collection of intelligent people, he said, should allow the other side to be heard. He asked that Dr. Morgan be allowed to continue.

The Chairman said that Dr. Morgan had had the average time allotted to a speaker from the floor.

State Monopoly and Inefficiency

Dr. Geoffrey Marshall said there were some good things in this Act, taken largely from schemes put forward by the B.M.A. It was sometimes forgotten that there had been a pretty good service up to now. The weaknesses were in the ancillary services, the getting of accommodation for patients, the shortage of nursing, of rehabilitation facilities, and so on. Was it necessary to put the doctor in chains because of these weaknesses? There were good things in this Act, but why was it necessary to expropriate the hospitals? Why should practices be taken over by the State? Why these penal clauses? Why the refusal of right of appeal to the courts? There could be no doubt whatever that all this was done in order that in a few years there might be a complete State monopoly of medicine. Was that going to make for better treatment of patients? Most of those whom he was addressing had seen service under discipline in the war. As one who was in the Services in the first war, and in a more detached position in the second, he had seen the strength and the weakness of the Service, and he was sure that unless the Service was recruited, as it was in wartime, by people from outside who had at heart not merely administrative efficiency but concern for patients in accordance with their free professional experience, it tended to deteriorate.

Dr. Geoffrey Marshall closed by proposing the resolution set out at the beginning of this report.

Dr. A. Cavendish said that one of the essential safeguards of the profession and public was that the whole basis of the specialist contract should be on a part-time basis. It should be at the option of the specialist himself whether he held a part-time or whole-time contract, and if he elected the former it should be open for him to undertake private practice if he so desired; and it was the Minister's responsibility to see that facilities for private practice were reasonably accorded.

A Position of Dependence

The closing speech was by Mr. Lawrence Abel, who declared that the Act held a far greater menace to the consultant than to the general practitioner.

"We shall become salaried officials of the Regional Boards. As State servants we lose our professional freedom and our financial security, and once we are all in the bag we shall lose the power to negotiate our terms of service. We shall be dependent on the Ministry of Health for permission to use their hospitals and for accommodation for any private patients they may allow us to have. We shall be dependent on the Minister for regulations with regard to our nurses, whether in hospital or in private nursing-homes. There will be a State monopoly of every hospital bed. We are told that there will be a small proportion of private beds, but we have only one man's word as to how many private beds there will be.

"To-day the higher positions are attained by work and service, but in future they will go to the planners and the

supervisors, which means that our great profession will suffer the loss of its thinkers and craftsmen."

"What we wanted in our hospitals was State assistance, not State ownership. The B.M.A. and many hospitals had given the lead that this Act conflicted with principle. The issue was neither cash nor compensation. So far as cash was concerned they had already agreed, and the Government had agreed, to accept the findings of the Spens consultants committee when these were known.

"It is now or never. Throw off your inertia. Have you not seen spreading through the ranks of the profession in this country a new loyalty? We are forgetting our differences and abandoning our fears. Our duty is not only to ourselves but to the public. The English-speaking world is looking to us; the Continent too. Therefore, I say, stand firm! Three hundred years ago Descartes said that if ever the human race was raised to its highest practical level, intellectually, morally, and physically, the science of medicine would perform that service. That service is in your hands. See that you act worthily of your traditions." (Applause.)

The show of hands was then taken, and, as already stated, resulted in an overwhelming vote in favour of the resolution that consultants and specialists should not take service under the Act until it had been modified so that agreement was reached between the Government and the profession as a whole.

Preparations and Appliances

A MODIFICATION OF THE BOYLE-DAVIS GAG FOR ORAL INTUBATION

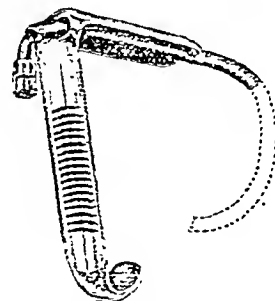
Mr. J. S. C. MONRO, aural surgeon, Darlington Memorial Hospital, writes:

While there can be little doubt that endotracheal intubation is advisable in the dissection of tonsils, the customary nasal route does present certain disadvantages in children, four of which are as follows: (1) Owing to the presence of adenoids considerable bleeding may occur in passing the nasal tube. (2) To curette the adenoids it is necessary to remove the nasal tube, thus discontinuing the anaesthetic, and, though the tonsillar fossae may be dry, there is still the danger of inhaling the blood from the nasopharynx. With oral intubation, on the other hand, the adenoids may be removed at an early stage, and complete haemostasis can be ensured, before restoration of the cough reflex is accelerated, by the use of carbon dioxide and oxygen given through the tube. A rubber catheter passed along the nose and attached to a suction pump is in this method very useful to remove the blood from the nasopharynx. (3) Owing to septal spurs it may be impossible to pass a nasal tube of adequate bore. The oral route ensures that a tube of optimum size is used. (4) There is a more certain ease in oral intubation, though I am aware many anaesthetists will disagree with this.

With these facts in mind I have devised a modified tongue-plate which will maintain an oral tube in place between the plate and the tongue. It is concave in section, and the connexion end of the endotracheal tube is passed through a central aperture in the angle of the plate, as in the diagram (the tube being first introduced, of course, through a laryngoscope). The flexible connexion between the endotracheal tube and the anaesthetic apparatus is fitted with a small hook which clips on to the gag, and is so kept out of the way.

The modified tongue-plate in its experimental form was made by a local engineering firm from stainless steel, and has been found very satisfactory for use in a standard gag. I will be very pleased to give further details to anyone interested.

I have received much helpful co-operation from my anaesthetist colleagues. Dr. R. K. Robertson and Dr. S. H. Love.



Reports of Societies

MYASTHENIA GRAVIS

At a meeting of the Liverpool Medical Institution on Jan. 8, with the president, Dr. H. WALLACE-JONES, in the chair, a symposium on myasthenia gravis was presented.

Dr. H. S. PEMBERTON said he felt that, while present information about the thymus was scanty and obscure, more light was being thrown on the pathogenesis of myasthenia gravis. He discussed at some length the phenomenon of transmission at the neuromuscular junction as altered by the disease, reviewed the recent work, and stated his grounds for believing that the altered transmission was due to a changed cholinesterase-acetylcholine balance, which in turn led to the production of a curare-like block. This defect was temporarily removed by prostigmin, eserine, and ephedrine, and for a much longer period—if not permanently—by thymectomy, whether the thymus was histologically normal or abnormal. He further assumed that directly or indirectly thymic activity was related to this block phenomenon, although most of the mechanism remained at present concealed.

Mr. HUGH REID said the first thymectomy was performed by Sauerbruch. Blalock had reported 20 operations in 1942, and more recently Keynes described a series of 100 cases. The results proved satisfactory in many cases. Mr. Reid then showed a colour film illustrating the steps of the operation.

Dr. R. D. HOTSTON reviewed the medical treatment of myasthenia gravis over the last twenty-five years. Prostigmin, though merely palliative, was a useful therapeutic measure. He discussed the literature relating to D.F.P. and concluded that this drug would not play an important part in the treatment of the condition. He described 7 cases of myasthenia gravis; 5 had been subjected to operative removal of the thymus gland. One patient with a very large malignant thymoma had died on the second post-operative day; 4 patients who had survived the operation for a period of from one to two-and-a-half years were shown. Three were undoubted successes, and one, who had been free from symptoms and off all treatment for two years, had recently relapsed. After thymectomy it might be possible to withdraw prostigmin immediately, as in one very severe case operated upon two and a half years ago, or it might have to be withdrawn gradually as in the other two successful cases. Post-operatively, the value of a steam-tent and daily examination of the chest by a physician was stressed.

Dr. WINSTON EVANS said that histological examination of thymus glands removed from five cases of myasthenia gravis showed a slowing down of the age involution process and an irregular infiltration of the medulla by lymphocytes. Hassall's corpuscles were present in each gland. A characteristic feature found in the medullary portion of all these glands was the presence of actively dividing reticulum cells. These were arranged in a focal and circumscribed manner resembling the Flemming centres seen in reactive follicular hyperplasia of lymph glands and of intestinal lymphoid tissue. Their pale centres showed many mitotic figures. These follicle-like structures were not found in specimens of thymus gland taken from patients without evidence of myasthenia gravis. American workers had reported the finding of lymph follicles in the thymus gland in myasthenia gravis and also in Addison's disease, acromegaly, and hyperthyroidism.

Mr. E. MARRAS spoke on thymomas associated with myasthenia gravis. The classification of thymomas was still a matter of controversy. Andrus and Foot's classification was discussed and the speaker suggested excluding granulomatous and teratoid types from this classification. The incidence of thymomas in myasthenia gravis, as Keynes had pointed out, was approximately 10 per cent. The surgical approaches, split sternal, trans-thoracic, anterolateral, and combined posterolateral and anterolateral were discussed with their advantages and disadvantages. Points raised in 9 cases out of 31 in which thymomas were removed surgically from cases of myasthenia gravis.

Dr. H. S. PEMBERTON said that the clinical symptoms of myasthenia gravis were difficult to define. It was only

when lymph node involvement and symptoms of intrathoracic pressure developed that the presence of a neoplasm was suspected.

Surgical removal of encapsulated tumours was the only sure method of cure. Radiotherapy caused temporary regression or disappearance of thymomas in a large proportion of cases. Four cases were reported and the effects of high-voltage therapy in 3 were shown. In 2 there was complete disappearance of the tumour and relief of symptoms eighteen and fifteen months after exposure to 4,500 r through four portals of entry over a period of twenty-eight days. In the third case recurrence occurred three months after exposure to 3,750 r. The diagnosis was confirmed by biopsy in two of the cases. The fourth case responded poorly to prostigmin and a malignant thymoma was removed through a split sternal approach. The patient died twenty-four hours after the operation.

General Discussion

In the discussion which followed, Prof. HENRY COHEN doubted if thymectomy was the answer to the therapeutic problem presented by myasthenia gravis. The effects of the operation were often beneficial and could not be explained on the basis of the natural remissions which were a feature of the condition, but the crucial question remained unanswered, Why did many patients fail to improve after operation, though in all observed respects they were apparently similar to those who benefited? Where tumours of endocrine glands caused metabolic disturbances—for example, the hypercalcaemia of a parathyroid adenoma or the hypoglycaemia of a pancreatic islet adenoma—removal of the tumour was followed by an immediate restoration to normal; indeed, in many cases there was a temporary swing in the opposite direction, so that transient tetany from hypocalcaemia was often found after the removal of a parathyroid tumour, and hyperglycaemia often followed the excision of an islet adenoma. Improvement in myasthenia gravis after thymectomy was, on the contrary, practically always slow and commonly incomplete.

Prof. Cohen then discussed possible explanations of myasthenia gravis and of the effects of pregnancy and thyrotoxicosis and concluded on both clinical and physiological grounds that there were different types. Hyperthymism (using that term to indicate the elaboration of an excessive amount of thymic secretion, normal or abnormal) might have myasthenia gravis as one of its manifestations, but myasthenia gravis did not always imply hyperthymism. From the diagnostic standpoint it should be remembered that myasthenia gravis might remain localized in a restricted site for many years, commonly in the ocular or palatal muscles, but occasionally in the muscles of the trunk or limbs, and in the latter group it was commonly overlooked. A relapsing myasthenia gravis might mimic disseminated sclerosis; remissions not infrequently lasted several years, and he had known one case in which the remission persisted for over twenty years. There was still need for research into the fundamental problem of muscle fatigue in relation to myasthenia gravis.

Dr. T. CECIL GRAY said there were no special points in respect of anaesthesia of these patients. They were all anaesthetized with pentothal and cyclopropane. It was hardly necessary to state that curare was not used, but he emphasized the importance of light anaesthesia. These patients did not require a deep plane of anaesthesia and should be conscious before leaving the operating table; by this means any danger of a sudden myasthenic crisis while the patient was still unconscious was avoided. Very little anaesthetic was required in these cases.

Mr. RONALD EDWARDS showed a case of gross hyperplasia of the thymus in a woman of 50 which was confirmed by operation. There was no evidence of myasthenia gravis either before or after operation.

Dr. R. C. NAIRN said the "specific" histological appearance of the thymus described by Dr. Winston Evans and others in myasthenia gravis and certain other conditions, such as Addison's disease and thyrotoxicosis, should not be regarded as anything other than non-specific lymphatic hyperplasia of the gland. It might be associated with a similar hyperplasia elsewhere in the body, and might arise in a wide variety of conditions. It was not diagnostic of any disease and merely suggested some altered state of the body.

Correspondence

National Health Service

SIR.—In the leading article (Jan. 24, p. 153) you seem to express a doubt whether the doctor who elects to stay out of Mr. Bevan's Service will maintain the present right to sell his practice. That question was, I submit, authoritatively decided by the Lord Chancellor, speaking on behalf of the Government in the debate on the second reading of Mr. Bevan's Bill in the Lords (Oct. 8, 1946), when he used these words: "May I say here that it is to be understood that no doctor is to be compelled either by direct or indirect pressure to enter this scheme. He may carry on his private practice exactly where he likes; he may sell his practice as and when he likes, and he is in no way to be interfered with." Incidentally, this dictum makes pure poppycock of Mr. Bevan's absurd indictment that the doctor who rejects his scheme is opposing the will of Parliament and of the nation.

In support of your perfectly correct statement that the National Health Service is not an insurance scheme, and so-called "free" medical attention is not a "benefit" under the National Insurance Act, may I cite an answer given to me in the House (*Hansard*, Jan. 20) by the Minister of National Insurance, who declared that the contribution to the Health Service from the national insurance fund was limited to £700,000 a week, representing one-tenth of the total amount contributed by the compulsory levy imposed by the Insurance Act. The full cost to each insured person of the so-called "free" medical service seems impossible to ascertain, but the contribution from the national insurance compulsory levy clearly covers a relatively small proportion of the expenditure involved in implementing the Bevan Act.

Mr. Bevan makes much of the doctor's right to go to the courts to test the legality of the Minister's action in dismissing a doctor from the National Service. He suppresses the important consideration that all the costs of an action in the courts incurred by the Minister would be paid by the Exchequer, while the doctor might face ruin by bringing an action. In a remarkable reply given by the Attorney-General (*Hansard*, Aug. 1, 1946, column 268) it was laid down that a Government Department is empowered to "indemnify public officials who may be sued in respect of torts committed by them in the course of their official duty." The most remarkable illustration of the privilege thus enjoyed by public officials was furnished by the *Odlum v. Stratton* case, in which an official of the Ministry of Agriculture, convicted in a High Court action of a gross libel on a farmer, was indemnified for all his costs (totalling well over £6,500), including substantial damages awarded to the plaintiff.—I am, etc.,

House of Commons, S.W.1

E. GRAHAM-LITTLE.

The Plebiscite

SIR.—While the plebiscite form which we are all about to complete is a confidential document, many doctors who are intending to vote against accepting service are anxious to know how many of their neighbours are acting likewise. It is felt that this knowledge will establish mutual confidence and give moral support to each individual in fulfilling the obligations he has undertaken by signing the plebiscite form, if called upon to do so. Opposition to the Act will naturally involve some financial risk and uncertainty; therefore mutual confidence is essential to our success.

In view of these considerations a meeting of thirty neighbouring doctors who were almost unanimous in their opposition to the present Act have agreed all to sign a mutual declaration as follows:

"We, the undersigned, hereby declare that we have voted in the B.M.A. plebiscite of February, 1948, against accepting service under the National Health Service Act, 1946, in its present form, and we have agreed to abide by the decision of the majority, and we have undertaken not to enter the Service if the same plebiscite reveals a majority as defined in para. 4 of the plebiscite form, and if so advised by the British Medical Association."

This declaration is not intended to be a legal document or an agreement of any sort. It is a declaration of each signatory before the other signatories, professional colleagues in one neighbourhood, that he has signed an agreement and an undertaking with the British Medical Association. The wording of the declaration does not bind the signatories to anything more than that which they will already have agreed and undertaken by voting in the plebiscite against accepting service. Indeed, the actual wording of the plebiscite form is used, but in an altered tense.

I forward this to you, Sir, in the hope that doctors in other areas may consider taking similar action, because our opposition to the Act will be made in the face of adverse Government propaganda, and possibly even adverse public opinion. Therefore any method of establishing mutual confidence and solidarity in adhering to our intentions is of value. I feel that this may well be achieved if the whole country is covered by a series of such local declarations as this.—I am, etc.,

Bathurst, Oxon.

N. J. P. HEWLINGS.

The Issue is Freedom

SIR.—Acceptance of service under the present Act will result in a State medical service. A State medical service is the only possibility under a totalitarian regime; in a free country it is an anachronism, unless as a prelude to a totalitarian State.

Doctors now have an opportunity of deciding what at first seems to be their own mode of life, but in reality will eventually—one by one—decide the mode of life of all sections of the community. The lay Press seems to imply that this is a private quarrel between the B.M.A. and Bevan: far from being so, it is a question of freedom, as shown so ably in Dr. Doris Odlum's letter (Jan. 24, p. 166). *The Times* thinks "it is high time that the Government and public opinion intervened to prevent a conflict which would be as exasperating as it would be futile." Personally I think it futile to suggest that the Government should intervene (dog does not eat dog); but as regards public opinion, it may have a sobering effect to reflect for a moment what would be the reactions of lawyers, architects, engineers, chemists, scientists, stockbrokers, insurance agents, industrialists, and business men if the Act applied to them and not to us. Let every doctor, before filling up the plebiscite form, look to the East and ponder over the implication of a State medical service; let him also look to the West and freedom and an alternative mode of life.—I am, etc.,

London, W.1.

STANFORD CADE.

Mr. Bevan's Challenge and the Plebiscite

SIR.—Our immediate problem is the plebiscite. Although we are convinced that we shall get the requisite majority against the new Service, that is not enough; we would like to get as near 100% as possible. Unfortunately there are still a number of doctors who will sign "yes" because they are afraid of losing their compensation if they fail to enter the Service on July 5. It is apparent that recent statements made by the B.M.A. have not sufficed to allay their fears. On the other hand, Mr. Bevan's statement in Wales has added to their fears. He has stated that on July 5 the old medical service will be repealed and the new Service will begin even with a minority of doctors. This is a challenge that we must accept. Mr. Bevan has taken the gloves off and declared war on the medical profession. We must retaliate, and retaliate quickly before the plebiscite. There are many doctors who are not prepared to wait until July 5 in order to see if the profession means to carry out what it says in the plebiscite returns. In my opinion, the fight must be carried into the enemy's camp before the appointed day. The B.M.A. should state categorically now that in the event of a majority decision in the plebiscite they will advise all doctors to refuse certificates of every description from April 1 onwards. There need be no compunction about breaking our contract with the Government; they have become used to this sort of thing in the various strikes of their own Trade Union members. All work other than certification will continue as usual.

Unless something like this is announced immediately I am afraid the plebiscite returns will be seriously affected. The doctors are waiting for some real evidence of strength from the B.M.A.—I am, etc.,

Newcastle-upon-Tyne.

H. H. GOODMAN.

Fight

SIR.—It is evident that, whatever the results of the much criticized questionnaire of 1944, an overwhelming majority of the profession have now, after time for reflection, recognized that it stands in grave danger of losing its liberty of thought and action under the Act as at present constituted. To achieve amendment of the Act we must fight. Let us have the courage to stand fast by our convictions and trust our leaders, and we shall win this battle for freedom.—I am, etc.,

Biltinghurst, Sussex

C. W. HOPE GILL.

No Certification

SIR.—I understand that if the plebiscite results in a refusal of the profession to enter the new Service it is proposed that general practitioners will continue to treat their patients, giving them receipts for fees paid and issuing certificates supplied by the B.M.A. on the lines of the present certificates used by doctors for patients who are not on their panel. If this is the course to be followed then the profession is certain to lose the fight. So long as the Government can get its certificates it can pay sickness benefit on them, and patients will be able immediately to recover the fees paid by presenting the receipts at Post Offices, or special offices set up for the purpose. The only chance of winning will be to refuse to give any certificates at all on which sickness benefit could be paid. It will even be necessary to refuse to sign such certificates if the Government decides to make unfitness for work notifiable.

I feel that if there were no fear that it is the intention of the Government to bring in a whole-time salaried State medical service a majority of doctors would vote for the Service which the Minister offers. In fact, we are branding him as a liar before we have proved him to be one. In my opinion we should accept the proposed Service, with regulations based on the present N.H.I. Act. The Council of the B.M.A. should inform the Minister that if there are any alterations (no matter how trivial) to our terms of service, including the regulations, which are not agreed to by the B.M.A., the B.M.A. will treat them as a breach of contract and will instruct doctors to cease to issue any sickness certificates until the proposed alterations have been withdrawn. In these circumstances there need be no question of the conditions of service being altered later to our detriment.—I am, etc.,

Birmingham, 15

C. H. HEATON.

Payment by Patients

SIR.—It is admitted by all parties concerned that in the event of a majority of doctors refusing to enter N.H.S. until their grievances have been settled their patients will not suffer in the meantime but will be attended as faithfully as before. And there the matter rests. Everybody is quite satisfied on this very important point, and beyond touching on the question of payment for professional attendances by mutual agreement between patient and doctor there is the end of the difficulty. To my knowledge we have never discussed this question in my divisional meetings, nor have I seen the matter under discussion in any of the correspondence in the *Journal*.

Personally, I can see no end of disputes arising out of this contraptions, and I should like to see the subject discussed very thoroughly without delay. *The Times* is very anxious that we should curb our "emotions," and in this event we should notice carefully that Mr. Bevan is not above borrowing from it in a earnest appeal for common sense. But surely here we have reality, affecting as it does our bread-and-butter, entirely outside the profession. Let us take one single case in point.

Dr. N. is called to a case. He gives the patient to understand that he is not working for the Government. He completes the consultation in as short a time as may be, and renders an account, and the patient is satisfied. Since he is a contributor to the N.H.S. fund, the Minister has made up his mind on this point. He has decided that Dr. N. may whistle for his fees, and the patient, who has just paid his contribution, could have called on Dr. N. for a consultation, and in all probability would have been satisfied. The fact that the doctor, who was already a contributor to the N.H.S. fund, was very anxious to be paid for his services was very clearly shown. The fact that the doctor can be only one

answer—"cash on the nail." In everyday life there are legions of cash transactions accepted willy nilly, and no need to call in the emotions. Well, do we squirm, or do we?

And, finally, I should like to see in every division a bond, and I mean a bond, bearing the names of men of principle. That's all.—I am, etc.,

Monkseaton, Northumberland.

J. A. LEIFER.

The Principles and the Act

SIR.—At no stage in your presentation of the official B.M.A. case for opposing the Act do you show the slightest awareness of change in the structure of our society. Social security has been accepted in principle by all our political parties and will, it is certain, become permanent. The corollary is just as sure. The individual man and woman must part with some fraction of his personal freedom to achieve this new security. Can the doctors alone claim to be exempt from this obligation? According to you, Yes.

You argue, in effect, that the commercialism of private practice and a hospital system based upon private charity are necessary to maintain the freedom of the profession. Your arguments are exactly those used by your predecessor of the 1911-12 period, when the capitation fee was the bugbear. The only difference to-day is that you urge the Minister to drop the basic salary and to maintain the capitation fee. I suppose that 95% of the profession now accept N.H.I. as a sound conception. Your advice was proved wrong, Sir, in 1912, and I maintain that it is equally wrong to-day.

There are three features of the new Act to which special exception is taken: the abolition of the sale of practices, the basic salary and the absence of the right of appeal to the courts.

The Sale of Practices.—Why, Sir, do you persistently ignore the fact that in the 1944 plebiscite the profession voted for the abolition of the sale of practices? This archaic procedure is found in few countries to-day. It certainly rests on no "principle" which the profession need defend.

The Basic Salary.—Again, the 1944 plebiscite: a majority favoured some salaried element. Pathologists, physiologists, M.O.s.H., and many others in our profession (to say nothing of all other professions) receive a salary without the quality of their work being affected. A salaried worker is no slave to his employer. But the salary is necessary for quite other reasons. The young doctor entering the Service must have some assurance of livelihood. The elderly doctor with a small list will need this help too. You argue that the acceptance of a small salary now will tie the profession to a whole-time salaried service later. This is a *non sequitur*. If the Minister gave way under pressure and abolished the salary element he would still have the power under the Act to introduce it later or to vary its amount. Some of your correspondents object that the remuneration is subject to review. If it were fixed by the Act there would be no possibility of increasing it to meet a change in the cost of living. The fact is that the vast majority of G.P.s will be far better off without having sacrificed one jot of their personal freedom.

Appeal to the Courts.—What exactly are the rights of a doctor against whom a complaint is lodged? (1) His case will be heard by the Medical Services Subcommittee, consisting of doctors and laymen. (2) He can appeal to the Tribunal, whose judicial character no one has questioned. (3) He can appeal to the Minister, and his case will be examined afresh by the Minister's Advisory Committee. (4) He can sue the Minister for wrongful dismissal under the recent Crown Disputes Act. (5) He can appeal to the ordinary courts of law against an adverse decision by any of the above bodies on a point of law—e.g., if the Tribunal refused to admit some evidence which should in law have been admitted.

The above rights guarantee justice to the doctor against whom a complaint is lodged. In fact the medical profession will have better protection than any class of the community.

These three features of the Act to which you mainly object in no way compromise any principles of the profession. I am alone in this belief. *The Lancet*, *The Times*, the *Manchester Guardian*, the Medical Practitioners' Union agree. The whole living structure of the new Health Service has yet to be created. We doctors have a large representation on all the bodies which will give life to the bare bones of the Act. Let us enter the Service willingly and do our part in making this Service the finest that can be achieved.—I am, etc.,

Bristol.

BRUCE CARDEW.

* * The medical man dismissed from the Service would not be able to appeal against dismissal but only against illegal procedure.—Ed. *B.M.J.*

Needs and Wants

SIR.—The concern of the world to-day is what people need, not what they want. Not a few of your correspondents leave the impression that with them the concern is reversed. The medical profession has proclaimed that a reorganization of the health services of the nation is a necessity. It has fallen to the lot of the present Government to see that this reorganization is implemented. It does seem rather much to expect the responsible Minister of the Crown to adopt a positive or confident attitude towards the profession, whose members from the outset have been enveloping him in political and personal innuendoes, if not actual abuse.

The Minister by his negative attitude may not have gained strength, but he has gained dignity. The correspondence in your columns suggests that the profession may have gained neither.—I am, etc.,

New Buckenham, Norfolk.

R. G. BLAIR.

Intimidation

SIR.—The profession should be thankful for the present Minister of Health. Being the trusting and unbusinesslike folk that we are a less crude dictator might well have lulled us into a belief that "all would be well on the night." With the warning of his treatment of the Spens Report, of the *Uxbridge* Tribune incident, and now his attempt to impugn the honesty of the plebiscite, we have warning of what we are up against. The only attempt at intimidation we are likely to get is from the Minister.—I am, etc.,

Newton Ferrers, Devon.

W. F. BENSTED-SMITH.

The Younger Generation

SIR.—I was delighted to read the letter from Mr. Gerald C. Watmough (Jan. 24, p. 167), and, as one in an almost identical position, I should like to put my case—and that of thousands of others—as briefly as possible. In 1939 I forsook my studies to take up the sword. In 1946 I handed in my sword and intended for a stethoscope "in lieu." In 1950 I hope to qualify (and I shall, as Mr. Gerald Watmough mentions, be about 30). Of the host of reasons for my actions over the past few years one was not to prepare myself to become a salaried, pseudo-Civil Servant of Mr. Bevan, and if he (Bevan) is under such a misapprehension then he has certainly got another think coming.—I am, etc.,

London, S.W.5.

JOHN K. PATERSON

Plea for Compromise

SIR.—May I make a plea for compromise? Let the differing sections of the profession come closer together and sink their differences, so that we may present a united case to the Minister. Having compromised among ourselves, we can then be firm about the points upon which we agree and with more justice call upon the Minister to compromise with us. Negotiations have reached such a stage that we are faced with another impasse. If this happens the profession will not come well out of it. Let us not be mistaken on this. We are not seen well through the eyes of the Press. If, however, through our leaders we show the statesmanship which I have heard it said the Minister lacks, we shall come well out of the encounter and gain respect for our views.

I feel that I stand midway between the two extremes of my profession or, to put it another way, midway between the views of the Negotiating Committee and those of the Minister. It is an uncomfortable position, because I feel that on balance I must say "Yes" in the plebiscite, and yet have no desire to be a black sheep. I should much prefer to vote with the rest of my profession. My personal position is that I have been qualified four years, I am about to be demobilized from the Army, and I am married with two children. With this in mind, let me now take the main points of the Negotiating Committee said to be fundamental and see if they can be narrowed down.

(1) *Question of Distribution*.—I do not feel we should make this a fundamental issue. There is nothing in the Act which prevents a doctor from coming into the Service. As to the question of negative direction, I feel we are on very poor ground here. It is obvious that one cannot receive money from public funds whether

by capitation fee or salary for practising where there is not a public need. It is not just to expect it. If one wishes to practise in a particular locality one can still do so, if the Service doctors give such bad value that there is a need for a doctor outside the Service. As to the cumbrousness of the methods of selection of practitioners to fill vacancies, obviously the scheme would not work if it was as bad as it is made out to be. Ergo, it will not be.

(2) *Ownership of Goodwill*.—On this point, as a member of Council has said, there is much to be said on both sides, but taken in conjunction with direction and the basic salary it is anathema to the profession. Now is it really such a fundamental issue taken by itself? The majority of the profession in 1944 said that ownership was not desirable. Now let us not be divided on this point. Let us be thankful to agree on anything. When one considers that compensation will be paid for practices taken over, I do feel that we could sink our differences and let the Minister have his way.

(3) *Remuneration*.—This point is fundamental to our case. We do not want a basic salary. I am one of the young men whom this is supposed to aid. I have enough confidence in my own ability to support a family without being given a dole—and a dole with strings attached. It would appear that the Minister would wish to pay one-tenth of the piper's wages and yet call all ten tunes in his repertoire. To additioo I feel that here we have our strongest case. As a Socialist the Minister believes in the worker determining his wages (or salary, or income, to suit all tastes) by collective bargaining. Well, let us play his game and bargain collectively. We do not want a salary and will not have one. We want piece-work rates. If we are firm we will get them.

(4) *Right of Appeal to the Courts*.—This is fundamental to our case. There is a precedent for this in Ulster, and I believe the Minister will give way.

(5) *Midwifery*.—I do feel it is fundamental to our case that every practitioner should have the right to elect to do midwifery within the Service, but I do not feel it is fundamental that every general practitioner should have the right to practise midwifery. I think it is to the advantage of the patient and the profession alike that certain men should be set aside to do it. A man would then have the choice of doing midwifery or not.

(6-9) The Minister has already met the profession on these points.

(10) It is indeed fundamental that local health authorities should be required to co-opt to health committees representative medical practitioners. We should press most strongly for this to be incorporated in the Act.

(11) *Public Health Service*.—I see no fundamental divergence of views between the profession and the Minister here.

(12) *Representation of the Profession on Administrative Bodies*.—I feel that the Minister has gone as far as he constitutionally can to meet us on this, and we should be most ill advised to press this point further. Let us remember that the Minister has come a long way from the avowed intentions of his party to meet us. He has given way on a whole-time salaried service. Admittedly he has kept a handle in the basic salary, but let us not try to eat our cake and have it. Let us be reasonable and show a willingness to compromise. As I have said, I feel sure we stand to lose our case if it comes to an impasse.

Let us stand by our strongest points and give way on our weakest. Let us say to the Minister: "We will give way over direction and the ownership of goodwill, if you will give way over the basic salary, give us our appeal to the courts, and give us statutory representation on the statutory health committees."

I feel sure that I am not alone in the views that I express. I feel that broadly they are the views of the moderate section of the profession. I feel sure also that if the Negotiating Committee do not adopt a more conciliatory tone they will lose the support of this considerable section of the profession, who will thereby be forced, like me, to say "Yes" to the plebiscite even if we agree to stand by the majority opinion.—I am, etc.,

Worthing, Sussex.

CHARLES R. PALMER.

Buying and Selling

SIR.—One matter of not inconsiderable importance in relation to the N.H.S. Act appears so far to have escaped attention. I refer to the position of the young doctor in the Service if Mr. Bevan should amend the Act to allow the buying and selling of practices to continue. It is my belief that any man with little or no capital, obliged to pay out 6% of his remuneration from the Service for superannuation, in addition to all the expenses entailed in buying a house and practice on borrowed money, would have insufficient left to live on, having regard to the high rate of income tax and the prices of essential goods prevailing to-day. I estimate that from an average practice earning £2,000

gross per annum purchased for £3,000 and with a house purchased at £2,000 (and there are no mansions at that price these days) a married man with one child would have little more than £400 left after paying practice expenses, loan interest, capital instalments, life assurance premiums, superannuation, and income tax. This calculation assumes that he takes fifteen years to repay his loan, so it would be a long time indeed before he could hope for his position to improve; and he would still have to pay rates and other expenses before food and clothes could be thought of.

This aspect of the matter must compel younger doctors like myself to ask, "Is the right to buy and sell practices really vital to our freedom?" Personally I am far from convinced that it is. What is vital to my mind is that the general practitioner should be given a satisfactory status in relation to the Minister and the Executive Councils, and, of even greater importance, that his status should be free from the risk of violation by Ministerial regulation or order. The status the Minister proposes for us is not a satisfactory one. To achieve such a status the universal basic salary must go, and the Act must be amended to give Parliament alone the authority to alter that status.

No doubt the abolition of the sale of goodwill does create problems, but I believe all could probably be solved if a section of the Act were carefully framed with that object in view. Regulations would be necessary to facilitate succession on the death or retirement of a practitioner, but these would not need to be the same as those by which the Minister now seeks to control the distribution of doctors, which were not designed for this purpose and are not well adapted to it.

It is also well to recognize that this is probably the one matter above all others on which Mr. Bevan would find the greatest difficulty in making any concession. To him the buying and selling of practices is "an intrinsic evil." It is part of a creed sincerely held, and for the present Minister that is sufficient justification for this section of the Act. There is, however, a weakness in preaching dogmatically to unbelievers, and Mr. Bevan evidently recognizes this. Hence the system of propping one section of the Act up by another, to which the Secretary of the B.M.A. has already drawn attention.

One purpose of the basic salary is clearly to provide justification for the regulations by which the Minister proposes to control the distribution of practitioners. A little clear thinking quickly reveals that these regulations of themselves will in practice be quite ineffective in ensuring an adequate service for areas which for some reason prove unattractive. In reality they are there not for this purpose at all, but in their turn to provide a justification for the abolition of the sale of goodwill. So the universal basic salary has to stand stooge for the rest, without any subordinate section to support it, and I think even the Minister himself would have to admit that it does not put up a very good show.

The implication of this argument is that if we agreed to the abolition of the sale of goodwill in return for an undertaking to secure us a satisfactory status under the Act the Minister would no longer find it necessary to justify this point, and logically could concede our demands relating to the basic salary and the control of distribution. I do not say that he would concede these points; only that it would make possible for him what would now appear to be virtually impossible.

Finally it is worth remembering that for most men with family responsibilities freedom from financial stress is just as important as freedom from Government interference, and it may be that many young doctors who dislike many of the implications of the Act as it now stands will nevertheless indicate in the plebiscite their willingness to enter the Service on July 5 rather than risk the economic difficulties which would face them should they have to buy a practice. In my view they would be ill advised to indicate acquiescence at this stage, for once we do that it is clear that we shut ourselves off from the hope of further negotiation on the structure of the Act itself.—I am, etc.,

Mr. Bevan

K. HEAP.

Voluntary Hospital Staffs

SIR.—The circular "Some Practical Questions Answered" (Q. 12) about consultants on the staffs of voluntary hospitals is in line with their hospital work after the appointed day. It is a pity that it would gravely weaken the fight of the general public, many of whose patients will flock to the hospitals, if they are expected to pay fees to their doctors. The alternative policy of a "strike" of voluntary hospital staffs is a possibility but let us undertake to refuse to do so. It is a work that is essential. We must firmly

the public will rapidly be made aware of the seriousness of the conflict, while not being deprived of the essential medical care.—I am, etc.,

London, W.1.

A. PINA

S.M.A. Member Says No

SIR.—I feel that many of our profession have failed to appreciate fully Mr. Bevan's Machiavellian cunning. It is manifest that he hopes to force us into his Health Service; he will not hesitate to use starvation and pecuniary embarrassment as his tools if we wait till the appointed day before taking action.

Bevan, when he worked, was ready to go on strike if his union's demands were not granted. It should be noted that a trade union always demands, it never requests! If we genuinely desire to achieve our objects in connexion with the reform or alteration of the Act, we must take action now. If we wait till the appointed day we will have waited too long and will have lost our battle. I am certain that our only hope is to adopt Bevan's own trade union methods and strike now. I would suggest that the B.M.A., as soon as the plebiscite figures are known, should call us out on strike, and that all signing of certificates should be stopped until Bevan realizes that doctors have the same rights as miners and railwaymen. All certificates, from death certificates downwards must be firmly refused. Such action would not impair our work as doctors; it would naturally inconvenience the people not a little, but by this the public would realize that we have something to fight for. When a trade union brings its members out it thinks little of public convenience. This is Bevan's method, therefore let him have some of his own treatment.

If we act now we can lose nothing; we will still have our N.H.I. payments and private practice. If we delay till July we shall lose the former and will, I am sure, have difficulty in getting a living from the latter when people are paying for a national service which they will not get. I work in an industrial area and am convinced that this is the only way in which we can succeed. I have so often seen the trade unions succeed in their demands by the tactics I advise that I am confident that we, too, will be successful.

I might add that, though I am a member of the Socialist Medical Association, I am wholeheartedly opposed to the Act in its present form. Many of my fellow members of the S.M.A. feel as I do and are opposed to the Act as it stands. They will, I am certain, be prepared to take the action I suggest, even though Bevan relies to some extent on the S.M.A. to help him to push the Act upon us.

The time for talk and courtesy is now long past. If the Minister wants to fight let us take up the challenge and join issue with him on his own ground, and using his own well-known weapons. If we are united in our resolution we shall soon be able to make our demands in a language which he understands. No trade union would allow its members to be threatened, coerced, or bullied, nor would it have indulged in negotiations which it could not refer to its branches during the discussion. Dictatorial habits must be stopped, and force must be used when the circumstances warrant it.—I am, etc.,

Broxburn, West Lothian.

J. A. SCOTT

Immediate Action

SIR.—The greatest threat at this time to the unity of the profession lies in the widely felt fear that those doctors who resolutely refuse to join the new Service by the appointed day may incur thereby considerable financial loss. It is obviously foolish to postpone action until July, when the Minister will be able to put unbearable financial pressure on us to join. Our only hope lies in united action, taken well before that date.

We urge that if the result of the plebiscite shows that a large majority of the doctors are against joining the Service in its present form, the B.M.A. immediately should advise all doctors to refuse to sign certificates, but to keep records of all patients entitled to them so that they may ultimately receive their sickness benefit. This should be explained to the patient at the time. Death certificates should be excluded from this plan. We should persist in the refusal to sign certificates until the Government gives an undertaking that the Act will be suitably amended before being put into force.

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Wolverhampton.

ZOE E. HARRIS.
PAUL HARRIS.

It Won't Wash

SIR,—To-day I was faced by a request from a patient for a "medical certificate" for a washing machine. Feeling that this was beyond the bounds of all reasonableness I declined to comply with the request and expressed a certain amount of resentment that an industrial organization had sought to place this further burden upon the doctors. It was then explained to me that the firm had not actually requested the certificate but had assented to the patient's suggestion that such a certificate might help to give priority in a long waiting-list. I then endeavoured to explain that if doctors were to comply with all such requests it would, in either case, render any such system of priorities virtually of no value. However, I was left with the feeling that I had, perhaps not for the first time, offended a patient by refusing such a request and that the patient would now possibly seek a doctor who would comply with his wishes.

Although in this particular instance I am convinced that the patient acted in good faith, I feel that the business firm was wrong in assenting to the suggestion and that an end should be put to this time-consuming form of blackmail—for such it may be—and that action should be taken by the public relations department of the Association to make known to industrial and business houses that doctors have other duties to perform than to select for them those customers who are unable to do their washing or those who, being perhaps unable to leave their homes, should have a radio or television and so on. While one has every sympathy with the rare deserving case, one could spend a lot of time "selling" such certificates to the detriment of one's sick patients.

Certification should surely be confined to such forms, in themselves more than plentiful, as are required by Government departments for the issue of extra milk, petrol, and so on—I am, etc.,

E. Horsley, Surrey.

BASIL S. GRANT.

What a Pity!

SIR,—What a pity that the hard-pressed British taxpayer should have to fork out £66,000,000 to buy up the doctors' practices when the whole thing could have been done by an extension of the present National Health Insurance with such modifications and improvements as might be necessary. No need then for basic salary or purchase of practices. In 1912 the infant N.H.I. would have been stillborn had it not been for the concessions wrung at the last minute from its father by the profession. Even then the circumstances attending its birth brought about such distrust among both patients and doctors that the infant was afflicted with an inferiority complex which lasted for many years and even now has not completely disappeared. And now the Minister of Health hopes to force his Act on an unwilling profession, and if he is successful a similar legacy will result. What a pity!—I am, etc.,

Credition.

M. TYLOR.

An Association of Rural General Practitioners

SIR,—This is a plea for the formation of an association of rural general practitioners. With the successful outcome of the contest between the profession and the Minister on the question of principles, the remuneration of general practitioners in a national health scheme will have to be reconsidered, and to be equitable the numbers of patients and costs should be correlated. The numbers in a rural practice are limited by the scattered population plus the time factor in covering a large area. For this reason, and because most of us have outlying surgeries to maintain, the costs are considerably higher.

To show how inadequate has been the consideration given to the special conditions of a rural practitioner as distinct from one in or close to a country town, where the density of the population is naturally greater, the following should be noted:

(1) The Spens Committee glossed over the increased cost of running a rural practice by saying that this could be met by

weighting mileage more heavily. (2) There would appear to be a dangerous notion that the cost of running a practice is roughly one-third of the gross receipts, whereas in our rural practices it is roughly one-half this for the reason already stated.

It may seem to be beyond the realms of credulity when I say that, were I to enter the Service on the proposed remuneration and were all my private patients to become public patients, and if expenses remained the same, including the basic salary, my net income would work out at about £2 per week. But there is always the mileage fund!

The terms of reference of the Spens Committee included *inter alia* "the desirability of maintaining in the future the proper social and economic status of general medical practice." The Act as it would affect me makes a mockery of these terms of reference. I cannot believe that mine is an isolated case, and were others to publish their figures it would be found that I am not exaggerating.

The payment under any scheme, in my view, to be equitable should vary on the density of the population. Even at this late hour it seems to me that an association of rural general practitioners should be formed to see that conditions peculiar to us are given proper consideration. Unless we move quickly we may find ourselves in the position of having to develop our hobbies into a trade and do medicine in our spare time.—I am, etc.,

Princes Risborough, Bucks.

O. F. CONOLEY.

What is an Adequate Capitation Fee?

SIR,—If remuneration is to be by capitation fee only, I think it would be better if a clear statement could be made on what the British Medical Association think is an adequate capitation fee. If 15s. 2d. to 18s. is even considered as an adequate fee, then, as I have said previously, remuneration by capitation fee alone will almost certainly prove a financial failure. I should say that a capitation fee of £1 12s. 6d. might possibly be adequate. So far as the sale of practices is concerned, I would suggest that no great harm would be done if a practitioner received immediate compensation for what his practice is worth, and this could easily be calculated from the income-tax returns of the practice. Compensation could then be made in full instead of receiving a proportion of £66 million. A proportion of a set sum is no compensation if the number to be compensated varies. I agree that freedom to enter and choose area of practice should be preserved, but I also consider that "squatting" or setting up practice in a district already adequately cared for should be strongly discouraged by all responsible authorities.

To anyone who may think I am pro-Bevan I can only say that my opinion concerning his views would not be printed in the *British Medical Journal*. My answer in the plebiscite will be a very negative "No," but I would like to see some definite constructive suggestions, as something must be done to replace the faulty parts.—I am, etc.,

Caillard, Perthshire.

F. C. M. McILWICK.

Remuneration in the N.H.S.

SIR,—Perusal of your correspondence columns reveals little comment on the financial aspect of the National Health Service Act. If one were to take part in the Service as the Act stands, the restraint at present exerted by monetary considerations on the part of paying patients with regard to trivialities will be removed. Even with this restraint private practice subsidizes panel practice to a considerable degree, and yet in the Act remuneration per head is hardly any more than the present N.H.I. capitation fee.

At a recent discussion in this district it was estimated that attendances would be roughly doubled, and that this increase would be due to trivial complaints and extra certification, which would interfere with the time available for those needing medical attention. This increase would therefore come almost entirely from those whom we now call private patients. Attention has been focused on the earnings of the doctor with 4,000 patients, but very few, and only those in heavily populated areas, will have such a number on their list, and it is my contention that adequate medical service for so great a number by

one man is an impossibility. In this area there are five general practitioners serving a population of under 9,000, and we all work pretty hard. According to the proposals before us we shall each receive roughly £1,500 per annum gross. There is no provision for any adjustments due to alterations in the cost of living, and there is nothing to prevent the Minister on any pretext—probably the cost of administration of the Service will be found as convenient as any—from reducing the remuneration by regulation within six months.

Put shortly, we are expected to do more work for less money, expenses increasing all the time, and with no safeguards. Each doctor should work out the figures as they apply to himself and compare the result with the recommendations of the Spens Committee. If that doesn't open his eyes he should see a doctor!—I am, etc.,

Flect, Hants

T. C. JAMESON EVANS.

The Presidents and the N.H.S.

SIR,—The attempted negotiations with the Minister were invited by the three Presidents of the Royal Colleges. In view of what has happened, I suggest that it would be only fair for them to admit that their policy of appeasement has been a failure and that the Minister evidently never had any intention of negotiating. Further, it is to be hoped that they will now lend the weight of their authority to backing the British Medical Association and the profession in the stand being made against the dictatorial powers assumed by the Minister.

This is an important matter at the present time, when there appears to be an attempt to cause a split between practitioners and consultants, particularly as many people think that the opinions of the latter are represented by the Presidents.—I am, etc.,

Lincoln

G. A. BAGOT WALTERS.

B.C.G. in Control of Tuberculosis

SIR,—Prof. W. H. Tytler (Jan. 24, p. 173) argues that the comparison made between vaccinated and control children by Levine and Sackett in the New York trials is vitiated by a "serious error in the statistical analysis which, if corrected, would leave the results showing almost the maximum possible difference in favour of B.C.G., though even that would have only a limited significance." His argument runs as follows: Of the 11 deaths in the B.C.G. group 10 occurred in infants known to have been exposed to positive-sputum contact in the home prior to vaccination (his italics): since no claim has been made that B.C.G. immunization could check an infection already established, individuals for whom that possibility exists must be excluded from the analysis—i.e., only one death must be counted against the B.C.G. group. Such a procedure, in my opinion, makes the resulting figures entirely meaningless. It is impossible to make such exclusions differentially. In other words, we cannot introduce a factor which can—and in this instance does—materially reduce the mortality in the treated group and yet is not to be applied similarly to the control group. Why, too, should one make such withdrawals for the deaths and ignore the many similar cases of infants similarly placed who did not die? Under such circumstances the resulting comparison must be not only useless but grossly misleading.

To my mind two specific questions might be asked with regard to the possible efficacy of B.C.G. in infants in tuberculous families—namely (a) We can accept the world as it is, in which infants or young children in tuberculous households will, unfortunately, often have been exposed to risk of infection before they have come under observation and before they can be vaccinated. Does vaccination with B.C.G. under such circumstances confer, on the average, any benefit upon its recipients? This appears to have been the situation in which Levine and Sackett were working. For instance, in 10 out of the 11 deaths in the B.C.G.-treated infants there had been exposure to a positive sputum source from birth and the ages of vaccination were: first week (three cases), three weeks (one case), second month (one case), fourth month (one case), and tenth month (one case). There must, of course, have been numerous similar cases excluded from the B.C.G. and control groups, in which death occurred before the child was vaccinated. The New York experiments, in which the children were observed for a controlled period, revealed no such bias.

Prof. Tytler thinks this is a useless question, since "I neglects the principle of avoiding infection before immunity has been established." Scientifically I would not dispute his objection: realistically, it may, of course, materially reduce the field in which B.C.G. can operate, since it necessitates pre-detection of the tuberculous household and removal of the infant a birth for some months.

(b) Accepting his objection, however, the second question is as follows: Are children not previously exposed to infection (as far as is known) more resistant to exposures after vaccination than similarly placed children who have not been vaccinated? To answer it two similar groups, except for vaccination, are essential—both must be removed from exposure up to vaccination or to a similar point of time, both must be returned to the environment at similar points of time. The subsequent history is then the criterion. Clearly that may be a very difficult trial to make, but how else can that question be approached? I certainly cannot be answered merely by "correcting" the death in the vaccinated group only.—I am, etc.,

London, W.C.1.

A. BRADFORD HILL.

Sulphamerazine Treatment of Pneumonia in Adults

SIR,—In reply to the points raised by Dr. R. N. Johnson (Jan. 10, p. 73) we would say that the cases of pneumonia dealt with in our article were consecutive cases received by a large general municipal hospital, and are representative of the condition as seen at present in an industrial area of N.W. London. Radiological investigations and leucocyte counts are available, but as the article was written with a view to aiding general practitioners in the treatment of pneumonia we did not feel their inclusion was particularly relevant. Pneumococci and other pathogenic organisms were isolated in 70% of cases, as detailed in the article; over a large series of cases previously investigated blood cultures did not seem to help in prognosis or assessment of severity, and therefore we have not continued them.

We were aware of the statement that 80% of sulphamerazine is bound to the globulin fraction of the plasma, but we know no statement as to what percentage of other "sulpha" drugs are so bound. Practical experience suggests that this is not a therapeutic disadvantage.

The dosage we have used has been adequate, not only for pneumonia but in many other conditions. Dr. M. D. Shepperd (p. 73) has been using a continuing dose twice as large as ours, and we suggest this explains his cases of anuria. Three thousand patients have been treated in this hospital with sulphamerazine and in one case only has a deposition of crystals given rise to temporary anxiety. We are convinced that fluid intake is an important factor, associated with correct dosage.—We are, etc.,

Central Middlesex County Hospital,
London, N.W.10.

HORACE JOULTS,
S. D. V. WELLS.

Intra-arterial Injections of Penicillin

SIR,—We were interested to read the annotation on intra-arterial penicillin (Dec. 27, 1947, p. 1040). We have been using arterially injected penicillin in infected gangrene of the lower limbs for the past three years. The rationale was to present the infected area with a massive concentration of penicillin which was impossible to achieve by any other known route. In a few cases so treated a remarkable diminution in the toxæmia and improvement in the general condition of the patient have been noted. Penicillin was also given intramuscularly to the cases. Occasionally we have combined penicillin with heparin. In none of the cases was it possible to save the limb, which had to be amputated. All survived the operation—the oldest case was 85.

Bacterial flora of the infected area was ascertained in each case and penicillin sensitivity tests were done. The injections were first into the femoral artery and the technique was fairly simple. Patients were usually given "omnopon" gr. 1/3 (22 mg.) and scopolamine gr. 1/150 (0.43 mg.) an hour before the injection. With the patient in a recumbent position a sandbag was placed under the hip, the leg slightly abducted and externally rotated. The skin was shaved and the artery located in the groin by palpation. Its outline was marked by a skin pencil and the skin was disinfected with iodine. Usually a small wheel of "novocain" was raised at the site of puncture. A 20-gauge needle was bent sufficiently to make

the puncture easy, and the artery entered with the needle having its concavity upwards, the operator facing the patient's feet. Occasionally an adapter was mounted to the butt-end of the needle.

As soon as the needle entered the artery, rapid spurting of bright red blood was noted. The syringe charged with penicillin was mounted to the needle by an assistant, and the injection completed. The dosage used was 500,000 units of penicillin in 10 ml. of distilled water. The site of arterial puncture was rapidly covered with a pad and firm pressure applied for a few moments. The site was then covered with an "elastoplast" bandage. Sometimes several such injections were made into the artery.

The difficulties encountered were: (1) Occasionally the artery slipped as the needle entered the subcutaneous tissues; this could be avoided by fixing the artery between the thumb and the index fingers of the left hand. (2) Occasionally it was difficult to puncture the artery on account of thickness of its walls, but with a little change in the site of puncture this was overcome.

The untoward accident which we met was the late development of subcutaneous extravasation of blood. This was due to accidental venepuncture.

Transcutaneous puncture of the femoral artery is not quite so simple as it may sound here, but with practice and skill the technique is soon mastered.—I am, etc.,

Kingston-upon-Hull.

G. M. Dts.

Recent Outbreaks of Smallpox

SIR.—The writer of a leading article in the *Journal* of Jan. 24 (p. 157) alludes to the story, more than one version of which has met my eye lately, that Ricketts (mis-spelled Ricketts) once misdiagnosed a case of smallpox. I am interested to discover the origin of this tale, and I would welcome details of a case which, to my regret, appears to be in danger of becoming famous. For I am concerned lest, by force of repetition, the story should become embodied in the literature and at this comparatively late stage Ricketts should acquire the reputation of a great expert who made one mistake.

I am sure that Ricketts, in the course of his immense experience, erred more than once in the diagnosis of smallpox—as sure as I am that he would not have regarded his own judgment as infallible. The great Dr. Grace once remarked to a proud mother who presented her son as one who had never dropped a catch, "Then, madam, your boy cannot have played much cricket."

No, Sir, rather does the true reputation of Ricketts depend on the unique teaching of his subject which has been transmitted through his immediate pupils, and most of which, fortunately, is placed on record in his book. Though published in 1908, *The Diagnosis of Smallpox* contains, for those who will search diligently enough among its pages, almost everything relating to the clinical diagnosis of the disease which is known to us to-day; including, for example, the fact which has been rediscovered by someone in every outbreak of smallpox of recent years that (I quote from your leading article) "vaccination is no certain prophylactic after contact has occurred."—I am, etc.,

Dartford, Kent.

J. PICKFORD MARSDEN.

Superior Mesenteric Arterial Occlusion

SIR,—I read with interest Mr. W. Garden Hendry's article on mesenteric arterial occlusion (Jan. 24, p. 144) in which he describes a case of recovery without resection. A similar case was admitted to this hospital recently.

A girl of 12 years was admitted to Booth Hall Children's Hospital on Dec. 30, 1947, complaining of abdominal pain of four days' duration. She had undergone a routine appendicectomy here 30 days previously and had been discharged 7 days later.

Four days before admission she complained of central abdominal pain of a severe colicky nature. The pain occurred about every 5 minutes and lasted 1–2 minutes. Her bowels opened twice that day and no blood was seen. The pain persisted in frequency and intensity, and there was no further bowel action. For the last 48 hours she vomited repeatedly.

On examination she was found to be an ill child with sunken eyes, a dry brown-coated tongue, and faecal-smelling breath. Her temperature was 97.6° F. (36.4° C.), and pulse 122, of poor volume. The abdomen showed a recently healed pararectal scar. There was distension in the hypogastrium with visible dilated coils of gut. No peristalsis was seen. On palpation the coils of gut were palpable and very tender. There was well-marked rebound tenderness; shifting dullness could not be detected clinically. On auscultation the gut sounds were few in number and high-pitched. Per rectum the rectum was ballooned and a tender coil of gut palpable in the pouch of

Douglas. Routine examination of the other systems revealed nothing abnormal. While being examined the girl vomited 50 ml. of stercoraceous fluid. The residual gastric contents were aspirated and an intravenous glucose-saline infusion set up.

Laparotomy was performed through a right paramedian incision under intratracheal anaesthesia. The abdomen contained 2–3 pints (1.1–1.7 litres) of blood-stained fluid which did not clot on standing. The last 3–4 feet of ileum with its mesentery were in a state of haemorrhagic infarction. The gut was a deep purple colour, oedematous, showed no peristalsis, and did not change colour on the exhibition of 100% oxygen. The mesentery was over 1/2 in. (1.3 cm.) thick with no visible or palpable pulsation in its vessels. No adhesions or volvulus were found. As the affected bowel extended to 1 in. (2.5 cm.) from the ileo-caecal valve and the patient's condition was deteriorating, a Paul-Mikulicz type of operation was performed, using the mobilized ascending colon and normal ileum 2 in. (5 cm.) proximal to the affected portion. In an effort to prevent resection later, a rubber catheter was sewn into the proximal limb. The exteriorized bowel was wrapped in gauze soaked in liquid paraffin.

The patient's condition rapidly improved after the infusion of 3 pints of plasma. Anticoagulants were not immediately available and were not used. Thirty hours later the dressings were removed. The ileum was still oedematous and plum-coloured but now showed definite peristalsis; the mesentery had not changed in appearance and there was no pulsation in the vessels. The catheter was removed, the enterostomy closed, and the gut replaced.

The next day there was no aspirate from the Ryle's tube and she was allowed fluids by mouth. She had 12 motions in the succeeding 48 hours, all of which contained mucus and altered blood. Intravenous fluids were discontinued on the third day. The patient sat out of bed on the next day and was discharged fit on the eleventh post-operative day. On discharge the coils of gut were still palpable and slightly tender.

This case, I feel, was one of mesenteric vascular occlusion secondary to pressure by an adhesion from the previous appendicectomy (the last 4 feet of ileum are always examined for the presence of a Meckel's diverticulum). The fortunate issue depended upon her age and the ease with which a collateral circulation became established through longitudinal vessels in the ileal wall. The marked improvement in her condition after the rapid infusion of 3 pints of plasma agrees with Mr. Hendry's comments on the causation of shock in these cases.—I am, etc.,

Manchester.

ANTHONY R. ANSCOMBE.

Air Embolism during Operation

SIR.—The article by Drs. C. Langton Hewer and H. I. Coombs on "Fatal Air Embolism during Mastectomy" (Jan. 17, p. 97) is an interesting one, and this case raises several points which are insufficiently widely known. It is likely that air embolism during operation is more frequent than is generally believed, although in all probability its effects are either not recognized or, if noted, are not appreciated as being of any particular significance. Entry of air into a vein at operation is largely a matter of hydrostatics, and where the damaged vessel is situated above the level of the heart there is always a possibility of air entering the vein, especially during inspiration. Pressure variations in the great veins can be clearly seen at operation and must be familiar to all surgeons.

Hewer and Coombs point out that their patient's shoulder was raised on a sandbag and that pressure in the axillary vein was probably negative during inspiration. In the case of mine to which they refer the air embolism occurred several days after a severe facial wound with injury to the internal jugular vein. My co-author, a physician with a mechanical turn of mind, was greatly interested by the hydrostatics of our case and pointed out that had the patient been lying flat instead of sitting up in bed he would probably have had a secondary haemorrhage instead of an air embolism when the wall of the vein gave way. Since that time I have always made a point of having the head of the table slightly lowered to distend the axillary vein during a radical mastectomy, and to distend the internal jugular vein during dissection of tuberculous glands and similar operations in the neck. The classical description of air embolism at operation is of an audible "hissing" or "gurgling"; this may occur in some cases, but air may also enter a vein quite silently. I believe that this occurrence may actually be much more common than the type of air embolism so classically described, and surgeons should be on their guard against it.

Hewer and Coombs are to be congratulated on publishing their case and bringing this problem once more to our notice. The moral of this case is obvious and every effort should be made to avoid the possibility of air embolism at operation. The simple expedient already described should be an adequate preventive when working on the neck or axilla; it only remains to warn those gynaecologists and others who make use of the high Trendelenburg position that air embolism may equally well occur from the iliac and pelvic veins. This consideration may, perhaps, further encourage the abandonment of the high Trendelenburg position, a posture which (owing to the weight being carried by the shoulders and the backs of the flexed legs) considerably impedes respiration, and may cause damage to the deep veins of the calf with increased liability to post-operative thrombosis.—I am, etc.,

Radlett, Herts.

REGINALD S. MURLEY.

Sterilization of Syringes by Hot Air

SIR.—We regret that the brevity of our comments (Nov. 22, 1947, p. 854) on your note (Oct. 25, p. 680) has conveyed to your correspondents, Dr. Charlotte Riesenfeld and Mr. J. C. H. Hanson (Jan. 10, p. 77), the impression that we doubt the efficacy of sterilization of syringes (and other instruments) by hot air under ideal conditions. Certain instruments—e.g., Anisler's needle for abstraction of fluid from the anterior chamber of the eye for cytological examination—can be sterilized in no other manner. Our aim in quoting the failures recorded by Hanne was to emphasize the difficulty of obtaining these ideal conditions in practice, and to indicate both the possibilities (and disadvantages) of alternative methods.

As Miss Riesenfeld and Mr. Hanson hold that "many hot-air ovens fall short of the ideal" and itemize the careful controls they feel are advisable, it must, we think, be admitted that without the provision in many cases of new apparatus and trained staff the method cannot readily be applied in the near future. As both trained staff and complex sterilizing apparatus are, as well as instruments, in short supply, it seems possible that the quicker, effective, and simpler detergent methods mentioned may yet be regarded as having something to commend them in those applications where there is no known disadvantage or specific contraindication.—We are, etc.,

JOHN FOSTER.

C. H. LE MAY.

Leeds

Curare

SIR.—I have employed this method of giving curare, in close co-operation with Dr. Margaret Poston, Dr. H. J. Simmons, and Dr. A. H. Saleh, who regularly give anaesthetics for me. The method applies only to upper abdominal cases.

After the abdomen is opened I inject the drug slowly through a fine needle into the presenting liver edge. This may sound an unnatural injustice to a blameless organ, but it is difficult to imagine that any more damage is caused than by a retractor. I used to seal the puncture with diathermy, but this is unnecessary. I have never had failure with the drug and rarely use the entire ampoule of 15 mg. I give the dose which the anaesthetist requires, judged by him on the behaviour and physique of the patient, usually 1 ml., or 10 mg., for a normal adult. There has never been any suspicion of disturbance at the site of the injection. The muscular effect develops rather suddenly after two or three minutes and lasts as a rule for the duration of the operation, usually a gall-bladder or gastric procedure.

Among the only possible disadvantage of local liver damage, this method has certain advantages over the usual intravenous route. First, the timing is dead accurate and therefore a much smaller dose is required. Secondly, the method is extremely simple and there are no "administrative" difficulties. I cannot see that it is ever advisable to leave a needle lying in a vein for an indeterminate period, and I find an intravenous infusion a nuisance in the theatre and avoid it whenever possible. Worst of all, the sudden response for an arm with disturbance of the circulation and posture of the surgeon.

Another feature is also a condition for its success: there must be a close co-operation between the surgeon and the anaesthetist. The method is particularly important with curare, which is a powerful muscle relaxant, and its effects are late and cumulative. I have found that a small dose of abdominal anaesthesia, given by the intravenous route, leaves the patient in a state of relaxation and the repeated summary

tion of more than a full dose of curare. The method which I have described requires a reasonable level of anaesthesia before the abdomen is opened, and curare serves only as an adjuvant to provide an upper abdominal field which almost approaches the perfection of a local anaesthesia. I do not use a second dose to make closure easier, and the patient never returns in anything like a curarized state. Anaesthetists may criticize this method, but my anaesthetists are very satisfied with it, although I notice that they watch very carefully how much I inject. It seems to me that the method offers no change in the best use of curare, but it does offer a little extra convenience all round.—I am, etc.,

Manchester.

G. O. JURY.

Hay Fever to Eczema via Benadryl?

SIR.—At the end of the hay-fever season I saw two similar cases that suggest a possible changed allergic state. Both were women in their late forties who had suffered from seasonal hay fever every summer since girlhood. This season, however, their respective medical practitioners had prescribed "benadryl" 150 mg. daily, with complete suppression of symptoms. Both had taken the tablets continuously until the end of August, when, within a week of each other, they presented an eczematous eruption of face, neck, and forearms. Under conservative treatment with mild tar applications the eruption rapidly subsided, and both patients are symptom-free.

I am unable to find any reference to benadryl causing an eczematous eruption, although usage has been widespread. As neither patient had in the past suffered from any skin symptoms the possibility occurred to me that the suppressive action of benadryl may have transferred the reaction from the nasal mucosa to the skin.

Both patients have promised to report to me next year before the hay-fever season starts and before taking benadryl for observation.—I am, etc.,

Warwick.

K. M. TOMLINSON.

Convulsive Properties of Thiopentone

SIR.—Dr. R. L. Wynne in his interesting article (Jan. 10, p. 45) has again brought to our attention the arm and shoulder movements which may occasionally accompany induction of thiopentone anaesthesia. He points out that minor movements have been widely observed but seem to have roused little comment.

In a small series of consecutive thiopentone administrations in which such arm movements were specifically looked for, I failed to encounter any gross manifestation similar to the case he describes, although in the past I had seen such reactions with "evipan." I did, however, record 40 instances of brisk simple pronation and internal rotation, occasionally bilateral, and sometimes accompanied by momentarily rhythmic "shoulder shrugging." The minor unilateral reactions suggested a form of "withdrawal response" and could hardly be described as convulsive, but they merged by degrees into, and invariably formed a component of, the more complicated

Age in Years	No. of Cases	Vigorous and/or Multiple Movements	Pronation Only	Total No. Showing Movement
5-9 ..	22	6 (27.3%)	5 (22.7%)	11 (50%)
10-14 ..	63	8 (12.7%)	14 (22.2%)	22 (34.9%)
15-19 ..	40	1 (2.5%)	1 (2.5%)	2 (5%)
20-24 ..	42	0	0	0
25-29 ..	74	0	0	0
30-34 ..	79	0	1 (1.3%)	1 (1.3%)
35-39 ..	108	0	0	0
40-44 ..	62	0	2 (3.2%)	2 (3.2%)
45-49 ..	68	0	0	0
50-54 ..	54	0	2 (3.7%)	2 (3.7%)
55-59 ..	41	0	0	0
Over 60 ..	86	0	0	0
Totals ..	739	15	25	40

patterns of a convulsive type. The age-frequency distribution of these phenomena is noteworthy and can be seen from the table. Whereas some form of motor response occurred in 38.8% of 92 children between the ages of 5 and 15, similar manifestations were observed only in about 1% of 654 patients scattered throughout other age groups. The movements appeared to come on spontaneously on 16 occasions, but their onset coincided with the withdrawal of the needle or application of spirit in 17 cases. In the remaining seven, pulling forward the chin seemed to act as a trigger mechanism.

The differences between the percentages in the first two age groups is not significant, but that between the total percentages

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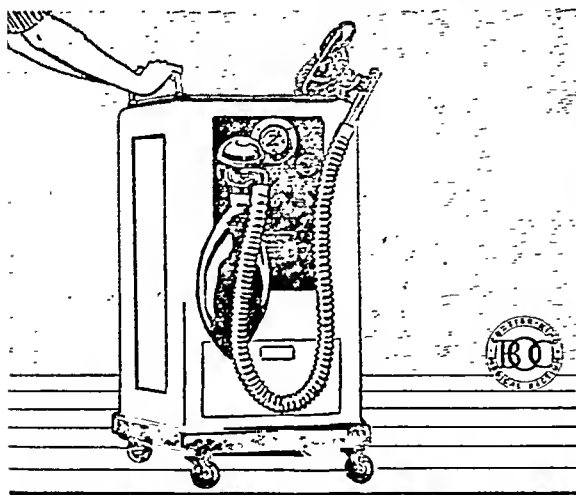
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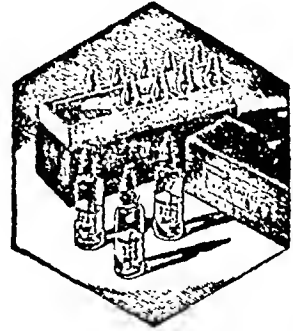
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of the second and third groups is 4.3 times its standard error. This result may be due solely to the influence of age, but the effect of premedication cannot be overlooked. The use of opiates, or to a greater extent the absence of premedication, may well be important factors. The young children in my series were given "secondal" and atropine, the older children and adults "opoidine" and scopolamine, the change being made about the age of 12. My figures are too few to give a definite answer to this side of the question, neither would it be justifiable under the circumstances further to subdivide the younger age groups. But it would indeed be interesting to collect a series of cases, with an accent on youth, sufficiently large to stand the strain of rigid analysis with respect to the principal variables of age, sex, general condition, premedication, dose of thiopentone, rate of injection, time of onset and type of movement, nature of stimulus, etc. I hope that such an undertaking may commend itself to some suitably diligent and neurologically minded anaesthetist whose work brings him into contact with large numbers of juvenile patients.—I am, etc.,

H. J. V. MORTON.

Hillingdon, Middlesex.

Iridocyclitis Treated with Benadryl

SIR,—The use of "benadryl" in certain allergic manifestations is well established. The response to this drug of a case of acute iridocyclitis may be of interest. A male patient, aged 30, suffered from recurrent attacks, lasting from 10–12 weeks, of iridocyclitis over a period of ten years. Treatment consisted of the usual atropine and local application of heat. Detailed investigation during this period revealed no pathological condition.

A more recent attack treated with benadryl i.d.s. a week after onset cleared rapidly during the course of the following three weeks. A subsequent attack treated promptly at the onset cleared completely within three days.—I am, etc.,

BARBARA SHAW.

Moseley, Birmingham.

Drug Addiction

SIR,—I do not understand Dr. F. R. Ellis's assertion (Jan. 24, p. 175) that morphine addiction is incurable "notwithstanding all evidence to the contrary." Of what possible use is any evidence if it is to be discarded in so arbitrary a manner? I disagree with Dr. Ellis because out of 90 addicts treated with auto-sero-therapy, about 50% have remained cured after a varying lapse of years, from ten years downwards. The prognosis depends mainly on two factors: (1) a strong incentive to be cured; (2) the duration of the addiction. A patient who has been addicted for many years is far more likely to relapse than one who has taken large doses for a few months.—I am, etc.,

Bournemouth.

MARGARET VIVIAN.

Biography of the late Sir Joseph Barcroft

SIR,—Lady Barcroft and Prof. Henry Barcroft have honoured me by inviting me to write the biography of the late Sir Joseph Barcroft, C.B.E., F.R.S. I have accepted the invitation in the certain belief that I can count on the assistance of Sir Joseph's numerous colleagues and friends, and I write this letter to enlist their assistance, which will receive full acknowledgment in any consequent publication.

The form which such assistance will take will vary from individual to individual. One may make suggestions as to treatment of the subject, another may provide an anecdote, another may give an instance of Sir Joseph's generous help in research, and so forth—it is not for me, at this stage, to ask for specific information about this or that aspect of Sir Joseph's life and work. I must, however, give a closing date for the receipt of such material, and the date I have in mind is the last day of April, 1948.

I should be grateful if the material could be sent to me at the Department of Physiology, the Medical College of St. Bartholomew's Hospital, Charterhouse Square, London, E.C.1, with clear indications as to whether it is to be returned to the sender or can be retained.

Should I be prevented from writing the biography, I assume that I may hand over any material so received to an alternative author chosen by Lady Barcroft and her son.—I am, etc.,

London, E.C.1.

K. J. FRANKLIN.

POINTS FROM LETTERS

National Health Service

Dr. A. A. REID (Newcastle-upon-Tyne) writes: I would suggest four invariable principles which we must be prepared to fight for to the last: (1) The preservation of the doctor-patient relationship; (2) the right of appeal to the courts; (3) the correction of the legal ambiguities relating to existing partnership agreements; (4) a binding promise that the "closed shop" policy should never be applied to medicine. . . . Apart from matters of principle, material ends are not to be despised, but they should be kept distinct. The necessity of the continued sale and purchase of practices sticks in the throats of many members of the B.M.A. Insistence on this forms a useful lever in the hands of such as the Minister. The Spens Report, which has been accepted by Mr. Bevan, must be fully and honestly implemented. To pretend that an increase in remuneration of 10 or 20% is a true assessment of the present degree of inflation is rank deceit and dishonesty. Let us insist that the Minister sticks to his promise. Wages, according to Government statistics, have increased by 73% since 1939. Let us insist that the Spens figures be increased by 50% at the least. . .

The Extent of Neurosis

Dr. ALICE E. BUCK (London, W.1) writes: May I say how heartening it was to read Dr. Erskine's letter (Jan. 24, p. 175). The time has now come when this question should be genuinely attended to, and not given merely lip service. The facts are that training facilities in such work are, as far as the universities are concerned, inadequate and obsolete. The D.P.M. schedule is hopelessly inept. The most important parts of the training of a mental health worker—i.e., his personal development and analysis—are ignored. He could pass D.P.M. and be a menace in regard to the treatment of both neurotics and psychotics. The banner of greater knowledge is being carried by comparatively few people. This state of things should be recognized and remedied.

Severe Reaction after Penicillin

Dr. D. HEFFERNAN (Worcester Park, Surrey) writes: I read, with considerable interest, Dr. J. F. L. Walley's report (Jan. 24, p. 150) of a severe reaction following penicillin injections, as I saw an almost identical reaction following penicillin injections in one of my patients.

A young man aged 19 consulted me because of repeated boils and abscesses. I gave him six intramuscular injections of 100,000 units of penicillin (sodium salt) at intervals of four days. These injections ended on Dec. 19, 1947. On Jan. 5, 1948, I called to see him because of a rash on his body. He then had a typical giant urticaria, with a temperature of 100° F. (37.8° C.). I put him on ephedrine gr. 1/2 (32 mg.) thrice daily and saw him again on Jan. 7. His condition was much the same, although the swellings had subsided somewhat. Two days later his condition was much worse—the rash had now completely disappeared, but he looked extremely ill, with a temperature of 100° F. He complained of anorexia and nausea, and also severe pains and stiffness in all his joints, particularly his wrists, fingers, and elbows. I then put him on tab. aspirin gr. 10 (0.65 g.) every four hours and saw him next day. His condition was no better, and as I suspected rheumatic fever I sent him into hospital. He has now completely recovered.

This case is almost identically the same as the one described by Dr. Walley and may be a rare, but distressing, reaction following penicillin injections.

State Controlled

Mr. ERIC VERNON (Douglas, Isle of Man) writes: First let us realize that the N.H.S. Act was never designed with an improvement in the nation's medical services as its primary object. Even in the day of the National Government the plan was only adopted because their prior acceptance of the social security programme had made a medical service an unavoidable necessity—that is, it was adopted for political and not medical reasons. The Act as now passed by the present Socialist Government is also a political necessity to them; it is a pure instrument of National Socialism whose expressed aim is the creation of a full-time salaried service. The State-employed doctor is the State-controlled doctor: concede the one and you concede both. The Minister's recent behaviour shows beyond all doubt that he is far more concerned with the political control of the proposed service than with its medical efficiency, and it must be clear to anyone who looks beneath the surface at all that, far from opposing the will of the nation, we are actually protecting it from an Act designed against its interests. We, the former friends of our patients, are expected to become a body of medical policemen protecting the Treasury purse from the depredations of a malingering public by "controlling certification of sickness"—and we are saying "No." This may be politically wrong of us, but there can be no doubt that it is medically right. . . .

Obituary

EDWARD STAINER, D.M., F.R.C.P.

Dr. Edward Stainer, who had been living in retirement in Buckinghamshire for the last twenty-five years, died on Jan. 23 at the age of 78. The son of Sir John Stainer and a student at Oxford University, he took his medical training at St. Thomas's Hospital, graduating B.M., B.Ch. in 1897. He proceeded D.M. in 1912, and was elected F.R.C.P. in the following year. He was head of the Skin Department at St. Thomas's Hospital from 1902 until 1920, when failing eyesight occasioned his resignation.

We are indebted to Sir Ernest Graham-Little for the following appreciation: Edward Stainer and I were next-door neighbours in Wimpole Street for many years at the beginning of this century. We were both bachelors, both heads of dermatological departments at teaching hospitals, and became intimate friends. One of our common major interests at that date was the building up of the Dermatological Society of Great Britain. The long-established Dermatological Society of London was in possession of the field, but it admitted to its membership practically only those who were heads of dermatological departments at the great hospitals, and Stainer and I and a group of friends wished to provide common ground for meetings between the leaders of the specialty and practitioners who had not taken the plunge of specializing but were nevertheless interested in dermatology. The younger Society therefore naturally attracted the younger men and provided very friendly and stimulating gatherings. Stainer, as head of the dermatological department at St. Thomas's Hospital, was a frequent and highly appreciated exhibitor at its meetings, as is recorded in the earlier volumes of the *British Journal of Dermatology* up to 1907, when, to the regret of many members of both Societies, they became merged in the Section of Dermatology of the Royal Society of Medicine. He was an acceptable teacher with a pretty wit. One of his happy phrases won wide circulation in our dermatological world. Struck with the increased incidence of alopecia areata after the air raids on London in the first world war, he coined the description "alopecia air raider," which fixed that causation indelibly in the minds of his pupils. He filled the office of Dean of the Medical School at St. Thomas's for several years, and was active in the social life of the hospital and of medical London. He had many interests outside his profession, especially in the musical world, where his father had been so great a figure. He enjoyed all his life a settled income which made him independent of his profession and in a measure deprived him of incentive to contribute to its literature. His friends will cherish his memory as a cheerful and merry companion and a loyal co-worker in medico-political campaigns.

B. A. LLOYD, Ch.M., F.R.C.S.

Prof. B. A. Lloyd, emeritus professor of forensic medicine in the University of Birmingham and consulting surgeon to the Birmingham United Hospital, died suddenly on Jan. 22 at the age of 63 at his home in Edgbaston.

Bertram Arthur Lloyd was educated at King Edward's High School, Birmingham, at the University of Birmingham, and at the London Hospital. He qualified M.R.C.S., L.R.C.P. in 1908, graduating M.B., B.S. in the following year, and he took the F.R.C.S. in 1911. He held resident appointments at the Queen's Hospital, Birmingham, and at the Great Ormond Street Hospital before becoming R.M.O. at the Charing Cross Hospital. He served as a captain in the R.A.M.C., and from 1915 to 1919 was attached to the 1st Southern General Hospital. He returned to Birmingham after the war and was soon appointed to the Queen's Hospital, the Children's Hospital, and the Edgbaston Hospital at Redditch. He was professor of forensic medicine at Birmingham and an examiner in the subject at the University of Bristol. He also acted as a medical adviser to the War Damage Compensation Act. He was president of the Birmingham Medical Club in Birmingham in 1935, and was president of the University of Birmingham in 1936.

Prof. H. F. Humphreys writes: May I be allowed, as an old friend of more than fifty years' standing, to add a personal tribute to your account of Prof. Bertram Lloyd's career? He was a man of simple modesty to whom prominence on a platform, contention in a committee, and even writing for publication were alike distasteful, so that he was known to the world only as a capable and conscientious surgeon, and latterly as an erudite professor. But he was a man of quite exceptional intellectual power and range, never happier than in his study. In youth he displayed a flair for mathematics and was always at home in the developments of science. This doubtless contributed to his mastery of the piano, which reached a high professional standard until the claims of surgery bereft him of the leisure for those daily hours of digital practice without which no pianist can excel. He was a voracious reader on many subjects and had a particular interest in Oriental scripts. In fact, languages fascinated him, and there were few European tongues of which he did not command a working knowledge, and few Continental countries he had not visited. He was the perfect travelling companion, organizing details so smoothly that everything seemed to conspire to make the holiday a success, and he was always prepared, in spite of a never very robust physique, to face any exertion required to put him on terms with the mountains he loved so well. Bertram Lloyd was one of the most lovable of men, held in affectionate regard by a wide circle of friends. They all found great cause for satisfaction in the happiness of his marriage, and will wish to offer their sympathy to his widow, Hilda Lloyd, the present professor of midwifery and gynaecology in the University of Birmingham.

Dr. NOEL CONSTABLE FORSYTH, of Malton, died on Jan. 11 at the age of 69. Dr. Forsyth, who was born on the Isle of Mull, was educated at Loretto and Edinburgh University, where he graduated in 1905, proceeding M.D. in 1910. He was house-physician to the Royal Hospital for Sick Children in Edinburgh and a house-surgeon at the Edinburgh Royal Infirmary before starting in general practice at Malton, Yorks. He was particularly interested in paediatrics, and was medical officer of the Castle Howard Farm Reformatory and an honorary physician at the Malton Cottage Hospital. He was also medical officer for the North-Eastern Railway and for the Post Office. He had been a member of the British Medical Association for over thirty years and was chairman of the York Division in 1928-9.

A friend writes: The death of Noel Forsyth will bring sorrow to friends all over the world. His was an outstanding personality which drew to him the affection of those who penetrated his sensitive shyness. To his professional work he brought the best of his great skill, and his death will be mourned by all classes of the community in which he worked for forty years. He remained an enthusiastic student all his life, and he worked continually towards a further and fuller knowledge of all the latest developments of the science and art of medicine. To see him at work was to realize that all the gentleness, sympathy and tenderness of human nature are not feminine attributes only, but that they are given to some men as well. Yet, on occasion, he could be blunt in speech in real Abernethian style. His early days were spent in the Western Highlands, and to his Celtic temperament Noel owed much of those things which outside his profession, gave him joy. He was a lover of all things artistic. Music especially was a solace and inspiration to him, not only as a listener, for he was a 'cellist of first-class calibre. After music his greatest hobby was wood-cutting. He had the freedom of the woods on one of the largest estates in the North Riding, and on Thursday afternoons he could always be found there cutting up the big boles of fallen oaks. A loyal friend, a first-class doctor, especially in the practice of obstetrics, and a very perfect Highland gentleman has passed over.

Dr. WINSLOW SEYMOUR STERLING BERRY, who died recently in Eire, was the elder son of the late Bishop Sterling Berry. He graduated at Trinity College, Dublin, in 1904, practised for a decade in Armagh, and then served from 1914 to 1917 in the R.A.M.C. with the rank of major. Towards the end of his service he was a D.A.D.M.S. with the British Army on the Rhine. He was mentioned twice in dispatches and was awarded the O.B.E. and the Belgian Croix de Guerre. After his demobilization he became a medical inspector under the Irish Local Government Board and remained in the department when the Irish Free State was constituted in 1922. Subsequently he was deputy chief medical adviser until his retirement in April, 1946.

Medical Notes in Parliament

THE PLEBISCITE

In the House of Commons on Jan. 29 Mr. TIFFANY asked the Minister of Health whether he was aware of the nature of the plebiscite in which doctors were being asked to participate in regard to the National Health Service Act, and if he had any statement to make.

The Minister of Health, Mr. BEVAN, replied: I understand that each doctor has to sign his name on the voting paper, with his address and professional particulars, and the Association conducting the ballot is itself engaged in a campaign to induce the doctor to vote one way. This House may well feel that this procedure is a long way removed from the secret ballot and the workings of democracy as we know it in this country and that it is bound to cast doubt on the validity of the result.

Mr. SOMERVILLE HASTINGS: Will my right honourable friend take steps to see that all the doctors concerned have knowledge of what he has just told the House?

Mr. BEVAN: The doctors, of course, will be informed when they receive the plebiscite form itself, because there they will see that it is not a secret vote but an open ballot.

Mr. BAIRD: As the doctors seem to be taking the law into their own hands in this matter, does my right honourable friend not think that this House should have an opportunity of expressing its views on this attempted blackmail?

Mr. BEVAN: This is a question which ought properly to be addressed either to the Prime Minister or to the Leader of the House because it involves procedure and giving an opportunity for debate. So far as I am concerned, the Government's case is so strong that I should welcome an opportunity of deploying it.

Mr. CHURCHILL: There is no compulsion, of course, on any medical man to take any notice of this paper unless he likes?

Mr. BEVAN: None at all, as I understand it, but of course open votes of this description always give rise to the possibility of intimidation.

Mr. CHURCHILL: Intimidation?

Mr. BEVAN: It was because open votes of this sort were removed from our constitutional practice that the secret ballot was established. Fear of intimidation is the reason for the secret ballot.

Col. ELLIOT: Is that the reason why—

HON. MEMBERS: Order.

Dr. STROSS: In view of the great importance of this matter to everyone, may I ask the Leader of the House in his presence whether he will not now give us an early date so that we shall have an opportunity of debating the matter?

Mr. SPEAKER: I must point out here that there must be responsibility of a Minister, and a Minister is not responsible for the form in which this ballot has gone out. Therefore a debate is rather awkward at the present moment.

Col. STODDART-SCOTT: Why should signing a ballot form invalidate a vote? In the university elections you sign your ballot form. Any doctor, whether he is a member of the B.M.A. or not, and I myself am not, has no need to vote unless he wishes, and if he does not wish to sign his ballot form he need not do so. Therefore I do not see that it makes any difference whether you sign it or not.

Mr. SIDNEY SILVERMAN: Is there not all the difference in the world between signing a ballot paper in a university election, where the university takes no part in the election and is indifferent to the result, and signing a ballot paper to be sent to an Association which has already taken sides, indicated a preference, and hopes for a result?

Mr. SPEAKER: That would seem to be a little hypothetical. The point has been made, and I should think we had better leave it at that now.

Mr. GALLACHER: May I put a point to the Minister?

Mr. SPEAKER: My decision was that we should carry on with the next business.

Mr. TIFFANY: On a point of Order, Mr. Speaker, may I point out that I put down this Question on the Order Paper and have had no opportunity of putting a supplementary?

Mr. SPEAKER: If the honourable gentleman wishes to put a supplementary, seeing he put the question down, I am prepared to allow it.

Mr. TIFFANY: May I ask the Minister whether this form of taking a plebiscite is not reminiscent of pre-war Germany, and should we not place the same value on the results of the election as we did upon those?

Later the Lord President of the Council was asked by Mr. T. RUPP if in view of these questions and answers he would arrange a day for discussion of the doctors' ballot.

Mr. HERBERT MORRISON said that if a debate took place it would have to be on a somewhat wider issue than the plebiscite. It might cover outstanding issues in dispute between the Minister of Health and the British Medical Association. The Government would not be unsympathetic towards a debate as early as possible.

Health and Rations

Mr. SHINWELL on Jan. 27 stated that the change of environment of Army recruits, and the regular meals, graduated exercise, and comparative open-air life, stimulated the young recruit so that he made full use of the energy provided by his rations and any additional food available from N.A.A.F.I. and other sources. The initial result of training was a reduction in weight owing to loss of fat. This was followed by a gain in weight due to the improved mechanical efficiency of the body with a consequent saving in energy expenditure, and the diversion of the energy value of the diet to the building up of the heavier muscle tissues instead of fat. The end-result in six weeks on the average was a gain in weight of four pounds.

On the following day Mr. A. V. ALEXANDER announced changes in the rations of the Army, Navy, and R.A.F., to bring Service rations broadly into line with the food available to the civilian labourer. The amount of meat and offal would be reduced by 12½ oz. a week, bacon and ham by 4½ oz. a week, and cheese by 1½ oz. a week. By way of compensation, and to make good the existing deficiencies in those items, the amount of fats would be increased by 2½ oz. a week, and sugar by 3½ oz. a week. The net calorie reduction that would result from these adjustments would fall to be met partly by an increase of bread and partly by additional purchases of fish, vegetables, and such other unrationed items as were available. These adjustments applied only to the Forces stationed at home. The calorie value of the ration would remain at 2,900 for men and 2,600 for women.

Dr. EDITH SUMMERSKILL said on the same day that no reductions in the scale of rations for the Forces at home or abroad had been made during 1947.

Alien Doctors

Mr. HASTINGS on Jan. 29 asked how soon any of the doctors covered by Section 3 of the Medical Practitioners and Pharmacists Act could hope to secure permission to practise in this country.

Mr. BEVAN replied that applications for registration under the Section were a matter for the General Medical Council. Certain preliminary work had been necessary before formal applications could be invited. This was nearly complete.

Permission to Publish

On Jan. 29 Col. STODDART-SCOTT inquired if the doctors and dentists who entered the National Health Service would have complete freedom to publish articles and books without having to seek permission. He asked Mr. Bevan for an assurance that there would be no attempt to suppress freedom of publication.

Mr. BEVAN replied that so far as he was concerned there would be no restriction whatsoever in the National Health Service on the publication of scientific or clinical writings.

Practice after the Appointed Day

Sir HENRY MORRIS-JONES on Jan. 27 asked what would be the position on July 5 of panel practitioners who found themselves unable to take up service under the National Health Act but who intended to continue to practise.

Mr. BEVAN said that these practitioners would be able, if they wished, to take part in the new National Health Service. The old National Health Insurance Service would be superseded by the new arrangements at that date, but a doctor could confine himself entirely to private practice.

Universities and Colleges

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW

Dr. James W. Affleck, F.R.F.P.S., will deliver the James Watson Prize Lecture in the Hall of the Faculty (242, St. Vincent Street, Glasgow) on Wednesday, Feb. 11, at 5 p.m. The title of the lecture is "Administrative and Clinical Problems of Chronic Sickness and the Diseases of Later Life." Medical practitioners are invited to attend.

Medico-Legal

PATENT IN NEW DRUGS

Mr. Justice Jenkins, in the Chancery Division, delivered a reserved judgment in a petition by Boots Pure Drug Company, Ltd., for the revocation of letters patent granted to May and Baker, Ltd., and Ciba, Ltd., a Swiss company, for an invention entitled "manufacture of new benzine sulphonamido derivatives." His Lordship also had before him a motion by May and Baker, Ltd., and Ciba, Ltd., for leave to amend the complete specification upon which the letters patent were granted by substituting for the derivatives mentioned "para-amino-benzine sulphonamido thiazole" and "4-methyl-thiazole." The subject-matter of the application was a convention patent dated January, 1939, in respect of four applications made in Switzerland.

Mr. Justice Jenkins, in his judgment, after a hearing which lasted seventeen days, said the importance of the class of chemical compounds falling within the general description of benzine sulphonamido derivatives lay in the chemotherapeutic value which some of them possessed. The discovery of the therapeutic value of sulphanilamide had set many chemists in various countries to work on the problem of producing some further derivative of the parent substance which would possess a wider range of activity and a lower degree of toxicity. The ideal, but probably unattainable, goal was a drug which would be completely effective against all infections and completely innocuous to the patient.

After reviewing the grounds of objection to the specification his Lordship allowed the petition for revocation of the patent. On the motion to amend the specification he held that the amendments would make the invention, as amended, different from the invention claimed by the unamended specification, and accordingly they were not such as the Court could allow. The motion was therefore refused.

His Lordship said if there was an appeal the order for revocation would be stayed pending judgment in the Court of Appeal.

We understand that the effect of this judgment is to throw open not only to Boots but to other firms the production of this group of drugs.

Medical News

RETURN OF PLEBISCITE FORMS

The Plebiscite Forms are flowing in thick and fast. If you have not already returned yours, please send it in as soon as possible.

Royal Faculty of Physicians and Surgeons of Glasgow

At a meeting of the Royal Faculty of Physicians and Surgeons of Glasgow held on Jan. 27, with the President, Prof. Geoffrey B. Fleming, in the chair, the following resolutions were adopted:

(1) The Royal Faculty of Physicians and Surgeons views with apprehension the failure of the Minister of Health and the Negotiations Committee of the medical profession to reach agreement and urges Parliament to amend the National Health Service Act and the National Health Service (Scotland) Act. The Royal Faculty considers that these Acts are implemented in their present form they will not operate in the best interests of the public and will seriously impair the ultimate quality of medical treatment in this country.

(2) That the above resolution be communicated to the Prime Minister, the Leader of the Opposition, and the Press.

Guy's Hospital and the Act

A statement of the views of the medical and dental staffs of Guy's Hospital on the N.H.S. Act was made by those present that, while the staffs of the hospital are not prepared to support the National Health Service Act until it is amended to the confidence of the majority of the staffs, they are not prepared to resign.

St. Bartholomew's Hospital Resolution

The following resolution was approved unanimously at a meeting of the Medical Council of St. Bartholomew's Hospital:

"The Medical Council of St. Bartholomew's Hospital is unanimously opposed to the National Health Service Act as at present constituted and will not enter into any contract with the Regional or Teaching Hospitals Boards under this or an amended Act without further discussion in this Council.

This Resolution is made on the assumption that the whole-time officers will continue their work but that they will not enter into the field of general practice nor into new contracts as part-time consultants or specialists with the Regional or Hospital Boards, even a continuing their work involves accepting new contracts with new employing bodies to which they may be automatically transferred.

The whole-time officers will not take over the wards or duties of their part-time colleagues; the members of the staff will continue to care for their patients at St. Bartholomew's Hospital."

Westminster Hospital Disapproves

The medical staff of the Westminster Hospital has met and passed a resolution "strongly disapproving of the Act as it stands" and refusing to serve under it until it has been modified and agreement reached between the Government and the medical profession as a whole.

Voting Last Week

Very large majorities were recorded in all parts of the country against service under the N.H.S. Act as it stands. The honorary medical staff of the Kent and Sussex Hospital recommended consultants and specialists not to serve until agreement had been reached with the profession as a whole. The medical staff of the Warwick Hospital engaged in private practice met on Jan. 23 and decided not to accept service under the Act as it stands. Over the week-end a meeting of Norfolk doctors resolved by 78 votes to not to accept service, and 141 members of the Guildford Division of the B.M.A. decided unanimously not to serve. At Liverpool 34 doctors unanimously passed a resolution expressing confidence in the B.M.A.'s leadership and policy. Doctors in the Bexley, Ebbw Crayford, and Dartford districts of Kent voted unanimously against the Service. Croydon Division of the B.M.A. voted 168 against the scheme, 7 for it; at Hastings and Bexhill the voting was 94 to

Art and Rehabilitation

Lord Horder will open an exhibition of pictures by patients from the mental treatment centre of Hill End Hospital, St. Albans, on Wednesday, Feb. 11, at 3 p.m., at Foyle's Galleries, Charing Cross Road, London, W.C., under the title "Patients' Paintings—A Pathway of Progress." A small exhibition on similar lines was held at St. Albans last summer and attracted considerable attention. It was opened by Mr. Adrian Hill, the artist and author of *Adversus Illness*, which deals with the advantage of painting in the rehabilitation of tuberculous patients at a sanatorium.

Saint Leonard's Hospital

Saint Leonard's Hospital, Shoreditch, is to be allowed to continue as a training centre for nurses as a result of the appeal against the General Nursing Council, which has been heard by Mr. V. Zachary Cope and Miss M. F. Dykes.

Association of Clinical Pathologists

The 21st anniversary of this Association was celebrated by a dinner at the Piccadilly Hotel on Friday, Jan. 30, with the President, Dr. Cutburt E. Dukes, in the chair. The toast, "The Association of Clinical Pathologists," was proposed by Sir Wilson Jameson, responded to by Dr. Sydney C. Dyke, to whom a commemorative medal had been presented on the previous day. Dr. Dyke pointed out that the Association had come into being as a result of the activities of provincial pathologists. The health of the guests was proposed by Dr. J. G. Greenfield and replied to by Sir Alexander Fleming. Dr. Norah Schuster, speaking for the women members of the Association, quoted from an epitaph on a German tombstone which she translated thus: "You may not be good doctors, but you were kind to the women."

The Association has established a "Dyke Medal" to be awarded every three years to a distinguished pathologist who will give the "Dyke Lecture." The first award of the medal is to Dr. Dyke himself.

COMING EVENTS

Socialist Medical Association

The North-west Middlesex Branch of the Socialist Medical Association has arranged a meeting for members and friends on Feb. 12 at Wembley Town Hall. Dr. Peter Dupre will speak "The B.M.A. Negotiations."

SOCIETIES AND LECTURES

Monday

EDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—Feb. 9, 8.30 p.m. "Folic Acid," Prof. J. F. Wilkinson.
"The Differential Diagnosis of Tuberculous Cervical Adenitis," Mr. Hamilton Bailey. "Potassium Thiocyanate in Hypertension," Dr. Geoffrey Evans.

ROYAL SOCIETY OF ARTS, John Adam Street, Adelphi, London, W.C.—Feb. 9, 4.30 p.m. "Fats in the Life of the Nation," Cantor Lecture by Sir Jack Drummond, D.Sc., F.R.S.

Tuesday

WELSEA CLINICAL SOCIETY.—At South Kensington Hotel, 47, Queen's Gate Terrace, London, S.W., Feb. 10, 7 for 7.30 p.m. "Some Difficulties in the Science of Crime Detection." Discussion to be opened by Dr. C. Keith Simpson.

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—Feb. 10, 5 p.m. "Diseases of the Nails," by Dr. H. Corsi.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Feb. 10, 5 p.m. "The Public Health Laboratory Service," Milroy Lecture by Prof. G. S. Wilson.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHARMACOLOGY, Gower Street, W.C.—Feb. 10, 5.15 p.m. "The Pharmacological Chemistry of Enzymes (i)," Mr. F. Bergel.

Wednesday

SOCIETY OF CHEMICAL INDUSTRY: FOOD GROUP.—At Chemical Society's Rooms, Burlington House, Piccadilly, London, W., Feb. 11, 6.30 p.m. "Some Effects of Fumigants upon Foods," Drs. A. B. P. Page and O. F. Lubatti.

Thursday

INTERIAN SOCIETY.—At Grosvenor House, Park Lane, London, W., Feb. 12, Annual dinner.

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C. Feb. 12, 5 p.m. "Psychosomatic Dermatoses," by Dr. W. J. O'Donovan.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Feb. 12, 5 p.m. "The Public Health Laboratory Service," Milroy Lecture by Prof. G. S. Wilson.

ROYAL PHOTOGRAPHIC SOCIETY OF GREAT BRITAIN (SCIENTIFIC AND TECHNICAL GROUP), 16, Prince's Gate London, S.W.—Feb. 12, 7 p.m. "The Importance of Illumination in Photomicrography," R. McV. Weston, M.A., F.R.P.S.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, S.W.—Feb. 12, 4.30 p.m. "Psychiatric lecture-demonstration," Dr. D. Curran.

Friday

BIOCHEMICAL SOCIETY.—At Westminster Hospital Medical School, 17, Horseferry Road, London, S.W., Feb. 13, 2 p.m. "Communications and demonstrations."

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—At Leeds General Infirmary, Feb. 13, 8.30 p.m. "The Home, the Family Doctor and the Hospital in Relation to Child Care," Prof. W. S. Craig.

LONDON CHEST HOSPITAL, Victoria Park, E.—Feb. 13, 5 p.m. "Acute Respiratory Infections," Dr. R. Sleight Johnson.

ROYAL MEDICAL SOCIETY, 7, Melbourne Place, Edinburgh.—Feb. 13, 8 p.m. "Princess Charlotte and the Uterine Haemorrhage of Pregnancy," Address by Prof. R. J. Kellar.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHYSIOLOGY, Gower Street, W.C.—Feb. 13, 5 p.m. "The Evolution of the Surgeon," Dr. E. A. Underwood.

Saturday

KENT PAEDIATRIC SOCIETY.—At Farnborough County Hospital, Feb. 14. Discussion: "Tuberculosis in Childhood." Section I, 11 a.m. "Symptomatology and Diagnosis," Dr. D. G. Madigan; "Orthopaedic," Mr. J. H. Mayer. Section II (open to non-medical persons interested in the subject), 2 p.m. "Epidemiology and Prevention," Dr. R. Cruickshank.

BIRTHS, MARRIAGES, AND DEATHS

BIRTH

Shaw.—On Jan. 25, 1948, at the Christopher Nursing Home, Wigan, to Doris May (née Annet), wife of George Hubert Shaw, M.B., Ch.B., a daughter.

DEATHS

Bray.—On Jan. 26, 1948, Frederick Richard Bray, M.R.C.S., L.R.C.P., of Haze Lane, Sandyside, Sheffield, aged 79.

Hill.—On Jan. 25, 1948, at Oxford, William Hugh Hill, M.D. Ed.

Howley.—On Jan. 28, 1948, at Sunningdale, Henry Edward Howley, L.R.C.P.S.I. and L.N., Lieutenant-Colonel, R.A.M.C., retired.

James.—On Jan. 29, 1948, at Southampton Borough Hospital, Henry Walter James, M.R.C.S., L.R.C.P.

Lunham.—On Jan. 28, 1948, in London, John Lumden Lunham, M.B., B.Ch., F.R.C.S.I., Lieutenant-Colonel, I.M.S., retired, aged 69.

Pritchard.—At Menai Bridge, 1, Llewellyn Pritchard, M.D., D.P.H., late M.O.H. and School Medical Officer, Aberdare.

Steele.—On Jan. 6, 1948, at Geranium Cottage, Reigate, Florence Harriett Steele, aged 90.

White.—On Jan. 27, 1948, Ernest White, L.D.S., M.R.C.S., L.R.C.P., of 17, Chertford Gardens, Hampstead, N.W., and 86, Brook Street, London, W.

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Jan. 17.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included), (b) London (administrative county), (c) Scotland, (d) Eire, (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London) (b) London (administrative county), (c) The 16 principal towns in Scotland, (d) The 13 principal towns in Eire, (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	47	3	13	2	—	58	6	31	2	1
Deaths	—	2	—	—	—	—	2	—	—	—
Diphtheria	203	21	59	19	9	256	18	78	40	10
Deaths	5	1	1	—	—	5	—	1	—	—
Dysentery	96	4	37	2	—	72	4	17	1	—
Deaths	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica, acute	1	—	2	—	—	1	—	1	—	—
Deaths	—	1	—	—	—	—	1	—	—	—
Erysipelas	—	—	55	12	7	—	—	48	5	3
Deaths	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years	49	5	15	6	2	96	13	14	8	—
Deaths	—	—	—	—	—	—	—	—	—	—
Measles	3,304	240	899	137	16	11,087	378	276	61	890
Deaths	—	—	—	—	—	15	—	1	—	3
Ophthalmia neonatorum	39	5	13	1	—	69	6	21	—	2
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever	4	—	1 (B)	—	—	6	—	2 (B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal	787	67	5	10	8	1,223	73	53	13	6
Deaths (from influenza)	13	1	4	2	2	85	13	23	—	—
Pneumonia, primary	468	50	253	38	9	94	413	30	—	14
Deaths	—	—	—	—	—	—	—	—	—	—
Polio-encephalitis, acute	2	—	—	—	—	1	1	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Poliomyelitis, acute	47	3	6	2	—	9	2	—	15	—
Deaths	5	1	—	—	—	—	—	—	—	—
Puerperal fever	—	3	11	—	—	—	2	12	—	1
Deaths	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia	102	5	13	—	2	153	9	31	1	—
Deaths	—	—	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	1,754	109	377	24	49	1,226	106	276	22	29
Deaths	—	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid fever	2	—	1	4	—	4	—	2	4	—
Deaths	—	—	—	—	—	1	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough*	2,343	160	46	49	7	2,192	158	488	107	62
Deaths	6	1	—	—	—	18	—	7	1	2
Deaths (0-1 year)	415	55	65	27	12	622	81	72	39	9
Infant mortality rate (per 1,000 live births)	—	—	—	—	—	—	—	—	—	—
Deaths (excluding stillbirths)	5,248	850	617	198	124	6,579	1,056	785	277	155
Annual death rate (per 1,000 persons living)	—	—	—	—	—	—	—	—	—	—
Live births	8,510	1,397	920	412	285	10,628	1,721	1,260	404	269
Annual rate per 1,000 persons living	—	—	—	—	—	—	—	—	—	—
Stillbirths	252	29	25	—	—	291	32	29	—	—
Rate per 1,000 total births (including stillborn)	—	—	—	—	—	—	—	—	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

¶ Includes puerperal fever for England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Poliomyelitis

Notifications of poliomyelitis for the week ended Jan. 24 numbered 35 (47) and of polio-encephalitis 3 (3). Figures for the previous week are in parentheses. This is the largest fall in notifications for some weeks. Multiple cases of poliomyelitis were reported from London 4 (3), Chester 2 (4), Durham 2 (0), Lanes 5 (4), Lincs (Kesteven) 2 (0), Middlesex 4 (3), and Yorks (West Riding) 2 (0).

Pulmonary Tuberculosis in British Zone

Out of a population of 22,344,800 in the British Zone of Germany, according to the Foreign Office, there were 9,376 deaths from pulmonary tuberculosis during the first nine months of 1947. Comparative figures for 1946 and 1947 for the various Laender are as follows:

	1947	1946	Population
Schleswig-Holstein	1,073	1,011	2,652,500
Hamburg	747	836	1,426,900
Niedersachsen	2,494	2,205	6,455,300
North Rhein-Westphalia	5,062	5,170	11,810,100
	9,376	9,222	22,344,800

The large number of refugees in Schleswig-Holstein and Niedersachsen should be taken into account when considering the figures for these two Laender.

Discussion of Table

In England and Wales an increase was reported in the notifications of scarlet fever 299 and whooping-cough 286 and a decrease was recorded for measles 442, acute pneumonia 188, dysentery 18, diphtheria 13, and cerebrospinal fever 13.

The largest increases in the incidence of scarlet fever were those of Yorkshire West Riding 66, Warwickshire 45, and Lancashire 33. An increase in the notifications of whooping-cough was fairly general throughout the country; the largest rise was Yorkshire West Riding 40. With the exception of a slight rise in London and the eastern counties the incidence of measles fell in most areas; the largest declines were Nottinghamshire 75, Staffordshire 74, and Kent 65. Notifications of acute pneumonia declined in most areas except in London and the south-east and south-western counties where the incidence remained unchanged.

The largest fluctuations in the returns of diphtheria were an increase of 11 in Birmingham C.B. and a decrease of 10 in Lancashire. The notifications of dysentery in Lancashire rose from 20 to 30; the only other large centre of infection was Glamorganshire 15.

The notifications of acute poliomyelitis decreased by 5, and the largest returns were 4 cases in Cheshire, Devonshire, Lancashire, and Sussex. Only four administrative areas had 2 cases of poliomyelitis: Buckinghamshire, Eton, R.D.; Devonshire, Newton Abbot R.D.; Southampton, Portsmouth C.B.; and Staffordshire, Burton-upon-Trent C.B.

In Scotland a decreased incidence was recorded for measles 445, acute primary pneumonia 76, whooping-cough 18, and diphtheria 9, while a rise occurred in the notifications of scarlet fever 70 and dysentery 20. The increase in cases of dysentery was mainly due to an outbreak in Aberdeen county and Aberdeen city. An increase in the notifications of scarlet fever was general throughout the country.

In Eire the only changes in the incidence of infectious diseases were decreases in the notifications of measles 94 and of whooping-cough 12. There was an increase of 5 in the notifications of diarrhoea and enteritis.

In Northern Ireland little change occurred in the trends of infectious diseases.

Births and Deaths during 1947

The number of live births registered in England and Wales during 1947 was 886,633, the highest figure since 1920. This represents a birth rate of 20.5 per 1,000, which is 1.4 above the rate of 19.1 in 1946 and is the highest birth rate since 1921. There were 127,122 deaths registered, which is equivalent to a rate of 12.7 per 1,000 and 1.65 above the rate for 1946.

Week Ending January 24

Notifications of infectious diseases in England and Wales during the week ending Jan. 24, 1947: measles 1,947, whooping-cough 286, scarlet fever 299, acute pneumonia 188, diphtheria 13, dysentery 18, cerebrospinal fever 13, poliomyelitis 35, acute encephalitis 3.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions which should be typed. We publish here a selection of the questions and answers which seem to be of general interest.

Allergy and Immunity in Tuberculosis

Q.—What is the role of allergy in the operation of immunity in tuberculosis? How is it possible to render an allergic immune into a desensitized immune person? Are sanatorium workers who have had manifest pulmonary tuberculosis reliable to contract the disease—as a reinfection, and in a more malignant form—than those who have not? What do you recommend in such circumstances?

A.—The relationship between allergy and immunity in tuberculosis has been the subject of much investigation, and it is not possible to consider all its aspects in a short answer. A full account will be found in A. R. Rich's *The Pathogenesis of Tuberculosis* (Thomas, Springfield, Ill., 1946), to which the questioner is referred.

Reinfection produces an acute exudative reaction which rapidly progresses to caseation. Dissemination of the tubercle bacilli is delayed, they are reduced in numbers and tend to remain localized in the lesion—unlike the primary infection, which there is rapid dissemination of the bacilli to the regional lymph glands. Pirquet described this altered reactivity of the body as "allergy," but, although it is associated with cutaneous hypersensitivity to tuberculin, it is a much slower and less violent process than, for instance, serum hypersensitivity. Recent experiments in animals by Rich and his colleagues have shown that acquired resistance to tuberculosis is independent of allergy. Infected animals were desensitized by repeated doses of tuberculin, and it was found that desensitized animals dealt with a subsequent infection more efficiently and with less local reaction than allergic animals. The reaction of the infected and desensitized animal resembled that of an animal with a high natural resistance. Subsequent infection was accompanied by the minimum amount of inflammation and negligible tissue damage.

When discussing the possible applications of this work in human tuberculosis it must be remembered that tuberculosis in laboratory animals is vastly different from the same disease in man, and it is not possible to compare the two directly. Also, the allergic reaction may have some purpose which is not yet apparent. Nature is said to do nothing in vain, and the reason for the development of tuberculin hypersensitivity has not yet been demonstrated satisfactorily. It is possible to render a tuberculin-positive individual tuberculin-negative by giving suitable repeated doses of tuberculin. How far "desensitization" affects other organs as well as the skin is not known. The administration of tuberculin in sufficient dose is fraught with danger because it may cause activation of quiescent tuberculous lesions; many laboratory animals die in the process of desensitization.

There is no evidence that tuberculosis workers who have had lesions due to either primary infection or reinfection are more susceptible to subsequent infection, nor do they develop the disease in a more malignant form. In fact, the tuberculin-positive worker is better protected than the tuberculin-negative one.

Pyelonephritis and Hypertension

Q.—Could bilateral intrarenal pelvis and some degree of chronic pyelonephritis on one side be responsible for hypertension? If so, what curative treatment, if any, is available?

A.—Whether the anatomical character and development of the renal pelvis have any bearing on the development of hypertension is very uncertain. In all probability there is no relationship between the two except that the more gross forms of structural abnormality in the kidney predispose to a chronic pyelonephritis (urinary infection). There is no doubt at all that untreated chronic pyelonephritis can cause hypertension of any degree of severity, and many of the most successful cases of nephrectomy

for hypertension have been of this type. The great difficulty is to be certain that the pyelonephritis is in fact unilateral and that the other kidney has not developed arteriolar changes which are contributing to the hypertension. If thorough investigation seems to show unilateral chronic pyelonephritis with a normal kidney on the opposite side nephrectomy should be performed.

Treatment of Young Mental Defectives

Q.—(a) What is the expectation of life in mongol infants, and has treatment by irradiation of the hypophysis given any good results?

(b) Is there any evidence that pituitary extract in any form has effected improvement in young mental defectives?

A.—(a) The expectation of life of mongol infants depends to a considerable extent on whether a congenital heart lesion is present and, if so, on the nature of the lesion. However, even infants in whom the heart is normal are abnormally susceptible to infection, and the majority die before the age of 14. In other cases patients reach adult or middle life. There is no convincing evidence that irradiation of the hypophysis has given any good results.

(b) There is no evidence that any of the preparations commercially available at the present time have improved mental development. C. E. Benda (*Mongolism and Cretinism*, 1947) has recently suggested that an effective thyrotrophic preparation, given alone or followed by thyroid therapy, might be expected to cause improvement in mongols, and cites a case in which this form of treatment appeared to stimulate bone development; there was, however, no conclusive evidence that the mental condition was improved. In the case of mental defectives where sexual development is retarded anterior pituitary preparations might stimulate sexual maturity, but where the mental condition is unimproved this can hardly be regarded as an advantage.

Anaphrodisiacs

Q.—What is the best drug to depress sexual desire without doing undue harm (a) in the male and (b) in the female?

A.—There are no drugs which are satisfactory for this purpose. Bromides and phenobarbitone might be of some value, but would have to be given continuously and in a dose large enough to have other depressant effects. The more rational approach, and one which is more likely to be successful, is for the individuals, male or female, to occupy their time fully with other activities. Physical and mental tiredness and preoccupation with other interests are conducive to loss of sex appetite.

Infantile Tetany

Q.—Could you suggest a treatment for infantile tetany in a baby 5 months old? The mother has been subject to latent tetany before and during pregnancy. The child was bottle-fed from birth and developed laryngeal and bronchial spasms in a few weeks, and also occasional carpopedal spasms. The symptoms are never alarming, but they persist. Calcium chloride, 1-5 g. daily in 10% solution, proved of value, but as soon as it is withdrawn the symptoms reappear. Is there any contra-indication to the prolonged use of calcium chloride? Calcium lactate given in massive doses has been of no avail. The child is also getting vitamins A and D daily. Would you give calciferol instead? If so, what dosage would be appropriate for that age? Owing to laboratory difficulties in this part of India it has not been possible to ascertain the blood-calcium level.

A.—This unfortunately appears to be a case in which biochemical investigation is essential if treatment is to be based on more than guesswork. No mention is made of any clinical or radiological evidence of rickets, and if this is absent it is probable that the tetany is due to some other cause than lack of vitamin D—e.g., hypoparathyroidism or alkalosis. The fact that symptoms were consistently relieved by calcium chloride, but not by calcium lactate given over presumably a long period, suggests alkalosis as a more likely cause. Unless calcium chloride causes gastro-intestinal upset, the only danger of prolonged administration is likely to be the production of an acidosis. If any evidence of rickets is present it would be

advisable to give three teaspoonfuls of pure cod-liver oil daily, together with calcium lactate in preference to calciferol. Although cases of vitamin-D-resistant rickets (with or without tetany) do occur, they are extremely rare; if synthetic products are used in large amount without adequate proof of vitamin-D resistance there is a real danger of overdosage.

Pigmentation of Skin

Q.—A woman aged 44 has had lupus of the face since 1923. Injections of bismuth and quinine and various ray treatments have left a butterfly area of thin skin. Nine months ago dark-brown lines appeared across the butterfly area, and the lower-jaw line on both sides is pigmented the same colour. This gives her an unwashed appearance. Is there any way of removing this discoloration?

A.—It is presumed that the condition was lupus erythematosus. The pigmentation, being of recent origin and affecting parts not touched by the original disease, is probably unrelated to the disease or its treatment. It may be the affection of poikiloderma, described by Civatte and seen occasionally in women at the time of the menopause. This condition may respond to oestrogen therapy, but in any case it clears in about five years. A similar toxic melanoderma is seen from the use of creams or the ingestion of fats or from tar products. No active local treatment is suggested. The affection can be masked by suitable cosmetics.

Disinfection of Ambulance after Removal of Infectious Case

Q.—Some local health authorities are recommended to make use of the ambulance which deals with the general work of the district for removal of infectious cases. In the past this has been contrary to the ruling of the St. John Ambulance Association. Is it free from all risk to use this ambulance indiscriminately provided it is disinfected after conveying an infectious case, or should a special van be allocated to deal with notifiable infectious diseases?

A.—The use of the same ambulance for the conveyance of infectious and other cases may be safely recommended provided proper precautions are taken to disinfect the ambulance after removal of an infectious case. A patient with a notifiable infectious disease who is being removed from his home is usually wrapped in blankets brought from the hospital, so that any discharges from throat, nose, etc., are likely to contaminate the blankets rather than the stretcher or any other part of the ambulance. After the patient has been removed in his blankets, the inside of the ambulance is thoroughly disinfected either with formalin spray or with a phenolic disinfectant. For cases of smallpox, where the infectivity is very high, a special ambulance attached to the smallpox hospital is used.

Recovery following Heartblock

Q.—Four years ago a woman of 87 was found to be suffering from heartblock, with a rate of 17 per minute. A few months ago the rate rose to 37, and is now 67 to 74 per minute. There is a soft mitral systolic murmur, and the pulse is of reasonably good quality. Is it not extraordinary that anyone of so great an age should develop a normal pulse after at least four years of heartblock?

A.—The bundle of His receives its blood supply from branches of both the anterior (left) and posterior (right) coronary arteries, and deprivation of one or other of these sources can lead to complete heartblock. It has been shown that obstruction in one or other system may be remedied by the growth of new anastomotic channels from the other, and this process has recently been described in detail by Laubry in a communication to the Section of Cardiology at the International Conference of Physicians. Heartblock in the elderly is almost always due to ischaemia, and it is probable that in the case described the bundle was deprived of one of its sources of blood supply so that complete block developed. The formation of new anastomotic channels might in due course provide a blood supply sufficient to restore the function of the bundle. It is true that four years is a long time for complete block to last, but it is hard to imagine any other explanation of the phenomenon.

Effect of Phenobarbitone

Q.—What would be the effect of the regular use of, say, 1 gr. (65 mg.) of phenobarbitone soluble a day? Would it have any effect upon a pregnant woman and the child?

A.—In most persons the regular use of 1 gr. of soluble phenobarbitone daily would have no ill effect beyond producing a certain heaviness. There is, however, much variation in different individuals, and since it is very slowly excreted it is important to look out for signs of accumulation. Soluble barbitone passes from the maternal blood to the foetus, and, though a dose of 1 gr. daily to the mother is certainly small, it ought not to be assumed that if given for many weeks it would have no harmful effect on the baby. The probability that it would do harm is slight, and this must be weighed against the benefit which might accrue to the mother in other directions.

Xerostomia

Q.—A woman aged 60 has suffered from partial dryness of the mouth for about ten years. For the past four months the dryness has been complete; eating and speaking are now almost impossible. She has a moderate degree of hypertension but a normal blood picture. Dilute hydrochloric acid with meals and large doses of vitamins A, B, C, and D have had no effect. What is the cause, and can you suggest treatment?

A.—The description of this patient suggests a diagnosis of Sjögren's syndrome—a condition of unknown cause most frequently seen in elderly women, in which dryness of the mouth and pharynx is associated with keratoconjunctivitis sicca and loss of hair. It would be interesting to know whether there is evidence of the two latter changes in this instance. Treatment is unsatisfactory, both in Sjögren's syndrome and in other types of xerostomia. Large doses of vitamin A (30,000 to 40,000 units daily) have been advocated, but it must be admitted that they usually have little effect. It is often necessary for the patient to take a fluid or semi-solid diet, while some of the discomfort can be allayed by frequent mouthwashes.

Stilboestrol and Mastitis in the Male

Q.—Does stilboestrol cause mastitis in the male? A man aged 73 developed bilateral mastitis after a fortnight's treatment with stilboestrol for prostate trouble. The drug was immediately discontinued, but the condition persists after two months.

A.—Yes, painful enlargement of the breasts is a complication of the stilboestrol treatment for carcinoma of the prostate. The condition usually subsides if treatment is withdrawn. Gynaecomastia also occurs with atrophy of the testes, or with destruction of the liver by cirrhosis or neoplasm. Possibly one or other of these features is present in this case. If the prostatic trouble is non-malignant, testosterone might help the mastitis, but would be contraindicated with carcinoma of the prostate, defeating the object of the original treatment with stilboestrol.

"Semi-hypertrophy"

Q.—In a female baby aged 5 months the left leg is uniformly fatter but not longer, than the right. The increase in circumference at mid-calf and mid-thigh is in the neighbourhood of 3/4 to 1 in. (1.9 to 2.5 cm). The lower half of the body has slightly more fat than the upper half. Radiography shows that the bones and muscles of both sides are equal. The baby has been seen by a paediatrician, an orthopaedic surgeon, and an endocrinologist, none of whom offered any rational explanation for the condition.

A.—Various degrees of asymmetry of the body are not uncommon, and such a term as "semi-hypertrophy" is not a new one. In the case cited, it is at all events not a deep-seated naevoid condition, but would be indicated by a warmer feel to the lower half of the body. In general the difference between the two sides in the child grows. An embryonic condition of this kind is difficult to explain; there is no

NOTES AND COMMENTS

Intractable Tinnitus.—Mr. N. L. ROWE, H.D.D., writes from the Plastic and Jaw Unit, Hill End E.M.S. Hospital, St. Albans, Herts. May I be permitted to make a further observation on the Question and Answer (Jan. 3, p. 34) about "Intractable Tinnitus"? Two factors appear to have been overlooked which may possibly throw some light on the aetiology of the case under discussion. 1. The first place the presence of unerupted teeth may occasionally give rise to reflex irritation which need not necessarily manifest itself as a neuralgia—as, for example, the occurrence of blepharospasm associated with unerupted maxillary or mandibular third molars. In the case the unerupted upper left canine may, by pressing on the greater palatine nerve, a branch of the sphenopalatine ganglion, be setting up an irritation of the fifth cranial nerve. In this connexion it is worth recalling that the tensor tympani muscle is supplied by the motor division of the trigeminal nerve via the otic ganglion, which itself sends a communicating twig to the nerve of the petrosal canal on its way to the sphenopalatine ganglion previously mentioned. A communication also exists with the tympanic plexus of the lesser superficial petrosal nerve. I can recall a case of paralysis of the motor division of the trigeminal nerve due to poliomyelitis in which there was tinnitus and impairment of hearing on the same side. In the second place no mention has been made of Costen's syndrome, a term used to denote certain symptoms associated with dysfunction of the temporo-mandibular joint caused by loss of mechanical support, resulting in the backward displacement of the condylar head on to the tympanic portion of the glenoid fossa (Costen, J. L. *Ann. Otol.*, etc., St. Louis, 1934, 43, 1).

Among such symptoms as trismus, glossodynia, neuralgia, and reflex effects which have been observed tinnitus occupies a prominent place. This has been stated to be due to relaxation of the soft tissues surrounding the Eustachian tube, notably the pterygoideus lateralis and the tensor palati muscles, and although the tube may be patent, as stated in your correspondent's case, this is presumably upon insufflation and would readily collapse again. Retroposition of the condylar head may cause pressure on the auriculo-temporal branch of the trigeminal nerve, and possibly reflex irritation in this manner, via the otic ganglion, of the nerve to the tensor tympani; or compression of the chorda tympani emerging from the petrotympanic fissure of the glenoid fossa may produce remote effects in its course across the tympanum, although if compression is usually productive of the glossodynia frequently associated with these cases.

Although no indication of the dental condition, apart from the fact of sepsis as shown by radiographic examination, is available in your correspondent's letter, his age (50) is suggestive of the possibility of overclosure of the mandible due to attrition, loss of mechanical support, or resorption of the alveolar ridges, which amounts to overclosure if a prosthesis is worn. Aggravation of the symptoms upon waking as stated by him can be visualized as due to removal of partial dentures at night, or grinding of the teeth during sleep with the train of events previously enumerated. At all events removal of the unerupted canine and investigation into the vertical dimension of the bite would appear to be worth while before designating the condition as "intractable tinnitus."

Thoraco-Lumbar Splanchnicectomy.—Mr. H. A. HAXTON (Manchester) writes: I was interested to see (Jan. 10, p. 86) that Mr. F. Stock now uses an extended Fey incision in this operation, for I applied it some 18 months ago. The removal of the lumbar part of the sympathetic chain is easier by this approach than by the Smithwick procedure, but there is, in my opinion, a greater risk of tearing the pleura. On the whole, there is little to choose between the two approaches.

Corrections

In our report of a conference arranged by the National Association for Mental Health (Jan. 24, p. 160) the remarks attributed to "Alderman G. R. Spruit (Hull)" were actually made by Alderman R. E. Smith, who attended as chairman of the Health Committee Kingston-upon-Hull.

The name of Mr. A. K. Henry was misspelt in the letter from Prof. G. Grey Turner in our issue of Jan. 24 (page 173).

All communications with regard to editorial business should be addressed to the EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: AMBROSCOPIC, LONDON. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal*. Authors desiring REPRINTS should communicate with the Publishing Manager, B.M.A. House, Tavistock Square, W.C.1, on receipt of proofs. ADVERTISEMENTS should be addressed to the Advertisement Manager, B.M.A. House, Tavistock Square, London, W.C.1 (hours 9 a.m. to 5 p.m.). TELEGRAMS: EUSTON 2111. TELEGRAMS: *Britmedads*, Western. LIST MEMBERS' SUBSCRIPTIONS should be sent to the SECRETARY of Association, EUSTON 2111. TELEGRAMS: *Medisecra*, Western. LONDON. B.M.A. SCOTTISH OFFICE: 7, Drumheugh Gardens, Edinburgh.

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY FEBRUARY 7 1948

B.M.A. LECTURES ABROAD

A little over a year ago the Council of the B.M.A. set aside a sum of £1,000 to provide lectures by distinguished British practitioners to the medical profession in Europe, more specially in those countries occupied by the enemy during the war. Since the inception of the scheme "B.M.A. Lectures" have been delivered by Dr. S. C. Dyke in Czechoslovakia on clinical pathology, Prof. T. P. Kilner in Denmark on plastic surgery, Mr. I. Lawson Dick (for Sir Reginald Watson-Jones) in Norway on orthopaedics, and Mr. C. Price Thomas on chest surgery in Spain and the Netherlands. At the end of February Mr. N. R. Barrett is to visit Denmark to lecture on recent advances in chest surgery, and two lectures are also being arranged for Austria.

These B.M.A. Lectures are evidently very much appreciated and are forming valuable links between British medicine and the Continent, while the lecturers themselves are stimulated by the contact with foreign practice. The following abstract of the report submitted to the International Relations Committee by Mr. Lawson Dick on his return from Norway illustrates the value of the scheme:

Surgery in Norway

"I came home from Norway with these strong impressions: the welcome which was given to us could not have been more cordial or more hospitable; national feeling in Norway is very strong, and they have a high regard and a warm affection for Britain; the medical men are deeply interested in their work and are most anxious to accept any opportunity for an exchange of views. The audience much enjoyed the lectures. They were still listening at the end, and asked questions.

"In Bergen, where I was supposed to give only one lecture, was greeted on arrival with the news that 'they had heard gave two lectures in Oslo and they hoped I would do the same there.' So that meant another marathon evening, but again the audience was so responsive and receptive that it was no effort to talk to them.

"The hospitals are very fine, particularly the long-stay hospitals for tuberculosis and orthopaedics. We saw two of them—the Martina Hansen Hospital, near Oslo, and the Kysthospitalet Hagevik, which is on the coast about fifteen miles south of Bergen. These are lovely buildings, magnificently situated in superb surroundings. The standard of hospital buildings and equipment seemed to me to be much more uniform than it is with us. There were no vast differences such as are so often seen between English hospitals even in the same town. In all be hospitals there was a most admirable friendliness between staff and patients.

"Medicine in Norway bears the marks of the long isolation from recent progress which the Norwegians suffered. In particular their fracture treatment shows much more of the influence of Böhler than is now seen in Britain. But some of their work is excellent. There is the closest possible liaison between the professor of neurology in Oslo and the neurosurgeon, to their great mutual advantage, and the imprint of Dr. Smith-Petersen's teaching is everywhere recognizable.

"Specialization is not yet completely developed in Norway, but they are alive to the need for it and are taking active steps to introduce it. When I first saw Dr. Carl Semb's work in Oslo I was a little perturbed, because he is obviously a man of

very great competence in a wide field of surgery, and I thought that he might be one of those great 'general' surgeons who can be a bar to real progress. But I very soon realized that he was fully aware of the advantages of breaking up the huge field of surgery into its component parts and of having each one in the hands of a surgeon specially trained to it. He is a man of great personal charm and very wide experience (which includes a flight from the Gestapo with only hours to spare, and a leading part in the raising in Sweden of a Norwegian 'police force' 80,000 strong and armed with artillery), and will be an ideal leader of a surgical team.

"Their five years of occupation did not break the Norwegian courage. Nearly all of the doctors whom we met had been in concentration camps for varying periods. The Secretary of the Norwegian Medical Association, also a charming man, was interned for nearly five years because of the intransigence of his colleagues, who would not subscribe to the new German-controlled Association. And they teased the Germans mercilessly all the time. A Norwegian lady doctor, who spoke four European languages perfectly, was asked by a German officer the way to a well-known Oslo street. 'May I reply in English?' she said. The officer assented, and the lady said, 'I'm sorry. I don't know.' That little story epitomizes the spirit of Norway. But my host in Stavanger had tears in his eyes when he told me how he saw, through the window of the room we were then in, the first British paratroops march down the hill into the town, and that is now more than two years ago. I shall never forget my visit. It was a most stimulating experience and was made wonderfully enjoyable by the boundless Norwegian hospitality."

Medical Education in Holland

Mr. Price Thomas's report on his visit to the Netherlands included the following observations.

"I found the Dutch students, doctors, and specialists very keen and very anxious to hear all there was to be heard about thoracic surgery. I gave lectures to mixed audiences of students and medical men at Amsterdam, Utrecht, Leiden, and Groningen. In each place the lecture-room was full, and I think in all, at an absolute minimum, twelve to fourteen hundred people attended. I was also asked at Utrecht to give an additional lecture to the students on the subject of cancer of the lung, which was also very well attended, there being between two and three hundred people present.

"The standard of medicine in Holland, as judged by the university hospitals, was very high. They were working on progressive lines and turning out very good specialists. The system of education differs somewhat from ours, especially so in that the university degree can be obtained without having done any clinical work in the wards, the students' sole contact with patients being through lecture demonstrations. The student, however, before being allowed to practise, has to take a State examination, and this entails having done a minimum of one year's clinical experience in hospital. On an average, I was told that each student did eighteen months. No other hospital work is done by the students unless they desire to specialize—in other words, only those who intend specializing hold resident appointments. There are many more students at the universities than can be satisfactorily coped with. The smallest number of medical students in any university is about twelve hundred, including all years of study."

HEARD AT HEADQUARTERS

"Shouting Down"

The allegation contained in a letter of four Labour M.P.s that dissentient speakers at B.M.A. meetings are shouted down *deserves some examination. The writer has attended half a dozen big meetings of the profession during the present crisis. At three of them there were no dissentient speakers at all. At two there were one or two dissentient speakers, who had a perfect hearing and were given every courtesy. The remaining occasion was the meeting at which Dr. H. B. Morgan, M.P.—one of the signatories of the letter—did not conclude his speech owing to interruption. It is stretching the description to say that Dr. Morgan was shouted down. What actually happened was that Dr. Morgan made one or two statements which were greeted with cries of dissent. But they were not the long sustained cries of dissent which indicate that an assembly desires to hear no more of a speaker. Dr. Morgan was not "shouted down" in the sense in which Miss Jennie Lee, M.P. (Mrs. Aneurin Bevan), was shouted down at the Labour Party Conference at Margate last Whitsuntide, when she was not allowed even to finish her first sentence. There was nothing to prevent Dr. Morgan from proceeding with his speech if he so desired. The cries of dissent with which he was greeted were no more prolonged or intense than the applause which greeted other speakers. But rather surprisingly Dr. Morgan, who is surely used to much more riotous assemblies, suddenly gave in and said that evidently the audience did not wish to hear him, and next day *The Times* said that Dr. Morgan had been shouted down, and a day or two later there appeared the letter from the medical Members of Parliament. The meeting would have been quite prepared to listen to Dr. Morgan longer, but he appeared to expect interruption and ready to interpret it as closure.*

The Secrecy of the Ballot

Why this sudden fuss about the secrecy of the voting in the plebiscite? If it had been done the other way and the plebiscite forms had been sent in unsigned there would have been an immediate outcry that dummy votes were being cast. Moreover, is there any properly conducted election which is really secret? Certainly not Parliamentary elections. Anyone who has ever been in a polling booth is aware that it would be possible to tell afterwards, if it should prove necessary, how any person has voted. That, indeed, is the only way of keeping a check on the democratic principle of one man one vote.

The Stand of the Consultants

One of the many heartening things at the big meetings of the profession we have attended during the present struggle has been the presence and support of the consultants; they have supported the case put forward on behalf of the profession as enthusiastically as their general practitioner colleagues. The Minister's insistent efforts to placate them have not succeeded, and many in conversation have avowed their determination to line up with the general body, irrespective of any concessions which might affect their own individual position. A well-known consultant, until lately a member of the Labour Party and a prospective Parliamentary candidate, told us that in consequence of the Bevan crisis he had left the party. He felt that the issues involved went to the root of things, and that the fight of the profession was part of a wider fight for freedom.

Mural Propaganda

A general practitioner of our acquaintance has put up in his surgery and waiting-room such posters and cartoons as he can find which represent the facts of the situation in a way that can be readily assimilated by those who wait. The folder which the Association has issued, the "Octopus," may prove useful in this connection. It is important that doctors should be able to give an account of their case to the public, and in many instances the public can help. It tends to be forgotten that the public is not a body of ignorant, familiar enough to those who have known it for years but requiring some explanation of the situation.

Association Notices

GROUP OF OTOLARYNGOLOGISTS

Notice is hereby given of the formation by the Council of a Group of Otolaryngologists, which shall be composed of members of the Association who are engaged predominantly in the practice of otolaryngology. Members of the Association who claim to conform to this definition are invited to complete the form set out below and return it to the Secretary, B.M.A. House, Tavistock Square, W.C.1, not later than Feb. 20, 1948. The first general meeting of the Group will be held at a date to be subsequently announced in the *Supplement*.

CHARLES HILL,
Secretary

BRITISH MEDICAL ASSOCIATION
GROUP OF OTOLARYNGOLOGISTS

FORM OF APPLICATION FOR MEMBERSHIP

To the Secretary,
BRITISH MEDICAL ASSOCIATION, B.M.A. House,
Tavistock Square, London, W.C.1.

I wish to apply for membership of the Group of Otolaryngologists which is composed of members of the Association engaged predominantly in the practice of otolaryngology.

I understand that the inclusion of any individual within the Group is at the discretion of the Group Committee subject to appeal to the Council of the Association.

I am a member of the Association. I am an otolaryngologist, and am engaged predominantly in the practice of otolaryngology.

Name (in Block Capitals).....Age.....

Qualifications..... Date of Qualifying.....

Experience in Otolaryngology since Qualifying.....

.....

Appointments

.....

.....

Whether employed in full or part-time duties and, if the latter,

number of hours per week devoted to otolaryngological work.....

.....

Signed.....

Address.....

Date.....

Diary of Central Meetings

FEBRUARY

12 Thurs. Journal Committee, 2 p.m.

18 Wed. Council, 10 a.m.

Branch and Division Meetings to be Held

DONCASTER DIVISION.—At Danum Hotel, Doncaster, Tuesday, Feb. 10, 7.30 p.m. B.M.A. Lecture by Mr. A. Lawrence Abel: The National Health Service Act.

KENSINGTON AND HAMMERSMITH DIVISION.—At Medical School, the Royal Cancer Hospital, 24, Onslow Gardens, S.W., Tuesday, Feb. 10, 8.30 p.m. Lecture by Lord Horder: General Approach to the Cancer Problem.

WINCHESTER DIVISION.—At Banqueting Hall, Winchester, Wednesday, Feb. 11, 7.45 for 8.15 p.m. Dinner-dance. Tickets 15s (exclusive of wines). Dancing and buffet from 9.15 p.m. (Tickets 7s. 6d.)

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Poplar.
Non-County Borough Councils.—Dartford, Radcliffe (limited to future appointments), Tottenham, Wallsend.

Urban District Councils.—Denton, Droylsden, Houghton-le-Spring, Huyton-with-Roby, Portslade, Redditch (restricted to new appointments), Stanley (Co. Durham), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

THE AFTERMATH OF GASTRECTOMY*

BY

NORMAN C. LAKE, M.D., M.S., D.Sc., F.R.C.S.

Senior Surgeon, Charing Cross Hospital

A survey of the treatment of peptic ulceration during the present century must of necessity recall those high points of enthusiasm associated with such methods as the old Lenhartz and Sippy diets with bismuth and mild alkalization, the reintroduction of intensive alkalization by MacLean, Aron's (1933) work and the resulting histidine treatment, the introduction of adsorptives (colloidal aluminium hydroxide, magnesium trisilicate, etc.), intra-gastric drips, intensive belladonna, and hyoscyamus; while on the surgical side there are gastro-enterostomy (with or without exclusion), pyloroplasties, gastric ligations (Somer-vell, 1942; Hey, 1947), vagal denervations, and the various types of gastrectomy. The increasing recognition of the importance of the psychological side of these cases must also be mentioned to complete the picture.

From my experience I do not think it can be regarded as too surgically biased a statement to say that of all these methods the only one which has steadily and consistently become more popular is gastrectomy. The ultimate method of treating peptic ulceration will almost certainly not be surgical, but at the present day gastrectomy gives better, and especially more permanent, results than most other methods, whether surgical or medical. Ogilvie (1947) has recently summed up the position by stating that "it runs the operation for haemorrhoids [which he regards as uniformly successful] a close second." For my part I should hope that it wins this race handsomely. If this be so, however, it becomes very important that the relatively small number of cases which have post-operative complications and complaints should be most carefully considered and investigated.

For a long time I have been interested in the outcome of these operations, and have followed some cases for over twenty years. The great movements of population during the war seriously upset this follow-up, but nevertheless I have records of several hundred cases of long duration. From the statistical point of view the total number could have been considerably increased if I had been willing to include cases of other operators, but such collected or group statistics are always equivocal and lacking in personal scrutiny, and so apt to be misleading. The smaller number of cases which are here analysed are all personal ones, and the surgical tragedies and complications which have occurred are due to my own bad surgery or to errors of judgment.

Consideration of 615 Personal Cases

The total number of such cases under review is 615, extending over a period of twenty-three years but not including any cases of less than one year's duration. The conditions for which operation was undertaken are shown

in Table I, and the type of operation performed is shown in Table II. It will be seen that the great majority of these cases were done by a modified Polya—i.e., end-to-side—method, which has been variously attributed to Finsterer, Hofmeister, myself, and others, although there

TABLE I.—Conditions for which Operation was Undertaken

Carcinoma	87
Sarcoma	3
Leititis plastica (non-malignant)	2
Jejunal (anastomotic) ulceration	35
Primary peptic (duodenal and gastric)	554

TABLE II.—Type of Operation Performed

Total gastrectomy	12
Billroth I	4
Billroth II	40
Polya (full aperture)	44
Polya (modified, restricted aperture)	502
Sleeve resection	11
Others	2

appears to be no doubt that that fine old surgeon Von Eiselsberg performed an end-to-side anastomosis with restricted orifice but without a valvular aperture (that is, of the Hofmeister type) as long ago as 1888; while in the previous year Krönlein, of Zurich, on the suggestion of Von Hacker performed the first end-to-side anastomosis of the so-called Polya type. However, as Ogilvie (1935, 1947) correctly emphasizes, it is the formation of a valvular opening which constitutes the most valuable and essential part of this technique. He also gives a very diverting summary of the position when he says: "If we must have names let credit be properly attributed and call the operation the high posterior Finsterer-Lake-Lahey modification of the Mikulicz-Krönlein-Hofmeister-Reichel-Polya improvement of the Billroth II gastrectomy with a large valve and a small stoma."

In my own technique the suturing for the anastomosis and the closure of the upper part of the stomach aperture is done at one and the same time with a continuous suture which also applies the proximal jejunum over the closed portion of the stomach, thus not only producing a valvular type of restricted aperture but providing an extra barrier against leakage. In a very few unusually high or difficult cases the stomach closure may have to be done as a separate procedure before the anastomosis is performed. The junction is retrocolic, the final result being seen in Fig. 1. Usually about two-thirds of the stomach is removed, but at times this may be increased to three-quarters or

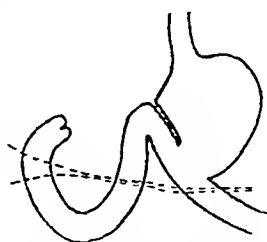


Fig. 1.—End-to-side anastomosis with restricted valvular orifice. The anastomosis is retrocolic and about two-thirds of the stomach is usually removed. The broken line indicates the level of the transverse mesocolon.

* Summary of a lecture given at the British Postgraduate Medical School.

four-fifths. I first operated by this method in 1926, and, as the results were so satisfactory, increasingly year by year, until by 1930 all but the most exceptional cases were so dealt with. For the past seventeen years high spinal anaesthesia has been used for over 90% of the cases. Light "nupercaine" 1/1000, given by a method which I have described elsewhere (Lake, 1938), has proved very satisfactory. It is necessary to mention these details, since it appears not improbable that some of the conditions about to be described may bear a close relationship to the type of operation performed.

In considering the aftermath of this operation I shall in regard to most aspects limit the inquiry to cases of ulceration. It is also obvious that there are two types of sequel—the early, usually spoken of as complications of operation, and the late results. Here I am particularly concerned with the latter, but to enable us to assess the operation fully the early complications must in all fairness also be briefly mentioned.

Complications of Operation

Clearly, the most serious early sequel is death. The mortality of gastrectomy as given by different surgeons varies enormously, as great a difference as 0.8 to 25% being recorded, but all are agreed that the more extensive dissection and removal required in malignant cases and in anastomotic ulcers, with patients often in poor general condition, adds considerably to the risk. Over the whole period of twenty-three years my average mortality figures are disappointingly high. They are: carcinoma, 14%; anastomotic ulcers, 12%; duodenal and gastric ulcers, 5.7%. These figures include all deaths from all causes up to three months from the date of the operation. For the same period total gastrectomy gave a mortality of 41%. The difficulty in arriving at a fair assessment of the risk is that unless large numbers—i.e., several hundreds—of cases are included the figures are likely to be misleading, for it is common experience that a considerable sequence of successful operations is apt to be followed by a group of fatalities which would be missed in a small series. On the other hand, with improving techniques the risk is continuously getting smaller, but any large series of individual cases must of necessity include all those done in the earlier period of higher mortality. Bearing these points in mind, it is some mitigation to know that the recent mortality rate for 130 ulcer cases has been a little over 3%, whereas in the early days it was 9%. It is of some interest to inquire how the reduction has been brought about. It is certainly not due to any increased skill in technique or to a more discriminating choice of patients; indeed, the cases dealt with tend to become more rather than less severe. I attribute the improvement mainly to better preparation of the patient by blood transfusions, breathing exercises, and, for the last three years, the routine use of the sulphonamides as suggested by Tanner. Credit must be given also to biochemistry for its help in assessing the patient's various capacities. The most important factor has been the avoidance of lung complications, as is well seen in Table III. Whereas chest complications

to reopen cases when early signs of peritoneal irritation or of bleeding have occurred.

The immediate complications of the operation have often been dealt with, so I will do no more than list those I have encountered, with a few comments when indicated. These complications are: (1) operative shock; (2) leakage—duodenal stump or anastomosis; (3) bleeding—anastomosis or belly wall; (4) collapse of lung; (5) pulmonary embolism; (6) subphrenic abscess and empyema; (7) cardiovascular failure; (8) bursting of abdominal wound; (9) flare-up of tuberculosis and of thyrotoxicosis; (10) necrosis of omentum; (11) intussusception; (12) asthma (curare); (13) post-spinal complications, retention, headache, sixth-nerve palsy; (14) uraemia.

Before examining the items *seriatim* it should be recorded that gastrectomies have been performed with the object of increasing the patient's ability to take plenty of food in three cases of active tuberculosis of a non-pulmonary type, in five cases of fairly severe diabetes, in two cases of tabes dorsalis, and in one of disseminated sclerosis, all without any trouble. In six ulcer cases the spleen was removed at the same time; in two of these it was enlarged as a result of thrombosis of the splenic vein in the floor of a penetrating ulcer. In two of eight cases of gastro-colic fistulae a local resection of the colon was necessary. In three cases the transverse colon became retroperitoneal in the middle of its course and the anastomosis had to be antecolic. In nearly 20% of the total ulcer cases there had been a previous operation upon the stomach quite apart from those listed as jejunal or anastomotic ulcer. Unsuccessful gastro-enterostomies, local excision of ulcer denervations, and of course perforations constitute the majority of these, but in two cases a higher resection was performed on previous gastrectomies where the first line of section had been too distal and further ulcers had formed proximal to the anastomosis.

In the whole series no death occurred within forty-eight hours of the operation, so that it would seem that shock was not severe—anyhow, when spinal anaesthesia is employed.

Leakage, when it occurs, is usually from the duodenal stump, and occasionally from the upper end of the anastomosis. Closure of the duodenum is probably the most important point in the technique of the operation. Nissen (1945) emphasized this and devoted the major portion of his book to details of methods advocated in difficult cases. I am not now dealing with operative details, but would mention that any obstruction to the drainage of duodenal contents across the anastomosis is as great a factor in causing leakage as any failure of proper closure of the duodenal stump.

Post-operative bleeding into the stomach is common but insignificant; in more severe cases, as already mentioned, early reoperation is recommended. In two cases serious bleeding due to erosion of an epigastric vessel has occurred from the abdominal wall.

Collapse of the lung in some degree is common, but massive collapse is rare. We have investigated this complication, and the conclusions reached were published by Stringer (1947). Since the routine use of the sulphonamides the effects have been slight. Pulmonary embolism, as in all abdominal surgery, remains a bugbear. I know of no effective method of preventing it. The thrombosis usually arises in the abdominal wall or, as in two of these cases, from extension of thrombosis of haemorrhoids possibly produced by the administration of an enema pre-operatively.

Subphrenic abscess and empyema are probably usual due to slight leakages; they are not of necessity fatal if dealt with in their earliest stages, but it is not then easy to make a sufficiently accurate diagnosis. Bursting of the abdominal wound has occurred in five cases; this is near

TABLE III. Causes of Death after Gastrectomy

Causes of Death after Gastrectomy		Recent Figures (200 cases)	
Chest complications and	12	Chest complications and	3
Leakage from duodenal stump	4	Leakage from duodenal stump	1
and anastomosis	2	and anastomosis	4
Cardiovascular failure	2	Cardiovascular failure	1
Subphrenic abscess and empyema	2	Subphrenic abscess and empyema	1
Bursting of abdominal wound	5	Bursting of abdominal wound	1

Since the chest mortality in 1937 they now fall to 3%. The factor which has perhaps had the greatest influence has been a greater readiness

always due to violent coughing or vomiting: the latter, however, is very uncommon after gastrectomy if spinal anaesthesia is employed. Four cases recovered after resuture, and one died from exacerbation of the lung complication.

I draw attention to necrosis of the omentum, which I have not previously found noted as a complication. I have had three cases proved by exploration and a further three in which the diagnosis was reasonably certain but not proved by operation. I believe that in smaller degree it occurs more often than we imagine, since the operation must at times interfere with the variable blood supply to the omentum and lead to considerable thrombosis therein, but I will not discuss the pathology here. All these cases recovered.

Intussusception of the upper part of the anastomosis into the lower part might sound almost impossible, but it was discovered post mortem in one case where I was at a loss to explain the patient's symptoms. It must be a very rare event. The post-spinal-anaesthetic sequelae have not been serious, but in two cases a sixth-nerve palsy was persistent; one of these was a case of tabes with ulcer, and the other cleared only after a period of six months.

The uraemic cases listed here were true kidney uraemias and not secondary to fluid depletion.

Late Results

We now pass to the main thesis—namely, the late sequelae or aftermath. These may be considered under the following headings: (1) Blood picture; (2) test meal; (3) barium meal; (4) weight; (5) appetite; (6) bowel action; (7) jejunal anastomotic ulceration; (8) distension of the afferent loop; (9) loss of energy, faintness and lassitude after food; (10) nausea in the early morning; (11) adhesions; (12) ventral hernia; (13) gall bladder symptoms; (14) colospasm.

Blood.—It was at one time confidently predicted (Hurst, 1928; Lake, 1928) that cases of extensive stomach resection would develop a macrocytic anaemia. We have had large numbers of blood examinations carried out up to ten years after the operation, but in no single instance has there been an anaemia of this type. The average of a large number of counts gave the following figures: red cells, 5,190,000; white cells, 9,390; haemoglobin, 95%; colour index, 0.88. A few cases revealed a definite microcytic anaemia with spoon nails which yielded to the usual treatment with iron.

Test Meal.—Post-gastrectomy test-meal curves are always open to criticism, since it is not easy to determine that the

tube end lies properly in the stomach. However, with special precautions a large series have been done (Figs. 2-7). With a complete Polya anastomosis there is practically always achlorhydria. With the restricted valvular orifice a small amount of free acid (10 to 20 degrees) is present in a few cases at one hour, but the general reduction is profound. Even the completely achlorhydric cases will respond to histamine stimulation, although this power is lost with the passage of time. Three of these cases still show considerable acid: they are obviously candidates for a possible anastomotic ulcer.

Radiographs.—The radiographic results of the different types of gastrectomy were studied by Shanks (1934). Of my cases he says: "This modification, judging by the radiographic appearance, controls the efflux of the gastric contents better than any other of the Polya type. In addition to preventing 'dumping' into the jejunum, it renders reflux into the afferent loop very improbable. . . . The gastric stump fills reasonably well in the erect position, and the stoma is clearly seen at the lower pole. The right border of the stump is formed by the remaining portion of the lesser curve and the sutured end of the stump above the stoma. This largely loses its initial angularity and becomes more or less straightened out."

Weight.—The general tendency is to gain weight, especially when as a result of dyspepsia the patient is much under weight before operation. Not all of the cases gain, however: as is well recognized, many hypersthenic duodenal cases are quite well covered despite the ulcer.

Appetite.—There seems to be little qualitative change in the appetite; the patient's likes and dislikes are unaffected. Quantitatively there is usually an improvement in the gastric cases, with small change in duodenal ulcers, when the appetite is often good before operation.

Bowel Action.—It might be expected that with more rapid emptying of the stomach there would be increased activity of the colon, but experience shows that if anything there is some tendency to constipation. In some cases this is due to colospasm, which we shall consider later.

Jejunal Ulceration.—In this series there have been six cases in which anastomotic ulceration was suspected. In four of these it was proved by exploration (in one by perforation); in the other two the symptoms are mild but the suspicion remains. As is well known, it is difficult to get reliable radiological confirmation in post-gastrectomy cases. The incidence does not seem to exceed 1%.

Distension of the Afferent Loop—i.e., the duodenum—is a possible cause of symptoms, and occurs when there is some obstruction to the free passage of duodenal contents across the anastomosis, or when the stomach efflux is

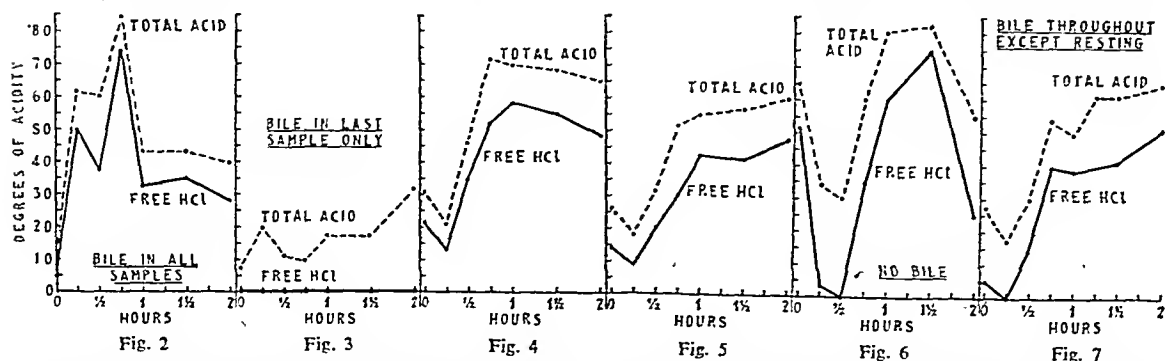


Fig. 2.—Test meal after gastro-enterostomy for duodenal ulcer. Fig. 3.—Same case as Fig. 2. Test meal after subsequent partial gastrectomy. Figs. 4 and 5.—Test meals before and after vagotomy. This operation was done 15 years ago, therefore division of nerves was subdiaphragmatic. Higher division, whether performed by transthoracic or transdiaphragmatic approach, gives somewhat better results. Figs. 6 and 7.—Test meals before and after the so-called "physiological gastrectomy"—that is, ligation of vessels and nerves. It will be noted that gastrectomy produces much more profound changes in acid secretion than the other procedures.

directed into the afferent loop by a badly designed anastomosis or obstruction of the efferent loop. It has proved to be very rare in cases done by the method here described: only two definite cases—i.e., radiologically proved—have been met with. As has already been remarked, overdistension of this loop is one of the most potent factors leading to leakage from the duodenal stump in the early stages.

The "Dumping" Syndrome.—The loss of energy and feeling of faintness and lassitude after heavy meals has interested me for many years, and despite the article by Gilbert and Dunlop (1947) I feel that the complete understanding of it remains a problem. They report that no fewer than 17 of 45 gastrectomies had evidence of this syndrome and suggest that rapid emptying of the stomach is the primary cause: this produces a transitory rise in the blood sugar, followed by a rapid fall to very low levels due to excessive insulin production. The lassitude is thus due to a hypoglycaemia and is a concomitant of the so-called dumping stomach. It is, however, of some importance to note that they record it as occurring after both the ordinary Polya and the restricted stoma operations. My own series shows a much lower incidence of this syndrome—only twenty cases, and some of these quite mild in degree. In searching for the cause I have considered four possibilities.

1. Dumping of the stomach contents into the jejunum with reflex effects, via the splanchnic innervation, from overdistension.—This has not seemed likely, since the condition is painless, and, furthermore, there is no radiographic support, as Shanks's studies show, in the case of the operation here described.

2. Hypoglycaemia.—The blood-sugar curves which I have had done in these cases have not given powerful support to this idea; but since the publication of the article by Gilbert and Dunlop I recognize that this may have been due, as they suggest, to the fact that the samples were not taken often enough. In some cases the administration of sugar has seemed to give some relief, and I am therefore inclined to think that this may be the explanation. It is surprising, however, that these observers failed to detect any difference in the results of the full Polya and the restricted stoma operations, for this would certainly be expected.

3. Vagal stimulation.—There can be no doubt that many vagal fibres are included in the ligature of the vessels of the lesser curve and must be involved in the scar. They may therefore be stimulated by the pull on the lesser curve when the stomach is loaded. I have unsuccessfully looked for post-prandial changes in the blood pressure and have failed to find other supporting evidence.

4. Neurosis.—This is always a possibility after an extensive abdominal operation, but, in my inexperienced opinion, it is not a likely explanation of the phenomenon.

Morning Nausea.—Another interesting syndrome, unassociated with the last, is a sensation of nausea the first thing on awaking in the morning. It nearly always disappears quickly when the patient assumes the upright attitude or with the first mouthful of food or drink. I have also noted that it is inclined to occur in those who sleep on the left side and may be relieved if they sleep on the right. I believe it is due to bile entering the stomach through the comparatively large orifice, devoid of sphincteric control, at night, which it does more easily with the patient on his left side and recumbent. The upright posture or the taking of a little food or drink empties the bile out of the stomach and so the nausea immediately disappears. It can be added that both the dumping and morning nausea seem to improve with the passage of

and in these there had been one or more previous operations for perforation.

Ventral hernia has necessitated further operation in two cases; four other bulges are adequately controlled by a light belt.

Gall-stones.—Subsequent operations for gall-stones have been undertaken in four cases—a very much smaller percentage than was found by Majoor and Suren (1947), who reported six cases after 174 gastrectomies, apparently especially after the Billroth II operation. They suggest a post-operative aetiological relationship; but I am not impressed, since in my own series the figure is very small and points to a chance association. I have on several occasions removed a pathological gall-bladder, with or without stones, at the time of the resection, and of course it often happens that an ulcer is adherent to the gall-bladder, sometimes densely to the point of perforation.

Colospasm.—It is perhaps not surprising that in ulcer cases, when the patient is often of the sthenic vagotonic type, there should frequently be noted some degree of colospasm and its associated diverticulosis. Nearly half of the gastrectomy patients who return complaining of abdominal symptoms have been shown to be cases of colospasm, and as I have previously mentioned, this is probably the cause of the constipation which may follow the operation. I should therefore always be borne in mind when investigating an apparently unsuccessful gastrectomy.

Summary

Gastrectomy is probably the most permanently satisfactory method of dealing with chronic peptic ulceration at the present day.

A type of end-to-side anastomosis with a restricted anastomotic orifice has been found to give good results in the vast majority of cases.

The risk of the operation is being steadily reduced, chief as a result of greater pre- and post-operative care.

Sulphonamides, used as a routine, have proved valuable in the prevention of infective lung complications.

The early and late sequelae of over 600 cases are analysed. Omental necrosis and early morning nausea are noted after-results not previously described.

The incidence of anastomotic ulceration after this operation appears to be a little under 1%.

The syndrome of post-operative hypoglycaemia associated with a "dumping" stomach is discussed.

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The *British Orthoptic Journal*, which is published under the auspices of the British Orthoptic Society, has now opened its pages to contributions from overseas. In its issue No. 4, 1947, Dr. Walter B. Lancaster, of Boston, Massachusetts, explains "What is Orthoptics?" and Miss Diana Mann, of Melbourne, Australia, contributes a paper entitled "The Role of Orthoptics," which was read before the Australian Ophthalmological Society in 1946. Another new departure is the publication of case notes of special interest.

CURARE IN OIL IN THE TREATMENT OF SPASTIC CONDITIONS

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The therapeutic possibilities of curare in diseases of the central nervous system have been considered for nearly a century, but because of the dangers of the drug it was originally used only in desperate cases of tetanus and hydrophobia. Progress towards a more specific use was made when Hartridge and West (1931) and others, between 1927 and 1931, demonstrated conclusively that, in doses which did not produce general paralysis, curare had a selective action, abolishing decerebrate rigidity in cats and tetany in dogs. The mode of action was not clear, but Bremer (1927, 1928, 1931) suggested from animal experiments that weak solutions of the drug blocked nerve-endings which were continuously in action more than those which were at rest; because of this it was possible to reduce muscle tone without greatly affecting voluntary power.

In 1932 West described 17 cases of severe pyramidal or extrapyramidal rigidity in man, due to various causes, treated with crude curare obtained 30 years earlier from South America. He found that, given hypodermically in doses of 2 to 20 mg., the drug produced a definite measurable reduction in spasticity, the effect being produced in from 10 to 40 minutes and lasting 2 to 48 hours. Clinical improvement coincided with the registrable changes, and he found that massage and physical exercises were facilitated under the influence of the drug. Most of the patients complained of giddiness, headaches, and a feeling of drunkenness (but no diplopia) 10 to 30 minutes after the injection, but there was a tendency for all these symptoms to diminish as treatment continued. Objectively, a temporary nystagmus and a fall in blood pressure were noted, the latter being corrected by subcutaneous adrenaline, which also relieved the headache. West concluded that the drug was of some use in reducing the spasticity of pyramidal disease, but was not so good as hyoscine in Parkinsonian rigidity.

Interest in the drug from a neurological point of view was revived with increasing experience of its effect in anaesthesia and psychiatry. Harvey and Masland (1941) used it intravenously (in doses of 1 to 2 mg. per kg. of body weight) in the treatment of a variety of spastic conditions (23 cases), but they concluded that it was of no real use because of the inconvenience of the side-effects and the shortness of its action. They suggested that a drug which lasted longer might be of some value. While their conclusions were negative they were unable to explain the cause of the lasting relief which a few of their patients reported.

Bennett (1941) arrived at different conclusions, using similar doses of the drug, also intravenously, in 12 spastic children. The majority of his patients were improved over a period of months, mainly because the muscle relaxation effected made it easier to carry out more extensive physiotherapy. Side-effects were not very troublesome, but Bennett admits that the disadvantage of the treatment is that the action of the drug is not sustained. Denhoff and Bradley (1942) reported even more favourably, also on spastic children. They used an extract of curare ("intocostrin"—Squibb), and the drug was given intramuscularly in doses

of from 0.9 to 3.3 mg. of curare per kg. of body weight. The relaxation produced lasted approximately four days, and they were very much impressed with the way in which the educational programme could be accelerated by the drug.

Schlesinger (1946) described the use of a 3% suspension of d-tubocurarine chloride in a peanut-oil-white-wax, mixture in 11 cases of extreme spasticity secondary to injuries of the spinal cord. He gave it intramuscularly in doses of 30–45 mg. of the alkaloid (1–1.5 ml. of the suspension) every four days, and claimed that the action of the drug given in this form was prolonged often up to three days. The undesirable effects of aqueous curare were absent except that during the adjustment of the dosage slight blurring of vision was noted. In his series of cases (details of four being given) he found that flexor spasms were relieved, spasticity was decreased, and during the period of relaxation physical exercises could be given.

Present Investigation

It seemed possible that a great advance had been made, and the present investigation was conducted with a view to confirming Schlesinger's conclusions in general neurological cases. Seventeen patients were selected for treatment, the only criteria being that their spasticity should be of the pyramidal type and that it should be their chief disability. The series comprised one case of traumatic quadriplegia, one of spinal cord compression, one of motor neurone disease, one of subacute combined degeneration, and 13 of disseminated sclerosis. Six of the patients were definitely bedridden, four could walk only a few steps with the greatest difficulty, and the remainder had varying degrees of locomotive disability. No special apparatus was used to test the degree of spasticity, and response to treatment was assessed so far as was possible on unequivocal clinical findings—for example, did the injections enable a bedridden patient to walk or allow an ambulatory one to discard a stick?

The curare employed was "tubarine" (oily) (Burroughs Wellcome and Co.), and the usual maintenance dose was 20–40 mg. given intramuscularly (1 ml. = 30 mg. of d-tubocurarine chloride).

Case Reports

Traumatic Quadriplegia

Case 1.—A man aged 56 suffered damage to his cervical cord on Dec. 7, 1946, following a blow. The resultant spastic quadriplegia was thought to be due to a haematomyelia. As this cleared up a partial Brown-Séquard lesion was found, there being gross spasticity of the right arm and leg, with sensory loss in the left arm and leg. Four months after injury flexion-spasms appeared which were associated with severe pain in the right leg. A dose of 15 mg. of curare in oil produced diplopia, a feeling of drunkenness, vomiting, and slight diminution of spasticity for a few hours in both the arm and the leg. The next dose of 30 mg. produced, after 10 minutes, diplopia which lasted approximately one day, necessitating the use of an eye-shield. After five minutes tone in the limbs was considerably reduced, but 30 minutes later it had started to increase again and the limbs went back to their original stiffness after a few hours. Flexor spasms were not reduced, several taking place during the two hours after the injection of the curare. Several further administrations of curare in oil in 30-mg. doses did not produce any appreciable change in muscle tone, but tolerance from side-effects developed. Some six weeks later the flexor spasms became much worse and were extremely painful. It was therefore decided to try the effect of curare in oil together with quinine sulphate, 10 gr. t.i.d., Harvey (1939) having shown the latter drug to possess curare-like qualities. The effect of the combination was remarkable in that the spasms disappeared within a few days and morphine could be discontinued. The treatment was stopped after a month and the flexion spasms did not reappear.

Paget's Disease of the Spine

Case 2.—A man aged 62 had had pains in the legs and increasing difficulty in walking for the past three years. On admission to hospital in April, 1946, he showed evidence of a spastic paraplegia thought to be due to a spinal tumour. Laminectomy performed on May 14 showed extreme sclerosis of the vertebrae, with ossification of the dura due to Paget's disease, for which nothing could be done. For seven months after operation the story was one of increasing stiffness of the legs, so that on readmission in December, 1946, he was unable to stand and the picture was one of a severe spastic paraplegia, with pain and flexor spasms beginning to be a prominent feature. It was decided to try the effect of curare with a view to lessening the spasticity. The drug was at first given as aqueous tubocurarine intramuscularly in doses of 20 mg., later increasing to 30 mg. every third day. It was found that the drug produced definite lessening of the spasticity and voluntary power became better for a few hours, but at no time was the patient able to stand. The side-effects of the drug were diplopia, nausea, and a feeling of drunkenness. Injections of tubocurarine in oil intramuscularly were then substituted, beginning with a dosage of 20 mg. and increasing up to 40 mg. on alternate days. These injections produced minimal improvement; his pain and flexor spasms were not improved, and, although side-effects were slightly less noticeable than with ordinary curarine (probably because of increased tolerance), yet relief from the spasticity was also less and did not materially help the patient's condition. With neither type of curare was he able to walk. The spasticity became so extreme that adductor tenotomy was performed and the patient was put in a plaster-of-Paris spica. Unfortunately decubitus ulcers developed and he died suddenly from heart failure three months after operation. He had been under treatment with curare intermittently for five months. Post-mortem examination confirmed the diagnosis of Paget's disease of the spine.

Motor Neurone Disease

Case 3.—A woman aged 45 suffered from typical motor neurone disease. She showed a bulbar palsy of mixed pseudo and true types, an exaggerated jaw-jerk, a spastic tongue, wasting of the intrinsic muscles of the hands, increased tendon reflexes in the arms, and gross spasticity in the legs, rendering her bedridden. The administration of 30 mg. of curare in oil every third day produced a slight reduction in spasticity, but the patient remained bedridden and her speech was unaltered. She insisted, however, on keeping up the injections, as she was sure the drug was doing her good—in particular her legs felt warmer. No disagreeable side-effects occurred.

Subacute Combined Degeneration of the Cord

Case 4.—This patient, a woman aged 58, was admitted with very spastic legs, bilateral extensor plantar responses, and pronounced diminution in joint sense due to subacute combined degeneration. She had suffered from pernicious anaemia for many years and had been on liver therapy; her blood picture at the time of admission was normal. The administration of curare in oil up to 45-mg. doses produced no effect whatsoever.

Disseminated Sclerosis

Case 5.—A woman aged 56 had had a spastic paraplegia, nystagmus, dysarthria, and euphoria due to disseminated sclerosis for over 10 years. She had one month's history of flexor spasms, which were very painful, and on admission she was found to be bedridden and to have 20° of flexion contracture in both knees. Doses of curare in oil daily, increasing from 10 to 30 mg., produced marked diplopia and a feeling of drunkenness. There was slight diminution in tone in the legs and relief of flexor spasms, and no diminution in the flexion contracture. In addition active physiotherapy.

Case 6.—A woman aged 29 was admitted with a spastic paraplegia, having been bedridden for three months. She had a history of a fall from a ladder in 1945, and her stiffness was worse in the legs than in the arms. She was given 30 mg. of curare in oil up to 30 mg. and exercises were started. The drug produced marked diplopia and a feeling of drunkenness, and she managed to get up and walk a few steps. After a further 30 mg. she was able to walk a few steps, and she had had no

Case 7.—A woman aged 51 had had difficulty in walking for 10 years and on examination was found to have spastic legs, R > L, very brisk arm reflexes, exaggerated knee-jerks, left ankle clonus, and extensor plantar responses. The C.S.F. Lange curve was 4321000000 and the W.R. was negative. Curare in oil in doses ranging from 15 to 40 mg. produced a definite decrease in spasticity, and for the first three-quarters of an hour after injection reversal of the plantar responses was noted. There were no side-effects, and the patient could walk reasonably well—certainly better than on admission.

Case 8.—A woman aged 67 was admitted with diplopia and spastic paraplegia with bilateral ankle clonus and extensor plantar responses. She had been almost bedridden for six months. The Lange curve was 5543321000 and the W.R. was negative. Repeated injections of 30 mg. of curare in oil produced some diminution in muscle tone but no alteration in reflexes. The change was not enough to aid the patient's walking materially.

Case 9.—A woman aged 34 complained of dragging of the left leg for the past five weeks. She was found to be euphoric and to have a spastic paraparesis with bilateral extensor plantar responses. Curare in oil in doses up to 20 mg. produced considerable improvement in the gait, both subjectively and objectively. There were no side-effects. This case was the least severe of the series.

Case 10.—A man aged 36 had dragged his left leg for four years and now had great difficulty in walking after a few minutes. He was found to have very brisk tendon reflexes, bilateral ankle clonus, and bilateral extensor plantar responses. Tubarine in oil in doses of 22.5 mg. produced no change; doses of 30 mg. caused blurring of vision in half an hour, and rather less foot drag; doses of 45 mg. produced diplopia + +, drunken feeling +, and reeling gait. His gait was definitely no better 4 hours later.

Case 11.—A woman aged 36 had had spastic ataxic gait, brisk reflexes, and extensor plantar responses for four years. Tubarine in doses of 45 mg. produced slight improvement in gait and no side-effects. Objectively there was little improvement.

Case 12.—A woman aged 39 had had difficulty in walking for four years. Her legs were ataxic and spastic, R > L, reflexes brisk, plantars extensor. Tubarine in doses of 22.5 mg. and 30 mg. produced mistiness of vision, but no objective signs or side-effects. Doses of 45 mg. produced misty vision, sensation of drunkenness, and great ataxia. Twenty-four hours later there was no subjective improvement, but she was possibly walking a little better.

Case 13.—A woman aged 36 had been ill for 10 years, but when admitted she was undergoing a spontaneous remission. Her legs were slightly spastic, tendon reflexes brisk, plantar responses extensor; she was walking quite well. After 22.5 mg. of tubarine she felt a bit dithery, and had a feeling of warmth in her hands and feet. After 30-mg. doses she had paresthesia, feeling of detachment, and was walking worse. Her hands went warm and then cold within an hour. After 45-mg. doses she felt "drunk and muzzy," her legs were cold, and she was more ataxic. Next day walking was better.

Case 14.—A woman aged 63 had been ill for five years. She managed to take a few steps round her room by holding on to the furniture. She had very spastic legs and bilateral extensor plantar responses, but no anaemia or sensory changes. Tubarine in 22.5-mg. doses had no effect of any kind. Doses of 30 mg. produced blurring of vision in 50 minutes; after one hour her legs became more spastic than before the injection; there were no side-effects. Two hours after 40-mg. doses she was very spastic, and the plantars were extensor. No objective improvement was seen and there were no troublesome side-effects.

Case 15.—A woman aged 26 had had for two years diplopia, spastic legs, very brisk reflexes, flexor plantar responses, a gross ataxia on heel-to-knee tests, but her gait was fairly good. Tubarine in doses of 22.5 mg. produced drunkenness, "wobbliness" when walking. Doses of 30 mg. produced diplopia + + a nystagmoid jerkings; jerks still brisk. She was walking very badly indeed, and was more ataxic than ever. The drug was discontinued because of the side-effects.

Case 16.—A man aged 42 had had a dragging left leg and lightly ataxic gait for six years. He was found to have left ankle clonus, brisk reflexes, and bilateral extensor responses. Tubarine in doses of 20 mg. and 30 mg. produced severe side-effects, blurring of vision, and drunkenness, great ataxia, but a objective improvement in gait. The drug was discontinued at patient's own request.

Case 17.—A woman aged 44 had had disseminated sclerosis or 10 years. Brisk tendon reflexes, bilateral extensor plantar responses, and spastic paraplegia were present. She was able to walk a few steps, but had not been out of her house for three years. Tubarine in 30-mg. doses did not give any relief but made the patient giddy and more ataxic.

Discussion

While we are in agreement with previous authors that curare temporarily diminishes the tone in spastic muscle without producing general paralysis, we have not been able to substantiate Schlesinger's claim that curare in oil has overcome the disadvantages of the drug in aqueous solution, nor have we been impressed with it as a therapeutic agent in our series of patients.

Side-effects.—Troublesome symptoms occurred in 10 of our 17 cases (so severe in two that the drug had to be discontinued), but we found, as West did with aqueous curare, that a tolerance usually developed on continued administration.

Length of Action.—In general the relaxation of muscle tone was apparent in 10 minutes, maximal in 20–30 minutes, began to wear off in an hour, and was completely absent in 24 hours. This action is no longer than that of aqueous curare, although, as with that drug (West, 1932; Harvey and Masland, 1941), some of our patients thought that relief lasted several days.

We have no satisfactory explanation to offer for the temporary reversal of plantar responses noted in Case 7 and merely record it as a matter of interest.

Therapeutic Value.—Reviewing our 17 cases, we find that in 11 the treatment either produced no improvement (7) or the patients were actually worse (4). The reason for definite deterioration appears to be that curare by lessening spasticity sometimes unmasks previously concealed posterior column loss. Turning to the cases in which improvement was noted, the only remarkable success was in Case 1. Here curare in oil was of no use until it was reinforced with quinine, but the combination of the drugs resulted in cessation of the flexion spasms, which did not return when the drugs were stopped a month later. (It may be worthy of note that all cases in which favourable results were reported by Schlesinger were traumatic in origin.) In the remainder of our cases which were thought to be improved the benefit was slight and usually only apparent to the patient. It was very difficult to assess minor fluctuations in muscular power, and interrogation of patients showed that there was considerable natural variability: thus not weather and previous exercise both resulted in temporary improvement. Another factor which had to be borne in mind, particularly in dealing with disseminated sclerosis, was natural remission (Case 13). Even more important was the psychological aspect of the treatment. Most of our patients had been chronically ill for long periods, and when fresh hope was engendered by the new drug, intensive physiotherapy, and the encouragement of being a centre of interest once more, there was a natural tendency to think the treatment was doing good.

Bearing all these factors in mind, we do not feel that the improvement noted in six of our cases can with any certainty be attributed to tubarine, particularly as 11 showed no benefit whatever. In our opinion, therefore, curare in oil is not the hoped-for advance in reducing spasticity in

neurological disease, and we do not feel that our results justify the expense of the treatment, at any rate so far as adults are concerned. We have not used the drug in children, but it seems likely that the same disadvantages would obtain, and a recent communication (Collis, 1947) on the subject of reablement in Little's disease makes no mention of its use. Further investigation is necessary to see whether a combination of drugs is any more successful.

Summary

The value of curare in oil in reducing spasticity of pyramidal type in 17 cases of neurological disease has been investigated.

In our opinion the drug has not proved superior to aqueous curare, and has been of little use in the rehabilitation of our patients.

Our thanks are due to Dr. H. S. Pemberton and Dr. Leslie Cunningham for help in providing some of the cases, and to Messrs. Burroughs Wellcome and Co. for the initial supply of tubarine.

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LOUSE-BORNE RELAPSING FEVER IN PERSIA

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An epidemic of a recurrent fever occurred in Abadan between November, 1945, and June, 1946—1,087 cases being admitted to the isolation hospital. We intend to show that this was in fact an epidemic of louse-borne relapsing fever, and to give an account of its symptomatology and the results of treatment with arsenicals.

In reviewing the available literature no report has been found of louse-borne relapsing fever in Persia. Current textbooks do not mention the disease as occurring there, although Rogers and Megaw (1944) say it is common in most parts of India. The present epidemic was undoubtedly part of the widespread epidemics described in the Mediterranean and North Africa during 1943–5—e.g., Algeria (Grenouilleau, 1946), Morocco (Sicault, 1944), Cairo (Wolman, Omar, and Abu-Taleb, 1945), and Abyssinia (Charters, 1945); and reviewed by Stuart (1945), who also mentions Tunisia, France, Greece, Rumania, and Turkey.

The tick-borne disease is found all over the Middle East and Central Asia—namely, Cyprus (Wood and Dixon, 1945), Palestine (Adler, Theodor, and Schieber, 1937), Azerbaijan (Popow and Achundow, 1936), Persia (Dely and Rafyi, 1939), Caucasus (Maruashvili, 1945), Afghanistan (Avanessov, 1938), Kazakhstan (Andreev, 1944), and Tashkent (Kassirsky, 1933)—but it has, of course, different characteristics from louse-borne relapsing fever.

The Epidemic

The first case was detected in the first week of November, 1945; other cases followed quickly, and 50 to 60 were being admitted weekly in January. The epidemic followed closely the degree of coldness of the weather as shown by the average minimum daily temperature until the end of January, 1946, when the active measures taken by the Health Department, who began disinfecting the population with D.D.T. on a big scale, caused a considerable drop in the incidence of the disease, although the minimum temperature remained about 45° F. (7.2° C.) until the end of February. As soon as the general temperature began to rise the epidemic quickly declined; it was no longer necessary for the poorer classes to crowd into houses for shelter, and the heat of the sun soon killed off the lice carried in their clothes. The critical temperature was reached at the end of May, with an average daily minimum of 80° F. (26.7° C.), an average maximum shade temperature of 105° F. (40.6° C.), and an average maximum sun temperature of 150° F. (65.5° C.). The last case was admitted on June 24.

It is interesting to compare Chart 1 with Chart 2, which is compiled from statistics of the typhus epidemic here in the

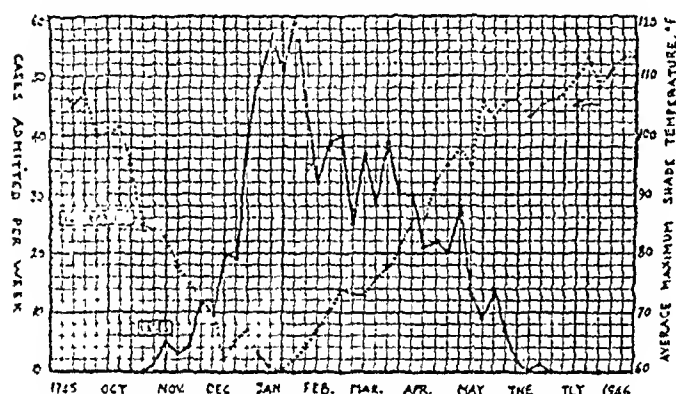


CHART 1.—The relapsing fever epidemic in Abadan, 1945-6.

winter of 1943, the critical temperatures for the termination of the epidemics being almost identical.

The disease was first diagnosed by one of us (I.S.S.) when *Spirochaeta recurrentis* was found on routine examination of blood slides from the out-patient department. Suspecting

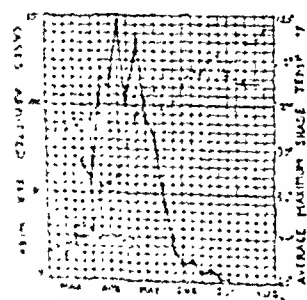


CHART 2.—The typhus epidemic in Abadan, 1943.

the vector to be the louse, the next 50 cases were examined; 36 of these were found to be infested with *Pediculus humanus*. The lice were crushed in saline and examined under dark-ground illumination. The *Sp. recurrentis* was demonstrated in six lice.

The dark-ground microscopical examination of a drop of blood under a cover-slip was found to be the quickest way of diagnosing the disease; but it was not possible to exclude concomitant malaria by this method; routine diagnosis was made by staining a blood smear with Leishman's stain. The following reasons do not fulfil all Koch's postulates, but they do demonstrate that the relapsing fever was caused by the louse-borne typhus. (1) The Health Department has been informed of the epidemic in Abadan, and is of the opinion that the epidemic is confined to the town. (2) Of the 50 cases admitted to the isolation hospital 87.5% were found to be infested with lice. (3) *Sp. recurrentis* was demonstrated in six lice taken from the bodies of patients.

(4) The epidemic form of the disease and its relationship to the average temperature are characteristic of a louse-borne disease. Comparison with the previous epidemic of typhus is very significant. (5) The drop in the weekly admissions following the mass disinfection of the populace with D.D.T. powder.

Symptomatology

The last 214 male cases admitted to the isolation hospital were examined clinically by one of us (R.I.B.). (Very few women were admitted. The proportion was 19 men to one woman. This is certainly not a true figure for the incidence of the disease, but an indication that women were unwilling to apply for treatment.) All these cases were diagnosed by positive blood smears at the out-patient department before admission to the isolation hospital.

No account is given here of the preventive work carried out by our Health Department. All the cases came from the labouring and unemployed class of the community. The great majority were young adults, the age incidence being under 8 years, 1 case; 8-15 years, 9 cases; 15-30 years, 117; over 30 years, 87.

Onset.—All these patients could recall the day on which the attack started; most of them could fix the time within a few hours. The attack began with a splitting frontal headache, which very soon was followed by a high fever and in many cases a rigor. The fever was maintained for an average of 4 to 5 days.

Course.—During the initial attack the temperature was usually raised to 103° or 104° F. (39.4° or 40° C.) and remained at this height until the crisis, when it fell to normal within a few hours. At this time the patient sweated profusely and was often weak and exhausted. During the next few days he quickly regained his strength and demanded to be discharged from hospital. The period of apyrexia lasted about nine days, although it was found that the most constant time-relationship was from the day of onset to the day of relapse—an average period of 14 days. During the relapse the patient's temperature was raised to 102°-103° (38.9°-39.4° C.) for about two days.

Symptoms.—During the initial fever patients complained of headache and pain in the back. Percussion over the lower thoracic and upper lumbar spine revealed tenderness and the muscles of the arms and legs were also painful and tender to deep pressure. Anorexia was common, and some complained of epigastric pain after taking food. Vomiting was frequent; the bowels were usually constipated. Epistaxis was not uncommon; a non-haemorrhagic herpetic febrilis occurred in a small number of cases. Many patients complained of a cough. During the apyrexial period symptoms abated and the patient was quite well unless he had respiratory trouble.

Physical Examination

The patient was usually seen on the third or fourth day of the disease, and presented the appearance of a high fever. No rash was seen in the majority of cases, but a few had definite petechial rash on the trunk only; in these the Widal-Felix reaction showed only a slight agglutination with OX—e.g., 1/25 +, 1/50 ±. A number of cases were jaundiced: these were classified as: +, conjunctival coloration; ++, skin coloration; +++, marked skin coloration. The colour was easily demonstrated in the serum of many cases in which the Wassermann test was carried out. Nine cases had a marked jaundice, and this was found to be a prognostic sign; two of these cases were fatal (see below). The spleen showed all degrees of enlargement—down to the umbilicus; the liver was sometimes enlarged and of tender. No change was found in the cardiovascular system.

but minor respiratory complications were very common. The reflexes were normal, and there were no significant signs.

		Incidence of Symptoms	
Fever	98.07%	Epistaxis	14.02%
Headache	90.65%	Anorexia	92.52%
Backache	77.57%	Vomiting	56.07%
Pains in limbs	71.50%	Constipation (2-6 days) ..	51.40%
		Incidence of Signs	
Jaundice	9.81%	Enlarged spleen (1-4 fingers)	76.63%
Herpes	7.48%		
Rash	3.22%		

Complications

Respiratory complications were by far the commonest. Minor respiratory complications occurred in 49.07%, and major respiratory complications in 11.21%—a total of 50.28% with pulmonary disturbances varying from a "cough" to bronchopneumonia. The most usual symptom was a characteristic dry irritative tracheitis which often went on to a bronchitis. These cases were classified as minor complications. Sulphonamide treatment was given in 10.75% of the major complications. Bronchopneumonia was treated as a major complication.

There was a non-specific arthritis in four cases (1.87%)—two in the knee and two in the shoulder. These were treated with kaolin poultices. Perisplenitis due to the size of the spleen occurred in two cases (0.94%); these were successfully treated with repeated subcutaneous injections of adrenaline.

Complications in the central nervous system were found in three cases (1.40%).

Mental Cases.—Two patients developed obsessions that the other patients in the ward were plotting against them and wanting to kill them; both had to be put under restraint. One managed to escape in spite of being under careful guard and committed suicide; the other eventually recovered completely.

Case of Transverse Myelitis.—This was a very interesting case of a lesion of the spinal cord almost certainly due to relapsing fever. The patient was admitted to the isolation hospital on March 31, 1946, as an ordinary proved case of relapsing fever and given 0.45 g. of N.A.B. He developed a cough and bronchitis, for which he was treated with a full course (five days) of sulphonamides. He did not have a relapse. About 10 days after admission he complained of pain over the lumbar spine; this was more severe than the backache described by other patients and was not relieved by sedatives. After 15 days he was found to be developing a spastic paralysis in both legs and soon he was unable to walk. On examination the knee-jerks were R. + + +, L. + +, and the ankle-jerks were normal, Babinski's sign was positive, and the abdominal reflexes were exaggerated. There was some skin hypersensitivity around the lower abdomen. He was now transferred to the general hospital. The Wassermann reaction was negative. Spinal puncture unfortunately was unsuccessful owing to the rigidity of the back. The patient was examined by a surgeon, who could find no evidence of injury or disease of the vertebra. A radiograph of his spine revealed no abnormality. He was discharged from the hospital on June 25. He was then able to walk very precariously with a pair of crutches and was invalided as permanently unfit. On Aug. 7 he returned to the hospital applying for a certificate of fitness for re-employment; he was examined and found to be without any residual disability. This case was almost certainly a myelitis due to the relapsing-fever spirochaete; it was a pity the case could not be proved by lumbar puncture.

In view of the research carried out recently by French workers into the neurotropic character of the louse-borne *Sp. recurrentis* in rats, it is interesting to note that the central nervous system is affected more than other systems in the human body. Of our patients 90.65% complained of headache and 77.57% of severe backache in the thoracic and upper lumbar regions—i.e., over the spinal cord. Two cases suffered severe mental derangement, one resulting in death. One case of myelitis was almost certainly due to *Sp. recurrentis*.

Deaths

The death rate among all the cases of relapsing fever admitted during the epidemic was 1.11%. In the series of 214 cases specially studied, five (2.34%) deaths occurred—one from an unrelated disease (infected amoebic abscess), two from bronchopneumonia complicating the relapsing fever, and two from relapsing fever.

Treatment

The 214 cases under special study were divided into two groups for the purpose of treatment. Group 1, consisting of 97 patients, were treated with an injection of 0.45 g. of N.A.B. intravenously immediately on admission—11 (11.34%) suffered one relapse and no case relapsed a second time.

As we were very short of N.A.B. at this time and the epidemic appeared to be mild we decided not to give the drug on admission, but to wait, as some authorities recommend, until the case relapsed. There were 117 cases in group 2; 75 (64.10%) of them relapsed. As soon as the relapse was detected they were given 0.45 g. of N.A.B. Not only did this save the use of the drug in 35.9% of cases—those that did not relapse—but it demonstrated how effective the N.A.B. treatment had been in group 1, when only 11.34% of cases relapsed.

All the cases in group 1 which relapsed received a further 0.45 g. of N.A.B.: none relapsed a second time. In group 2 only one case relapsed a second time, and was treated with a further 0.45 g. of N.A.B.—thus demonstrating that the drug is more effective when used later in the disease.

Few reactions followed the injections of N.A.B.: sometimes the patient's temperature would be raised for 24 hours. No definite time interval was detected between giving the injection and the crisis.

Another interesting point emerged during the course of treating the two groups: nine patients developed a marked jaundice. Three of these did not receive N.A.B. on admission, as it was thought that it would be dangerous to give arsenic to patients whose liver was already damaged; it was also believed that a dangerous crisis might be provoked. However, two of these three died. The remaining six received N.A.B. on admission and none of them died.

Summary

An epidemic of louse-borne relapsing fever, believed to be the first reported in Persia, is described.

A detailed clinical description, demonstrating the mildness of the epidemic and the low death rate, is given.

The effect of treatment with N.A.B. is quantitatively assessed.

We wish to thank the Health Department for co-operation in this report, and in particular Mr. C. Brooking, chief health inspector, for the graph of the typhus epidemic, 1943. This paper is submitted by permission of the chief medical officer, Anglo-Iranian Oil Co., Abadan.

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WHAT THE MEDICAL PRACTITIONER WANTS TO KNOW

BY

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Readers of the *British Medical Journal* study with interest the section devoted to "Any Questions?" In addition to the information to be obtained from individual questions and answers, it is felt that when they are viewed as a whole some indication is given of the problems which are uppermost in the minds of the medical profession. A classification of the questions would therefore be of interest and value, but this task was found more difficult than might be imagined. It is most unlikely that any two people would adopt the same subdivisions, and it is often doubtful into which of these a particular question fits.

All the questions (2,018) published in 1943-6 were taken for analysis. Some questions required answers to more than one problem on the particular topic, but in order to prevent undue weighting of some subjects each question was counted once only and an endeavour was made to determine the main problem of the questioner. It sometimes happened that both the treatment and the aetiology of a disease were asked for, but the doctor's main concern seemed to be the treatment of his patient.

In the first place it was found convenient to divide the questions into two main groups. Group A relates to specific diseases, whereas Group B includes the remaining questions belonging to the field of medical science generally. These may be classified as follows:

Group A		Group B	
Medicine	899	Pharmacology	130
Surgery	186	Sex problems	82
Midwifery and gynaecology	143	Forensic medicine	69
Dermatology	165	Public health	44
E.N.T. and eyes	74	Dietetics	43
	1,467	Preclinical sciences	30
		Anaesthetics	27
		Pathology	18
		Rhesus factor	18
		Eugenics	12
		Industrial medicine	10
		Blood transfusion	10
		Miscellaneous	5
			71
			551

Group A

These questions can be further subdivided (Table I) to demonstrate the aspects of the subjects which are the main concern of the doctor.

TABLE I

	Heredity	Aetiology and Diagnosis	Treatment	Prevention	Prognosis	Other	Total
Medicine	15	170	503	86	35	90	899
Surgery	4	30	106	13	25	14	186
Midwifery and gynaecology	1	15	104	8	8	4	143
Dermatology	1	9	142	6	3	4	165
E.N.T. and eyes	6	9	49	4	3	3	74
Total	26	233	904	106	62	136	1,467

The table shows quite clearly that the commonest problems are medical ones, and that treatment is the main concern. This is what one would expect, assuming that the bulk of the questions came from general practitioners. It is revealing that so much interest is centred on dermatology.

Table II shows that the nervous system is the source of many of the medical problems; in this subdivision there were 21 questions concerned mainly with epilepsy. It would seem that the preclinical and clinical student's worry over the nervous system follows him after qualification. Conditions such as cerebral haemorrhage have been included in the nervous system group, although it may well be argued that they would be more appropriate under the heading of the cardiovascular system: such are the difficulties of classification, which even international commissions have not surmounted. Into this group have been placed questions on migraine (6), neuralgia (6), vertigo (5), and post-encephalitic Parkinsonism (3); these conditions have a psychological as well as an organic aspect. Psychological issues are also raised by questions in other groups, particularly in the "sex group," but it would be confusing, and largely guesswork, to try to give a comprehensive picture of the extent to which medico-psychological problems enter into the queries not specifically classified above under "mental diseases."

TABLE II

	Heredity	Aetiology	Diagnosis	General Treatment	Penicillin Treatment	Sulphonamide Treatment	Hormone Treatment	Dietetic Treatment	General Prevention	Specific Prevention	Laboratory Tests	Prognosis	Statistics	Technique	Other	Total
Nervous system	1	7	18	60	1	—	1	2	—	—	6	3	—	—	—	79
Cardiovascular system	1	10	10	51	—	2	4	3	—	—	3	2	—	—	—	73
Endocrine diseases	3	3	1	19	—	—	—	—	—	—	—	4	—	—	—	27
Respiratory system	—	6	4	11	2	4	—	—	—	—	12	2	—	—	—	31
Alimentary system	1	7	1	31	1	—	—	—	—	—	1	1	—	—	—	42
Genito-urinary system	—	8	10	44	1	2	—	4	—	—	6	1	—	—	—	68
Integumentary system	1	6	14	14	—	2	—	3	—	—	4	2	—	—	—	47
Immunological diseases	—	5	8	24	—	—	5	1	—	—	3	1	—	—	—	41
Other	1	1	7	7	—	—	—	—	—	—	1	5	—	—	—	27
Unclassified	—	5	3	31	—	2	—	2	—	—	—	4	—	—	—	47
Total	12	55	77	336	137	12	12	17	2	6	3	33	3	3	3	551

An analysis of the 165 questions in the dermatology group is of interest:

Fungous infection	15	Excessive sweating	6
Psoriasis	9	Acne	5
Urticaria	9	Alopecia	5
Seborrhoeic dermatitis ..	7	Scabies	4
Pruritus	7	Other (miscellaneous and ill-	
Verruca	6	defined conditions)	86
Occupational dermatitis ..	6		

It may well be that fungous infection of the skin heads the list because of its wartime frequency in the Services, particularly overseas. Most of the questions in this group are concerned with treatment.

The tables show that there is an interest in the prevention of diseases: no fewer than 60 questions (Table II) sought information regarding specific methods of preventing infectious diseases. This also is probably due to the increased risk of such diseases in wartime and to the extensive propaganda on the subject. It would be of interest to know the proportion of such questions which came from medical officers serving in the Armed Forces.

Group B

Anaesthetics play only a small part in the questions, owing no doubt to the increasing specialization in this branch of medicine. Heredity and eugenics form interesting groups—a total of 36 questions—reflecting, perhaps, an increased interest in this matter by the general public, which seeks guidance from the medical profession. Indeed, if a similar column were opened for questions from the general public the result might be revealing.

The sex problems in Group B form a large subgroup, and even though wartime conditions may be partly responsible, especially for the questions on impotence, it is felt that the size of this subgroup is significant when one remembers how negligible was the instruction on this subject received by the student at his medical school.

Sex Group

General problem of fertility ..	3	Frequency of coitus	5
Male	28	Artificial insemination ..	2
Female	9	Pre-marital medical examina-	
Contraception	13	tions	3
Frigidity	8	Others	3
Sex education	3		82
Masturbation and abnormal sex			
behaviour	5		

The subgroup of questions entitled "pharmacology" is a large one, and it must be stated that in some ways it is artificial, in that into it were placed any questions concerning drugs if at the same time a specific disease or clinical picture was not mentioned. As was to be expected during the period to which this analysis applies, the questions on sulphonamides and penicillin were numerous (33) in Group B, and in addition 55 questions are to be found in Table II relating to treatment of specific diseases—so that the grand total was 88.

Out of a total of 2,018 questions 71 have been found impossible to classify into any definite subgroup. Some of these required information on the choice, care, and sterilization of instruments. There were others relating to such diverse conditions as nail-biting, sea-sickness, doctors' expectation of life, and the susceptibility of cows to rheumatic endocarditis.

Analysis of the Questioners

Having reviewed the questions, one wonders whether the questioners form a representative sample of the medical profession. They may, for example, be the more enthusiastic practitioners, or, on the other hand, the less-well-informed doctors. The questions may come from the recently qualified or from the well established. The latter may feel a greater need for advice on recent advances in treatment. Again, are the questioners the isolated practitioners?

In an attempt to answer some of these problems information, entirely anonymous in character, was kindly supplied by the Editor of the *British Medical Journal*, and an analysis was made of the questioners from England and Wales during 1945. They were first grouped according to their date of qualification, giving the following results:

Date of Qualification	No.	Date of Qualification	No.
1880-9	8	1920-9	117
1890-9	24	1930-9	94
1900-9	43	1940-5	47
1910-19	63		

It was found impossible to relate these figures to any comparable ones giving the total number of practitioners, particularly since during the period under consideration many of the more recently qualified were in the Services.

The localities of the questioners were studied in relation to the distribution of doctors as a whole. For convenience each questioner was placed in his or her B.M.A. division. It will be remembered that these divisions were divided into three types—urban, mixed, and rural—for the purpose of recruitment to the Armed Forces. The results obtained are summarized in Table III.

TABLE III

	Urban	Mixed	Rural
Total no. of practitioners ..	11,777	8,913	1,497
" " general practitioners ..	7,202	5,303	1,044
" " questions	192	158	40
No. of questions per 1,000 practitioners	16.8	17.7	26.7
$\chi^2 = 7.5$ $0.05 > P > 0.02$; significant			
No. of questions per 1,000 general practitioners	27.5	29.8	38.3
$\chi^2 = 3.9$ $0.20 > P > 0.10$; not significant.			

The proportion of the questioners who were actually in general practice is unknown, but, if it be assumed that all of them were, then while the figures show a tendency for rural general practitioners to submit questions more readily than their urban colleagues the differences are not greater than could have arisen by chance; but when the questioners are related to the total number of registered doctors, then statistical tests show that doctors, whether general practitioners or not, are more likely to submit questions if they live in rural areas than if they reside in more thickly populated areas.

This may well be due to their comparative isolation and the difficulty in obtaining assistance from colleagues and guidance from hospital centres. Four large provincial centres where there are medical schools (Birmingham, Cardiff, Bristol, and Liverpool) had a total of 1,746 practitioners, of whom 953 were general practitioners; but they submitted only 20 questions, which represent rates of 11.4 questions per 1,000 practitioners and 21.0 per 1,000 general practitioners. These rates, though not significantly lower than for those of urban areas as a whole, yet nevertheless favour the view that questions are not submitted so often when there are ample consultant and specialist facilities available locally.

Conclusions

The numerical value of the questions is a factor to be carefully considered, because some of the answers supply the requirements of large numbers of would-be questioners, and therefore do not need repetition, whereas others may be of interest only to the individual questioner.

Why do people ask questions? Is it because of the lack of knowledge? If so it would seem that many changes are necessary in the curriculum at medical schools. The large number of questions relating to dermatology is in marked contrast to the rather minor part this subject plays in the prequalification period. It may, on the other hand, be desirable that there should be better facilities for the

treatment of resistant skin diseases by specialists in dermatology. It would seem that sex problems and the method of immunization require additional stress either in student days or in postgraduate courses.

A number of questions relate to the treatment of conditions not normally seen in the wards of teaching hospitals—e.g., epilepsy, skin conditions, and Parkinson's disease. Hospital experience in the treatment of these conditions is often to be obtained only as a house-physician or house-surgeon in out-patient departments. It may be that the student does not see enough of the routine work in out-patient departments, but rather looks upon the departments as places where typical clinical signs are demonstrated and where differential diagnosis is learnt.

Questions may indicate excessive interest in certain aspects of medicine, but would it be correct to assume the converse? It is probably true to say that the average doctor takes little interest in statistics. "General preventive measures against disease" (46) is a small group compared with "treatment of disease" (904). Is this as it should be? Or should medical schools stimulate a greater interest in the prevention of disease and the maintenance of positive health?

There is no doubt that large numbers of the questions are attempts by questioners to keep pace with the rapid growth of medical knowledge and methods. This is exemplified by the interest shown in sulphonamides and penicillin, which have come into their own during the period under review. Such questions reveal the need for postgraduate refresher courses

I wish to express my thanks for helpful criticism to Prof. R. M. F. Picken, Provost, Welsh National School of Medicine, at whose request this investigation was made; to the Editor of the *British Medical Journal* for information concerning the distribution of questioners; and to Dr. Lewis Fanning for his statistical advice.

BRODIE'S ABSCESS OF THE TIBIA ITS TREATMENT BY SURGERY, PENICILLIN, AND SULPHADIAZINE

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Brodie's abscess was first described by Sir Benjamin Brodie in 1824. According to Muir it is "a local abscess of chronic nature usually situated in the metaphysis of a long bone. It is, as a rule, surrounded by dense bone and may give rise to external swelling. The contents of the space may be pus, but in very chronic cases are often a clear fluid, which may be sterile."

In all, some 342 cases of Brodie's abscess have appeared in the literature. In 1906 Thompson described an abscess of the lower end of the tibia. This specimen is preserved in the Royal College of Surgeons in Edinburgh. The abscess has a capacity of some 500 ml., and the patient, a sailor, was reputed to drain the abscess from time to time by removing a wooden plug he kept in the sinus. It is recorded that he led an extremely active life. Thompson also reported 161 cases from the literature. In 1924 Hetherington and Simon reported 13 cases from the literature. In 1927 Piguet and Cynau described 9 cases of Brodie's abscess. In 1931 Wagner and Hanhy reported 12 cases. In 1936 Dwyer and Simon, in the United States, reported 2 cases and reviewed most of the above.

In all these cases the most common site for the abscess was the lower end of the tibia, to be shared equally by the

upper and lower end of the tibia. The next site, which is only half as common, is the lower end of the femur. The third commonest site is the humerus (position not stated) followed by the upper end of the femur, the middle of the tibia, and the radius (position not stated).

Aetiology

Sex.—Brodie's abscess occurs almost twice as often in males as in females, and in about 90% of the cases in which the age was mentioned it occurred below the age of 40.

Trauma.—The fact that males are as a rule subject to greater amount of trauma than females is significant, will also be noticed that Brodie's abscess occurs during the age period of greatest physical activity. It also occurs commonly after compound comminuted fractures.

Osteomyelitis.—Brodie's abscess often follows acute osteomyelitis. In his series of 145 cases Thompson elicited a history of acute osteomyelitis in 122. It is noticed that Brodie's abscess frequently follows an acute osteomyelitis which has passed into the chronic stage. This becoming increasingly less common since the advent of chemotherapy and penicillin therapy.

Acute Infections.—Brodie's abscess has been seen after acute infections—principally typhoid and paratyphoid fevers—otitis media, staphylococcal skin infections, and abscesses.

Case History

J. D., a miner aged 62, attended the out-patient department Ayr County Hospital on March 19, 1947. He had been complaining for the past six weeks of an intense, continuous, deep seated pain situated in the lower end of the left tibia. The pain which was much worse at night, had gradually got more severe over these six weeks, and when seen the patient complained of feeling feverish at night, with marked malaise, anorexia, and vomiting. Two weeks before coming to hospital the left ankle began to swell, and the skin became red, glazed, and distended over both malleoli. These swellings were extremely painful and the pain was continuous in character.

There was a history of a compound fracture of the lower third of the left tibia and fibula some thirteen years previously. This fracture had united, but there was considerable thickening of both the tibia and fibula at the junction of middle and lower thirds.

On examination gross swelling of the left ankle was particularly over both malleoli, where two large abscesses were pointing; these were approximately 2½ in. (6.25 cm.) in diameter, and appeared to be about to rupture. The swelling was extremely tender on palpation, particularly over the lower anterior aspect of the tibia. The slightest movement of the ankle-joint caused excruciating pain. Lymphangitis was pronounced up to the level of the knee, and both the popliteal and the superficial inguinal groups of glands were enlarged and tender.

Radiographic examination revealed an egg-shaped cavity in the lower third of the tibia, about 2½ in. long vertically, by 1½ in. (2.5 cm.) in breadth, and 1 in. in depth. There was a small bead-like pocket connecting with the lower aspect of the cavity; this was about 1¼ in. (0.6 cm.) in diameter. The cavity was surrounded by dense sclerotic bone. A diagnosis of Brodie's abscess was made. The white-cell count was 22 per c.mm. (90% polymorphonuclear leucocytes). The erythrocyte sedimentation rate was 20 mm. and 45 mm. at one and two hours, respectively.

Treatment

At first the main object was to deal effectively with the superficial abscesses and to prevent their rupture and the formation of subsequent sinuses, as this would impede any operative treatment of the bone abscess itself. The superficial abscesses were therefore aspirated on March 19 by means of a wide-bore needle which was inserted through healthy skin on either side of the tibia. 35 ml. of thick yellow pus was taken from the medial abscess and 30 ml. of similar-looking pus from the lateral abscess. Sodium penicillin in a dosage of 50,000 i.u. was injected into each abscess after aspiration. The needles were

then removed and the puncture wounds were sealed with collodium flexile. The ankle was lightly bandaged. The patient stated that the pain was greatly relieved.

Bacteriological examination revealed numerous Gram-positive cocci and pus cells. On culture profuse colonies of *Staphylococcus aureus pyogenes* were obtained. These were found to be penicillin-sensitive.

Aspiration of the abscesses was repeated, and the introduction of similar amounts of penicillin was carried out on March 21, 23, and 24. By the 25th the superficial abscesses were completely healed except for slight discoloration of the skin and the needle-puncture marks. In addition to the above local treatment the patient had a course of sulphadiazine (2 g. followed by 1 g. four-hourly) together with three-hourly intramuscular injections of sodium penicillin (20,000 i.u.); this parenteral treatment was started on March 19.

On March 25 the administration of sulphadiazine was discontinued, the patient having had 30 g. The three-hourly administration of sodium penicillin was now changed to penicillin in beeswax (Glaxo), as the patient was rather apprehensive regarding continuous three-hourly injections. The dosage was changed to 60,000 i.u. given in two 12-hourly doses.

Operation

On March 28, under nitrous oxide, oxygen, and "trilene" anaesthesia, a 6-in. (15-cm.) curved incision was made vertically from the junction of the middle and lower thirds on the medial side of the leg, to within 1/2 in. (1.25 cm.) above and behind the medial malleolus. The incision was made through healthy skin down to bone. The soft tissues were retracted and the tibia explored over its medial aspect; the extent of the abscess was gauged and the bone saucerized over this area by means of a gouge. All bone chips were carefully preserved in warm normal saline. The lining membrane of the abscess cavity was soon exposed; this was found to be dark grey in colour. After exposure of the membrane all further bone chips removed were discarded. The abscess was now fully laid open along its whole length, and the grey pus which formed its contents was removed and retained for examination. The lining membrane was carefully curetted with a Volkmann's spoon and all debris removed. The cavity was then packed with the previously preserved bone chips.

An ordinary wide-bore intravenous needle was introduced into the cavity, the base of the needle being sutured to the wound edges, which were closed by means of interrupted silk-worm-gut sutures. The dressing was arranged so that the base of the needle would protrude through the dressing without interference with the wound itself, thereby enabling three-hourly injections of penicillin to be carried out. Bacteriological examination of the pus from the bone abscess revealed numerous Gram-positive cocci, which on culture gave profuse colonies of *Staph. aureus pyogenes*.

Subsequent Progress

The patient's condition after operation was extremely good. Sodium penicillin (30,000 i.u. three-hourly) was injected into the bone cavity. This was painful, but the pain passed off after two days. At first there was a tendency for the needle to become blocked with clotted blood, but this was countered by inserting a sterilized stylet before the injection of penicillin. The patient continued to have 60,000 i.u. of penicillin in beeswax twice daily by the intramuscular route. All local pain disappeared after three days, the patient felt extremely well, and he moved his ankle-joint freely. On April 4 penicillin was discontinued. The needle was removed, also alternate sutures. The wound was satisfactory. On April 7 all sutures were removed; the wound appeared to be very healthy, and there was no evidence of wound infection.

Radiological examination on April 9 and 15 showed considerable and increasing bony union between the tibia and the bone chips. The patient was discharged from hospital on April 19, feeling in the best of health and walking with the aid of two sticks. He reported to the orthopaedic clinic on May 7, walking with a slight limp and using only one stick. Radiological examination showed further bony union between the chips and the tibia. The abscess cavity was being gradually obliterated by new bone formation. The patient returned on June 6, and

was walking extremely well without a stick. He said that he had no discomfort in walking five miles and was keen to resume work. He was in excellent health and had absolutely no disability. He was advised to report in a month. On July 7 radiological examination revealed almost complete obliteration of the abscess cavity. The patient said that he was in perfect health and thought of returning to work. He could now walk an unlimited distance and had no limp. Ankle movements were full and painless.

Dosages of Sulphadiazine and Penicillin

1. Sulphadiazine (March 19-24), 30 g.
2. Penicillin (sodium): (a) Locally to superficial abscesses (March 19-24), 400,000 i.u. (b) Intramuscular (March 19-24), 800,000 i.u. (c) Direct to abscess (March 28-April 4), 1,680,000 i.u.
3. Penicillin (beeswax) (March 25-April 4), 1,200,000 i.u.

Total penicillin administered, 4,080,000 i.u.

Summary and Conclusions

A successful method of dealing with Brodie's abscess of the tibia by means of surgery, sulphonamides, and penicillin is detailed.

Cavities in the shaft of the tibia are notoriously difficult to deal with if an aesthetically satisfactory result is to be obtained.

By the method suggested, obliteration of the bone cavity is secured, with first-intention healing of the wound and retention of the shape and symmetry of the limb.

Medical Memoranda

Folic Acid Therapy in Coeliac Disease

The following case of coeliac disease may be of interest because of the rare macrocytic anaemia present and its rapid response to folic acid therapy.

CASE HISTORY

The patient, a small girl of 10, was admitted to hospital on Aug. 21, 1947, with a history of vomiting and diarrhoea with loss of weight for the past three years. The motions were described as being large and white on occasion. She had been in hospital earlier in the year, and when she was discharged the stools were normal and she was gaining weight.

On admittance the child was apathetic and miserable. She was markedly anaemic and emaciated. The abdomen was protuberant, and the buttocks and thighs particularly were wasted. The motions were large, formed, pale, and offensive. A blood count on Aug. 21 showed: haemoglobin, 16%; red cells, 550,000 per c.mm.; colour index, 1.5; white cells, 5,000 per c.mm. Blood film: macrocytosis, anisocytosis, and poikilocytosis all pronounced; several megaloblasts and normoblasts present.

After treatment with 2 ml. of liver extract intramuscularly and two tablets (10 mg.) of folic acid ("folvite") daily, combined with supplementary vitamins and but little dietetic restriction of fat, the haemoglobin rose to 27% in two days, and since then has risen steadily. There was also a steady gain in weight, as the following figures show.

Date	Haemoglobin	Weight
21/8/47	16%	2 st. 12½ lb. (18.43 kg.)
23/8/47	27%	—
28/8/47	35%	—
1/9/47	37%	2 st. 13 lb. (18.59 kg.)
8/9/47	40%	3 st. 11 lb. (19.73 kg.)
15/9/47	49%	3 st. 2 lb. (19.96 kg.)
23/9/47	53%	3 st. 5 lb. (21.32 kg.)
2/10/47	60%	3 st. 6½ lb. (22 kg.)
10/10/47	65%	3 st. 7½ lb. (22.45 kg.)
20/10/47	74%	3 st. 7½ lb. (22.45 kg.)
4/11/47	80%	3 st. 8 lb. (22.68 kg.)

The stools are normal in appearance and number, the abdominal distension has disappeared, and the patient's appearance is that of a healthy normal child.

A megalocytic hyperchromic type of anaemia is rare in coeliac disease, but has been noted to occur in cases that continue into adult life. In these cases the anaemia responds rapidly to folic acid treatment as it does in the sprue syndrome in adults.

My thanks are due to Dr. T. A. Kean for permission to publish this case.

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contains so many statements open to criticism that not a few pathologists will doubt whether the book is a sound guide for a young surgeon. For example, the account of the discovery of carcinogenic hydrocarbons is incorrect in many particulars; so also is that of hydatid disease. The account of bone resorption is a muddled mixture of halisteresis, osteoclasia, and Leriche and Policard's erroneous hypothesis. The three pages devoted to "status lymphaticus" contain some extraordinary statements. "Cell-rests" figure largely as the source of ovarian tumours; and the usual antiquated views about leucatomas are promulgated. The author describes rodent ulcer as "one form of squamous-celled carcinoma," and omits discussion of adamantinoma from the chapter on tumours and includes it in that on cysts. He states that branchial cysts arise "from remnants of the thymic duct," and designates both carotid-body tumours and argenteaffin carcinomas of the bowel as "chromaffinomas." Ganglioneuroma is said to arise "from mature nerve ganglion cells."

"All the malignant tumors [of the testis] cause the excretion of excessive amounts of gonadotropic hormone." "The thymus is never found in a normal condition in persons who have died from disease." In the developing nervous system "the medullary epithelium gives rise to two main types of cells, the spongioblast and the germ cell. . . . The germ cell gives rise to two types of cell, the neuroblast and the medulloblast," and "the medulloblast . . . gives rise to an adult type of neuroglial cell known as oligodendroglia." Adult bone cells "are end-products incapable of proliferating." In osteoclastomas "predominance of the fusiform cells indicates quiescence of the growth and a tendency to healing"; myeloid epulis is an "odontoclastoma"; and of the giant-cell tumours of tendon sheaths, "the calcified structures with the removal of which they are concerned are the sesamoid bones." Anti-teloclasts may pass as figurative "the defensive fibrosis" around cancerous lymphatics, and the statement that in regenerating nerve "the axis cylinder grows out as a bulbous process in search of the missing distal end"; but they will object to being told that in inflammation "the fibrin endeavours to limit the process by attempting to shut off the inflamed area." "The sword of Damocles continually suspended over his [the patient's] head" seems anatomically scarcely the right metaphor for the tuberculous epididymis. Proper names which are misspelt include those of Hansemann, Casoni, Gömöri, Kümmell, and Jonathan Hutchinson.

RUPERT A. WILLIS

GENERAL ANAESTHESIA

Essentials of General Anaesthesia. By Macintosh, D.M., F.R.C.S.Ed., D.A., 4th edition. Illustrated figures. 30s. Oxford: Blackwell Scientific Publications. 1947.

The fourth edition of this well-known book remains substantially the same as the third. The authors have rewritten the chapter on endotracheal anaesthesia and it is now excellent. They give more information on intravenous methods of administration, and include a short chapter on trichloroethylene. We regret that in revising the book they have not taken the opportunity to insert the official names of drugs instead of their proprietary titles, such as "avertin," "evipan," and "pentothal." The terminology is not always uniform; for example, the term analgesia is used often correctly but sometimes as though it were synonymous with anaesthesia.

The book retains its original character of being an admirable introduction to general anaesthesia, with dental aspects considered in great detail. It is unsuitable for the medical student, however, since it lacks practical advice on the management of anaesthesia in common operations. It is rather surprising that no mention is made of curarc or other specific relaxants of muscle.

C. LANGTON HEWER.

An Atlas of Dental Histology, by Edgar B. Manley and Edward B. Brain (Blackwell Scientific Publications, Oxford, 12s. 6d.), is a concise and well-illustrated book intended primarily for students; the practitioner or research worker will also find it useful to refresh his memory of normal appearances. The book is divided into two sections, the first containing excellent photomicrographs of normal dental tissues with explanatory notes, the second devoted to histological technique. This is a short but excellent book.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

Manual of Medical Parasitology. By C. Courson Zeffi, M.S., Ph.D. (Pp. 153. 53.75s.) Pennsylvania: State College. 1947.

A summarized account, with illustrations, of parasites that infest man.

Children's Eye Nursing. By J. H. Daggart, M.A., M.D., F.R.C.S. (Pp. 135. 8s. 6d.) London: Henry Kimpton. 1948.

A manual for nurses.

Anatomical Pattern as the Essential Basis of Sensory Discrimination. By Prof. W. E. le Gros Clark, F.R.S., F.R.C.S. (Pp. 16. 1s.) Oxford: Blackwell Publications. 1947.

The 49th Robert Boyle Lecture.

The Foot and Ankle. By Philip Lewin, M.D., F.A.C.S. 3rd ed. (Pp. 847. 55s.) London: Henry Kimpton. 1947.

The diagnosis and treatment of diseases and deformities are described with many illustrations.

Die Pathologie des Stammhirns. Wolfgang H. Veil and Alexander Sturm. (Pp. 444. No price.) Jena: Verlag von Gustav Fischer. 1946.

The author investigates the relation of certain diseases to injury to the hypothalamus.

Anales de la Catedra de Clinica, Medica. By E. S. Mazzei. Vol. I (1946). (Pp. 367. No price.) Buenos Aires: Editor "El Ateneo" 1947.

The greater part comprises a number of papers on pulmonary embolism.

Grundbegriffe der Inneren Medizin. By Professor Dr. med. Alexander Sturm. (Pp. 287. No price.) Jena: Verlag von Gustav Fischer. 1946.

An introductory textbook of medicine for medical students.

For the Parents of a Mongol Child. (Pp. 20. No price.) Issued by Sunfield Children's Homes. Clent. 1946.

A pamphlet to help parents in the bringing-up of a mongol child.

Parents' Questions. By the Staff of the Child Study Association of America. (Pp. 286. 10s. 6d.) London: Victor Gollancz. 1947.

Answers over 200 questions that parents commonly ask about bringing up their children.

Happiness and Our Instincts. By R. D. Lawrence, M.A., M.D., F.R.C.P. (Pp. 71. 4s. 6d.) London: C. and J. Temple. 1948.

An essay on human desires and needs.

The First Baby. Gwen Barton, B.Sc., M.R.C.S., L.R.C.P. (Pp. 82. 4s. 6d.) London: William Heinemann. 1948.

A manual of instructions for the laywoman.

Change Your Life Through Prayer. By Stella Terrill Mann. (Pp. 104. 7s. 6d.) London: Skeffington. 1948.

A discussion of the specific methods and purposes of prayer.

Burning Gold. By Robert Hardy Andrews. (Pp. 383. 12s. 6d.) London: Hurst and Blackett. 1948.

A novel of a doctor in an eighteenth-century setting of piracy.

Les Dérivations Précordiales. By L. Deglaude et al. (Pp. 143. No price.) Paris: J. B. Baillière. 1947.

An account of electrocardiography with precordial leads.

Die Lungentuberkulose Beim Erwachsenen. By Dr. Hermann Weber. (Pp. 417. 75 Swiss francs.) Vienna: Verlag Wilhelm Maudrich. 1948.

A general clinical account of pulmonary tuberculosis.

Child Guidance. By William Moodie, M.D., F.R.C.P., D.P.M. (Pp. 48. 4s. 6d.) London: Cassell. 1947.

A short account for the general practitioner.

Vegetarian Recipes. By Ivan Baker. (Pp. 83. 1s. 6d.) Manchester: The Vegetarian Society. 1947.

A collection of food recipes for vegetarians.

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THE DEBATE ON THE ACT

The Government took an unprecedented course in arranging for a debate in the House of Commons to approve the provisions of an Act passed in 1946. The debate was obviously timed to take place before the end of the plebiscite, with a view, no doubt, to influencing those medical men who have not yet returned their forms. As the *Manchester Guardian* put it: "The Government and the Labour Party are more upset by the attitude of the British Medical Association to the National Health Service Act than by any campaign conducted by any other organization against provisions of Labour legislation introduced during this Parliament." Mr. Bevan's colleagues have hastened to give him support. The Minister of Defence's attack on the doctors was followed by some disturbing observations by the Chancellor of the Exchequer, Sir Stafford Cripps, on Feb. 7. "There is," he said, "a dangerous spirit abroad among certain groups who seem to think their own interests and opinions ought to overrule the decisions of the nation. Such an attitude appears to be adopted by the leaders of the doctors at this moment, and it is a very unfortunate attitude because it strikes at the very root of democracy." In our correspondence columns this week Mr. Reginald Payne draws attention to what Sir Stafford Cripps's ideas of democracy are. We note in particular this statement: "It would probably be better and more conducive to the general peace and welfare of the country for the Socialist Government to make itself temporarily into a dictatorship until the matter could again be put to the test at the polls." These were the words of Sir Stafford Cripps in a volume of essays called *Problems of a Socialist Government*, and now we find his observations as Chancellor of the Exchequer on the doctors last week immediately followed by this sentence: "It is essential that we should get a general agreement among our people to act on sound economic lines; the alternative is likely to prove to be some form of totalitarian Government." And he goes on: "This deplorable development, so contrary to our national character, is one that the present Government will use every endeavour to prevent—as it can be prevented if wise action is taken." It was a threatening prelude to the debate on Monday of this week, especially as Mr. Bevan had previously asserted the right of the medical profession to make vocal and effective opposition to the Act, and the Government gave the medical man the right not to enter the National Health Service.

Mr. Bevan opened the debate for the Government, and his speech was in the temperate mood in which he had opened the Negotiating Committee on Dec. 2. He said that the medical profession had been in various

papers a spate of propaganda misrepresenting the facts of the National Health Service Act. There had, he asserted, been a campaign of personal abuse by a small body of persons who did not really represent the doctors of this country. He accused the B.M.A. of having failed to inform the medical profession of the facts of the National Health Service Act, and made a vicious attack upon what he described as "a small body of politically poisoned people" who had decided to oppose the Act. He said that the matter had been obscured by a smoke of personal misrepresentation, and that when he met the Negotiating Committee he was presented with a printed circular rejecting every important provision in the Act. He was dealing with a body offering wholesale resistance to the implementation of an Act of Parliament. "It looks," Mr. Bevan said, "like a squalid political conspiracy." He referred also to "organized sabotage," and accused the B.M.A. of exceeding its just constitutional limitations.

It is difficult to reconcile this fierce and unjust attack on the Negotiating Committee and the B.M.A. with Mr. Bevan's remark in the speech that he was desperately anxious to get doctors into the scheme harmoniously and enthusiastically. Mr. Bevan's accusation of misrepresentation is unfounded. The contents of the Bill and then of the Act have been fully described in this *Journal*, and we published in December last, as well as the statement of the Negotiating Committee, the Minister's two-part reply to it. Indeed the B.M.A. issued both these documents to every doctor in the country. The medical profession has been given the fullest opportunity for understanding exactly what is in the Act, and was informed of Mr. Bevan's financial proposals put before the Negotiating Committee on Dec. 3. The assertion that he is the victim of "a squalid political conspiracy" and that the profession is being misled by a small clique in the B.M.A. is complete nonsense. As he will probably not believe any assertion on our part that the B.M.A. is organized on sound democratic lines, we may give him the evidence of Sidney and Beatrice Webb in their Fabian report on professional associations.¹ "The British Medical Association," the Webbs stated, "is, alike in its constitution and in its functions, one of the most highly developed and most efficient of all British professional organizations. . . ." In 1902 "a complicated constitution was adopted including all the devices of advanced democracy; not only a carefully devised representative body and an elaborately constituted Executive Council, but also provision for the Referendum, the Initiative, and the Recall. The supreme body is now the representative meeting. . . ." It is necessary to state again that the Representative Body is the policy-making organ of the British Medical Association and that the function of the Council is to execute the policy it lays down.

Although Mr. Bevan wants the enthusiastic and harmonious co-operation of the medical profession he still refuses to go even half-way to meet their wishes. He asserted that the ownership of goodwill—referring to this as "patients to be bought and sold"—was "a blot upon our medical system." He again defended the universal small basic salary as providing an opportunity for young

¹ *New Statesman and Nation*.

doctors to live decently while establishing practice. He argued that it was constitutionally impossible to give doctors the right of appeal against dismissal from the Service, and in this, it may be noted, he was supported by the speaker for the Opposition, Mr. R. A. Butler. On partnership agreements, he said that with the help of the Lord Chancellor and the Attorney General he was setting up a Committee to look into the question and was prepared to have an amending Bill on this. This is a concession he has made, and it was a pity that he missed the opportunity of making it when he met the Negotiating Committee in December. Mr. Bevan claimed that there had been a long series of concessions on his part and not one on the part of the medical profession. In saying this, he ignores the fact that the medical profession has made two large concessions by agreeing to take part in a public medical service open to the whole community, and in agreeing to the operation of a State hospital service.

In speaking for the Opposition Mr. Butler stressed that the main issue of the controversy was not on financial terms: "If the doctors stay out it will be due to conscience"; and he added later, "You cannot nationalize conscience." The Minister, Mr. Butler said, was misleading the country and was approaching July 5 without the co-operation of the medical profession. That things had been allowed to drift so far was another example of the incompetent administration of the present Government. He ended by pleading for good will, tolerance, and common sense.

The results of the plebiscite will soon show whether or not collective opposition is to be offered to the Act in its present form. If the Noes are in the sufficient majority the organized medical profession will have a duty to offer such opposition. If Mr. Bevan chooses to call this sabotage he might reflect upon this Fabian advice given by Sidney and Beatrice Webb. What they describe as the most important function of all professional organizations is this: "This is the function of independent, authoritative criticism of the Government of the State, alike in its central and its local administration, and of responsible advice both to the Legislature and the Executive; on matters in which the profession has special competence. One of the gravest drawbacks of the bureaucratic administration which is involved in all enterprise on a large scale, and therefore especially in Government and in Consumers' Co-operative Societies, is the immunity from expert criticism which is now secured by official secretiveness and departmental discipline, and the practical monopoly of access to the mind of the Minister or governing committee possessed by the departmental chiefs. We know of no effective organ of criticism except that which might be afforded by professional organization."

As the main professional organization of the medical profession the B.M.A. will continue to voice authoritative criticism of the Act and continue to oppose it in its present form if the profession by its vote instructs it to do so. What Mr. David Eccles described in the debate as "the British experiment to combine national planning with individual freedom" is not being helped to a successful conclusion by the present Minister of Health.

ATOMIC ENERGY AND INDUSTRIAL HAZARD

Although the original Smyth report on atomic energy provided much information on the more picturesque side of industrial health services within the Manhattan Project little was said at the time about the large amount of physical and biological research which lay behind the routine precautions established. We were told of pocket radiation meters shaped like fountain-pens, of a device known as "Sneezy" which measured the concentration of radioactive dust in the air, and of exit gate alarms which would call attention to passing contamination. Also, and in the interval, the recording instruments designed for use in British atomic energy establishments have been exhibited.² On the other hand, there has until very recently been a general lack of information regarding the biological basis of the safety standards adopted, although research directed towards the generation of useful energy from nuclear sources is already proceeding, and some supplementing of wartime biological researches is clearly desirable. The recently published report for 1946 of the Chief Inspector of Factories repeats the accepted statement that the complete enclosure of processes for the chemical separation of radioactive substances must be accepted as necessary, and it has been earlier indicated that such processes will be carried out where required by the Atomic Energy Establishment. But on the wider medical and radiological questions which must also have been receiving consideration little information has been allowed to emerge apart from such reports as have lately been published of detailed, mostly wartime investigations in the United States.

There appear to be three main sources of potential danger. The first is the effect of long periods of whole-body exposure to various types of irradiation. This is a subject, as Dr. R. S. Stone pointed out in summing up a symposium lately held by the Radiological Society of North America,³ on which previous information has been very limited. The second risk is the accidental ingestion of minute quantities of radioactive substances of long life with effects similar to those known already to be produced by radium. This is a new problem only in the sense that the absorption pattern for each radio-element must be different in some degree from that of all others, and therefore a large volume of detailed investigation has been necessary. It was to these two problems, and mainly the first, that the reports comprising the symposium already mentioned were devoted. The third risk, about which little information has so far been published, is a combination of these two. It is evident that if the radioactive substance ingested is either uranium or plutonium, the atoms of which may be split by exposure to slow neutrons, as in the normal working of a nuclear pile,⁴ then subsequent exposure of the body to slow neutron irradiation may produce internal effects of a special character. This is equivalent to the statement that the sum of the first two risks may be more

¹ *Atomic Energy*, 1945, p. 90, H.M.S.O.

² *Catalogue of Thirty-first Exhibition*, 1947, p. 258, Physical Society.

³ *Radiology*, 1947, 49, 364.

⁴ Chadwick, J., *British Medical Journal*, 1947, 1, 263.

than simply additive. Against all these possibilities routine precautions can be and have been taken, and in relation both to the urgency of wartime work and to the total number of personnel employed the two fatal cases which have been mentioned in the U.S.A. must be judged to represent an extremely high standard of industrial medicine. The reports now to be examined represent part of the contribution of biological and medical research to this result.

The normal working of a nuclear pile, as Dr. Stone has reminded us, "produces recoil nuclei, alpha rays, beta particles, fast neutrons, and gamma rays in intensities never before dreamed probable or possible." Beginning with the most familiar of the many types of radiation studied, Bloom⁵ concludes that the alleged stimulating effect of sufficiently small doses of x rays can now be dismissed as legendary. In the related case of gamma radiation the most important practical conclusion from a long series of experiments by Lorenz and others⁶ at the National Cancer Institute, with mice, guinea-pigs, and rabbits as their test material, is that no satisfactory biological test of early damage is yet available. "The blood picture," Lorenz states, "is of little value in detecting damage. Carcinogenic action and sterility effects dominate the picture of radiation injury." As applied to human beings the latter statement might perhaps still be queried on the score of insufficient evidence. In the meantime it is of biological interest at least that damage to the ovaries of mice should be irreversible and cumulative, whereas that to testes is "reversible and cumulative only to a certain degree." And on the main issue of the non-reliability of haematological effects for early diagnosis Jacobsen and Marks⁷ are in agreement. In those liable to repeated exposure any departure from the normal should, they consider, be interpreted as "serious."

A wider survey by Prosser and others⁸ at the Metallurgical (better known as the Argonne) Laboratory, Chicago, leads to the at first sight comforting conclusion that "every kind of ionizing radiation is similar in its clinical action, whether penetrating external radiation or internal radiation from deposited material." The only exception is external radiation with beta particles—that is, electrons—which "probably kill by a different mechanism," and which Raper⁹ has shown are absorbed to the extent of 80% in the rabbit by approximately the depth of the hair follicles. It has also been established by the same investigator that beta particles and gamma radiation are additive in their effects to the extent of about 50%.

Clearly, however, it is quite one thing to accept Prosser's general conclusion upon the general similarity of effects and quite another to compare quantitatively the effects of different types of radiation. Zirkle¹⁰ has attempted this in a series of experiments in which mice, in batches of twenty-four, were exposed in special bismuth containers introduced into the concrete shielding of a nuclear "pile." Here he had to contend not only with slow neutrons, which he found to be the most effective, but also with fast neutrons, which he found to be the most effective in producing body tissues

made the biggest contribution to mortality, but also with fast neutrons, gamma radiation, and with radioactivity induced in the mice by the radiation to which they were exposed. It was accordingly necessary to subdivide the different effects by a mixture of theory and assumed biological equivalence, and then to compare the whole with those produced by a single known source of radiation. Numerical agreement was as good as could be expected and is taken "to exclude the possibility or fear" that there might be some unknown further mechanism of great hazard. None the less, the final impression both from the contribution and a second by Henshaw and others¹¹ at the Clinton Laboratories must be that further work is badly needed on the numerical factors relating these different types of radiation.

The most important work on the ingestion of plutonium and other artificially produced radioactive elements, and the radioactive fission products formed in nuclear piles has been that of Hamilton¹² at the Crocker Radiation Laboratory, California. Some of his results have already been demonstrated in London under the auspices of the Medical Research Council, and the published record strongly confirms the great potential interest of this type of investigation to knowledge of, for example, bone growth and structure. This arises from small but apparently significant differences between the autoradiograph patterns resulting from the bone absorption of different radio-elements. Even in relation to probable clinical effects the most important findings are that a large proportion of the elements lanthanum, cerium, americium, and curium find their way to the liver; and that, with the exception of strontium, deposition within the bones is not in the mineral structure but appears to be localized in, or adjacent to, the osteoid matrix. This implies that radiation, thus locally produced, could readily enter the marrow cavity. A further point that might affect the future use of the shorter-lived radioisotopes, which alone can be used therapeutically, is that the physical state of the ingested material—for example as a colloidal emulsion—may affect appreciably its distribution within the body.

For further information under the last main heading—the disintegration by neutron irradiation of fissionable material previously ingested—it will be necessary to await publication of further reports. For the present it is possible only to quote a single experiment¹³ in which the injection of colloidal uranium, followed by neutron irradiation, led to the virtually total destruction of the spleen of a mouse. The significance of this result is that uranium, although much less intensely radioactive than either plutonium or radium, must be regarded as an equally dangerous contaminant for the atomic energy worker and also nuclear research worker for whom neutron exposure may be a possible contingency. The whole matter is clearly of great complexity. And although the health record of American work has been such as to command confidence in the system of physical measurement which was adopted from the first, it must appear also that wartime biological research requires to be consolidated and extended.

¹¹ *Radiology*, 1947, 49, 349.

¹² *Ibid.*, 1947, 49, 325.

¹³ *Science Today*, 1947, 2, 338.

TUBERCULOSIS OF THE FEMALE GENITAL TRACT

Tuberculosis of the female pelvic organs is one of the most baffling of all the major gynaecological problems. It occurs mainly in young women in the childbearing years. Diagnosis is often far from easy and the treatment best adapted to give a cure with the minimum of disturbance of function may be hard to attain. The Swiss journal *Gynaecologia* devoted a recent number entirely to this problem. There are two review articles, the first and longer, by Held,¹ dealing with the aetiology, pathology, clinical features, and diagnosis, and the second, by de Meuron,² discussing treatment.

The first description of the disease was apparently given by Morgagni in 1779, when he recorded a case of peritoneal and genital tuberculosis in a girl aged 14. Held has collected some figures on the incidence of the disease. In necropsies on females the incidence is 1.5 to 3%, and in histological material taken from females suffering from all forms of tuberculosis it is 4 to 6%. Of patients admitted to hospital for gynaecological disorders 1 to 2% are affected as against 10 to 15% of patients operated on for swellings of the adnexa. The Fallopian tubes are affected in 80 to 90% of cases of pelvic tuberculosis, the uterus in 50 to 70%, the ovary in 30%; infection of the uterus alone is seen in 10 to 15% of such cases. Held agrees with the accepted view that primary infection of the genital tract occurs very rarely, if ever, in women, and goes on to discuss the relation of pelvic tuberculosis to tuberculosis elsewhere in the body. On this point some of his figures are unconvincing owing to the small numbers quoted.

His description of the pathological anatomy is along conventional lines, and a more interesting section is that on diagnosis. The woman with pelvic tuberculosis is almost invariably sterile. Work by Sharman³ and others is quoted to show the relatively high incidence of tuberculosis of the genital tract in females complaining of primary sterility. Menstrual disturbances of all types from amenorrhoea to menorrhagia and metrorrhagia are common. Held concludes that on the diathesis, other tuberculous lesions, and the local findings, diagnosis can be made with certainty on the clinical findings alone in 37% of cases. Bacteriological and histological examinations are necessary to establish the diagnosis in the remaining cases.

De Meuron gives figures collected from the literature to show that the results of surgery compare unfavourably with those of the more conservative methods. Operation carries a fairly high initial mortality, and owing to bowel adhesions the formation of a fistula is a common complication. In his opinion the chief indication for surgery is to establish the diagnosis where there is uncertainty; it is also useful in evaluating the type and extent of the lesions and for dealing with such localized foci as pyosalpinx and hydrosalpinx and excising masses of caseating tissue. Among conservative measures he favours heliotherapy. Prof. Rollier gives a brief description of his method of treatment and the results obtained at his clinic at Leysin. Favourable results are also claimed following x-ray therapy, though these are considered inferior to those of heliotherapy and have the further disadvantage of causing more constitutional disturbance. De Meuron considers that tuberculin treatment is losing favour, though he is a supporter of prophylactic vaccination with B.C.G. His conclusion is that the main aim of treatment must be to obtain a permanent clinical cure, since it is rarely possible with the means at present at our disposal to obtain a perfect anatomical or functional cure.

These are both highly competent articles. It is doubtful if the average clinician is sufficiently aware of the high incidence of female genital tuberculosis, though the disease is important from many aspects. It affects an important section of the community, the women of childbearing age, and it is a far from negligible factor in female sterility. Endometrial biopsy to exclude tuberculosis should indeed be a routine investigation in cases of sterility. There are also important implications in the field of hygiene, social medicine, and epidemiology. Many of these infections are undoubtedly milk-borne and serve to emphasize yet again the importance of providing a safe milk supply.

SULPHONAMIDE ALLERGY

As early as 1937 Hageman and Blake¹ recognized that untoward reactions to the sulphonamides might be of an allergic nature. It was later suggested by Erskine² that such reactions might be mediated by the combination of sulphonamides with serum proteins, and this has since been confirmed by other workers.^{3,4} In 1942, French and Weller⁵ described the appearance of interstitial myocardial lesions rich in acidophilic cells in subjects known to have received one of the sulphonamides within 30 days of death. Similar focal lesions were found in other tissues and comparable reactions were produced experimentally in animals.

More, McMillan and Duff⁶ have recently reported that in a series of 375 necropsies performed on patients who had received sulphonamides 22 cases were found with lesions attributable to sulphonamide medication. Many of the lesions were identical with those previously described in the literature—namely, focal necrosis of the bone marrow, aplasia and immaturity of the bone marrow, agranulocytosis, massive hepatic necrosis, focal necrosis of the liver with hepatitis, interstitial myocarditis, nephrosis, and inflammatory lesions in arteries and arterioles. In addition they found a granulomatous reaction in thirteen of the cases, and a splenic trabeculitis in six. The lesions consisted of tissue destruction and proliferation of the reticulo-endothelial cells, differing only in the phase and intensity of the reaction. From a comparison with a control series of 400 necropsies performed in the pre-sulphonamide years, the authors conclude that the changes described were all caused by sulphonamide therapy. Clinical evidence of hypersensitivity was associated with all the types of lesions discovered. Their close similarity to those produced by foreign protein sensitization is considered proof that they are allergic in origin. These reactions alone were responsible for the death of seven of the patients and were a major factor in the death of a further seven.

French⁷ has also recently published his findings in 76 necropsies and 2 skin biopsies of patients apparently sensitized to the sulphonamides. In practically half of the cases there had been symptoms of sensitivity, especially in the skin. Lesions similar to those previously described were found in most organs, but more frequently in the heart, liver, and kidneys. French is surprised that so little attention has been paid to the possible effect of the sulphonamides on the heart. From his series it is justifiable to conclude that any skin reaction other than simple erythema should contraindicate the continued use of any sulphonamide drug.

¹ *J. Amer. med. Ass.*, 1937, 123, 642.

² *Brit. J. Intern. Med.*, 1939, 15, 260.

³ Weller, A. G., *J. Infect. Dis.*, 1942, 70, 173.

⁴ Davis, B. D., *Science*, 1942, 85, 78.

⁵ *Amer. J. Path.*, 1942, 18, 109.

⁶ *Ibid.*, 1946, 22, 702.

⁷ *Ibid.*, 1946, 22, 679.

⁸ *Ibid.*, 1946, 22, 665.

¹ *Gynaecologia*, 1947, 123, 265.

² *Ibid.*, 1947, 123, 319.

³ *J. Obstet. Gener. Brit. Emp.*, 1944, 51, 85.

French emphasizes the danger of the indiscriminate use of the sulphonamides for prophylaxis or in the treatment of minor infections.

These views on the dangers of sulphonamide therapy are confirmed by Lichtenstein and Fox,⁸ who found necrotizing arterial lesions resembling periarteritis nodosa with focal visceral necrosis at the necropsy of a patient who died after treatment with sulphathiazole. Approximately 0.5 g. of sulphathiazole had been introduced into a clean surgical wound; the subsequent development of fever and vesicular rash had been attributed to infection, and further sulphathiazole was administered orally for six days before the true nature of the condition was recognized and the drug stopped.

PHYSIOLOGY IN THE FOREST

In Sweden the number of men entering the lumbering trade has gradually been falling off, and so the familiar problem of making better use of smaller numbers is assuming more and more importance. Lumbering is an extraordinary job in many ways: it includes the actual felling of the tree and all the subsequent manipulations such as pruning and sawing into appropriate lengths, with subsequent stacking of the wood. The work is individualistic, and it has always been left to the lumberman himself to decide how many hours a day he works or whether he even works at all. He may live at a very varying distance from where felling is going on, and in the winter, or dark period of the year, there may be fewer than five hours a day in which any work can be done at all. Lumbering is probably the hardest physical job in the world, and it needs an energy output of 5,000–6,000 calories per day, so that it is clearly impossible to transfer the ordinarily accepted industrial regime of work to a job like this. It was therefore decided to institute a study into the industrial health of lumbermen, and a paper by Lundgren¹ is the first instalment of this work.

Two questions were posed: can lumber work be done all the year round, and what should be the length and organization of the working day? Lundgren's study does not pretend to be anything other than purely physiological. He took five trained lumber workers whose ages ranged from 26 to 55 years and put them to work on a fixed time schedule for from 9 to 14½ months. Each day was planned so that they spent defined lengths of time eating and working, and the total time which they spent in the forest varied from 7½ hours on the shortest type of experimental day to 10 hours on the longest. The findings showed that there was a slight improvement in the functioning of the oxygen transport apparatus as judged by the daily resting pulse, arterial blood pressure, and the Schneider index, thus suggesting that physiological learning or training was still going on. There was a slight rise in the pulse rate as the day's work went on, which was greatly accentuated if the subject had a chill or drank alcohol. The body temperature was found to have its usual diurnal rhythm, but no seasonal variation could be detected. Untrained men, moreover, had a higher temperature for a given amount of work than trained. Estimation of the blood sugar showed that there was no relation between its level and physiological exhaustion, but one of the most interesting positive findings, which incidentally is omitted from the summary, was that throughout the experimental period, notwithstanding some short-term fluctuations, the level of each of the five subjects gradually rose. The fact that the level of this kind, valuable information, can be obtained by the relatively crude way of assessing

human health, and should not form a basis for any executive action until they are matched by the more delicate criteria of attitude, performance, and morbidity; but so far as it goes this study suggests that lumbering can be done all the year round, and that even a ten-hour day is within a trained man's physiological capacity.

URETHANE AS AN ANTISEPTIC

The treatment of wounds infected with Gram-negative organisms still presents a difficult problem. Phenoxetol has not been uniformly successful. Streptomycin, though often strikingly successful, is not yet generally available. Urea and its derivatives are among the few substances with a greater action on Gram-negative bacilli, such as *Ps. pyocyanea* and *Proteus* and coliforms generally, than on the Gram-positive pyogenic cocci. Weinstein² shows that both urea and urethane, the latter being the more active, are bacteriostatic and to a limited extent bactericidal to Gram-negative bacilli. Their effect is enhanced by sulphonamides and they neutralize the sulphonamide-inhibiting effect of *p*-aminobenzoic acid. More recently Weinstein has studied propyl and butyl carbamate on similar lines. They exert the same effects to an even greater degree: being about three and six times, respectively, as active as urethane, which is more than twice as active as urea.

Urethane has now been given a clinical trial as a wound antiseptic by Howe and Weinstein.³ A solution containing 10% of urethane and 1% of sulphanilamide was used in 3 cases; 10% urethane alone appeared to give equally good results in six cases. The usual method was to saturate dressings with the solution; more solution was applied every four hours, without removing the gauze in contact with the wound. Bacteriological studies showed that the treatment was usually successful in eliminating Gram-negative organisms and particularly *Proteus* or *Ps. pyocyanea*. Gram-positive organisms were unaffected as a rule, but Weinstein has pointed out previously that urea derivative and penicillin can be combined in a single application, necessary, and clinical studies of its usefulness are projected. Urethane does not seem to delay wound healing and has no undesirable systemic effects, except that if applied to a large area it may be absorbed in sufficient quantity to cause nausea and vomiting.

THE HALF-YEARLY INDEXES

The half-yearly indexes to Vol. I of the *Journal* and the *Supplement* for 1947 have been printed. They will, however, not be issued with all copies of the *Journal* but only to those readers who ask for them. Any member or subscriber who wishes to have one or both of the indexes to obtain what he wants, post free, by sending a postcard notifying his desire to the Accountant, B.M.A. House, Tavistock Square, London, W.C.1. Those wishing to receive the indexes regularly as published should intimate this.

We announce with regret the death, on Feb. 4, of the Rt. Hon. the Earl of Derby, K.G., P.C., G.C.B., G.C.V.O. Lord Derby was an Honorary Member of the British Medical Association, being elected on July 19, 1912, when he was Lord Mayor of Liverpool and Chancellor of the University of Liverpool.

¹ *J. Immunol.*, 1946, 54, 117, 131, 145.
² *Ibid.*, 1947, 55, 195, 203.

³ *Surg. Gynec. Obstet.*, 1947, 84, 913.

NURSING AND HUMAN RELATIONS

THE TASK OF THE NURSE-ADMINISTRATOR

urses to the number of 250 from all parts of the country assembled at the Royal College of Nursing in London on Feb. 2 for a three-day conference at which matrons, senior administrators, and psychologists discussed matters relating to administration and human relations. At each session, after a few remarks from about three announced speakers, the members lit up into small groups according to region and services, each appointing a speaker and drafting a number of questions, which afterwards, in full session, were put to the openers, who acted as a kind of "brains trust." In this way a real change of ideas was obtained.

Lord Chancellor's Tribute

Lord Jowitt, the Lord Chancellor, who opened the conference, said that the nursing profession was the finest into which any woman could enter. There were only two sets of people in this country who commanded universal admiration—the nursing profession and His Majesty's judges. "I am an elderly man and, like most elderly men, encrusted with prejudices, and I should not be happy if the doctor who attended me was not a man; but, God knows, I should be in utter misery if the nurse who attended me was not a woman." To remedy the nursing shortage, the Lord Chancellor continued, there were two possibilities: to reduce the potential number of patients, and to increase the number of nurses. The achievement of the first objective depended on the work of scientists and doctors and all who had the sense to realize that prevention was better than cure. How to increase the number of nurses he did not know. It had been stated that there was a considerable wastage among girls who, having gone in for hospital nursing, found that they were called upon to do things which were really no part of nursing training at all; also that the freedom of nurses during their off-duty time was liable to interference. He believed that there was little or no ground for those criticisms to-day, but, as in other industries, the mistakes of the past carried their shadow into the future. If those evil traditions which had attended nursing service in the past had now been broken he thought that the fact should be proclaimed in some dramatic way.

Running a Hospital

Of the various speeches by directors of business training, personnel managers, education secretaries, and hospital governors, one of the most stimulating was by Prof. James M. Mackintosh, Dean of the London School of Hygiene and Tropical Medicine. There had always been a sharp distinction, he said, between the clinical and administrative sides alike of medicine and of nursing, though there was no reason why rivalry should become acute conflict. The hospital was primarily an institution for the sick. Its object was to restore the sick to health, and for that purpose the clinical side was supreme. The ward sister was an indispensable part of the clinical unit. With the physician or surgeon, as the case might be, she bore the responsibility for the patient. But the hospital in addition was a business organization, involving innumerable problems of business management—maintenance of structure and equipment, purchasing and catering, financial responsibilities (which would not disappear, and might not even grow less onerous, under the National Health Service), public relations, and so forth.

It must be realized, said Prof. Mackintosh, that the hospital administrator was a specialist in his or her own sphere. The career of the administrator was parallel with that of the clinician, highly specialized, and requiring intensive postgraduate training. Speaking as a member of a Regional Board, he said he thought the aim of the Boards would be to place the administrator neither above nor below the clinician. Much of the controversy as to whether the administrator should be basically a doctor or a nurse was quite sterile, because no one decided that he or she was going to be an administrator at eighteen. It was not the basic education, whether in medicine or nursing, which made the administrator. The gift of administration was

a later discovery, to be developed by postgraduate training. "The more I see of the regional hospital system the more I discover a widening scope for the nurse-administrator. The creation of an administrative division in nursing, having to do not with one hospital but with a group of hospitals, will soon become an urgent necessity."

Hospital Staff Relations

The opening of the conference to general discussion let loose a flood of questions. How far did the new ideas of human relationships in hospitals cut across professional etiquette? How could the democratic spirit be maintained without undue familiarity? Was it true that strict discipline was the result of a feeling of insecurity on the part of the disciplinarian? How was loyalty to a committee to be reconciled with what the matron or sister or nurse considered necessary for the patients? Was the common resentment against authority the result of the frustration of the desire to assist in the creation of such authority?

As for the nursing shortage, it was suggested from the platform and warmly applauded by the nurses that more might be done in the way of idealistic appeal. A lot of people, said one speaker, wanted to work in hospitals because those were places where the sick were made well. Let the staff, down to the floor scrubbers, be told what the hospital was doing, and about their part in it.

Negotiating Machinery under N.H.S.

The final session was devoted to the subject of negotiating machinery. Lord Rushcliffe, who was chairman of the Nurses' Salaries Committee, said that that committee was the best example of negotiating machinery he had ever known. Each of its panels put its case with skill and conviction, and the underlying feeling was that what mattered was not whether this point was gained or lost but the welfare of the profession as a whole. He supposed that under the new Act the committee would come to an end and something in the nature of a Whitley Council would be set up. He hoped that such a council would be permeated by the same spirit as the body over which he had had the honour to preside. Of all the things that he had ever done in his public life none had given him more satisfaction or pleasure than his association with that committee.

Mr. Stanley Mayne, Assistant Secretary, Ministry of Health, who is in charge of the Whitley arrangements for the National Health Service, explained the present and future position. The negotiating machinery existing in the hospital field at the moment consisted of a national council for the staffs of hospitals and allied institutions—a piece of Whitley machinery which covered the domestic grades; a joint negotiating committee for some of the smaller professional groups, such as physiotherapists, radiographers, psychiatric social workers, and almoners; another small negotiating committee for the laboratory technicians; and a number of professional bodies—not trade unions—on the one side and the hospitals associations on the other. So far as the administrators and the medical staff were concerned no formal machinery had been established, but special committees had been set up occasionally, like the Askwith Committee of 1929. For the nurses there had been the Rushcliffe and, in Scotland, the Guthrie Committees, organizations somewhat on Whitley lines, but with outside chairmen and making decisions which were advisory only, though commonly accepted.

While the National Health Service Bill was passing through the House of Commons, said Mr. Mayne, the Minister made it clear that he wanted to develop negotiating machinery whereby people within the "industry" would have a real voice in the determination of the conditions under which they would work. What was now proposed was a series of ten councils, nine of which would be Functional Councils, grouping people of common interests and common salary ranges, and the tenth a Central Council. There would be one council for medical staff, one for dentists, one for opticians, one for pharmacists, two to cover other professional and technical grades, one for administrative and clerical employees, one for ancillary grades such as domestic workers, laundresses, and cooks, and one for nurses and midwives, covering not only the hospital service but

the related parts of the National Health Service which came under the local authorities. Each of these councils would have power to determine remuneration and all other conditions concerning people within its group. The Central Council would have no kind of suzerainty over the others, but it would deal with any question which directly concerned more than one functional group. One of the first things to be done under the Whitley procedure would be to agree about arbitration arrangements to deal with what it was hoped would be the exceptional cases in which agreement was not obtained within the council organization itself. In the nurses' and midwives' council there would be, on the employers' side, representatives of the Ministry of Health, the Department of Health for Scotland, the Regional Hospital Boards, the local authorities associations, and the boards of governors of teaching hospitals; on the employees' side the Royal College of Nursing would have twelve seats, the Royal College of Midwives six, and the major trade unions four, with appropriate representation for some of the smaller groups.

In answer to questions Mr. Mayne said it was definite that no condition would be attached to the contract under the National Health Service whereby members of the nursing profession would be required to join a trade union organization. Asked about the position of the matron, he said that at the hospital level, where the matron was a departmental head, she would be on the employers' side of the council, but at regional level the employees' side would be represented by the Royal College, which embraced all grades, including matrons, and the matron there would be on the employees' side. The Whitley Councils, he hoped, would deal with more than remuneration; they would have generally in view the increased efficiency of the public service combined with the well-being of those employed. The Civil Service had had 27 years' experience of "Whitleyism," and many suggestions had come from the staff side concerning the running of the Service. In industry, however, this aspect had been detached from the negotiating machinery and had taken the form of joint production committees.

The work of the conference was summed up by its chairman, Mr. Raymond Parmenter, director of the Administrative Staff College, to whose skill in the conduct of the proceedings was due much of the success of the conference.

DENTAL SERVICES

DISPUTE WITH THE MINISTER

The Representative Board of the British Dental Association on Jan. 31 adopted a resolution advising all members of the Association to exercise their right under the National Health Service Act, 1946, to refuse to enter the Service until the Act and its regulations had been so amended as to include the principles advocated by the Association as essential to the provision of "a satisfactory dental service for the nation." This resolution was adopted by 85 votes to 4, and a further resolution expressed the willingness of the B.D.A. to continue its discussions with the Minister to enable the Act and its regulations to be amended.

The findings of the Dental Spens Committee have not yet been announced and so the B.D.A. has not considered details of remuneration. Its objections are based entirely on points of principle. In a statement issued on the same day by the B.D.A. it was asserted that the provisions of the Act would curtail the dentist's clinical freedom and cause a lowering of the standard of treatment. The Association objected to the Minister's power to dispense with any requirements of the regulations governing the general dental service, and it insisted that there should be a right of final appeal to the High Court in the removal of a dental practitioner's name from the list. The Association also stated that the method of remuneration proposed by the Minister—payment of a fixed fee for each item of treatment, irrespective of any special skill or the amount of time involved—would put a disincentive on the dentist to do his best work. The Association would accept a system of payment with a fixed payment from the patient and a complete freedom for the

patient and dentist to arrive at an additional fee "according to the standard of skill, effort, experience, and amenities provided."

In the light of the experience of the Negotiating Committee a significant part of this statement is: "The way in which the Minister of Health on Nov. 25, 1947, refused all concessions on principles advanced by the profession makes it evident that he intends to enforce a system of panel dentistry for all."

Memorandum by the Minister

In reply to this statement by the B.D.A. the Ministry of Health sent to the 15,000 dentists in England, Scotland, and Wales a Memorandum by the Minister. The Memorandum is not as elaborate as that which was sent to the medical profession, but follows much the same lines of argument. There is an appeal to individual dentists and a broad outline of how the scheme will work. Local Dental Committees consisting by the profession itself for the same areas as the Executive Councils will appoint dentists to serve on those Councils. A dentist can take part in the Service or not, as he wishes. He will also retain the right to private practice. Patients will have complete freedom of choice of dentist. When the patient approaches a dentist the first record will be on a "dental estimate form" which will include the patient's signature to a statement that he desires treatment under the Service; the dentist's formal acceptance of the patient; a chart of the patient's mouth; and an estimate of the treatment required. All normal conservative treatment will not need any prior authority. Prior authority will have to be obtained from the Dental Estimates Board for the provision of dentures, extensive and prolonged treatment of the gums, gold fillings, inlays, crowns, special appliances, and oral surgery. The Dental Consultative Committee suggested that all applicants for dental treatment should be required to undergo all the treatment needed to make them dentally fit. The Minister does not agree that it would be right "to deprive a person who is unwilling to undergo full treatment of a service which is designed to be available to the whole community and which is provided at the expense of public funds." Dentists will be asked to keep records, and dental officers of the Ministry may be able to inspect surgeries and waiting-rooms after giving notice.

The Memorandum by the Minister also outlines the procedure for dealing with complaints and disputes. There is provision for the setting up of a tribunal consisting of a lawyer as chairman, a dental member, and a lay member. The tribunal decides against the dentist he may appeal to the Minister.

Rejoinder

Replying to this Memorandum the B.D.A. stated that "Mr. Bevan retracts from his intransigent and inflexible attitude. The dental profession will exercise its right to refuse to enter a service which will lower the high standard of dental treatment to a utility level." The B.D.A. in other words reiterated its considered opinion that the general dental service outlined by the Minister "will not and cannot result in a satisfactory service for the public."

LADY TATA MEMORIAL TRUST

The Trustees of the Lady Tata Memorial Fund invite applications for grants and scholarships for research in diseases of the blood with special reference to leukaemia, in the academic year beginning on Oct. 1. Grants of variable amount are made for research expenses or to provide scientific assistants to senior workers. Scholarships are awarded as personal remuneration; their value has been £400 per annum for whole-time research, with proportionate adjustment for work on a part-time basis where it has been approved. Applications must be submitted before May 31, and the awards will be announced by the Trustees in June. Further particulars and forms of application may be obtained from the secretary of the Scientific Advisory Committee, c/o Medical Research Council, 38, Old Queen Street, Westminster, London, S.W. The grants and scholarships are open to workers of any nationality and in any country in which it will be possible to make progress in the coming academic year. The available information on a point regarding particular countries outside the sterling area will be supplied to intending applicants on request.

Reports of Societies

PRESSURE NEURITIS AND SCIATICA

At a meeting of the Liverpool Medical Institution on Dec. 4, 1947, with the president, Dr. H. WALLACE-JONES, in the chair, Mr. ROBERT ROAF and Mr. A. SUTCLIFFE KERR discussed pressure neuritis and sciatica.

Mr. Roaf said that two different mechanisms were commonly used to explain a sensation of pain for which there was no obvious local cause. True referred pain occurred when a deep-seated organ with a poor representation in consciousness emitted pain impulses which were interpreted as coming from a superficial area with the same segmental nerve supply. This pain was usually a severe one and was accompanied by local tenderness and increased muscle tone in the region to which the pain was referred. The second mechanism was when a nerve trunk was stimulated directly; this produced a characteristic syndrome—paraesthesia, tenderness along the nerve, hypersensitivity, muscle cramps, and ultimately wasting and weakness of muscles and anaesthesia. This syndrome might be called pressure neuritis, to distinguish it from true referred pain. Common examples were ulnar neuritis at the elbow, median neuritis at the wrist, plantar neuritis at the ankle, and the cervical rib syndrome. Most cases of so-called brachial neuritis were due not to neuritis but to referred pain from lesions in the neck and shoulder.

In many cases of sciatica the symptoms were due to referred pain from disorders of the lower part of the vertebral column; in the intervertebral-disk syndrome both mechanisms were at work. There was the severe shooting pain which was "referred" and there were also the characteristic symptoms and signs of direct pressure on a nerve. The aim of treatment was to restore permanent stability to the affected part of the spine, and this could nearly always be achieved by an adequate period of efficient immobilization.

Mr. A. Sutcliffe Kerr described the normal anatomy of the intervertebral disks and discussed the series of events which led to herniation or rupture of the nucleus pulposus through the annulus. The mode of production of symptoms was uncertain, but there was evidence that the issuing nerve root was subject to pressure by the herniated disk. If gross bone and joint changes were excluded, at least 90% of all cases of unilateral sciatica were due to disk lesions. The diagnosis could be made on the history, and the only physical signs might be limitation of straight-leg raising and spasm of the erector spinae. In the majority of cases, however, there was also some disturbance of sensation and some diminution of the ankle jerk. Gross neurological signs, such as complete anaesthesia and complete paralysis of the dorsiflexors of the foot, suggested some other pathological change.

Lumbar puncture was not necessary as a routine, and myelography was rarely performed. Both might be needed if there was any doubt of the diagnosis. Treatment was primarily conservative and not more than 10–15% of all cases needed surgical removal of the disk. The operation was best performed under spinal anaesthesia with the patient in the "knee-elbow" position on the table. The immediate results of operation were very good, and long-term results showed 60% good results, 25% fair, and 15% poor. Fusion of the lumbar spine was not recommended at the time of operation, and should only be considered subsequently if, as rarely happened, the patient had disabling pain in the back.

In conservative treatment, and for post-operative care, three weeks' complete rest in bed was essential. During the third week the patient was given exercises in bed. He was kept in hospital for one further week for physiotherapy and exercises and allowed to resume work after six weeks, but not to resume heavy work until three months later. Paraplegia might occur with complete retropulsion of the disk. The speaker had treated twelve cases. Manipulation under general anaesthesia was dangerous. Cervical disk lesions were briefly mentioned; the chief indication for operative intervention in these cases was the appearance of signs of pressure upon the spinal cord.

General Discussion

Mr. GORONWY THOMAS said a number of lesions in the lower part of the back could mimic the symptoms and signs of disk herniation and the former were far more commonly the cause of sciatica than the latter. It was always essential to rule out any deep-seated lesion such as tuberculosis, malignancy, and congenital anomalies in the lumbosacral region. Conservative treatment cured the great majority of patients with sciatica. There remained a small group which could be relieved only by removal of the disk, and in these cases the results were dramatic. He did not agree with Mr. Kerr that manipulative treatment was dangerous. Some years ago it was found that manipulations performed gently under an anaesthetic had cured 60% of cases of sciatica not associated with radiological changes in the spine.

Dr. ROBERT HUGHES said that the retropulsed disk could produce a certain syndrome. It did not follow that all cases of that syndrome were due to a retropulsed disk. The majority of cases of sciatica subsided under conservative treatment, and it would be unwise to assume that all or even the majority of them were due to disk lesions when the underlying pathology had not been demonstrated at operation. He did not agree that the presence of gross neurological signs was more suggestive of a cauda equina tumour than of a disk lesion; in the latter condition there might be considerable muscular wasting and weakness and even complete paralysis of muscles, in particular of the long extensor of the great toe.

Mr. E. N. WARDLE said that the patient with a true disk hernia gave a clear history and presented unmistakable clinical signs. There were two other syndromes which mimicked it: the torn lumbar aponeuroses with adhesions, distinguished by a history of definite injury, and the so-called osteoarthritic spine, distinguished by the age of the patient. He agreed with Mr. Roaf that conservative treatment was best, and quoted his own series of several hundred cases dealt with by suspension plaster jackets. Of those followed for more than five years 60% were cured. Removal of the disk was found necessary in only 10 cases out of 150. He agreed that manipulation under anaesthesia was dangerous in the presence of a known disk lesion.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY

The annual meeting of the North of England Obstetrical and Gynaecological Society was held in Manchester on Jan. 2, with the new President, Mr. J. E. STACEY, in the chair.

Dr. SCOTT RUSSELL (Manchester) discussed the repair of a vesico-vaginal fistula following radium treatment for carcinoma of the cervix. After mentioning the special difficulties in dealing with this type of fistula he gave details of a case in which he carried out a partial colpocleisis following the technique of Chassar Moir. The result was not quite perfect, but four months after the operation the patient was passing urine per urethram and had only a slight vaginal leakage from a tiny hole where the vaginal septum had partly broken down.

Dr. D. C. RACKER (Manchester) showed a specimen of a fibromyxoma the size of a large melon which was successfully removed from the left labium majus and the adjacent ischio-rectal fossa.

Dr. J. W. A. HUNTER (Manchester) described a new operative procedure for the cure of vaginal vault prolapse following hysterectomy. The patient, aged 53, had suffered from prolapse for over twenty years, during which time she had had three operations without obtaining benefit. Dr. Hunter decided to attempt a modified fascial sling operation. A strip of the anterior sheath of the rectus was passed extraperitoneally down to and through the vaginal vault and was then brought up extraperitoneally and secured to the rectus sheath on the other side. The chief difficulty in the operation was the separation of the numerous pelvic adhesions which had followed the previous hysterectomy. The patient made a good recovery, and four months after operation the vagina remained well supported.

Mr. JOHN A. HADLEY (Lincoln) read a paper on torsion of a hydrosalpinx in pregnancy. This was based on the case of a primigravida, aged 23, who developed acute abdominal symptoms when four months pregnant. At first the most likely diagnosis appeared to be large bowel obstruction, but investigation from this standpoint gave negative results. Six days after admission a tumour was palpable in the left iliac fossa, and at operation this proved to be the left Fallopian tube distended with blood; it had undergone torsion at its inner end, but the ovary was normal. Left salpingectomy was carried out and the patient made a good recovery, having a normal confinement at the expected time. Mr. Hadley reviewed the literature which is concerned with torsion of the tube both in non-pregnant and pregnant women, and pointed out the difficulty of deciding whether the tube affected was originally normal or whether it was already converted into a hydrosalpinx. Many cases of torsion had occurred in young virgins, and if they had a hydrosalpinx it raised the possibility of this being sometimes the result of non-specific vulvo-vaginitis in childhood, attenuated tuberculous infection, or other conditions.

BONE CONDUCTION IN OTOSCLEROSIS

At a meeting of the Section of Laryngology and Otology of the Royal Academy of Medicine in Ireland on Jan. 2, with Mr. T. O. GRAHAM in the chair, Dr. R. R. WOODS read a paper on bone conduction in otosclerosis.

Otosclerosis, he said, had always been described as a typical conductive deafness. The reason for this was that until recently bone conduction had been measured only with low-pitch forks. When bone conduction was measured only with the audiometer it was seldom found to be normal in the higher frequencies except in very early cases. Otosclerosis therefore produced a conduction deafness in the early stages, later a mixed lesion, and in the later stages the perceptive element became much the more important of the two. It had been found that the fenestration operation was followed by an improvement in bone conduction in the ear operated on, the other ear being used as a control. All operated cases were surveyed, and after eliminating those whose preoperative bone conduction was normal 39 cases remained in which the average decibel gain by bone conduction in the conversation frequencies was 11.4 decibels. The figure for the unoperated ears was 1.1 decibels. A significant increase was shown by 35 cases (90%); the 4 cases with increases of 5 decibels or less were discussed. Cases showing an average preoperative loss by bone conduction of 11-20 decibels had an average post-operative gain of 10.9 decibels; those with a preoperative loss of 21.3 decibels showed a gain of 11.2 decibels; while those with a preoperative loss of 31.4 decibels gained an average of 15.5 decibels. When preoperative bone conduction loss was slight, hearing for bone conduction returned to normal. With greater degrees of loss, recovery was only partial. Audiograms illustrating all these points were shown.

There was no reason to doubt that this improvement in bone conduction was directly due to the fenestration operation. Part at least of the loss of bone conduction in otosclerosis was due to a change which was reversible and could not therefore be due to degeneration of the organ of Corti or of the cells of the spiral ganglion, or in fact to any of the usual causes of nerve deafness. It was suggested that stapes fixation *per se* caused a loss in bone conduction. Stapes fixation not only prevented vibration from reaching the labyrinth but also impeded the response of the endorgan by limiting the mobility of the tympanic membrane. There must be another factor involved to explain that part of the loss of bone conduction which was not reversible, namely a dense atrophy. At any rate it was clear that, even if the atrophy could be stimulated under the conditions of the experiment, its value as an indicator of the potential of the organ of Corti was doubtful.

Dr. Woods then read a paper on 1,500 tonsillectomies in the last 10 years at the Children's Hospital, Temple Street, Birmingham. He gave the clinical details of various cases.

BRITISH ASSOCIATION OF PLASTIC SURGEONS

The Annual General Meeting of the British Association of Plastic Surgeons was held in the Royal College of Surgeons on Nov. 14, 1947. The following officers were elected: President—Prof. T. Pomfret Kilner; vice-president—Sir Archibald McIndoe; honorary treasurer—Mr. R. P. Osborne; honorary secretary—Mr. J. N. Barron. This Association offers membership to those members of the profession who are interested in plastic surgery, and in particular would welcome anaesthetists and dental practitioners who might wish to join.

The Association is sponsoring the *British Journal of Plastic Surgery*, which will appear quarterly as from March of this year. It will be edited by Mr. A. B. Wallace, of Edinburgh, and published by E. and S. Livingstone, Ltd. Inquiries should be addressed to the honorary secretary at 45, Lincoln's Inn Fields, London, W.C.2.

The Chelsea Clinical Society held a dinner meeting on Jan. 7 at the South Kensington Hotel, S.W.7, with the president, Dr. N. Maclay, in the chair. An interesting discussion on industrial medicine was opened by Dr. Langdon Lloyd, medical officer to the Ministry of Supply, and continued by Dr. Amor, chief medical officer of Imperial Chemical Industries. The discussion was added to by Drs. Keith, Eckenstein, Chadwick, Atkinson, Constad, Walney, Deacon, Cutler, and Haydon. There was an attendance of over 100 members and visitors.

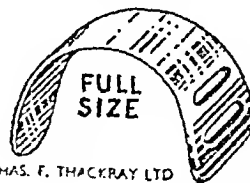
A meeting of the North Staffordshire Medical Society, with its president, Dr. Bruce Maclean, in the chair, was held in the Pathological Department of the North Staffordshire Royal Infirmary, Stoke-on-Trent, on Jan. 15. Dr. P. Stock showed a film demonstrating phase contrast microscopy. Dr. J. Ferguson, Mr. D. Wainwright, Mr. J. Grocott, Dr. J. Lindsay Boyd, and Mr. P. P. Roth showed some interesting cases. Dr. A. J. McCall and Dr. F. Godwin demonstrated a number of pathological specimens.

Preparations and Appliances

FASCIAL BODKIN FOR URETHRAL SLING OPERATIONS

Dr. WALTER CALVERT (Stockport) writes: Stress incontinence in the female is being increasingly treated by various types of sub-urethral fascial slings, introduced by the suprapubic route. I find that the actual passage of the strip of fascia is greatly facilitated by the small instrument here described.

As the illustration shows the instrument (actual size), a description can be omitted. The fascial strip is threaded through the slot nearer the "point" and then through the other slot. The double slot is to produce sharp angulation and to reduce the tendency of the fascial strip to slip out of the "bodkin," as I have called it. It can be held in most needle-holders or in Spencer Wells forceps. Because of its thin but smoothly rounded "point" the bodkin can be used



to dissect the urethra from the vagina without preliminary freeing, so that a cause of troublesome bleeding is eliminated. The only other special instrument required is a forceps, such as that used by Mr. C. McIntosh Marshall, of Liverpool, to hold the urethra. Other methods of passing the sling, by means of aneurysm needles, etc., seem to result in the production of a twisted rope of tissue rather than the flat tape required. The bodkin can also readily be passed through the rectus muscle in order to place the upper ends of the sling.

I am indebted to Mr. McIntosh Marshall for trying and approving this instrument and also for introducing me to the type of operation. The bodkin is made by Chas. F. Thackray Ltd., Park Street, Leeds, 1, who have been most patient and helpful in producing exactly what I required.

REFERENCE

Proc. Roy. Soc. Med. (Sect. Obstet. and Gynaec.), 42, 7, 361-72

Correspondence

Doctors and Dictators

SIR.—Sir Stafford Cripps has now joined Mr. Bevan and Mr. A. V. Alexander in the gravest misrepresentation of the doctors' attitude towards the National Health Service by suggesting that he will of Parliament is being flouted. The Act specifically gave all medical men in this country the right to give or to withhold their services as they think fit, and now the party politicians turn on the doctors and cry "sabotage"!

In the course of the same speech Sir Stafford used the following words:

"It is essential that we should get a general agreement among our people to act on sound economic lines; the alternative is likely to be some form of totalitarian Government. This deplorable development, so contrary to our national character, is one that the present Government will use every endeavour to prevent—as it can be prevented if wise action is taken."

It is best therefore that Sir Stafford should be his own witness as to methods of government. The following extract is taken from *Law and Orders* by Dr. C. K. Allen, formerly Professor of Jurisprudence in the University of Oxford:

"Let us compare some ideas propounded, under the title 'Can Socialism Come by Constitutional Methods?' by Sir Stafford Cripps in a volume of essays called *Problems of a Socialist Government*. The objective, we learn, is 'to seize power from the ruling class and transfer it to the people as a whole.' The manner in which popular government is to be vindicated is that 'from the moment when the Government takes control rapid and effective action must be possible in every sphere of the national life. . . . The Government's first step will be to call Parliament together at the earliest moment and place before it an Emergency Powers Bill to be passed through all its stages on the first day. This Bill will be wide enough in its terms to allow all that will be immediately necessary to be done by ministerial orders. These orders must be incapable of challenge in the Courts or in any way except in the House of Commons.' All opposition to the Government is to be treated as treachery and sabotage. 'If the capitalists' did not yield, the Government 'would be justified in overriding any obstruction it found placed in its way. . . . It would probably be better and more conducive to the general peace and welfare of the country for the Socialist Government to make itself temporarily into a dictatorship until the matter could again be put to the test at the polls.'"

The Sir Stafford of a few years ago and the Sir Stafford of to-day are speaking with but slightly different voices. It is precisely because the doctors of this country do not wish to become the unwitting or unwilling accomplices of a Government which seems determined to create National Socialism that their opposition to the National Health Act has become so strenuous. The doctors are now fighting for matters of principle and matters of conscience. Meanwhile we should do well to remember that, while Mr. Bevan would be medical dictator, Sir Stafford would have the ultimate responsibility for financial control.

If the State insists on making fantastic and monopolistic claims, then the medical profession will resist indefinitely in the interests of freedom and in the interests of the sick. Bigotry and fanaticism are not particularly English vices, but they have flourished temporarily here in the past and their political and economic counterparts are again seeking to take root. The present administration have yet to learn that the art of democratic government only begins after the verdict of the polls, and they have also to learn the truth of Spinoza's dictum that "the true end of government is liberty."—I am, etc.,

REGINALD PAYNE.

Right of Appeal

SIR.—In your report (Feb. 7, p. 264) of the meeting of consultants and specialists held at B.M.A. House on Jan. 27 you report (and correctly) Dr. H. B. Morgan as saying that I made no protest in the House of Lords against the clause of the Bill which denies the right of appeal against dismissal. I knew this

statement to be untrue, but I had no copy of *Hansard* with me by which to confute it. Here is the confutation:

"The prohibition placed upon the buying and selling of a doctor's goodwill in his practice, the power of negative direction, and the refusal to allow a doctor the right of appeal to the High Court are surely matters that require amendment. *They seem to me . . . to be gross infringements of personal liberty.*" (*Hansard*, Official Report, Vol. 143, No. 128, Oct. 8, 1946).—I am, etc.,

London, W.1.

HORDER.

Telegram from Australia

Profession in Australia congratulates Council and Representative Body on its magnificent lead of Jan. 8 and hopes whole profession will stand firm in this struggle for freedom and independence.—H. S. NEWLAND, President of Federal Council.

Tell the Public

SIR.—Now that every doctor has decided upon his attitude to the National Health Service it is his duty to explain to his patients what he thinks the Act will mean to them, and how, on their behalf, he has recorded his vote in the plebiscite.

Whatever they may have read in their newspapers, it is our business, rather than the journalist's—for we know more about it than he does—to present the case to our patients. They respect our views and value our opinion on subjects other than their personal health, and they will insist, at the present time, on hearing what we think of the Health Service. But we must make our case clear. Few of us are eloquent, and most of us have difficulty in translating into words the sincere convictions in our hearts. Many of us will find ourselves unconvincing, or even inarticulate, when we try to explain a situation so complicated by strife and political controversy to patients with whom our conversation is usually homely and humanitarian.

It might be helpful if the various organizations which claim to represent the profession would issue a simply worded, short statement of what we should tell our patients. This should cater for the needs of doctors in different localities, for what the London doctor should say might not interest the inhabitants of John o' Groat's. Such pamphlets would therefore be better issued by local rather than central bodies of the various organizations.

There may be some of us who do not need, and indeed may resent, such instructions. But whether or not we welcome assistance in doing so, let us all from now onwards dutifully, conscientiously, and sincerely tell the people, for it is their concern even more than ours.—I am, etc.,

London, W.1.

P. M. F. BISHOP.

Socialist Says "No"

SIR.—I have campaigned in favour of a National Health Service since I entered medical school in 1932. It is therefore with some regret that I have to cast my vote against entering into service under the present Act, and for the benefit of Socialists who, like myself, have long desired such a service feel that I must communicate some of my reasons for so doing.

First of all I see that the Act must lead fairly soon to a salaried State service, and that that in turn must lead to direction of patients as well as doctors. A Socialist service need not be a salaried service, for there are many methods of payment employed in a Socialist State better able to preserve professional freedom and the interests of the individual patient—e.g., organization into doctors' co-operatives, "piecemeal" (i.e., payment per item of service), or collective responsibility and a capitation payment without basic salary.

Secondly, I am unimpressed by the Minister's arguments against appeal to the Courts against a decision of the employing authority, a tribunal, or himself. It may be unprecedented for an employee to be able to appeal against a legal dismissal, but it is equally unprecedented for there to be only one potential employer (virtually) for the whole of any given trade or vocation, whose refusal of employment will within a very few years mean complete exclusion from earning a living by the practice of one's only profession. In these circumstances one cannot accept assurances of good will or of impartiality, but

must have a black-and-white right to appeal outside of and above the employing authority or its superior, the Minister. Especially is this so as Section 42 of the Act states only that a doctor must have the opportunity to appear before a tribunal but says nothing of the right to call witnesses or evidence, or to have representation by counsel. Again, it might be the intention, but would be better down in black and white.

Thirdly, negative or positive direction is incompatible with individual freedom, Socialist or otherwise. Each of us must have the right in law to starve wherever we might choose to try to make a living, even though that right may never be exercised and we go where there is a vacancy to which we can be appointed.

Fourthly, I see no good reason why doctors, who are in the best and most literal sense "workers by hand and brain," and very hard workers at that, should be given compensation at retirement or death, when capitalist coalowners and transport shareholders are paid out immediately in convertible stock or cash.

Finally, were I convinced I could sacrifice all these points I still could not enter into service under a man and a Ministry which has treated our elected representatives with a gross discourtesy and blank refusal to come to terms which if proffered by a capitalist board of directors to a shop-stewards' committee would probably have led to industrial dispute. The Minister has said we are fruit ripe for the picking. Let us then offer him a raspberry.—I am, etc.,

Leigh-on-Sea, Essex.

A. M. GOLDTHORPE.

Whole-time Researchers and the Act

SIR,—We, who are at present engaged in whole-time medical research, have been asked to vote on Question A of the plebiscite and to state either that we approve or disapprove of the National Health Service Act, 1946, in its present form. If we reply that we disapprove, the implication to be drawn is that in greater or less measure we favour the campaign which is being conducted to prevent the Act being put into operation. Since we consider the campaign to be both ill conceived and undignified, and think that the proper approach of the medical profession should be to attempt to work the Act in a spirit of co-operation and to criticize and modify it at those points where in practice it is proved at fault, we cannot reply that we disagree.

Although, therefore, we do not regard the Act as perfect, we are forced by the manner in which the question is put to give it our complete approval. We hope that others faced with a similar dilemma will do the same.—We are, etc.,

J. H. HUMPHREY.

E. D. BARLOW.

J. D. JUDAH.

N. B. MYANT.

M.P.U. Members Resign

SIR,—The recent circular letter W.128 dated January, 1948, issued by the M.P.U. will not commend itself to those who support the B.M.A. policy. The letter is signed by Mr. L. W. Heffernan, and Drs. M. B. Bayly, Alfred Welpy, and Alexander Crawford, but it has a familiar flavour reminiscent of the Minister's recent circular. We are invited to co-operate in operating and perfecting the National Health Service Act. Does any doctor really believe that when we have once espoused the new Service we shall have any power to bring about those modifications which we feel to be essential in the interests of public and profession alike?

We the undersigned have to-day resigned from the M.P.U. It is to be hoped that all other members of that Union who do not endorse its policy will do the same.—We are, etc.,

B. McDUGALL JOHNSON.

TERENCE M. DORAN.

Tribute to Dr. Dain

It does seem a little odd that in the spite of letters appearing in the B.M.J. there has not been one word of thanks to the Council of the B.M.A. and its Chairman. I do not know how generally any more than I had personal knowledge of Dr. Dain's position. I trusted and endeavoured to follow in his footsteps. Both are Englishmen who know the value of a good idea. If his power is theoretically

R. M. NODDIN.

Alternative Service

SIR,—I regard the plebiscite as a tragedy, in that the B.M.A. have lost the greatest opportunity they will ever see of getting for this country the health service it needs. We should not be voting pro or con for the Government Health Service. We should be voting either for the Government Service or for the B.M.A. Health Service. The B.M.A. could have proposed an amended service to which most doctors would subscribe, and such a weight of medical opinion would influence Press and Parliament, because it would be positive. If the vote against the Government Health Service is large, we are no further on; a negative vote cannot get us anywhere. I feel that the B.M.A. leaders are to blame for the present situation, and I should like to see a complete change in leadership, the present men being replaced by men with a capacity for looking forward as well as back.—I am, etc.,

Leeds, 7.

R. A. MURRAY SCOTT.

An Alternative Wanted

SIR,—Having listened to several eloquent addresses by leading members of the profession and read the many communications from the B.M.A., all upon the subject of the National Health Service Act, 1946, I completely agree with the advice given that the profession should refuse to operate the Government scheme with all its difficulties, doubts, dangers, uncertainties and unsatisfactory conditions. But one also feels strongly that there is something lacking in our professional position in that we have not presented to the public, to the profession, and to the Government of the day a clear, concise, concrete alternative scheme which the profession could and would unanimously operate to the advantage and satisfaction of all those of the community who desire to avail themselves of such a National Health Service.

Surely after such a long and intense examination of the present Act it should not be beyond the ability of the profession and of the B.M.A. especially, to quickly produce an attractive, acceptable, and workable alternative; for without such the position of many by July 5, especially of the younger members of our profession, will be untenable. With all their best intentions to remain loyal, they will be faced with the choice of turning down what to many may be an attractive appointment with professional and domestic security in which to many the advantages will outweigh the disadvantages and against which they have no alternative except the suggested B.M.A. relief for a few weeks.

If it is the desire of the country to have a National Health Service, let it be one designed by those who know the medical needs of the community and how best to supply them to the satisfaction of all concerned. Let us refuse to operate the present Act or any other scheme than that of our own design and provide the people with what they need, the profession with what they can unanimously undertake, and the Government with what they request—namely, a satisfactory, workable, efficient National Health Service. Let us leave the defensive negative attitude and take up an aggressively positive position stating quite clearly that the country's health requirements exist and will be provided for by a National Health Service which the medical profession has designed and will operate, and by no other, and demand that the Government implement its provisions, for the welfare of the country. Such an alternative scheme should be published as soon as possible, discussed, advertised, and if necessary voted upon before July.—I am, etc.,

Southport.

E. CRONIN LOWE.

Wanted: Alternative to Salary

SIR,—Means must be found for the young doctor without money to live during his first few years of practice. We agree with the Minister in this aim, but many do not like the proposed means—i.e., the salary. Let us then suggest an alternative means. If the Council can put before the Minister an effective scheme whereby the young doctor can practice unburdened with debt, the Minister should be willing to accept it. And if the scheme does not involve public money the would cease to be any case for "direction." In this way

if the largest bones of contention might be buried. Let the Council not delay. Let us show statesmanship, and hope that the Minister will do likewise.—I am, etc.,

Cobham, Kent

F. A. RICHARDS.

Financing the Service

SIR.—As the shadows of the Socialist prison-house begin to lose around our profession it would be well if, in addition to rumpounding principles, we took a hard look at some economic facts.

Even at the risk of appearing to accentuate the obvious, it must be pointed out that the National Health Service is not financially a self-balancing scheme. Contributions are collected and contractual obligations are entered into. Can the bargain be kept? It could, if the moneys were placed in a separate fund and that fund were sufficient to meet all claims. But this is not the case. Out of the £152 million which is the National Health Service budget, the sum of £32 million will be assigned out of Social Service contributions. The remainder will be a matter for Parliamentary vote, and may be revised with other Service votes according to the state of the country's finances and the political complexion of the Government of the day. Can anyone say what either will be in ten years' time? No Government binds its successors, and no profession or group of citizens could possibly enforce any rights if the State is in default on account of its having promised more than is in its power to give. It is therefore important that the medical profession should preserve the right to practise within the total national income (say £8,000 million) and not within what may turn out to be an exiguous Treasury allowance, subject to popular vote. The Government "pre-fab." which we are being asked to enter may have a floor below which we cannot fall, but the ceiling may be zero. If inflationary finance is to be the order of the day we must see that we remain free to float up with the tide, not anchored to some "rond de cuir" and thereby placed at a disadvantage compared with the second-hand dealers, ice-cream vendors, and "spivs."

It is difficult for an outsider to possess himself of sufficient rope to measure all these financial matters, but it would appear that the Government estimate for the cost of the Hospital Service is £87 million. The present Hospital and Asylum Services are at the moment costing £60 million, and it would be reasonable to allow another 50% for extensions, making a sum of £90 million. Thus the budget is already exceeded before the staffs of voluntary hospitals have been paid at all. Has the cost of the payment of staffs, even on a modest sessional basis, ever been totalled up and included? I cannot think so.

Similarly, the allowance for general practitioner, dental, ophthalmic, and pharmaceutical services is £45 million, whereas the estimate of Colin Clark (1935) is that £45 million a year is paid in fees alone to doctors and dentists. From the latter sum specialists' fees should be deducted, as they will be charged to hospital services, but the cost of medicines, dentures, and spectacles (say at present N.H.I. figures multiplied by five), totalling perhaps £25 million, should be added. Thus a Service which might easily cost the Exchequer £70 million is to be compressed within a framework of £45 million, unless, of course, the balance can be juggled on to local rates by means of some variant of the well-known "weighting formulae," in which the number of illegitimate births is multiplied by the acreage of open spaces and divided by the number of earth-closets in the borough concerned.

I would suggest, if Mr. Bevan is finally persuaded to go back to Parliament with an Amending Act, that this should include at least an attempt at a detailed budget. This surely would be well within the capacity of the Government Statistical Department.—I am, etc.,

Bournemouth

T. R. AINSLEY.

Compensation

SIR.—I have read all the available circulars sent to me with reference to the new National Health scheme, but I have failed to find information bearing on certain very important points:

- (1) What compensation or alternative arrangement has been made for the services of a doctor's wife?
- (2) What compensation or alternative arrangement has been made for the use of a doctor's home?—with special reference to (a) heating, (b) lighting, (c) cleaning, (d) depreciation.
- (3) What arrangement or

alternative procedure has been made for dispensing both privately and to panel patients?

Special reference might here be paid to the dispensing fee for panel patients. This fee, with the addition of purchase tax on certain drugs, has become inadequate, and the rural practitioner finds that he is very definitely subsidizing the National Health Insurance dispensing at the present time.

(4) What arrangements have been made to compensate for telephone bills, which in a country practice can average £50 annually?

(5) What arrangements has the Minister made for the supply and upkeep of Government vehicles for the practitioners in his new scheme?

All these items are and have been the sole concern of the general practitioner. It would be grossly unfair to expect him to shoulder these responsibilities without compensation.—I am, etc.,

Whalley, Lancs.

CHARLES E. BROWN.

. Dispensing is to be done by pharmacists or other authorized persons, not medical practitioners, except as ordered otherwise by regulation (N.H.S. Act, 1946, Sect. 39).—Ed., B.M.J.

Remuneration in the N.H.S.

SIR.—Though they do not affect matters relating to the coming plebiscite, the following facts should become known to the Negotiating Committee in any future arrangements they may be called upon to make.

In the matter of remuneration under any Health Service it cannot be stressed too strongly that the same rate of capitation fee, or whatever method may be adopted, will not work in every district. Some districts are so constituted that it takes a long time to visit a few patients owing to distances. Other districts give the doctor a very hard day's work for a small number of patients—for example, a district containing retired and invalid people who require constant care. In these areas the doctor will not be able to live. He may not have more than fifteen hundred patients on his list and an expense account of over £500. It is to be hoped that these points may have the attention they deserve.—I am, etc.,

Colwyn Bay.

REGINALD R. HALSALL.

Goodwill of Practices

SIR.—*The Times* (Jan. 31), in a special and leading article, suggests that the disciplinary procedure proposed in the Act will act more fairly and more favourably towards doctors than if the right of appeal to the Courts against dismissal were granted. Have our legal experts been asked to consider this?

The Minister in his recent reply to questions put by the *Lancet* has stated that the inclusion of a general basic salary makes no difference to his power to institute by regulation a full-time salaried service at any time that may be contemplated. Have our legal experts been asked to consider this? Would our case not then be answered if it were agreed that no Minister could alter a basic to a full-time salary except with the future consent of the majority of the medical profession and of Parliament?

The case for the abolition of the sale of goodwill appears to rest on the financial difficulty to be faced by most doctors in buying a practice under present-day conditions, and the sentimental difficulty in justifying private commercial transactions within a wholly National Service. Something has to be done to meet these difficulties; or I think our case falls on this particular issue.

If all practices were registered with a Medical Practices Committee or Subcommittee in each region, with up-to-date lists of practices, partnerships, assistantships, locum tenancies, and so on available, and backed by insurance companies or a medical fund, or both, then doctors could apply according to their own assessments of their requirements, receive financial aid, insure at reasonable rates, and be certain of the validity of the practices they seek to acquire. Thus the better features of goodwill could be retained, and the worst features of negative direction be removed. The Act at present gives to the Medical Practices Committee the power and favour of dispensing doctors in practices that may vary in income from £300 (*sic*) to over £3,000 per annum, as it is reasonable to suppose that most doctors, if they did not have to pay, would apply for the

higher-income practices, and a selection would have to be made. This procedure might have invidious repercussions, and it is doubtful if it would work so well as the present system. Particularly if it could be modified on the lines suggested.—I am, etc.,

London, N.S.

G. W. M. MACKAY.

Ownership and Appeal

SIR.—In view of the fact that the disposal of practices is one of the main issues in the present controversy, it is of interest to note that in the Questionnaire of '44 some 50% of the voters were of opinion that the sale of practices was undesirable. I know of one local study group which passed a resolution to the same effect.

As regards the question of appeal from the Minister to the courts, I can only wonder why this has not been brought to a head long ago in connexion with doctors struck off the panel list and the *Medical Register*, as under existing circumstances they have no redress.—I am, etc.,

Leicester.

E. J. O'SULLIVAN.

"Owners" and "Workers"

SIR.—As a general practitioner who thoroughly approves of the technical aspects of the present Act, tolerates its finances, but abhors its administration, I wish to make the following point which has not so far received attention and which may be of some value when we are placing our case before the public, namely, that in the profession of medicine the "owners" and the "workers" are one and the same person. In occupations which have so far been nationalized, such as the coal mines and transport, the avowed object has been to alleviate the lot of the downtrodden worker at the expense of his capitalistic owner, so that the consumer shall eventually benefit. The owner is abused; the worker exalted and taken into partnership with the State. Such methods as this political theory demands cannot with justice be applied to general practice, where the same individual both owns his practice, sets out his daily target of work and carries it out, to stand or fall by his results as a worker, which is already the ideal of socialism—namely, a responsible worker reaping only where he has sown. The same argument holds good for other branches of the profession, and on this reasoning the Minister would be justified in asking us to be partners and colleagues, but is utterly wrong in expecting us to become his unthinking and obedient servants, as is implied by his blunt refusal to allow us to appeal to the courts or to elect the chairmen of our committees.—I am, etc.,

Cirencester, Glos.

MATTHEW WESTWOOD.

Freedom to Publish

SIR.—The right to speak and publish freely is dear to all medical men whatever their political colouring. There is no doubt that on this issue the profession will always present a united front. But is this right really endangered by the National Health Service Act? Our status will not be that of Crown employees, and according to English constitutional practice a citizen may do anything within the law. As the law does not limit freedom of publication, we shall naturally enjoy that freedom. The Minister will of course be aware that if he attempted to limit it by regulation he would meet at any time in the near or the distant future with the most determined opposition. This opposition would take the form of mass resignations of the professional representatives on the regional boards and the executive councils, whose task it would be to enforce those regulations, and of a great public campaign.

In my opinion the present attitude of the Council of the B.M.A. towards the Health Act shows a total lack of statesmanship inasmuch as it tends to weaken public support for the Act and to put us in a case where we should be called upon in the future to defend the Act and read freedom. To safeguard for ourselves the right of free speech and Mr. Colm Brogan (Jan. 31, p. 153) has expressed the opinion of the public at large—is a reasonable one. I am, etc.,

F. MONTGOMERY.

The Government are taking altogether too much notice of the views of the medical profession on the question of freedom of

publication. In reply to a Parliamentary question recently Mr. Bevan said: "In so far as I am concerned there will be no restriction whatsoever in the National Health Service on publication of scientific or clinical writings" (our italics). This may well imply that restriction will be placed on discussion of professional affairs in general. Such a ban already exists in the L.C.C. Medical Service. Free, responsible discussion of all aspects of professional and administrative work in a National Health Service will be essential if it is to evolve efficiently.—Ed., B.M.J.

The Chain of Control

SIR.—Mr. Maurice Webb chides Lord Woolton because the latter champions individual enterprise which may lead to the development of monopolies and cartels. There is general agreement that such organizations can become antisocial. But what does Mr. Webb intend to replace the monopolies? With State control. But once again the reins of power would be in the hands of the few. The plan in either case is the same. It is merely a change of the *men* in command. Provided that they sincerely have the good of the many at heart all should be well.

Any large-scale organization implies a chain of administrators, and a chain is as strong as its weakest link, be it the first, middle, or last. Many good plans have gone astray, not because of any defect in the plan itself, but because of a weak individual causing the whole chain of administration to snap.

Although we are being asked to vote for or against a plan, we should remember that a plan is an abstract conception which needs men to make it concrete. Thus the task of deciding how to mark one's plebiscite form is rendered very difficult. Certainly it is a task to approach rationally rather than emotionally.—I am, etc.,

London, S.W.19.

BRANDON LUSH

The Act or Liberty

SIR.—In the first place let me state that I am in favour of a new medical service but that I am very definitely not in favour of any service in which the control is vested in one man, be he Minister of Health or a professor of medicine. We must remain free men, and medicine must be free from outside control. Any service must be administered by some central authority, but this must be a body on which 75% of the members are representatives of the various groups of medical men in the service. All disciplinary control should be vested in the General Medical Council, but appeal against their decisions should be allowed before an appointed court.

Mr. Bevan, with the help of the left-wing press, is going all out to intimidate and hypnotize the profession. They say we have already lost the battle; they insinuate that we cannot withstand the economic effect of refusal to accept service under the Act; they are in fact waging an energetic war of nerves, while we are discussing the Minister's magnanimous reply to our efforts to negotiate with him. Our acceptance of service under the Act is not one of importance only to the present and future medical profession, it makes us individually and collectively the slaves of a dictator, pawns in a mad socialist scheme for a Utopia which will eventually strangle British liberty, enterprise, and prosperity. The much-debated points concerning buying and selling practices, amount of capitation fees, etc., are relatively insignificant, obscuring the vital question by their prominence in discussions. The vital question is: Are we going to allow one Socialist Minister to browbeat our ancient and honourable profession into accepting servitude?—I am, etc.,

Wetherby.

S. T. PYBUS.

Direction under N.H.S.

SIR.—In your leading article entitled "Money and Freedom" (Jan. 24, p. 153) you state that "the young man wanting to enter Mr. Bevan's service . . . will be able to work only in areas which are under-doctored, and these areas, we are told by Mr. Bevan, are at present few in number." However, Mr. Bevan has more than once stated that it is the *over-doctored* areas which will be few in number. This means that the young doctor wanting to enter Mr. Bevan's Service will have the choice of most areas in the country. For example, Mr. Bevan in his "General Comments Addressed to the Individual

Doctor," Para. 12 (*Supplement*, Dec. 20, 1947), states that "consent in respect of public practice will only be refused in those few areas where there is clearly no need for additional 'public' practice."—I am, etc.,

Bradford-on-Avon, Wilts.

R. L. OSMASTON.

The New Despotism

SIR.—There are one or two passages in Lord Hewart's book, *The New Despotism*, which are worth quoting at the present time. In the chapter on "Administrative Lawlessness" he said:

"When it is provided that the matter is to be decided by the Minister, the provision really means that it is to be decided by some official, of more or less standing in the department, who has no responsibility except to his official superiors. The Minister himself in too many cases, it is to be feared, does not hear of the matter or the decision, unless he finds it necessary to make inquiries in consequence of some question in Parliament. The official who comes to the decision is anonymous, and, so far as interested parties are concerned, is unascertainable. He is not bound by any particular course of procedure, unless a course of procedure is prescribed by the department, nor is he bound by any rules of evidence, and indeed he is not obliged to receive any evidence at all before coming to a conclusion. If he does admit evidence, he may wholly disregard it without diminishing the validity of his decision. . . .

"To employ the terms administrative 'law' and administrative 'justice' to such a system, or negation of system, is really grotesque. The exercise of arbitrary power is neither law nor justice, administrative or at all. The very conception of 'law' is a conception of something involving the application of known rules and principles, and a regular course of procedure. There are no rules or principles which can be said to be rules or principles of this astonishing variety of administrative 'law,' nor is there any regular course of procedure for its application. . . .

"The public official is not independent. As a Civil Servant, he is liable to be dismissed at any time without notice, and without any enforceable right to compensation. One would have thought it perfectly obvious that no one employed in an administrative capacity ought to be entrusted with judicial duties in matters connected with his administrative duties. The respective duties are incompatible. It is difficult to expect in such circumstances that he should perform the judicial duties impartially. Although he acts in good faith, and does his best to come to a right decision, he cannot help bringing what may be called an official or departmental mind, which is a very different thing from a judicial mind, as anybody who has had any dealings with public officials knows, to bear on the matter he has to decide. More than that, it is his duty, as an official, to obey any instructions given him by his superiors, and, in the absence of special instructions, to further what he knows to be the policy of his department. His position makes it probable that he should be subject to political influences. . . .

"Save in one or two instances, none of the departments publishes any reports of its proceedings, or the reasons for its decisions, and as the proceedings themselves, if any, are invariably held in secret, even interested parties have no means of acquiring any knowledge of what has taken place, or what course the department is likely to take in future cases of the same kind that may come before it. A departmental tribunal, is, however, in no way bound, as a Court of Law is, to act in conformity with previous decisions, and this fact is commonly regarded as one of the reasons for the policy of secrecy. Others may think that the department is afraid to disclose inconsistencies and a want of principle in its decisions. . . . It is a queer sort of justice that will not bear the light of publicity."

The profession would indeed be mad if it accepted service with the right of disqualification remaining solely in the hands of the Minister, which in effect means the hands of an anonymous official. You express in your leading article (*B.M.J.*, Jan. 17) the reality of fear which some may have in refusing service under the Act as it now stands. The Minister has handed the velvet glove to the consultants: to the general practitioners he has revealed the cloven hoof.—I am, etc.,

Nottingham.

PHILIP TURTON.

What Might Have Happened

SIR.—Few of the cases of exclusion of doctors from employment, following the introduction of the National Health Service in 1865, have aroused as much interest as that of Joseph Lister, formerly Regius Professor of Surgery at Glasgow.

Rising to answer a question by the Member for the Scottish Universities, the Secretary of State for Scotland stated that he had fully confirmed the findings of the Regional Hospital Board.

and that the petition from the patients of Mr. Lister had received most careful consideration, but it must be realized that uninformed persons were apt to attribute a recovery to the surgeon's skill, whereas Nature and a strong constitution had in fact wrought the result in spite of the ill-advised efforts of the medical attendant.

In view of the implications of this case and the fact that Mr. Lister was English and qualified in London, the Minister of Health had been fully informed of this matter and had taken the advice of senior surgeons in London, who had all declared that the use of carbolic acid, since it prevented the formation of laudable pus, was inimical to the patient. As evidence of their unbiased frame of mind these surgeons had experimented with carbolic acid, one having placed bowls of the acid around his wards, and another had even injected a quantity into an abscess, but the results had on all occasions been detrimental.

The Minister of Health then rose to say that he was proposing to introduce regulations making the use of carbolic acid and similar substances, loosely described by Mr. Lister as "antiseptics" (whatever that might mean), illegal, and already a regulation had been issued making his sanction obligatory before any deviations from standard accepted treatment were employed by specialists or general practitioners. On being asked by an Opposition Member if he (the Minister) was aware that Mr. Lister had been accorded a public ovation on his arrival in Amsterdam, where he was working, the Minister replied, "Some people will do anything to obtain notoriety."—I am, etc.,

London, S.W. 1.

J. C. WATTS.

National Health Service

SIR.—The profession, to judge from correspondence, is clearly dissatisfied with the N.H.S. Act as it stands. Fear of capital or income loss may drive some—as Mr. Bevan hopes—into the Bevan net. Older practitioners know from experience that when dealing with the Minister or Ministry of Health nothing must be left to chance if the practitioner is to hold his own—and in this Act as it stands many things are obscure. As there can be no Service without us—law or no law—it seems we have the right to demand such terms in that Service as shall make it acceptable to the majority of the profession. There is a way within the law whereby that desirable result can be attained without incurring the risk of capital loss which many fear. I suggest as follows:

1. That we all sign on for the appointed day, and so qualify for compensation (as the law stands).

2. That we all sign an undated resignation from the Service and send it to the B.M.A. negotiators for dating and dispatch to the Ministry the day after the appointed day. This would entitle us, according to the law as it stands, to obtain immediate cash for our goodwill, should that become necessary.

3. We would then proceed to treat all patients on a cash basis per item of service—a form of service which both doctors and patients, but not bureaucrats, approve and prefer.

4. Having kept to the law and obviated the fear of capital loss, our leaders could then negotiate such terms of service (including the retention of goodwill of practices) as we require. It will then be the Minister's turn to come to heel.—I am, etc.,

Tyldesley, Manchester.

PERCY GONSALVES.

'Pathies in a State Service

SIR.—In a letter dated Aug. 21, 1943 (p. 243), I tried to draw attention to the danger that a whole-time State medical service could be forced by Parliament to accept osteopathy, homoeopathy, and other practices not accepted by the profession on scientific grounds. I have seen no satisfactory reply to this, which is a good example of the way in which loss of the non-State half of the medical profession would weaken it as a whole. Perhaps a majority of members of Parliament have direct or indirect evidence of the symptom-removing power of the magician where medical science has failed. We can hardly blame the layman for thinking that removal of symptoms is the whole thing and acting on his beliefs. Is it not the profession alone that should be in a position to decide what its ranks include and exclude? The profession must actively support

the right of the unqualified practitioner to practise, on his own responsibility, at the same time absolutely protecting itself from the possibility of having its beliefs warped by political pressure.

Letters to the Press have substantiated my belief that this threat is not to be lightly dismissed—witness *The Times* of Jan. 31 :

Another point which concerns me closely is the position of homoeopathy. Over a million people in this country prefer to be treated by homoeopathic practitioners, and this has so far been largely denied them by the medical profession which is hostile to this method. Will a National Health Service take steps to secure for this very large number of people the qualification and training of enough doctors to satisfy their needs? (From J. R. Sandy, Romford.)

Perhaps there is an official B.M.A. attitude to this matter.—I am, etc.,

London, W.1.

D. W. WINNICOTT.

The Family Doctor

SIR,—What's really at stake in the Act? We know that ostensibly it is to provide everyone with medical needs, but the things involved—double the doctors and nurses, double the accommodation, in order that thousands of Britons ailing with tuberculosis, ulcer, cancer, and other ills receive promptly the treatment whose efficacy depends on early rendering—these tangible things are not forthcoming, nor will they suddenly appear on July 5. The only significant content of the Bevan bag will be the tax.

While with steadfast hope we await the delivery of the goods, whether from this or succeeding Governments, something less materialistic in the realm of medicine yet ranking high in the community is jeopardized by the Act. It is nothing less than that symbol of the spirit of succour—the family doctor—who has given not only prescription but counsel in life's intimate problems and comfort to hearts in anguish. Medicine may not be pleasant whether from the doctor's house or the dispensary, and operations are worse, but we all regard with affection and high esteem a friendly and unfailing figure in our midst to whom we can always resort in time of trouble, which sometimes supervenes in the small hours and on Sundays. The spirit he embodies is neglected in this Act, in which obtrude forms and statistics, rigid regimentation of services, and rewards that are automatic. These are alien to the atmosphere of freedom and spontaneity that has characterized medical practice, favours the expression of ideals, fosters a feeling of common humanity, and encourages enterprise.

It is the intangible service of the family doctor that has endeared him to us, and the fate of a guide, philosopher, and friend that is at stake in the present issue. Our fight is for the common weal in the battle with Bevan's Act.—I am, etc.,

Patent

A. WILFRID ADAMS.

Finance and Public Spirit

SIR,—Mr. St. George B. Delisle Gray (Jan. 31, p. 218) writes : "The overriding factor must be finance," but concludes with the high-sounding words, "Let us . . . show ourselves men of public spirit with our patients' (as opposed to our own vested) interests at heart." He cannot have it both ways. He seems more concerned with his own "vested interests" than the public spirit he extols, for if he considers the Act a good one there is no point in his letter, but if he considers it a bad Act surely, as a public-spirited doctor, he will oppose it even at risk of his capital assets, just as the majority of his colleagues are prepared to do.

We feel that failure to join the Service on July 5 will entail loss of compensation is the very negation of the freedom to choose to every doctor and made so much of by Mr. Bevan.

We must be prepared to hand on to the future generations the principles of a profession which is second to none? Is there a reason for accepting something which is a step back? No cause was attached.—I am, etc.,

ALAN TAYLOR

Fighting Points

SIR,—It appears to me that the B.M.A. is making its stand against the Minister of Health on a platform composed of four planks, two of which are rather rotten. Surely it would be sensible to cut away the weak wood and take a much firmer foothold on the sound planks. To deal with the rotten ones first :

1. The right to sell the goodwill of practices.—Our freedom is no more taken away from us by the abolition of this than the freedom of the railway shareholder or the coal-mine shareholder has already been taken away from him. The idea of nationalization is accepted as a political entity, and to oppose it is to introduce a political element into the discussion which is undesirable. Also, the retention of this "plank" makes the general public think we are merely interested in our financial arrangements.

2. Negative direction.—This is a catch-phrase and is largely meaningless. "Negative direction" exists at present and has always existed—apart from "squatters." You cannot buy a practice in the place of your choice unless there is one for sale.

The main point on which we should take a firm stand is our opposition to State medicine—not on political grounds but the reverse—because it is political and Medicine is not. If politics are introduced into Medicine by us or by anyone else the result will be the same—a lowering of the standard of Medicine in this country.

And, finally, in the interests of all free men we should fight for our right to appeal to the courts on matters of dispute.—I am, etc.,

Hailef, Heris.

KENNETH C. HUTCHIN

State Medical Servants

SIR,—There is good reason to believe that the whole-time salaried State Medical Service is only just around the corner—probably not more than two years after the inauguration of the "Capitation eum Basie Salaried Service." My reason for saying this can be readily demonstrated.

New entrants to the Service will receive £300 per year, and be directed by Mr. Bevan's Central Committee to "squat" in various towns and country areas. Many will find life difficult because the early years spent in waiting for patients are always tedious and depressing through idleness, no matter how zealous for work one might be. A few will be lucky and fall into dead men's shoes and rapidly earn three or four times as much as their less fortunate colleagues who sit and wait. It will be natural for these unfortunates to complain to the Minister and to all the Socialist M.P.s that they are just as good as the lucky ones who by accident of circumstance are doing so well in the new Health Service. No purchase money having passed, the rewards must be equal in Bevan's bountiful vineyard.

This will indeed be the signal for Mr. Bevan to introduce the State salaried service with equal remuneration for all according to length of service, irrespective of ability, popularity, or keenness for work in general practice. When incentive is destroyed and remuneration is not made in proportion to the amount of work done the doctor will be forgiven if he adopts the tone and mood of Mr. Bevan as shown to the General Practices Committee, and frowns upon the patients who come to see him under State serfdom. This will at least be in keeping with the long-established Socialist doctrine of more pay for less work.—I am, etc.,

Slough.

N. C. HYPER

Trade Union Comparison

SIR,—On reading the voluminous correspondence and in discussing the N.H.S. with friends and colleagues, one has the strongest impression of confusion, a lack of unanimity and even of understanding in our ranks. The ethical and financial aspects do war with each other in many minds. The B.M.A.'s five points of objection are by no means all acceptable to all doctors. The denial of the right of appeal is, I believe, the only one on which there is full agreement.

Is it too late to take a simpler view, and one which would be expressed in language understood by Mr. Bevan, who is, after all, a politician and a Socialist and not a medical practitioner?

1. We will not tolerate his dictatorial attitude. We are ready and willing to negotiate. No negotiations means no N.H.S.

2. Payment should be in accordance with accepted trade union standards. A miner can earn 5s. an hour in his 40-hour week, and the time includes "travel." At a comparable rate a G.P. is worth 10s. an hour, and we might work a 60-hour week. Overtime is paid at time and a half, so that any time on duty over the 60 hours would bring in 15s. an hour.

3. Full trade union rights and privileges—i.e., a position in which Mr. Bevan would have to negotiate.—I am, etc.,

Okhampton, Devon.

E. P. JOWETT.

Unity of Profession

SIR,—There have been a number of letters recently on this subject, but it is one I fear that the profession has not considered adequately. Whether we decide for or against service under the present Act, unity must be something much more real than it is at present. If the Association decides on a line of action, all must follow or we shall never have any protection in the future. It is no use one man supporting the Association and three others down the street following the Government. You will say such a condition could not arise, but it is quite a possibility in certain areas.

Resistance and support for the Association must be organized, as in a military campaign, before we can bring about a successful issue. A proper liaison must exist between the doctors in each locality, who must support each other. If we do not do this we shall face a repetition of 1911. With an energetic and thorough organization now, many waverers will realize the benefit and necessity of the Association and will fall in line with the rest, and we shall succeed in preserving the future of our great profession.

A number of well-organized large centres of resistance are more likely to succeed than the method of *laissez-faire*, which is doomed to failure.—I am, etc.,

Aberdeen.

H. D. N. MILLER.

Covenant between Doctors

SIR,—If the issue between the Minister and the profession was on principle alone the vast majority of practitioners would not accept service under the Act. It is the financial side which will cause many G.P.s and others to waver, and some to accept service. If we can, therefore, settle the fears of financial loss we shall have a much stronger front to present to the Minister.

The two ways in which the G.P. may lose if he does not accept service are, first, by the loss of the investment by which he bought his practice, and, secondly, by the loss of patients (and income) to any doctor in his neighbourhood who may have accepted service. The first cause of loss can only be avoided by the defeat of the Act as a whole, or by an amending clause to compensate the G.P. whether he enters or not, or to legalize the sale and purchase of practices—that is, by the concerted action of the profession as a whole. The second fear can only be removed by action of local groups of doctors. I suggest, therefore, that at local meetings of G.P.s and others we each sign an undertaking not to accept as a panel patient for, say, one year any patient of any other doctor in the neighbourhood without his previous written consent, indicating specific sums as liquidated damages in the event of violation of the agreement. This would effectively prevent any doctor in the scheme from enriching his practice at the expense of those who elect to remain outside. Even the most partisan upholder of the new Health Scheme could scarcely oppose such an agreement, as the normal free choice of doctor remains undisturbed.

Whatever our feelings towards the Act, we must not be divided by fear or suspicion. United, we can achieve a fine Health Service for the nation, and freedom and independence for ourselves. Divided, we will expose ourselves and our patients to a degree of bureaucratic control which is terrible to contemplate.—I am, etc.,

Conway.

D. CRAWFORD LITTLE.

Yes

SIR,—At a recent meeting of the local B.M.A. I unconvincingly and most half-heartedly voted "with the crowd" condemning the Health Act in its present form. From accounts of other meetings and the reports in the correspondence columns, this meeting appears to be characteristic of the general opinion.

The differences expounded from all quarters are in reality only minor aspects of the Act as a whole, differences which can be better solved from within the Service than from without—"growing pains" that will improve with development.

After careful reflection and consideration I am now convinced that on the appointed day I shall enter the Service, as should all other practitioners with a sense of moral obligations to the State.—I am, etc.,

Menai Bridge, Anglesey.

O. VAUGHAN JONES.

The G.P.'s Wife

SIR,—Many correspondents have pointed out what the ultimate loss of goodwill, which the N.H.S. Act in its present form entails, will mean to us professionally.

From a domestic point of view there are difficulties which cannot be overlooked and which will affect most intimately that long-suffering individual the general practitioner's wife. Suppose that service under the present Act, or an amended Act with loss of goodwill, were accepted. An adequate number of Health Centres cannot be provided overnight on July 4, and we will run the practice from existing surgery accommodation. In cases where the surgery is attached to the residence, the practitioner's wife at present pays, out of her housekeeping allowance, domestic help which is essential for surgery cleaning and answering door-bell and telephone, etc. Who will pay for this if goodwill is lost? If no domestic help is available, these chores still have to be done and she does them herself—now! Will she be so willing to do these things for "the State"?

Take the goodwill away and the practitioner's wife has no interest in the practice, so that under a full-time State scheme the Minister must be prepared to provide and pay a legion of surgery cleaners and attendants. Why should a "State doctor's" wife be expected to have any more interest in the surgery than a Civil Servant's wife has in her husband's office?

In the event of her husband's death a practitioner's widow will at present cater for and provide accommodation for a locum tenens until it is possible to dispose of the practice plus goodwill. With loss of goodwill, can she be expected to make these provisions for a locum in a practice in which she has no interest?

From the domestic point of view the N.H.S. Act encounters numerous obstacles, of which I have mentioned a few, which must affect the majority of general practitioners to some extent.

The doctor will not strike, but if goodwill is lost on July 5 the general practitioner's wife probably will.—I am, etc.,

Ferryhill, Durham.

R. CHESNUTT WILSON.

Test of Death

SIR,—The ophthalmoscopic sign of death—segmentation or fragmentation of the blood column in the retinal vessels—as described by Dr. E. A. Harris (Jan. 31, p. 226), may occur at the very instant of death, when the heart stops beating.

Fifty-six years ago (1892), when house-physician at St. Bartholomew's Hospital, I had the following somewhat startling experience. During the night another house-physician asked me to see a patient, who was comatose. I wished to examine the fundus oculi with an ophthalmoscope which I had with me; it was quite easy to see the disk and retinal vessels. Suddenly, while I was examining, segmentation of blood columns occurred: the patient was dead. After that, when called by nurses to confirm the death of patients, I had opportunities to make ophthalmoscopic examinations, and still have my notes on what I observed.

The broken blood columns were superficially not unlike the segmented mercurial column which sometimes occurs in a thermometer or in a (too thin) manometer tube. In 1892 I also noticed that the blood column segments could be moved forwards and backwards in the retinal vessels by intermittent pressure on the chest, somewhat like that in artificial respiration; this has apparently not been noticed by others. The segmentation of the blood columns did not always occur, at least not at once after death; for in certain cases I failed to find any segmentation while the cornea was still not sufficiently clouded to prevent the fundus being seen. In one case I noted that there was already distinct segmentation, the heart having ceased to contract, though the patient unexpectedly breathed once again while I was looking.

The sign by itself cannot of course be actually pathognomonic of death. In true embolism of the central artery of the retina segmentation of retinal blood vessels may doubtless

occur at the moment of the arterial occlusion, just as it may occur immediately when the heart ceases to contract at death: though it is unlikely that anyone has been making an ophthalmoscopic examination precisely when the central retinal artery became occluded. One may here ask, when segmentation of the retinal blood columns occurs (together with cessation of the heart's action), what would happen to the eyes if in an exceptional case the heart was successfully induced to contract normally again.

Since 1892 I have made no further observations myself, but a good deal of literature has been published, notably by M. H. Kahn (1913, 1924). After Dr. Kahn's work I published some short notes of my 1892 observations (1925).—I am, etc.,

F. PARKES WEBER.

London, W.1.

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SIR,—Dr. E. A. Harris (Jan. 31, p. 226) makes reference, under the above title, to the appearances which may be seen in the retinal vessels after death, and observes, "I am not aware that this sign has been described." He will find it, and some of the other signs to be seen in the eye at death, in my book *Medical Ophthalmology* (2nd edition, 1925, p. 54), where reference is also made to earlier observations of Usher.

Dr. Harris's description of the at first finely granular appearance of the blood, becoming of a grosser texture later—a stage at which Usher believes individual corpuscles are visible—and, before movement ceases, the breaking up of the column of blood into small blocks separated by clear spaces, the so-called "cattle truck" appearance, is of course accurate; he does not make it clear, however, that this is a description of the veins only. The arteries are quickly emptied of blood in a reversed direction—i.e., towards the heart—and are reduced to fine threads which are seen with difficulty. The optic disk becomes white owing to its bloodlessness.

The eye becomes soft, owing to the stoppage of its blood supply, a phenomenon which can be easily demonstrated in the living subject by pressure on the carotid in the neck against the carotid tubercle. After ten minutes or so the cornea loses its transparency so as to prevent further observation.

I wonder whether one would find these changes in progress of development in patients who, being near to death, complain of all having gone black before them.—I am, etc.,

Salisbury, Wilts

R. FOSTER MOORE.

Localization of Deep Pain

SIR,—I welcome Dr. J. B. Harman's most interesting paper (Jan. 31, p. 188) first as a valuable contribution to this problem, and secondly since it supports certain views which I put forward some years ago in an article which may have escaped Dr. Harman's attention (*Journal*, 1942, 1, 543). I had always regarded with scepticism the prevalent theories on so-called "referred" or "radiated" pain, false localizations, etc., and expressed my belief that certain pains, such as appendicular colic, diaphragmatic pain, etc., are projected to a precise position rather than to a particular tissue, as claimed by Mackenzie and others. At the same time I wrote, "One suspects that some of those interested in this problem believe that if they knew 'precisely' or 'accurately' which tissues to anaesthetize in the painful area they could by induction of block anaesthesia prevent or abolish this so-called 'referred pain.' They will never succeed: they might as well try to anaesthetize the original position of the foot of the amputee who complains of pain in his leg." I believe there is but one system of pain nerves, all of which have the same inherent physiological properties whether carried by the sensory or autonomic nerve pathways. They all respond to the same kind of stimuli, but vary in their degree of sensitivity. The intestine has a sparse supply of pain nerves, therefore a weak stimulus applied to a small area may produce pain. A strong stimulus—for example, sudden acute constriction of the gut—will produce pain because a comparatively large number of pain afferents are involved, and more readily overcome the resistance of the threshold.

I believe there is but one system of pain nerves, all of which have the same inherent physiological properties whether carried by the sensory or autonomic nerve pathways. They all respond to the same kind of stimuli, but vary in their degree of sensitivity. The intestine has a sparse supply of pain nerves, therefore a weak stimulus applied to a small area may produce pain. A strong stimulus—for example, sudden acute constriction of the gut—will produce pain because a comparatively large number of pain afferents are involved, and more readily overcome the resistance of the threshold. Much has been written in these columns recently of the convulsive properties of thiopentone; not only will trichlorethylene obviate these tremors and "shudder reflexes" as readily as any other volatile anaesthetic, but none of the abnormal movements

determined by anatomical structure. The question is, At what stage of development are future functions, future sensations, and future localizations determined? I should say, contrary to the generally accepted view, that the process is a slow and progressive one, that the reference map in the sensorium is completed at an early stage of embryonic life, and that—as far as the deeper structures are concerned—the map remains constant and unaltered since there are no channels through which the brain can be "re-educated." That is the basis for my belief that pain produced in an organ which has migrated from its primary relative position, and which has not acquired an additional nerve supply in its secondary or permanent position, is invariably localized in the primary relative position of that organ. Familiar examples of this rule are appendicular colic, testicular pain, diaphragmatic pain—all localized in the early embryonic position rather than in the permanent one. On the other hand, renal pain is located in the permanent position and not in the pelvis from which the kidney migrated. Here one assumes that the kidney acquires its nerve supply, like its blood supply, at a late stage of development.

All medical students know the permanent positions of the abdominal organs, but very few realize that it is equally important to know the embryonic positions if logical and accurate diagnoses are to be made. I was gratified to note that in an article on the subject of acute abdominal emergencies Ogilvie (1947) stressed the importance of the embryonic position.—I am, etc.,

Dundee.

REFERENCE

Ogilvie, H. (1947). *Practitioner*, 158, 2.

F. R. BROWN

Trichlorethylene in General Anaesthesia

SIR,—I should like to draw attention to one or two points in Dr. Gordon Ostlere's excellent summary (Jan. 31, p. 195) of the role of "trilene" in general anaesthesia. I agree with him that it is high time that the safety of this drug should be recognized and that comparisons with the dangers of chloroform, presumably because of their similarity in chemical structure, be abandoned. Although so alike in chemical and physical properties, there is very little similarity between the two in the type of anaesthesia which they produce, and I see no reason why the dangers of the one should be ascribed to the other. I am in agreement with Dr. Ostlere in never having seen any case of collapse attributable to trichlorethylene during a long series of administrations of the drug.

Providing that its limitations are recognized, trichlorethylene is a most useful drug; but its greatest drawback is that it has little or no place in abdominal surgery owing to the poor muscular relaxation obtained. Dr. Ostlere states that trichlorethylene may be used for almost all operations outside the peritoneal cavity, but nevertheless advocates its use in conjunction with curare for abdominal operations. I agree that trichlorethylene alone is useless for abdominal surgery, but even in conjunction with curare it presents certain disadvantages. First, I found that larger and more frequent doses of curare are necessary in combination with trichlorethylene than with thiopentone, cyclopropane or ether, giving rise to the dangers of prolonged post-operative curarization. The other obvious disadvantage of using curare in conjunction with trichlorethylene for abdominal operations is that one is debarred from using the closed circuit, which renders artificial respiration or "boosting" of breathing difficult, should this be necessary.

I have found that induction with thiopentone abolishes or minimizes many of the undesirable effects of trichlorethylene anaesthesia, such as tachypnoea; and I have never encountered cardiac arrhythmias in any case induced with thiopentone. Again, a greater degree of muscular relaxation can be obtained with the sequence thiopentone, nitrous oxide, oxygen, and trichlorethylene, than with nitrous oxide, oxygen, and trichlorethylene alone. Without the preliminary use of an intravenous barbiturate, anaesthesia with nitrous oxide, oxygen, and trichlorethylene alone may prove most unsatisfactory in the case of a muscular subject; tachypnoea may develop rapidly and muscular rigidity may occur which requires a great amount of juggling with the proportions of gas, oxygen, and trichlorethylene may serve to abolish. Again, associated with this muscular rigidity there may occasionally occur isolated movements of a limb, usually athetoid in type, which may persist until a change is made to some other anaesthetic agent.

Much has been written in these columns recently of the convulsive properties of thiopentone; not only will trichlorethylene obviate these tremors and "shudder reflexes" as readily as any other volatile anaesthetic, but none of the abnormal movements

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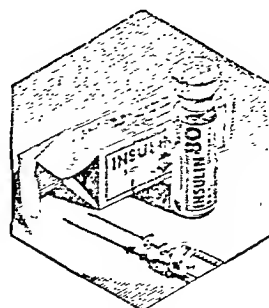
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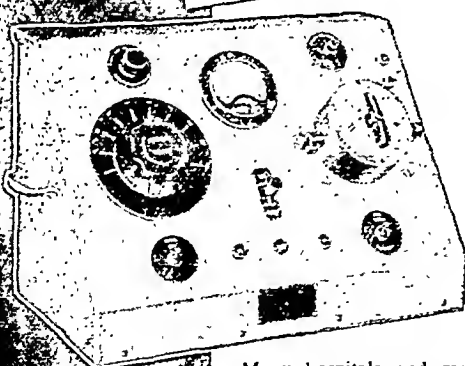


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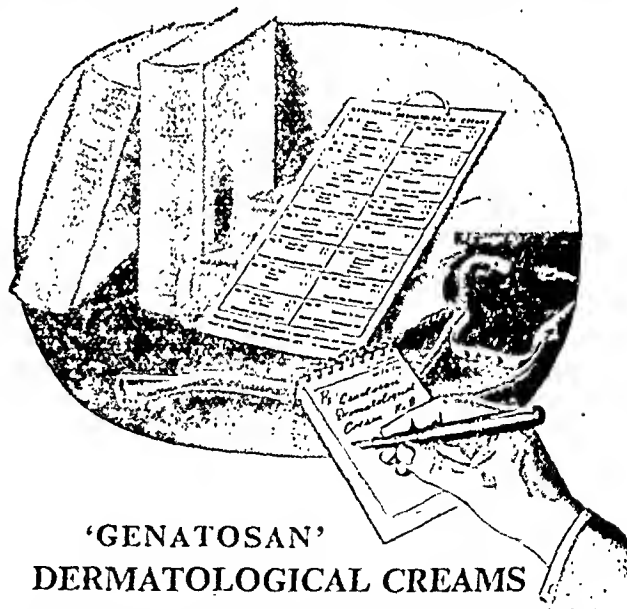
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ments occasionally associated with trichlorethylene may be expected to occur following induction with thiopentone. In this respect, therefore, the two are complementary in action. I feel that this point has not been sufficiently emphasized and strongly recommend that the administration of trichlorethylene with gas and oxygen be preceded whenever possible by intravenous thiopentone; in this way most of the undesirable side effects of trichlorethylene are eliminated and a smooth anaesthesia obtained with little post-anaesthetic vomiting.—I am, etc.,

Romford, Essex.

GODFREY HFRINGTON.

Natives of the Tropics

Sir,—It seems a pity at such a time to raise a century-old controversy, but since it has been raised I hope that I may be permitted to relieve a repression of at least thirty years' duration. Up to a point I can agree with Dr. M. V. Chari (Jan. 17, p. 126); nine times out of ten it is better to say "Indian" instead of "native." For example, a few years ago my repression was threatened with one of its periodic exacerbations, which as far as I remember I was able to sublimate in an editorial footnote, when in a case report on a patient in the old Tropical Diseases Hospital in Endsleigh Gardens a distinguished physician wrote, "The patient was a native (stop)." The logical interpretation of such a statement was that he was a native of the locality in which he was being treated—that is, of the Euston Road or at least of London—but there was other evidence against this interpretation. It was a matter of considerable interest whether the patient was in fact a native of the Euston Road or of Sierra Leone, of Chittagong, of Singapore, or of Canton, but the reader was denied this information by the writer's slovenly use of the word "native." This is a common failing of British writers which, with Dr. Chari, I deplore, but apparently for a very different reason.

But to return to Dr. Chari's example: "The natives suffer from beriberi more often than the Englishmen." The context of this example is not given, but the wording—the use of the article and the word Englishmen—is such that I would be surprised to hear it from the lips (or read it from the pen) of any Englishman, unless of course it referred to a particular group of persons or to a particular place, when the sentence would be beyond criticism. Robbed of its articles, as Dr. Chari possibly heard it, it is certainly a slovenly and meaningless sentence. But would it be improved by the substitution of the word "Indians" for "natives," if the speaker were not more specific and did not explain whether he meant Indians of the North-West Frontier Province, or Indians of the Northern Circars in Madras, or even North American Indians?

Dr. Chari continues, "When an Englishman therefore uses the word 'natives' he should by right refer to the natives of England," which of course he does a thousand times every day, except that he may be more specific and say "of Rochdale," "of Yorkshire," or "of Devon." When an Englishman refers to Sir Patrick Manson as having been a native of Aberdeenshire or says that Mr. Jnnes has returned to Merthyr Tydfil, of which he is a native, he does not use the word "native" with "contemptuous reference." The choice of the word neither indicates arrogance in the user, nor does it engender a "spirit of hatred" in the Scots or the Welsh.

A characteristic of the British rule in India was the respect shown for the religious and other prejudices of the natives of the country. During my sojourn of 26 years in India I respected their ridiculous prejudice against the word "native" and whenever possible substituted the horrible expression "indigenous inhabitant." India is no longer under British rule, and Indians should be proud to be natives of their free and independent country, whether it is India or Pakistan, as I am of mine. I therefore no longer feel compelled to inflict psychological trauma on myself by writing "indigenous inhabitant," and have ceased to do so.

A native of Preston (and proud of it), I am, etc.,

L. EVERARD NAPIER.

Prickly Heat and Tropical Asthenia

Sir,—Because the *Journal* reaches remote places, I would like to qualify in part your annotation (Nov. 15, 1947, p. 779) on my paper.¹

The "lipoid response" is a most interesting phenomenon in that it sheds light on the important role that lipids play in rendering the stratum corneum permeable to the skin secretions, especially sweat. However, your annotation does not make it

clear that the response is elicited in the late anhidrotic phase of prickly heat (namely "tropical anhidrosis") and not in acute prickly heat itself. Indeed, in the latter case the application of lipoids to the skin, particularly when it is severely affected, does not facilitate the egress of sweat to a comparable degree and such applications may, in fact, aggravate the local symptoms. Nevertheless, it is significant that their application to normal skin does appear to increase the amount of sweat which is able to reach the surface. I interpret this observation to mean that, when sweat production is considered, even "normal" individuals in the Tropics have some skin lipid deficiency.

Unfortunately I was unable to arrange a large field experiment, such as you mention, on the possible role of "degreasing" in precipitating miliaria. Such a trial would need to be carefully controlled and supervised, as many factors, including occupation, clothing, weather, age, and so on, are possibly concerned in aetiology. To my mind, the ideal test material would be afforded by a battalion engaged on a single task. One company, subjected to a routine of excessive degreasing by hot showers, soap, and powder, could serve as the test group. A second company, observing a contrary routine of conserving or even supplementing lipoids, could act as a control. Members of the third company could treat their skin as they wished and thus represent the present haphazard practice. In assessing the outcome, it would be necessary to take into account the chronic anhidrotic lesions of miliaria as well as acute miliaria itself.

As confirmed independently by the eminent authority Sulzberger,² active desquamation by keratolytics undoubtedly has a logical place in the treatment of miliaria. But my experiments showed that much care was essential during the acute stage of the disease. The precautions required to preserve the method from ill repute are given in my paper.—I am, etc.,

Sydney, Australia.

J. P. O'BRIEN.

REFERENCES

- ¹ *Brit. J. Derm. Syph.*, 1947, 69, 125
- ² *J. Invest. Derm.*, 1946, 7, 53.

Prickly Heat: A Simple Remedy

Sir,—Fashions in medical treatment change and old treatments are oft forgot and it is often well that they should be rediscovered, so that I was glad to read Dr. C. J. Wilson's advocacy of the use of perchloride of mercury in this disease (Jan. 10, p. 76). Dabbing with mere perchloride was the stock treatment for prickly heat very many years ago in Northern India (unless you could send your patient up to the cool of the hills, when of course the trouble usually disappeared almost by the time you had reached your hotel!). Where we learnt it from I scarcely remember; maybe it was from the late Colonel McLeod's lectures, or from an old edition of Patrick Manson. It certainly was in the latter, and still finds a place in the latest edition, though "afridol" soap (a mercurial compound) is preferred; and also in one of the small war manuals.

In those early days of the first "antiseptic era" HgCl₂ was very much in evidence, notably for hands and swabs at operations: it did no harm and discouraged the odd coccus, and so almost always ensured first intention. With reference to O'Brien's view that degreasing the skin to excess favours the occurrence of the disease I have often been struck by the fine texture and spotless velvety appearance of the skin of the average Sikh (compared to other races), who, I believe, frequently anoints himself with coconut oil after bathing. Whether prickly heat be due to Smith's monilia, or O'Brien's degreasing, or to overwork and consequent inflammation of the sweat glands, there is no doubt that relieving the latter of their overwork by moving into a cooler clime immediately dispels the symptoms and signs.—I am, etc.,

C. H. BARNER.
Lt.-Col. I.M.S. (Retd.)

Dhame, Ozen.

Treatment of Subacute Bacterial Endocarditis

Sir,—I read with great interest the report on penicillin in subacute bacterial endocarditis in the *Journal* of Jan. 3. I think penicillin merely clears off invaders for the time being and that unless the leucocytes are up to a certain standard of virility they may be unable to make use of this respite in devouring such bacteria as may have escaped the penicillin owing to too small a dose having been given for the numbers of bacteria present. Indeed it is conceivable that leucocytes might be so

inhaled when contraction of the uterus is heralded by a slight warning pain. My own experience has proved the great superiority of this method.

Some patients, however, of a robust and primitive type will tolerate no inhaler. For these, and for the others too, pethidine hydrochloride injected in adequate dosage is capable of giving extraordinary relief with safety.

As regards "telling the woman," it can safely be left to the women themselves who have experienced an easy labour to spread the good news. That at least has been my experience.—I am, etc.,

Sedburgh, Yorks.

H. THISTLETHWAITE.

Collapse in Infantile Eczema

SIR,—In a previous communication (June 7, 1947, p. 808) I described two successive cases of sudden collapse in infantile eczema and suggested the administration of suprarenal cortical extract. Injection of this substance in a third case was, however, unsuccessful, and the child died in convulsions, the clinical picture being closely parallel to that in the first case. It was noticed, however, that on each occasion the temperature rose sharply to over 100° F. (37.8° C.), and the respiratory rate increased to over 70—often as high as 90 or 100 per minute—some 6–9 hours before the convulsions commenced. Since there was no cyanosis it appears possible that the hyperpnoea was an attempt to increase the CO₂ output, and that the whole condition was produced by an acidaemia. This picture received startling support from the fact that in the second case previously described sodium bicarbonate had been given about two hours before the convulsions commenced, and was not given in the third case.

Two further cases have occurred in which the temperature and respiratory rate have suddenly increased, and in each the clinical picture has closely resembled that in the early stage of the previous cases. A dose of sodium bicarbonate—1 dr. to 1 pint water (4 g. to 568 ml.)—has been given, with the return of temperature and respirations to normal limits, in one case within half an hour of administration. I think that it is incumbent upon me to draw attention to this altered outlook in the treatment of these cases.—I am, etc.,

Manchester.

CECIL W. MARSDEN.

General Anaesthesia and Surgical Shock

SIR,—Dr. J. Walker Tomb's letter on this subject (Jan. 17, p. 123) provokes me to reply because I consider that he is trying to spread a mischievous doctrine with totally inadequate experimental and clinical support. In his various writings he has suggested the theory that surgical shock is due to sympathetic dilatation of muscle vessels, and advocates the administration of spinal anaesthesia or ergotamine preparations in the prevention and treatment of shock. In putting forward these views he has completely ignored much of the important experimental work done on shock, particularly the brilliant researches of Mann (1914), who showed that shock could be produced by intestinal manipulation after the destruction of all nervous pathways.

Large nerves such as the sciatic have frequently been stimulated electrically and mechanically without the production of shock. It is therefore wrong to suggest that the shock which follows wounding is due to strong afferent nerve impulses, particularly since many of the injured experience little or no pain. There is plenty of experimental evidence, for those who care to look, that afferent impulses have little or nothing to do with the production of serious shock. It is difficult to understand, therefore, why one still hears of anaesthetists teaching that deep anaesthesia is a safeguard against shock. On the contrary, there is good evidence that deep anaesthesia aids the production of shock, and Mann has shown that much less trauma is required to kill dogs under deep ether anaesthesia than under very light narcosis. Dr. Tomb's deduction that the reduced mortality consequent upon the introduction of general anaesthesia was due to the abolition of shock resulting from pain is unsound, because other factors, such as the more careful haemostasis possible under a general anaesthetic, must be considered. Many must have seen, as I have, the worsening of a shocked patient's condition on the administration of a spinal

anaesthetic. The suggestion that this measure be used as a preventive and treatment for shock is, therefore, a pernicious doctrine which could easily lead to avoidable loss of life.

The sympathetic nerves are undoubtedly active in a state of shock, and are responsible for the cold, pale, sweating skin, but it seems almost certain that this is a protective mechanism designed to direct the reduced blood volume to the vital organs. Any post-mortem examinations which I have made on men and animals dying of shock resulting from injuries have shown the muscles to be pale and bloodless, not congested as Dr. Tomb's theory would require. As regards his suggestion that ergotamine should prove beneficial in shock by paralyzing the sympathetic activity, I may say that I tried it about seven years ago in a series of rats, and found that small and moderate doses produced no protection from shock while large doses were quickly fatal. One would look for better experimental evidence than this before advocating its use in man.—I am, etc.,

Manchester.

H. A. HANTON.

Dogs and Poliomyelitis

SIR,—My attention has been drawn to Mr. Victor Bonney's letter (Dec. 27, p. 1054) in which he describes a nervous disorder in two dogs with signs indicating lesions of an anterior (ventral) poliomyelitis.

It is true that for the past year there has been an unusually large number of cases of motor-nerve defects in dogs occurrence of which suggests an infective origin. The aetiological agents responsible for these disorders are not, as yet, well established, but there is much clinical evidence to suggest that more than one virus with neurotropic properties is involved. The possibility that a virus causing poliomyelitis in man might be responsible for some of the syndromes in the dog has not been overlooked, but so far we have no evidence that these infective nervous disorders in the dog are associated in any way with viruses known to cause disease in man.—I am, etc.,

Canine Research Station,
Veterinary Educational Trust,
Newmarket.

S. F. J. HODGMAN,
Director

Dicoumarol

SIR,—Dr. H. Lempert (Jan. 17, p. 125) prefers acetone-dried rabbit or human brain to viper venom as he finds the results with the latter substance are often misleading and may cause an overdosage with dicoumarol. He appears to deprecate the necessity for perfectly fresh viper venom and multiplications of tests on one sample. If he attended to these points perhaps he would have better luck with the method. Carefully controlled and performed viper-venom estimations of prothrombin time are much more sensitive than acetone-dried brain methods. It is interesting that Drs. Canti and Robertson are satisfied with Quick's method (using "stypven"!) and report good results after careful control of dicoumarol. I suggest that Dr. Lempert's case who had 1,700 mg. dicoumarol in 8 days would have shown marked prolongation of the prothrombin time if the points noted in my letter of Dec. 20, 1947, p. 1009, had been attended to. Recently a general practitioner sent me a case to whom he had been giving 200 mg. dicoumarol "blind" daily for two days every week; I saw her after a fortnight and her prothrombin time was then 75 seconds (normal 11–12 seconds) and her clotting time much prolonged. She bled for some time from the needle hole when we took blood for the estimation. It was with the object of avoiding accidents such as I have described that my first letter was written. Prothrombin time estimated with acetone-dried brain is always longer than when estimated with viper venom and gives the brain method a spurious air of delicacy.—I am, etc.,

Essex, Essex.

FRANK MARSH.

SIR,—It is of interest that in the correspondence which followed my letter (Dec. 6, 1947, p. 928) on dicoumarol three letters were published with as many modifications for estimating prothrombin. If one reads the literature, as many more are recommended by others. It is significant that the modification which Dr. G. Canti and Mr. D. J. Robertson (Jan. 17, p. 125) and Dr. Frank Marsh (Dec. 20, 1947, p. 1009) state as being satisfactory is criticized by Dr. H. Lempert (p. 125). Also, the two cases Dr. Lempert cites seem to have gone to the extent

of spontaneous bleeding, despite the fact that he had available both the original and Fullerton's modification of Quick's method.

In a conference on therapy, reported in the *American Journal of Medicine* (1947, 3, 234), the following statement is made in the discussion on dicoumarol: "It is difficult to get laboratories to do the test [prothrombin] accurately." Nevertheless, I appreciate the interest aroused, and can say that I have learned a few points which I shall try in the future.

Dr. Lempert states that my suggestion to use alterations in the clotting time by Lee and White's method as a gauge for therapy is not based on experimental evidence. That I do not deny; but I should like to point out that in the same conference others have considered using this. Apparently lucite tubes, and collodion- or paraffin-lined tubes, are more sensitive than ordinary glass. I have no experience with these. The report also states that even with these the results are unpredictable.

I am of the opinion that dicoumarol is a dangerous drug, and should not be used unless all the implications involved are realized. One wants more than the "intelligent anticipation" that Drs. Cantl and Robertson mention. Its action is cumulative; the delay in prothrombin time follows a logarithmic curve, and it is very easy to "overshoot the mark." It seems to me capable of doing more than just diminishing prothrombin activity. Dr. Lempert in his letter mentions one case where, as a result of overdosage, "the operation scar was not healing." And why the haemorrhage? Can one put it down solely to minute trauma associated with diminished blood coagulability?

In conclusion, may I once more quote the conference on therapy: "There are several gaps in our knowledge of the action of dicoumarol . . . so our knowledge has to advance by cautious (the italics are mine) experiments on man."—I am, etc.,

Birmingham

M. J. PIVAWER.

Myanesin

SIR,—“Myanesin” would appear to be of some value in the treatment of spastic hemiplegias and paraplegias of the lower limbs due to cerebral haemorrhage, disseminated sclerosis, and other upper motor neurone lesions. After an intravenous injection of 10 ml. the relaxation of the muscles of the lower limbs and abdomen is immediate and pronounced—lasting for 5 or 6 hours. During this period the joints can be put through a wide range of movements; passive movements are free, and massage of all the muscles is facilitated.

The procedure is quite easy and straightforward. Such a dose of myanesin seems to have a conveniently selective action on the lower half of the body, while the muscles of the upper half, including the diaphragm and intercostals, are unaffected. Therefore the patient can breathe in a normal manner, his tissues remain well oxygenated, and there is no need for any aided respiration. He has full use of his arms, is able to speak, and his blood pressure and pulse rate are undisturbed. As there are no unpleasant subjective symptoms, the patient usually looks forward to his next injection.

All this is in sharp contrast to the use of curare on the conscious subject, which could of course be used for the same class of case. After an effective injection of curare, however, the patient lies there fully conscious but with every muscle relaxed including his arms and intercostals; he is unable to speak or to make any sign, and has an unpleasant feeling of suffocation. Aided respiration with oxygen usually has to be given. He can be brought round in a dramatic way with an intravenous injection of prostigmin, but the experience is unpleasant and he does not willingly subject himself to a repeat injection. This valuable drug should therefore practically always be combined with light general anaesthesia.

In addition to its physical effects, the use of myanesin has a visible psychological effect on these unfortunate sufferers. They feel that something additional is being done and feel that they are not being relegated to the limbo of lost things.—I am, etc.,

L. MATHER.

Estimation of Prothrombin

There is a widespread opinion on the estimation of prothrombin, and a great deal of argument on the best method for its estimation. The use of Russell-viper venom, or of a mixture of Russell-viper venom and brain thromboplastin is common in the laboratory, but the use of brain thromboplastin

is preferable. The great advantage of the venom methods is the commercial availability of accurately dispensed portions of 0.1 mg. venom in sealed bottles, while brain thromboplastin must be prepared in the laboratory and deteriorates rather rapidly.

The convenience of the venom reagents must not blind us to the drawbacks inherent in their use, which appear to be due in the main to two facts. By choice of optimum conditions speeds of clotting can be obtained with venom reagents which are much greater than those obtainable with brain thromboplastin. At the same time the kinetics of the reaction are such that the maximum possible velocity cannot be attained by any convenient concentration of venom, and it must be remembered that it is usually considered essential for the one-stage method that all reactants other than prothrombin must be present in excess.

It is not in fact necessary that excess thromboplastin should be present provided that the plasma thromboplastin makes no significant contribution to the speed of the reaction. In order to fulfil this condition a very rapid coagulation must be accepted or else the plasma must be diluted, with the attendant inconveniences and doubts which complicate the construction of the standardization curve.

With these considerations in mind an investigation of the venom methods has been in progress in this laboratory for some time and the results will shortly be ready for publication. In the meantime it may be stated that it has been found impossible to devise an acceptable procedure using Russell-viper venom alone, but a method using a buffered venom-lectin mixture has proved reasonably satisfactory for routine purposes.—I am, etc.,

The Pathological Laboratory, Royal Berkshire Hospital, Reading.

C. A. MAWSON.

Drug Addiction

SIR,—Dr. F. R. Ellis (Jan. 24, p. 175) writes, "It is a sad but true fact that morphine addiction is incurable. . . ." I wonder! When I first took over a practice I "inherited" a morphine addict—an elderly State-registered nurse—for whom I had to sign, from time to time, a prescription for a tube of twenty-four 1/4 gr. (16 mg.) morphine sulphate hypodermic tablets (for self-administration).

This poor woman had sustained a series of abdominal operations, involving many months of suffering and hospitalization, and had acquired the habit. The case was well known to the Home Office. My patient co-operated with me valiantly in attempts to lower the dosage and frequency—but there was always the sad sequel of intolerable pain and distress. So eventually I went into a huddle with her chemist (whose name is available to you) and we embarked on the following conspiracy. He made up a tube of 1/6 gr. (11 mg.) morphine under the 1/4 gr. label, and all went well. We carried on with this benevolent swindle until the lady was getting no morphine content at all—just an inert tablet.

The lady carried on happily for years—until she died of senile decay.—I am, etc.,

London, S.E.12.

ERIC COPLAND.

Injection Errors: A Suggestion

SIR,—Recently an inquest was reported in the Press on a patient who had died from an injection of adrenaline given for varicose veins—the adrenaline being mistaken for a colourless sclerosing fluid. A year or so ago there was an inquest on a patient who had died from an intravenous administration of methylated spirit which was thought to be concentrated saline.

Early in the war I injected methylated spirit instead of "novocain" as the local anaesthetic for an intravenous infusion; the result was a slough 2 in. (5 cm.) in diameter. On another occasion I inserted in error, but without ill effect, distilled water intrathecally instead of "nupercaine." The label had become detached during boiling; on comparison of the ampoules of distilled water used for mixing pentothal with those containing nupercaine, they were found to be almost identical.

Other errors occur in medical and hospital practice. Reports of them occasionally reach the newspapers from the High Courts or inquests. I think it is possible to avoid these incidents by vigilance, clear labelling and distinctive tinting of the fluids which are in common use—for example, chloroform in some hospitals is tinted red. I use local anaesthetic coloured blue, as

is also saturated sodium chloride but with a different shade. Carbolic acid injections are tinted pink. May I suggest that the time has come when the pharmaceutical authorities might give us a standard range of colourings for commonly used injection agents, such as morphine, atropine, "omnupon," pentothal, procaine, saline, "amethocaine," "ethamolin," etc.? Further, the practice of etching instead of labelling the contents of an ampoule would be another adjunct to accuracy.

These measures would avoid costly incidents to patients, occasionally to surgeons, and also smears on the good names of hospitals, nursing staffs, and the medical profession individually and collectively.—I am, etc.,

London, W.1.

HAROLD DODD.

Sprained Ankle

SIR,—Thirty years ago practitioners knew how to treat sprained ankles. To-day they do not, and their ignorance instead of being corrected by hospitals is spreading into them. Nowadays reliance is placed on crepe bandages and "elastoplast" dressings, sometimes supplemented after an interval by inclusion in plaster-of-Paris. Our fathers strapped the ankle with zinc oxide adhesive plaster in a position to relax the injured ligament and made their patients walk. A cure resulted in a fortnight or less. A great amount of national effort is being wasted by the inefficient methods employed by the present generation of doctors in treating this very curable injury.—I am, etc.,

Birmingham.

FAUSET WELSH.

Foreign Body in the Ear

SIR,—Dr. C. J. Gordon Taylor's case (Jan. 10, p. 76) of a foreign body in the vagina for 41 years reminds me of a case that has interest, perhaps, for E.N.T. colleagues.

A lady of 50 years came to me to have a piece of "slate pencil" removed from her left ear; she had pushed it in while at school at the age of 7, and was afraid to tell her mother until several years later, when she was laughed at for her pains. In the long period until she came to me she had no pain (only a slight occasional tickling sensation), no discharge, no tinnitus, and no noticeable impairment of hearing. I scoffed also, particularly when I saw a meatus filled apparently with nothing more serious than wax. Failure to clear this with hydrogen peroxide instillations, followed by syringing, made me less sceptical. Eventually I had to dissolve the wax with ether, and then could clearly see and feel a small metal-like foreign body lying anteroposteriorly across the meatus. One side lay against the drum and at first adhered to it, but as the solvent worked it became loose, until the body lay free in its bed. No attempt, however, could be made to remove it, as the slightest touch caused great pain. Fifteen minutes later, after a local anaesthetic had time to act, removal with aural forceps was easy enough. The body was cylindrical, a little over 1/8 in. (0.32 cm.) long, and somewhat less than in diameter. For the benefit of those who may not have heard of slate pencils, these were pieces of flint-like stone used in a former generation for writing on slates, before lead pencils and copy-books came into general use. Following removal, except for hyperaemia of the drum, I could see no abnormality. Hearing was approximately normal.

The points of interest in this case, to my mind, are the absence of pain, of discharge, of tinnitus, or of any notable impairment of hearing. All these would be chiefly due to the lack of sepsis, and this in turn to the comparative cleanness and inertness of the foreign body.—I am, etc.,

Sligo.

SEAN O'BEIRN.

POINTS FROM LETTERS

Doctors' Wives and the Service

A doctor's wife writes: Before long the position of wives of doctors within the National Health Service must be made clear. Cannot the B.M.A. organize to represent us and state our views speedily and forcefully to the Minister of Health? Until now doctors' wives have gladly helped in the domestic side of their husbands' practices, sharing the building and maintenance of an efficient service to the patients. Now we are to continue to answer bells at all hours of the day and night and to clean and heat surgeries and waiting-rooms, for the State Clinics will not come into being for many years. Perhaps Mr. Bevan, with one of his kindly gestures, will provide each house with a capable receptionist-cum-charlady to replace the doctor's wife, with whom he will have no contract. This is an important item which so far has been neglected, and steps should be taken without delay to avoid the creation of an army of unwilling women workers for Mr. Bevan's Service.

Fully Salaried Service

Dr. D. V. MILNARD (Slough, Bucks) writes: Mr. Bevan's bland assurances that nothing could be further from his mind than a fully salaried Service carry little conviction. The Government's plans to destroy the usefulness of the House of Lords, to abolish University M.P.s, to muzzle the Press, and to nationalize the steel industry at this critical time leave no doubts in the minds of any but the most ostrich-headed that they do intend to control our "most reactionary profession" for political rather than humanitarian reasons. All this accomplished, the Party could go on its totalitarian way rejoicing and untouched by criticism. . . .

Working Conditions in N.H.S.

Dr. J. E. KENNEDY (Glasgow) writes: There is no evidence that the Association has interested itself in working conditions for practitioners. Twenty-four hours a day is wrong and yet Representatives advocate it. Introduction of the N.H.S. in the summer will upset holidays, and persons joining the new "panels" will be less numerous at this season. . . .

Reduced Wages, More Work

Dr. D. W. REID (London, N.11) writes: With reference to diminishing capitation fee for the increasing numbers on one's list, what branch of the community would submit to reduced wages for more work and increased responsibility? . . .

Individual Freedom

Dr. THOMAS NELSON (London, W.4) writes: Once the practitioners part with their capital and its control they are bound to become State slaves whether they like it or not. Every evil thing will then be added unto them, and, kick as they may, they must be hounded into any form of compulsion the State may determine; so that the retention by the doctor of his goodwill remains the one essential goal in the fight. It is his only escape from chains to freedom. . . .

Combined Diphtheria and Whooping-cough Immunization

Dr. H. W. SWANN (Richmond, Surrey) writes: Since the introduction of the combined diphtheria and whooping-cough immunization it is well known that local reactions after injections occur more frequently than after diphtheria immunization alone. Having tried to avoid these reactions by different techniques I have come to the conclusion that the following method seems to give the least reaction and is also suitable when it is necessary to do a great number of injections during a session.

First of all I insist that the shoulder of the child is completely bare before the child enters the doctor's room. An all-glass 1 c.cm. syringe with a metal cap and with a No. 15 (1 inch) needle is most suitable. When filling my syringe with the immunizing fluid I pierce the rubber cap very superficially, only enough to introduce the bevel of the needle into the bottle. This almost completely obviates the possibility of some of the immunizing fluid clinging to the outside of the needle and being injected into the superficial layers of the arm, because if this happens it definitely produces some reaction. Having filled the syringe I grasp the child's arm from the axilla with my left hand, and gripping the arm all round with my fingers I cause the belly of the deltoid muscle to bulge upwards. I hold the syringe almost vertically between the thumb and the index finger of the right hand, steadying it with the first phalanx of the middle finger from underneath, pierce the skin and the subcutaneous tissues vertically with a quick stab and insert the needle until the cap touches the skin. Having got the syringe into that position I change the position of my fingers and press the piston down with my index finger, inject, and withdraw the needle quickly. In this way I am perfectly sure that the immunizing fluid has been injected completely intramuscularly. I have positive proof that superficial or even deep subcutaneous injections of the combined diphtheria and whooping-cough antigens often produce very severe local reactions, including a formation of a sterile abscess.

The Local Hospital and the G.P.

Dr. E. G. SIBLEY (Forest Row, Sussex) writes: I am sure it is not always realized by the authorities concerned or by the general public that the responsibility for maintaining or raising the standard of general medical practice in a locality rests to a large extent with the local hospital. This responsibility should be considered second in importance only to the treatment of the patient actually in the hospital itself. Consultants whose work brings them into contact with doctors who do, and with those who do not, look after their own patients in hospital find, I think, that the standard of work is higher among the former than the latter. It follows, therefore, that any development which tends to limit the opportunities for the G.P. to look after his own patients in the local hospital must tend to lower the standard of general practice in the locality. I believe that, in their efforts to simplify administration and even in some cases to make advances towards slick efficiency, some local hospital authorities have in the past failed in their task of maintaining the standard of general practice.

Obituary

ROSCOE GRAHAM, M.B., F.R.C.S.(C.)

Dr. Roscoe Reid Graham, a Toronto surgeon, died suddenly while skiing on Jan. 17. He was 58 years of age and the son of Dr. Peter Graham, a country doctor who practised for some fifty years in the small Ontario village of Lobo. He qualified in medicine in 1910 from the University of Toronto, and even as an undergraduate he had decided on surgery as a career. He spent his first two years after graduating studying pathology and bacteriology under the late Dr. George Naismith. After holding resident posts he was in London for some time, returning to Canada to start practice just before the outbreak of the first world war. After service in military hospitals in England he returned again to Toronto, being appointed at first to the staff of St. Michael's Hospital and later as a surgeon at the Toronto General Hospital, where his enthusiastic teaching was greatly appreciated. He was best known to his British and American colleagues as an abdominal surgeon. He was a Fellow of the Royal College of Surgeons of Canada, and an Honorary Fellow of the American College of Surgeons, the Mexican Academy of Surgeons, and the American Surgical Society. At the time of his death he was President of the Canadian Society of Clinical Surgery. He was fond of music and outdoor pursuits and was especially expert in photography. He leaves a widow and a married son and daughter to mourn his loss.

Sir Heneage Ogilvie writes: The many friends and admirers in Great Britain of Roscoe Graham, the famous Canadian surgeon, will have been deeply grieved to hear of his sudden death. Roscoe Graham combined with a charming personality and unusual simplicity of character all those qualities that make for real greatness in surgery—a high sense of duty, a deep love of his fellow men, indomitable energy and strength to work long hours without fatigue, courage, the ability to make quick decisions, skilled and gentle hands, originality of thought, and an uncommon gift for clear thinking and vigorous expression that made him one of the best teachers and writers of his time. He was a leader in abdominal surgery, and his writings had a profound influence on the progress of gastro-enterology. He was the first man successfully to remove an islet tumour of the pancreas, and as a result he attracted similar cases to Toronto from all over the world. At the time of his death he was senior surgeon to the Toronto General Hospital and assistant professor of surgery at the University of Toronto.

Roscoe was strikingly handsome, tall, with an upright athletic carriage and a pink boyish face contrasting oddly with hair that had been snowy white since early manhood. He seemed to radiate happiness. He did everything well, whether in work or sport, and delighted in doing it well. He was an expert skier, and fell dead in the snow at the end of a day during which he appeared to have been in perfect health, enjoying his favourite sport in the place he loved. Such a death is one that all might envy, but it came too soon. He had passed his fifty-eighth birthday only a few days before, and he was in his full vigour as an operator and a teacher, exercising that leadership which during the last thirty years has influenced so many young surgeons in Canada and Britain to their lasting good.

W. M. writes: His many friends in this country will have shared with great sorrow of the tragic death of Roscoe R. Graham of Toronto, one of the great surgeons of the Empire. Just two months ago I saw him full of the joy of life and looking though he had many years of it still in front of him. He went off for a week-end to Collingwood and had an accident on the ski. In the early afternoon he had his last run and at the top of the slope said, "I don't care whether I fall or not. I'd just like to sit here and look at the view." He was on the ski, he slipped his ski over his shoulder, walked a few steps, and then he collapsed, and died—another tragedy.

His death will be an irreparable loss. All over the world his death will be mourned. A really great surgeon and a really great teacher. He was a great influence to medical schools, as he was to the medical profession in the land. He was a great influence to the medical profession in the land. He was a great influence to the medical profession in the land. He was a great influence to the medical profession in the land.

Hospital and was regarded with a devotion by his associates and the nursing staff amounting almost to reverence. Tall and handsome, with twinkling happy eyes and a warm sense of humour, he carried to the lecture-room a dramatic presence that won for him the rapt attention, and indeed the love, of his students. He was president of the Canadian Society of Clinical Surgeons, and had just been invited by the American College of Surgeons to give the John B. Murphy oration in San Francisco next spring.

Dr. CHARLES EDWARD MURPHY died at his home at Ethelbert Road, Canterbury, at the age of 77 on Jan. 17. A student of Trinity College, Dublin, he qualified in 1893, and a few years later settled in Dover, where he was in practice until the first world war. He took the F.R.C.S.I. in 1909, and soon after joining the R.A.M.C. he was appointed surgical specialist to the Canterbury Military Hospital. He was later senior visiting surgeon and finally consulting surgeon to the Royal Victoria Hospital, Dover, and he was a life member of the St. John Ambulance Association. Dr. Murphy was a keen sportsman and for many years an active member of the Royal St. George's and Canterbury Golf Clubs. For the last fifty years he had never missed a Canterbury cricket week, and in his early days he was also a first-class lawn tennis player and took part in a number of Wimbledon tournaments.

Mr. DUDLEY D'AUVERGNE WRIGHT, late consulting surgeon to the London Homoeopathic Hospital, and senior surgeon to the Manor House Orthopaedic Hospital, Hampstead, died on Jan. 22 at the age of 80. He was educated at Haileybury and University College Hospital, qualifying M.R.C.S., L.R.C.P. in 1888, and taking the F.R.C.S. in 1898. Apart from his long connexion with the Homoeopathic Hospital he was consulting surgeon to the Leaf Cottage Hospital at Eastbourne, and he was on the staff of the Leicester Homoeopathic Hospital and of the Phillips Memorial Hospital at Bromley, Kent. At one time Mr. Wright was president of the British Homoeopathic Association. During the 1914-18 war he was chief surgeon to the Hôpital de l'Alliance at Dieppe and later was in charge of the Allied Military Hospital at Yvetot, Seine-Inférieure.

Dr. JOHN ALOYSIUS MUSGRAVE died at his home in Grey-stones, Co. Wicklow, at the age of 56. A native of Alloa, from 1928 until his retirement in 1942 he was M.O.H. for Co. Louth. Qualifying at the Royal College of Surgeons in Ireland in 1915, he joined the R.A.M.C., and was mentioned in dispatches by General Milne for bravery in the field. He served in the Balkans, Palestine, and Transjordan, and was associated for some time after the war with the R.A.F. Dr. Musgrave contributed a number of papers to the medical press. His early retirement was due to ill health. He leaves a widow, a son, and four daughters.

Dr. GEORGE HAROLD LOWE died at his home in Middlesbrough on Jan. 31. Dr. Lowe graduated M.B., Ch.B. at Edinburgh University in 1907 and proceeded M.D. in 1912. After qualifying, he was house-surgeon at the North Riding Infirmary, Middlesbrough, and clinical assistant in the Ear, Nose, and Throat Department of the Edinburgh Royal Infirmary before entering into practice. He was an honorary consulting physician to the North Ormesby Hospital, and had acted as anaesthetist to that and to other hospitals in the area. He was for many years an active member of the British Medical Association. He was secretary of the Cleveland Division for ten years and chairman in 1930-1. He represented the Division at Annual Representative Meetings on nine occasions and was one of the best-known general practitioners in Middlesbrough.

D.I.R. writes: Although I knew Dr. Lowe only in the later years of his life, when increasing ill health had made it impossible for him to play as active a part in practice as he could have wished, I soon came to appreciate his sterling qualities. A distinguished manner and a dignified appearance, meticulous attention to detail, and a keen clinical acumen combined with a healthy contempt for modern tendencies to over-specialization made him an outstanding example of the best type of general practitioner, and in my association with him I came across many examples of the high regard and affection in which he was held by very many of his patients. To the end he maintained that keen interest in professional affairs which was evidenced in earlier years by his activities in the Cleveland Division of the British Medical Association. He had an ever-faithful helpmate in his wife, and her care and devotion to him were an inspiration to all who knew her. It was, I am sure, a great pleasure to him that his elder son had recently returned from war service to enter the practice with him. To his widow and to all his family we extend our deep sympathy.

Medical Notes in Parliament

COMMONS DEBATE ON THE NATIONAL HEALTH SERVICE

Comment on the main features of the debate on the National Health Service in the House of Commons on Feb. 9 will be found in a leading article at page 300.

The debate took place on a motion tabled by the Government: "National Health Service.—That this House takes note that the appointed day for the National Health Service has been fixed for July 5; welcomes the coming into force on that date of this measure which offers to all sections of the community comprehensive medical care and treatment and lays for the first time a sound foundation for the health of the people; and is satisfied that the conditions under which all the professions concerned are invited to participate are generous and fully in accord with their traditional freedom and dignity."

To this the Opposition moved the following amendment: "Leave out from 'people' to end, and add 'but declines to prejudice in any way the right of individuals in all the professions concerned to express their opinions freely, according to their traditions, and in the interest of their patients, upon the terms and conditions of service under the proposed National Health Scheme.'"

Minister's Attack

Mr. BEVAN, moving the resolution, recalled that the debate had been requested by Labour Members of the House and not by the Opposition, and said there was some significance in that fact. For the last six months there had been a sustained propaganda in newspapers supporting the Conservative Party which had resulted in grave misrepresentation as to what was the nature of the Health Service and of the conditions under which the medical profession were asked to enter the Service. There had been even worse misrepresentation sustained by a campaign of personal abuse (Ministerial cheers) from a small body of spokesmen who had consistently misrepresented the great profession to which they were supposed to belong.

He drew a distinction between the hard-working doctors who had little or no time to give to these matters and the small body of raucous-voiced people who were alleged to represent the profession as a whole. So much misrepresentation had been engaged in by the British Medical Association that the doctors voting in the plebiscite were doing so under a complete misapprehension as to what the Health Service was. It had been frightening to speak to some doctors and to learn the extent to which their representatives had failed to inform them about the facts of the case. (Ministerial cheers.)

It had been suggested that one of the reasons why the medical profession was so stirred up at the moment was because of personal deficiencies in the Minister. He was very conscious of his own deficiencies; they were very great. An absence of introspection was never regarded as part of Celtic equipment, and he was therefore conscious of his limitations. It could hardly be suggested, however, that the conflict between the B.M.A. and the Minister of the day was a consequence of any deficiencies on his part, because there had never been a Minister with whom the B.M.A. agreed. His distinguished fellow-countryman had had quite a little difficulty with them; he was a Liberal and they found him anathema. Mr. Ernest Brown, a Liberal National, they had found abominable; Mr. Willink, a Conservative, they had found intolerable; and now they had found him (Mr. Bevan) even more impossible. (Laughter.)

Yet it was to be assumed that doctors were taking up this attitude at the moment because of unreasonableness on his part. It reminded him of the famous argument between Chesterton and Belloc. They had been arguing as to the cause of drunkenness, and decided to apply the principles of logic. They met one night and got drunk on whisky and water, the following night it was brandy and water, and on the third night gin and water. They decided that, as the constant factor was water, it was obviously water that was responsible (loud laughter)—a conclusion which was probably most agreeable to Raccic circles.

Suggestions that the disagreements with the medical profession were the consequences of the personal qualifications or disqualifications of the Minister concerned could be dismissed at once. He referred to them only to call attention to that sort of propaganda which seemed to be recurrent in British politics in which issues of principle were vulgarly personalized. It was becoming almost impossible for the people to see the

differences of principle through the smoke of personal misrepresentation.

It had been suggested by the spokesmen of the B.M.A. that the Government had not negotiated with them sufficiently, that if they had been more approachable things would have been different. But there had been long negotiations with Mr. Ernest Brown and Mr. Willink, and on every occasion the B.M.A. rejected the advances made. He had met the Negotiating Committee eight times—three of them most irregularly while the Bill was in committee—and since August, 1945, officials of the Department had met representatives of the Negotiating Committee 28 times. There had been continuous discussions, but the Negotiating Committee was never in a position to negotiate. It had received—at its own request—instructions not to negotiate. When he met the Committee last December he was presented with a printed circular rejecting the Act before the final negotiations had taken place. He then asked the chairman what was the use of two days' discussion when one of the parties had already decided to reject the chief features. The answer was that they had already made up their minds.

They were not now dealing with a body which was seeking to bring about a modification of principles in what they considered to be the legitimate interests of the medical profession; they were dealing with a body organizing wholesale resistance to the implementation of an Act of Parliament. They had already rejected the Act before they knew the terms of remuneration for the practitioner. It began to look more like a squalid political conspiracy than the representations of an honourable and learned profession. One of the weaknesses of the B.M.A. position was that they had mustered their forces by misrepresentation; when the facts were known the forces would disperse.

Four Main Issues

The first of the four main issues on which the B.M.A. had joined issue was that they could not accept the abolition of the sale and purchase of practices. That was recommended by the profession's own Health Commission; the doctors voted for it in their own plebiscite; all the Government had done was to put into the Act the recommendations of the best medical opinion. The Government regarded it as inconsistent with a civilized community and a reasonable health service for patients to be bought and sold. That existed in no other country, and was a blot on our medical system. Did the Opposition accept or reject the sale of practices in the public service? So far as the Government was concerned, there could not be any question that the Health Service must not contain the buying and selling of public practices.

The second objection was that they would not accept the basic salary as part of their remuneration. But the first time that a full-time salaried general practitioner service was put before the profession was in 1943, during the Coalition Government, by Mr. Ernest Brown. This proposal, which was supposed to contain the seeds of Socialist regimentation, did not come from a Socialist Minister. The matter was argued during the passage of the Bill, and it was decided that young doctors ought to have the opportunity of living decently while they were building up their practices. The present system put the heaviest burdens on them—either through the limitations imposed by entering the profession as assistant to a principal, or by the heavy interest charges on money borrowed to purchase a practice—just at the time when they should be most free of burdens. The Government considered that a basic salary of £300 a year would be a financial defence for the young doctor. If a practitioner believed that the element of basic salary was repugnant and made him into a State-salaried servant he need not take it. But it would be interesting to see how many would regard it as so repugnant that they would hand it back.

Their third argument was that the partnership agreements would be rendered very difficult. The general practitioner's mind had been confused by the B.M.A. propaganda in this respect, but there was naturally anxiety among general practitioners as to the effect of the Act on partnership agreements. To try and clear it up he had decided, with the co-operation of the Attorney-General and the Lord Chancellor, to appoint a legal committee to inquire into it and recommend what they considered should be done. That was a most unusual proceeding: after Parliament had passed a Bill it was left for the Courts to construe it. However, if further light could be thrown on this matter, if legal minds could find any way in which this clause could be clarified, he was perfectly prepared to have an amending Bill to make it quite clear where the general practitioner stood.

The fourth matter was what the B.M.A. considered the removal of their legal rights, and here misrepresentation had reached staggering proportions. It had been said that the

doctor had had taken away from him his right of appeal against unlawful dismissal. That was entirely untrue. The doctor would have exactly the same right of appeal to the courts against unlawful dismissal as any other citizen. During the whole of his negotiations with the representatives of the medical profession they had never been able to show any part of the Act which took away that right. But some of them wanted to go further, and wanted the right of appeal against removal from the Service on the ground of misconduct or neglect.

It was perfectly competent to go to the courts against a Minister on the ground that he had unlawfully removed a doctor from the Service. It was entirely different if they wanted to take the Minister to court on the ground that he had acted wisely or unwisely; that was a matter for the House of Commons to determine, not the courts. If a doctor was to have the right to ask the courts to arbitrate not on a question of law but of merits, how could that be denied to anyone else?

The existing protection for the doctor under the National Health Insurance Act was merely an appeal to the Minister, and that was where it was left by Mr. Willink in the new Health Service. He (Mr. Bevan) decided that that was not sufficient, on the ground that the new Service would be universal, and that removal from it in the future would carry far heavier penalties. Therefore he put in a tribunal between the local executive council and the Minister. If a G.P. was in conflict with the local executive council—on which there were seven representatives elected by the doctors in the locality—and that body decided he should be removed, they reported to the Minister. All the Minister could then do was to refer the matter to the tribunal, consisting of a chairman appointed by the Lord Chancellor, a doctor, and a layman. If the tribunal decided the doctor should be retained the Minister could do nothing about it. The Minister was only brought into the picture if the doctor himself invoked the Minister against the decision of the tribunal. The Minister could then order another inquiry, public or private as the doctor desired, and the Minister could then decide whether the doctor's contention should be upheld or not. There was no professional body in the world in which greater protection existed than that.

Even supposing the doctors were given the right of appeal to the courts for which some of their so-called spokesmen were asking, what a weapon of tyranny that would put into the hands of the Minister. Not only the doctor but the Minister too would have the right of appeal, and could ask the court for the removal of a doctor. Any Minister would thus have a considerable power of intimidation over the doctor, whom he could force to undergo all the odium of publicity, and of having his professional reputation besmirched. If the medical profession could be given what they were asking for, in six months' time they would be cursing the people who asked for it.

He was desperately anxious to get the medical profession into the scheme enthusiastically and harmoniously. He deplored the atmosphere which had been created in the last six months. So anxious had he been not to enter into these polemics that he had made no public speech until January, when the B.M.A. decided to reject the Act. It might be that because of that the mis-education of the doctors was partly his responsibility. But if he was to be asked now to make some concession to assuage the feeling and bring about greater harmony between the Government and the doctors, he must point out that the negotiations had been a long series of concessions on the part of the Government and of none by the medical profession—not a single one.

Collection of Bromides

Coming to the amendment, he said at once that the Government were prepared to add the amendment to the motion. It was one to which all M.P.s could subscribe. A more innocuous collection of bromides he had never seen. Its sting was that it left out the last part of the motion. If the Opposition considered there was nothing in the Act which interfered with the freedom of choice, nothing which prejudiced the doctor-patient relationship, they should say so. So far they had not.

The Government did not object to the doctors expressing their opinions freely, nor to the B.M.A. recommending their members to take service under the scheme. But they did object to the B.M.A. organizing sabotage of an Act of Parliament. Did the Opposition support the B.M.A. organizing sabotage? The beginning of that road might look good, but it would lead to a very undesirable end. If the B.M.A. organized sabotage it was the sovereignty of the House of Commons that was being challenged. The House of Commons was the only body in the country which had the right to try a Minister. The B.M.A. had extended their just

constitutional limitations and the best thing they could do now was to record their opinion that while they might disagree with the Act in this or that particular, or in general if they wished, nevertheless they would loyally accept the decision of Parliament and go on agitating for such revision as they thought proper. (Loud Ministerial cheers.)

Mr. Bevan's Bedside Manner

Mr. R. A. BUTLER, speaking first for the Opposition, said they had never thought that Mr. Bevan had a bedside manner, and his speech had done nothing to make a settlement of the dispute any more likely, with the possible exception of the small concession which ought to have been made long ago about medical partnerships. He had imported the term "squalid" into his arguments about the doctors because it was in the waters of squalid politics he enjoyed himself most, and he ought to examine his own conscience in view of the inept manner in which he managed the controversy. (Opposition cheers.)

The one issue before the House was how to reconcile the individual wishes and fears of doctors as to the manner in which they felt able to conduct their professional duties with the needs of a national health service which the vast majority wished to secure. It was not a case of a private wrangle between the Minister and a score of elderly doctors. The field was very much more extended. Doctors, dentists, and the optical profession were all concerned and anxieties were rising.

Mr. BEVAN said that the dentists' objection was the old one of wanting more money, and the ophthalmic opticians were perfectly satisfied with the conditions of the scheme. (Opposition cries of "Oh.")

Mr. BUTLER said that that was not the information sincerely submitted to him. The point of the Opposition amendment he continued, was that the debate should not be used as a means of intimidating the doctors (Opposition cheers), and that the doctors should be given an opportunity of expressing their views freely. In the second place the Opposition felt that the Minister's words "that the conditions under which all the professions concerned are invited to participate" were not in accord with the dignity of the professions, and they felt obliged to insert a safeguard for the doctors during the period of their voting.

The financial terms were not what was really at stake in this controversy. If the doctors came into the scheme it would not be due solely to financial inducement, but it would be due to conscience. The Opposition regarded the Act as part of the new social mosaic, and such a scheme could not be operated without the willing co-operation of all concerned. In the Education Act matters had been approached in a different spirit. Had they desired to conduct their negotiations under that Act by the method of lightning and thunder, and the method of public controversy, there would have been no opportunity of reaching a settlement. (Opposition cheers.)

The Minister was misleading the country because the date was approaching for the introduction of the scheme and he had not secured the co-operation of the great medical profession. This drift was another example of the irresponsible and incompetent administration associated with the Government, and the responsibility for the grave danger in which the health scheme now stood lay at the door of the Minister of Health. (Opposition cheers.) The whole stage was ready and set for this reform, and the only person who was unready and unset was the Minister. (Opposition laughter and Ministerial cries of "No.")

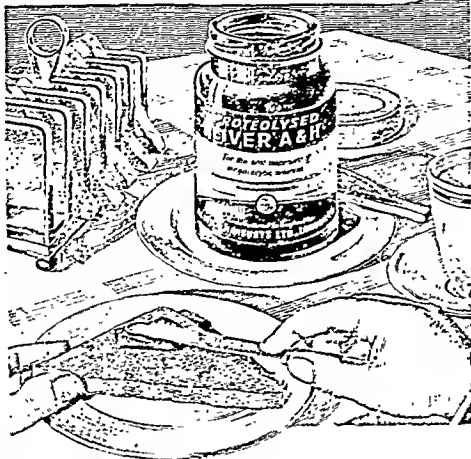
One of the main points of the Minister's speech had been the sovereignty of Parliament. Did the Minister feel that the doctors were sabotaging Parliament by expressing their opinions?

Mr. BEVAN denied that he had ever said that. Collective abstention from participation in the Act was being organized, and that was sabotage. (Ministerial cheers.)

Mr. BUTLER retorted that collective sabotage was an even stronger term. The doctors had been given by the Act an opportunity to state their views, and the Minister must know that unless he obtained their co-operation the scheme would not work.

It was the doctors who were going to suffer most, whatever happened in this controversy, because he did not believe that the doctors would withhold their work or their labour. They intended to go on working, and, so far as he could see, with the ending of the National Health scheme they would go on working for nothing. The Minister had taunted him with trying to be an honest broker, and was probably trying to prepare the way to prejudice his remarks. But he did not intend to pay the slightest attention to that part of the Minister's dialectics, nor did he wish that these issues of principle should be vulgarly personalized. The Minister had reached his present eminence by the art of vulgarly personalizing every principle (Opposition cheers). He declined to be misled by the Minister's heresies.

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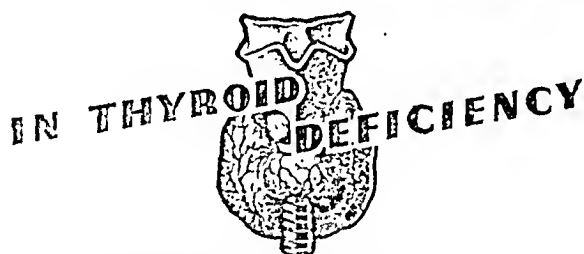
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vitamin B ₂ (riboflavine)	0.3 mg.	manganese	4.0 mg.	available carbohydrate	39%
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vitamin B ₆	0.45 mg.	copper	0.45 mg.	calorific value	104

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Professional Freedom

The first principle on which the doctors rested their case was that they must be free to practise according to their accepted standards. They wanted freedom of professional judgment, speech, and action, and also freedom to write and publish. He understood from a recent Parliamentary answer by the Minister that a doctor would be able to write and publish in scientific journals what he liked without any prohibition whatever. Would the Minister confirm that?

Mr. BEVAN: Why should I confirm it? You first of all cast doubt. There never was any doubt whatsoever. The right honourable gentleman is leaving a trail of slime behind him.

Continuing, Mr. BUTLER said that the second principle on which the doctors insisted was that in the interests of the community the service of medicine should not become directly or indirectly a full-time service of the State. The real anxiety of the doctors was that the Minister had power in the regulations to extend the basic salary and make it eventually the main feature of the Service.

Mr. BEVAN: That is a power which has existed since 1911. It exists under the new Act no more than under the old Act.

Mr. BUTLER said that he was trying to remove the anxieties of the doctors that it was the intention of the Government to expand the basic salary so that the members of the profession became Civil Servants.

Mr. BEVAN: I said upon the Second Reading that it was the intention of the Government to pay the general practitioner mainly by way of capitation and the rest by a small element of basic salary. I repeated that in committee, and I repeat it now. There is no intention of extending it to make it a full-time salary.

Mr. BUTLER replied, So far so good, but the Minister would have to go further and remove the general basic element in all salaries (Labour cries of "Why?"). It was not the basic salary by itself which was causing alarm to the medical profession, but the fact that it might be expanded, and members of the profession might by that door be brought into the State Service. If the Minister could allay that apprehension he would have got one stage further.

On the question of appeal, he asked the Minister to think about that again, although on that point he thought the Minister had a stronger case. The Minister had set up the tribunal, and the fear of the doctors was that there was an ultimate political chief at the top. Mr. Bevan should leave his elaborate system of the tribunal to decide those matters, and simply allow an appeal on fact to the courts from the tribunal, that was to say, whether the different operations had been carried out in a fair way according to all the regulations laid down.

Mr. BEVAN indicated dissent.

Mr. BUTLER said that it would mean that the Minister would not actually come in as the final appeal. If Mr. Bevan would follow that line of thought it would keep him out of the picture but would retain the tribunal as the ultimate authority, and not the Minister. That would lead to a possible method of getting the two sides together.

There was very little that could not be settled by good will, toleration, and common sense (cheers) if the approach was broader than the party approach. They could not nationalize conscience (Opposition cheers), and it was no good trying to do so. Mr. Bevan would not get agreement unless he got the confidence of the profession. It was important that the health scheme should work by agreement and not by coercion. An extra effort should be made to meet the doctors' basic anxieties. What was wanted was a "victory for common sense" (Opposition cheers). They hoped and prayed that the spirit of the Act might be carried out. He did not believe that it would be the public who suffered as much as the doctors if the impasse continued.

He trusted that after the controversy was over, if the Government brought to it a little more toleration, patience, and common sense, the doctors would be able still to take their traditional oath. They would be able to feel that the traditions of 2,000 years would continue, and the art of healing might be practised not by helots of the State but by free men serving the interests of the State (Opposition cheers).

Direction

Dr. SANTO JAGER said that a doctor searching for a living was directed to-day. He went where there was a vacancy. That was all the Act was doing. He had never been able to see how the Act interfered in any way with the relationship between doctor and patient. If there was any interference he would be the first to object. The doctor's responsibility for and to his patients would be no less under the Act than it had been in the past. The Minister was not interfering or sending snoots around the country. In the new Service doctors would get greater responsibility on their executive

committees. Many doctors were now working for basic salaries, and no one would say that they were any the worse on that account. He confessed that he would have liked a full-time salaried service, "hut, as we cannot have that, I am prepared to take the next best thing, which is a basic salary." The new Service would be flexible. Never before had doctors had such full consultation, and he could not see what they had to grumble about.

Mr. FRANK BYERS said that what mattered was that the dispute itself might prejudice the working of an efficient Service which so many millions had been looking forward to for so many years. The fact was that the doctors were voting "blind," and they had been grossly misled by a small clique in the B.M.A. The Conservative amendment was utterly puerile, but he could not absolve the Minister from complete blame. He would have been well advised to have made more public utterances in order to show to the average doctor the exact truth and to counteract the misrepresentations of the B.M.A. Much of the propaganda of the B.M.A. was a direct challenge to the Act, and Members of Parliament must resist that. The dispute had to be settled. The B.M.A. should take the initiative now. If not, the doctors should get rid of the people in the B.M.A. and appoint a new committee to negotiate with the Minister. The trouble with the plebiscite was that people did not understand the issues involved. There was very little substance indeed in the case put forward by the B.M.A. The main thing was to get the Service going in a spirit of good will, and that involved give and take on both sides.

Dr. STEPHEN TAYLOR said that if ever there was a badly bewildered profession it was the medical profession at the moment. The spokesmen of the B.M.A. had spoken in passionate terms, but the burden of the message ranged from a complete emotional denunciation to admissions that the bulk of the Act was good, except on four or five points.

There was only one possible reason for contemplating a full-salaried system, namely, on the assumption that the proposed machinery would fail. If the doctors made a success of the scheme they would have the full backing of Socialist members in resisting a full-salaried service.

Rooted Objections

Mr. LINSTEAD suggested that the Minister had failed to understand the root cause of the objection of the medical profession to the National Health Service Act. The conditions under which the dentists and pharmacists were to be invited to participate in the new Service had not yet been made known, and it was not right to ask the House to agree to a motion in advance of the supply of vital information.

If the Minister thought that a sufficient number of doctors would come into the Service over the head of the Negotiating Committee he had missed the essential points. This controversy could not be viewed otherwise than against the existing social and political background. In 1911 the direction of labour or the possibility of a full-time State Medical Service had not been thought of. Those things were very much in the public mind to-day, and therefore the Minister could not rely on the collapse of the opposition of the doctors as happened 37 years ago.

More and more the members of the various professions were becoming either directly or at one remove State employees. That was a completely new state of affairs which raised a whole series of new problems, which must be worked out in the British fashion of trial and error. All these considerations lay at the back of the differences between the Minister and the doctors.

Hitherto the doctors had been able to lay down their own professional standards. Rightly or wrongly they feared that there was now a danger that those traditions would go by the board. There was also a fear that doctors would lose the right to practise where they liked. The Minister would not get the good will of the medical profession until he convinced its members that their professional standards and traditions would be respected.

If the Minister's assurance that there was no intention of turning the medical profession into a whole-time State-salaried service was to be accepted, why could he not continue the capitation fee system which had worked for many years under the National Health Insurance Acts? Perhaps Mr. Bevan believed that he would be able to break the resistance of the doctors by means of the Government majority in the House of Commons and by the power of the purse. If he did so it would be a dearly bought victory, and the public would be the victims, because without the co-operation of the doctors no national health scheme could ever work successfully. It was still possible by an act of statesmanship to enable the scheme to be brought into operation with the co-operation of the medical profession.

Mr. LESLIE HALE said that the B.M.A. had never represented the medical profession in this matter, and the time had come to make that clear. The plebiscite asked the doctors not only to state whether they were willing to enter the new Service or not, but also to put the B.M.A. in a position to wreck the scheme and defy the will of Parliament.

The Profession and the B.M.A.

Sir ERNEST GRAHAM-LITTLE said that what mattered was not promises or statements by the Minister, but what was in the National Health Service Act. He contended that the requisite personnel and buildings could not be forthcoming to enable the Act to be brought into operation on the appointed day or any foreseeable future date.

After quoting the voting figures by consultants and specialists against the scheme, he said that those sections of the profession were not so important in this respect as the general practitioners, who were three times as numerous. The general practitioners were represented by the B.M.A. The position of that body had been widely misinterpreted, notably by the Minister himself. The Council of the B.M.A. was obliged to adopt the official policy of the Association expressed in resolutions passed by the Representative Body by not less than a two-thirds majority. The rejection of the 1946 Act was the policy of the Association, and it would have been entirely within their right to announce it at once. They had, however, wisely decided to consult not only their own members but all members of the profession.

The whole structure of the new National Health Service—and especially the general practitioners' section—was based on the provision of health centres for the whole community. But the Minister had announced that the provisions of those centres must be postponed. That made an enormous hole in the scheme, particularly as it affected the general practitioner. The shortage of dentists was even more serious than the shortage of doctors. The statement that the new Act established a sound foundation for a health service for the people would not bear examination. The position was extremely critical. The medical profession were extremely suspicious of the Government and the measures proposed. They were very reluctant to forgo their privileges, and he hoped that their fears would be diminished.

Mr. BAIRD thought that the position taken up by many doctors was due to ignorance of the Act resulting from the flood of propaganda to which they had been subjected during the past few months. He believed that the rank and file of medical and dental practitioners were worried because they had been led to fear that they would be subject to unnecessary bureaucratic control. Nothing could be further from the truth. No professions in the world were entrusted with more control of their own destiny than the medical and dental professions possessed under the new Health Act.

After Mr. LAW had wound up the case for the Opposition by moving the amendment, Mr. WOODBURN, Secretary of State for Scotland, ended the debate with a vigorous defence of the Minister of Health. Mr. Woodburn said that he came into the negotiations late in their progress with an objective mind. He had seen no indication that the B.M.A. and their associates were prepared to work the scheme; they seemed more keen to have a fight than to get a settlement. There would have been no need for the debate but for the fact that the matter had been muddled by the propaganda campaign of the B.M.A., which had perverted the whole discussion. The real issue was whether it was in the public interest that the doctors should be allowed to bargain the Act of Parliament. If it was a question of loyalty, doctors should be loyal to the needs of the patients, even if it meant disloyalty to the campaign of the B.M.A.

The closure was then applied, and after this had been carried by 331 votes to 177—Government majority, 164—the amendment was rejected by 337 votes to 178, and the motion was then carried.

Trade Union Membership and the N.H.S. Act

Mr. MURPHY on Jan. 29 asked the Minister of Health whether a doctor who was a member of a trade union would be required as a condition of employment in the National Health Service; and whether professional bodies would have representation on the committees for the regulation of remuneration.

Mr. MURPHY said that he hoped that persons employed in the National Health Service would be encouraged to belong to trade unions, and that it would not be a condition of employment that they should be members of professional bodies. He said that the Government were not prepared to require any person to join a trade union as a condition of employment, and that the Government were not prepared to require any person to join a professional body as a condition of employment.

Health Service were well advanced, and for a large part of it provisional employees' sides had already been set up. No fewer than twenty-five professional organizations were represented on these sides, and there was no truth in the suggestion that such organizations would not have appropriate representation.

Organized Enlightenment

Wing-Commander HULBERT on Feb. 5 asked the Minister of Health if his attention had been drawn to the fact that medical consultants and specialists, at a meeting at the headquarters of the British Medical Association on Jan. 27, rejected his proposals for a National Health Service by 766 votes to 11; and what action he proposed to take to make the scheme acceptable to the medical profession.

Mr. BEVAN said he was aware of this. He thought that if professional men and women were allowed, at organized meetings of this kind, a little enlightenment as to the true facts of the new scheme, they would certainly find it acceptable to them.

Attempted Intimidation

On Feb. 5 Dr. S. JEGGER asked the Minister of Health whether he knew that in the plebiscite of doctors now being held by the B.M.A. each doctor was required to disclose his identity on the ballot paper; and whether in view of the fact that many doctors interpreted this violation of voting secrecy as an attempt to intimidate individual doctors, he would take steps to get a more accurate expression of the opinion of doctors on the question of their co-operation in the new National Health Service.

Mr. BEVAN, in reply, referred Dr. Jeger to the answer which he had given on Jan. 29 to Mr. Tiffany.

Mr. TIFFANY asked the Minister of Health to place in the Library copies of the two documents issued, by agreement between him and the Medical Negotiating Committee, to a doctors in the country.

Mr. BEVAN said he had done this.

Royalties in the N.H.S.

Colonel STODDART-SCOTT asked the Minister of Health on Feb. 5 for an assurance that the doctors and dentists who entered the National Health Service and published scientific or clinical articles and books would be permitted to retain fees and royalties that their writings earned.

Mr. BEVAN replied that both professions would in this respect be in the same position as they were now.

Universities and Colleges

UNIVERSITY OF OXFORD

In a congregation held on Jan. 22 the following degrees were conferred:

B.M.—J. F. Hale, J. E. Middleton, C. A. B. Clemenson, B. W. Cole, *D. I. Turk, *R. W. Emanuel, *I. Kelsey Fry, *G. L. T. M. Paley, *Christine L. Muir.
* In absence.

At a degree ceremony on Dec. 13, 1947, the degree of D.Sc. was conferred on J. Walker.

UNIVERSITY OF CAMBRIDGE

The following medical degrees were conferred on Jan. 30:

M.B., B.Chir.—*R. W. Brown, *P. H. A. Sneath, *M. S. Adams, *N. I. Harris, *B. M. Watney, *P. S. Andrews, *P. H. Bright, *O. E. I. Hodge, *J. E. MacIver, *J. Prestli, *J. D. Scott, I. S. Longmuir, D. S. Paine, *J. M. E. J. G. Bennette, B. E. Shaip, *E. H. Eason, *C. P. Atkin, *M. H. Clegg, *D. Cooper, *W. N. Ingham, *R. V. Knight, *L. C. Robson, *M. H. Povey, *D. H. H. Walford, *J. H. Cule, R. G. Gibbs, G. G. Walker, *R. K. Muir, *M. D. M. Bowen, *K. C. G. Taylor, *M. B. Thompson, *W. Lewis, D. A. Hunt, *J. D. Cox, *G. W. C. Johnson, *F. R. Lambert, D. Whitfield, *H. C. Bird.
* By proxy.

Titles of degrees were conferred by diploma during January on B. Jones, M.B., B.Chir. (Girton College), and A. E. Perkins, M.B. B.Chir. (Newnham College).

UNIVERSITY OF EDINBURGH

Robert McWhirter, F.R.C.S.Ed., D.M.R.E., F.F.R., has been appointed to the recently instituted Forbes Chair of Medical Radiology in the University.

UNIVERSITY OF DUBLIN

No. 4

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Jan. 24.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included), (b) London (administrative county), (c) Scotland, (d) Eire, (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London), (b) London (administrative county), (c) The 16 principal towns in Scotland, (d) The 13 principal towns in Eire, (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	47	5	21	2	—	94	13	30	2	—
Deaths	—	1	—	—	—	3	—	—	—	—
Diphtheria	199	25	60	14	8	247	14	70	22	7
Deaths	2	—	—	—	—	4	—	—	1	—
Dysentery	131	7	43	1	—	97	4	32	1	—
Deaths	—	—	—	—	—	—	—	—	—	—
Encephalitis, lethargica, acute	—	—	1	—	—	3	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	55	15	6	—	—	58	7	5
Deaths	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years	46	5	5	2	—	83	4	12	26	1
Deaths	—	—	—	—	—	—	—	—	9	—
Measles*	3,457	284	1023	121	14	11,671	418	284	24	912
Deaths†	—	3	—	1	—	7	—	—	—	2
Ophthalmia neonatorum	64	5	17	1	—	87	5	11	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever	7	2	—	—	—	1	1	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenza	780	69	7	4	4	1,270	79	25	11	11
Deaths (from influenza)‡	18	5	2	—	—	92	17	10	1	1
Pneumonia, primary	454	47	278	31	10	73	367	57	—	14
Deaths	—	—	—	—	—	—	—	—	—	—
Polio-encephalitis, acute	3	—	—	—	—	1	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Poliomyelitis, acute	35	4	3	—	—	5	2	1	9	—
Deaths§	3	—	—	—	—	1	—	—	—	—
Puerperal fever	—	1	7	—	1	2	9	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia||	110	12	10	2	2	133	7	21	2	—
Deaths	—	—	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	1,847	127	350	39	45	1,266	81	254	19	42
Deaths†	—	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid fever	6	1	1	4	1	6	—	1	3	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough*	2,547	158	39	42	4	2,151	196	406	103	42
Deaths	8	1	—	2	1	8	—	3	2	1
Deaths (0-1 year)	385	60	53	23	10	535	64	85	41	19
Infant mortality rate (per 1,000 live births)	—	—	—	—	—	—	—	—	—	—
Deaths (excluding still-births)	5,222	788	685	215	156	6,200	1019	820	263	155
Annual death rate (per 1,000 persons living)	—	—	13.8	13.5	—	—	—	17.0	—	—
Live births	8,421	1319	1030	372	264	10,110	1575	1233	356	254
Annual rate per 1,000 persons living	—	—	20.8	23.3	—	—	—	24.8	—	—
Stillbirths	231	24	21	—	—	277	29	43	—	—
Rate per 1,000 total births (including stillborn)	—	—	20	—	—	—	—	34	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

|| Includes puerperal fever for England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Poliomyelitis

Notifications of poliomyelitis 49 (35) and of polio-encephalitis 4 (3) for the week ended Jan. 31 showed an increase. Figures for the previous week are given in parentheses. The principal increases of poliomyelitis and polio-encephalitis together were in London 6 (4), Chester 4 (2), Devon 3 (1), Warwick 7 (2), Wiltshire 2 (0), and Yorkshire West Riding 4 (2). In Warwickshire 4 cases of poliomyelitis were notified in Birmingham C.B., one in Solihull U.D., and one each in Alcester and Stratford R.D.

In 1947 primary notifications of infantile paralysis in England and Wales numbered 9,199. Corrections are expected to reduce this figure to about 7,350. The previous highest figure since 1912, when notification became compulsory, was 1,585 in 1938.

Discussion of Table

In England and Wales infectious diseases were more prevalent during the week. There were increases in the incidence of whooping-cough 204, measles 153, scarlet fever 93, and dysentery 35.

A small increase in the incidence of scarlet fever was recorded in most areas of the country; the only notable exception was a decrease of 48 in Yorkshire West Riding. The incidence of whooping-cough in London remained stationary; elsewhere a small rise occurred, but the only large increase was 61 in Lincolnshire.

An increase in the number of notifications of measles was recorded in all areas except the North, where a slight decrease occurred; the largest variations in the returns were an increase of 44 in London and a decrease of 39 in Lancashire. The only fluctuation of any size in the returns for diphtheria was an increase of 11 in Lancashire.

One case of typhoid and two of paratyphoid fever were notified in Northumberland, Rothbury R.D. The rise in the incidence of dysentery was due to an increase of 31 in Lancashire and 13 in Yorkshire West Riding. In Lancashire the outbreak in Oldham rose from 4 to 20 and a fresh outbreak involving 25 persons was reported from Lancaster M.B.

The notifications of acute poliomyelitis declined by 12, and the largest returns were Lancashire 5, London 4, Middlesex 4. Liverpool C.B. with two cases of poliomyelitis was the only administrative area with more than one case.

In Scotland increases occurred in the notifications of measles 124 and acute primary pneumonia 25, while a decrease was recorded for scarlet fever 27. In the western area a rise of 9 occurred in the notifications of cerebrospinal fever and diphtheria. Half of the cases of dysentery were notified in the north-eastern area.

In Eire the incidence of measles decreased by 16 and that of scarlet fever rose by 15.

In Northern Ireland little change occurred in the trends of infectious diseases.

Infectious Diseases during January, 1948

The incidence of the notifiable diseases during January in England and Wales presents some interesting contrasts when compared with the levels of preceding years. The chief feature of the returns is the absence of an influenza epidemic—the deaths from influenza are only about one-quarter of the preceding lowest totals. Scarlet fever and whooping-cough were exceptionally prevalent. The notifications of measles were about five times the inter-epidemic level. Acute pneumonia has been at a low level. The notifications during the first four weeks of the past five years were:

	1944	1945	1946	1947	1948
Scarlet fever	7,693	5,866	5,356	4,731	7,052
Whooping-cough	8,150	6,626	4,818	8,301	9,672
Diphtheria	2,826	1,566	1,600	977	818
Measles	2,744	47,921	5,181	43,804	14,740
Acute pneumonia	5,129	5,437	5,260	6,021	3,392
Cerebrospinal fever	236	270	277	269	202
Dysentery	664	1,178	1,358	321	549
Enteric (typhoid and paratyphoid)	23	37	18	33	26
Influenza deaths in the Great Towns	699	270	735	227	78

Diphtheria in 1947

Provisional returns for 1947 show that in the 126 great towns a new low record for diphtheria was established. There were 6,775 cases and 128 deaths, totals which are 4,492 and 111 fewer than in the previous year. For the country as a whole there were on the average 58,000 cases and 2,800 deaths in the pre-war period. In 1946, the last year for which complete figures

are available, there were 18,284 cases and 472 deaths. Since 1941, when the immunization campaign started, until the end of June, 1947, nearly seven million children have been immunized under local authority schemes in England and Wales.

Week Ending January 31

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,926, whooping-cough 2,725, diphtheria 200, measles 4,233, acute pneumonia 850, cerebrospinal fever 48, acute poliomyelitis 49, dysentery 208, paratyphoid 4, and typhoid 2.

Medical News

Diamond Jubilee at Axbridge

On Jan. 18 Dr. Arthur Victor Leche celebrated his diamond jubilee as a resident of Axbridge, Somerset, where he first began medical practice on Jan. 18, 1888. Dr. Leche qualified M.R.C.S. in 1887 and took the L.R.C.P.Ed. in the following year. He was the first M.O.H. for the Axbridge Rural District.

Experimental Psychology: New Journal

In view of the increasing interest in experimental psychology in recent years, the Experimental Psychology Group has decided to found a new journal to be known as the *Quarterly Journal of Experimental Psychology*. Editorial inquiries should be addressed to Mr. R. C. Oldfield, M.A., Institute of Experimental Psychology, 34, Banbury Road, Oxford, and the journal may be ordered (30s. per year or 8s. 6d. per part) from W. Heffer and Sons, Petty Cury, Cambridge.

Journal of the C.S.P.

Physiotherapy, the journal of the Chartered Society of Physiotherapy and successor to the *Journal* of that society, is now produced in a brighter and more easily readable format. The current number (January, 1948) includes original articles on physiotherapy in disseminated sclerosis, on congenital round shoulders, and on the theory and practice of radiotherapy.

Food Standards Committee

A Food Standards Committee has been appointed with power to review the composition of foods other than liquid milk. It will replace the Inter-Departmental Committee on Food Standards set up in September, 1942. The Committee will advise the Ministers of Food and Health and the Secretary of State for Scotland on regulations which can be made under the Defence (Sale of Food) Regulations, 1943, and the Food and Drugs Act concerning the composition of foods other than liquid milk, and it will recommend food standards designed to protect the consumer against the sale of inferior products. The following have been appointed to the Committee: Mr. Norman C. Wright, Ph.D., Chief Scientific Adviser to the Ministry of Food (chairman); Mr. G. G. Barnes (vice-chairman); Mr. C. A. Adams, B.Sc.; Mr. P. N. R. Butcher; Prof. S. G. Cowell; Sir Jack C. Drummond, F.R.S.; Mr. A. Glover, M.Sc.; Sir Harry Hague; Sir Harry Jephcott, M.Sc.; Mr. J. M. Johnston; Mr. G. W. Monier-Williams, Ph.D.; Mr. J. R. Nichols, D.Sc.; Mr. R. W. Sutton, B.Sc.; Mr. G. Taylor; Mr. K. R. Allen has been appointed secretary, and communications intended for the Committee should be addressed to him at the offices of the Ministry of Food, Food Standards Division, Devonshire House, Mayfair Place, Piccadilly, London, W.1.

British Service Families in Germany

Dr. W. E. Chisman, Medical Adviser to the Treasury, leads a team investigating medical facilities for the families of British Servicemen in Germany and Austria.

Working Party on Nursing

The Council of the Royal College of Nursing has issued a draft report on the Report of the Working Party on the Recruitment and Training of Nurses. The Council begins by pointing out that for some time been advocating many of the recommendations made by the Working Party. It thinks that the Working Party has done a great deal for the hard-pressed staffs that bear the nursing burden in this country, and it emphasizes that the key to staffing is the recruitment of more domestic help. On the question of training, the Working Party stressed as a cause for concern the fact that the Council recommended a more satisfactory staff relationship, and the Working Party has been working with the unbroken spirit of co-operation. The Council concludes that the basic principle of the Working Party is that the nursing staff should be treated as a team, and that the Working Party has been working with the unbroken spirit of co-operation.

Thoughts for a Quiet Week-end

February is ever a month of funerals. . . —*Observer*, Feb. 9.
Asked to send a message to the opening day of a training school for nurses, Bernard Shaw replied: "What nurses really need to be told is that they are not present trained to kill their patients by untimely washings and unwholesome diets." —*Sunday Express*, Feb. 6.

Wills

Dr. Charles Paget Lapage, of Didsbury, Manchester, left £20,000. Dr. John Skardon Prowse, formerly of Moss Side, Manchester, left £16,430. Surgeon Rear-Admiral Sir George Welch, who died on Oct. 26, 1947, left £5,951. Dr. Angus MacGillivray of MacGillivray, twenty-eighth Chief of the Clan MacGillivray, left £20,496.

COMING EVENTS

Association of Army Psychiatrists

The fourth reunion of Army Psychiatrists will take place at Slater's Restaurant, 50, Cannon Street, London, E.C., on Saturday, Feb. 21, from 7.30 to 10.30 p.m. Details may be obtained from the honorary secretary, Lieut.-Col. J. C. Penton, R.A.M.C., The Old Farm House, 1, Gatehill Road, Northwood, Middlesex.

Edinburgh Refresher Course

A fortnight's refresher course at Edinburgh University begins on Monday, May 3, at 9 a.m. It is intended primarily for demobilized medical officers (Class II) and for insurance practitioners. Fee for graduates not claiming expenses from Government sources, 10 guineas.

Royal Medico-Psychological Association

The next quarterly meeting of the Royal Medico-Psychological Association will be held at the Royal Society of Medicine (1, Wimpole Street, London, W.) on Friday, Feb. 20, when, at 2.30 p.m. the subject for discussion will be "The Place of the Psychiatrist in a Children's Hospital." Papers will be read by Prof. R. W. B. F. and Dr. Eleanor Creak. Members of the British Paediatric Association and Fellows of the Paediatrics Section of the Royal Society of Medicine are invited to attend this session of the meeting.

Industrial Medicine in New York

The Long Island College of Medicine will hold its fifth postgraduate course on industrial medicine on April 5-16. The fee for the course is 75 dollars. Inquiries should be addressed to Dr. Thomas D. Dublin, Department of Preventive Medicine and Community Health, 248, Baltic Street, Brooklyn 2, New York.

SOCIETIES AND LECTURES

Monday

EUGENICS SOCIETY.—At 26, Portland Place, London, W., Feb. 15, 5 p.m. "Some Reflections on Genius." Galton Lecture by Dr. W. Russell Brain.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—Feb. 16, 9 p.m. "Clinical Pathology in Relation to Medical Practice." First Lettsomian Lecture by Dr. C. E. Dukes.

Tuesday

CHADWICK TRUST.—At 26, Portland Place, London, W., Feb. 16, 2.30 p.m. "How Medicine became Social," by Dr. René Stiel.

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—Feb. 17, 5 p.m. "Pathological demonstration" by Dr. I. Muende.

INSTITUTE OF LARYNGOLOGY AND OTOTOLOGY, 330, Gray's Inn Road, London, W.C.—Feb. 17, 9.30 a.m. "Non-operative Treatment of Maxillary Sinusitis," by Mr. Myles L. Formby.

SOCIETY OF CHEMICAL INDUSTRY.—Joint meeting with Manchester Section of the Society of Chemical Industry and Manchester District Section of Royal Institute of Chemistry at Gas Showers Town Hall Annex, Manchester, Feb. 17, 10.30 a.m. "Developments in German Dairy Industry," by Mr. F. C. W. "Wartime Production of Food Yeast in Germany," by Mr. H. Bunker. 2.30 p.m. "German Albumen Substitutes," by Mr. J. Hearne; "German Soapless Detergents," by Mr. R. Perdur.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHARMACOLOGY, Gower Street, W.C.—Feb. 17, 5.15 p.m. "The Pharmacology of Chemistry of Enzymes (ii)," by Mr. F. Bergel.

Wednesday

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—Feb. 18, 5 p.m. "X-ray Technique," by C. W. McKenny.

ROYAL MICROSCOPICAL SOCIETY.—At B.M.A. House, Tavistock Square, London, W.C.—Feb. 18, 5 for 5.30 p.m. "Scope and Applications of Direct Microscopy to the Investigation of Starch and Cellulose Breakdown in the Digestive Tract," by Mr. F. Baker.

Thursday

BRITISH INSTITUTE OF RADIOLOGY, 32, Welbeck Street, London, W.—Feb. 19, 8 p.m. "Radiotherapy in Dermatological Conditions," by Dr. R. T. Brain.

EDINBURGH CLINICAL CLUB.—At B.M.A. Scottish House, 7, Drumshugh Gardens, Edinburgh, Feb. 19, 8 p.m. "Domiciliary Midwifery," by Dr. W. I. C. Morris.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—At 26, Portland Place, London, W., Feb. 19, 7.30 p.m. "The Pathological Processes in Malaria," paper by Prof. B. G. Maegraith; "Liver Lesions in Malaria," by Dr. W. H. H. Andrews. Discussion.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, London, S.W.—Feb. 19, 4.30 p.m. "Neurological Lecture-demonstration," by Dr. A. Feiling.

STAINCLIFFE COUNTY HOSPITAL, Dewsbury, Yorkshire.—Feb. 19, 9.15 p.m. "Post-Menopausal Haemorrhage," by Prof. A. M. Claye.

Friday

BRITISH INSTITUTE OF RADIOLOGY, 32, Welbeck Street, London, W.—Feb. 20, 8 p.m. "Advances in the Design of X-ray Diagnostic Equipment," by Dr. A. Nemet.

FACULTY OF RADIOLOGISTS.—At Royal College of Surgeons, Lincoln's Inn Fields, London, W.C., Feb. 20, 2.15 p.m. Radiotherapy Section Meeting. Discussion: "Carcinoma of the Bladder." Openers: Messrs. Arthur Jacobs, E. W. Riches, and John Millen.

LONDON CHEST HOSPITAL, Victoria Park, E.—Feb. 20, 5 p.m. "General Anaesthesia for Surgery of the Heart," by Dr. Parry Brown.

ROYAL MEDICAL SOCIETY, 7, Melbourne Place, Edinburgh.—Feb. 20, 8 p.m. "Branchial Carcinoma." Dissertation by Mr. I. F. McLaren.

TUBERCULOSIS ASSOCIATION.—At Royal Society of Tropical Medicine and Hygiene, 26, Portland Place, London, W., Feb. 20, 3 p.m. "Preliminary Reports on Results of Streptomycin Trials in Britain." Short papers by Dr. Geoffrey Marshall, Prof. N. B. Capon, Dr. Honor Smith, Dr. Douglas Smith, Dr. Richard Brent, Dr. J. W. Crofton, Dr. Robert Cruickshank, Dr. I. A. B. Cathie, and Dr. Marc Daniels. Dr. Jacques Bourdin (Laennec Hospital, Paris) will also speak.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHYSIOLOGY, Gower Street, W.C.—Feb. 20, 5 p.m. "The Physician, His Drugs and His Instruments," by Dr. E. A. Underwood.

APPOINTMENTS

Air Marshal Sir Harold Whittingham, K.C.B., K.B.E., F.R.C.P., has been appointed Director of Medical Services, British Overseas Airways Corporation, in succession to Air Vice-Marshal Sir William Tyrrell, K.B.E., D.S.O., M.C., M.B., B.Ch., who has retired.

AYLESBURY: ROYAL BUCKINGHAMSHIRE HOSPITAL.—Surgeon to Ear, Nose, and Throat Department: Brian Reeves, F.R.C.S. Ed. Dental Surgeon: A. G. Beaton, M.R.C.S., L.R.C.P., B.D.S. Clinical Assistant to Dermatological Department: G. H. V. Clarke, M.R.C.S., L.R.C.P.

BAGNOL, FELIX W. D.M., M.R.C.P., Honorary Psychiatrist, Hampstead General and North-West London Hospital.

FRINGLE, P. LL.B., M.R.C.S., L.R.C.P., D.I.H., Chief Medical Officer, British Electricity Authority.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Fletcher.—On Jan. 31, 1948, to Muriel (née Frew, M.B., Ch.B.), wife of Dr. Albert F. Fletcher, of Fitz Park House, Keswick, a brother for Andrew Ross.—On Feb. 3, 1948, at the London Hospital, to Margaret (née Green), wife of Dr. Michael Ross, a son.

MARRIAGE

McCabe-Milne.—On Jan. 24, 1948, at Changi, Singapore, John K. McCabe, M.B., to Elizabeth M. I. Milne, M.B.

DEATHS

Barrow.—On Jan. 31, 1948, Frederick Barrow, M.R.C.S., of Ozle House, Rothbury, Northumberland, aged 95.

Brown.—On Feb. 2, 1948, at Worthing, Herbert Henry Brown, O.D.E., M.D., F.R.C.S., aged 85.

Clarke.—On Jan. 10, 1948, at Napier, New Zealand, Edward Clarke, M.D.

Faxon.—On Jan. 25, 1948, at Hertford Hospital, Robert Robertson Faxon, M.D. Ed., Surgeon-Commander, R.N., retired, of Sunninglawn, Brookwood.

Ferguson.—On Jan. 22, 1948, at "Wychwood," Dunedin, New Zealand, Sir Henry Lindo Ferguson, K.L., C.M.G., M.D., F.R.C.S. (L.), F.R.A.C.S., aged 89.

Freer.—On Jan. 30, 1948, at Noble's Hospital, Isle of Man, Robert Mylrairie Freer, M.D. Ed., aged 78.

Geoghegan.—On Feb. 4, 1948, at the Middlesex Hospital, London, W., Joseph Geoghegan, M.D., F.R.C.S. Ed., of 22, Wimpole Street, London, W.

Hayburn.—On Jan. 19, 1948, at 6, Victor Road, Marnsingham, Bradford, Yorks., William Ernest Hayburn, M.D., B.Ch., aged 74.

Rees.—On Jan. 26, 1948, William Hywel Rees, M.B., Ch.B. Ed.

Rabidge.—At Graaff-Reinet, Cape Province, South Africa, John Lesching Rabidge, M.D., C.M.E. Ed., aged 80.

Webb.—Recently, Dr. Gerald Webb, late of Guy's Hospital, London Bridge.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Renal Glycosuria in a Boy

Q.—A boy aged 10 was found to have glycosuria with S.G. 1032. He had had a recent infection of the nail beds. Apart from failure to gain weight he is quite well. According to hospital reports, glucose tolerance is within normal limits. The child's grandfather was a diabetic. Is it an approved practice to administer small doses of, say, 5 units of insulin daily to such a case in order to stimulate carbohydrate metabolism? Or is one bound to face the fact that weight increase will be permanently retarded by occasional renal glycosuria?

A.—Since the sugar-tolerance curve was within normal limits the diagnosis of renal glycosuria seems justified. The total amount of sugar excreted in the urine in this condition is usually 10–15 g. a day, though it may be as much as 30 g. In view of the history that the grandfather had diabetes it is possible that the child may develop the disease, since the presence of a low threshold for sugar does not prevent its onset. It is advisable to estimate the total amount of sugar passed in the 24 hours. If this amounts to 10–20 g. only, the child has not developed diabetes, but if more than 20 g. is excreted the sugar-tolerance test should be repeated. If this is normal, although say 30 g. of sugar is excreted, an occasional estimation of the total sugar excreted should be made, but it is unnecessary to repeat the sugar-tolerance test unless the amount of sugar excreted increases. The giving of 5 units of insulin is unnecessary, as the patient makes as much insulin as he needs, and the extra amount would be valueless. The loss of even as much as 30 g. of sugar a day means that an extra 120 calories will be needed daily, but this in normal times is readily supplied, though it may be a little difficult so long as both potatoes and bread are rationed. The giving of an amount of glucose equal to that excreted in the urine may, under present conditions, be necessary if more than 10 g. is excreted in the 24 hours.

Pregnancy in an Epileptic

Q.—A woman aged 24 started having very severe epileptic attacks at the age of 15; menstruation began at 12 years. She is now controlled and free from attacks, but only by the rather staggering dosage of "epanutin" $1\frac{1}{2}$ gr. (0.1 g.) and phenobarbitone 2 gr. (0.13 g.) twice daily. (Other combinations and dosages have been tried in profusion, but she always relapses into major attacks.) There is no history of epilepsy on either side of her family, and her husband's family is also clear. She is anxious for advice about having a child. It is said that the chances of the child being epileptic are increased tenfold if either parent has the disease. What effect may the huge doses of drugs she is taking have upon pregnancy, labour, and the child; and should she be allowed to contemplate the idea? If the answer is against pregnancy, is her condition such as to warrant therapeutic abortion in the event of an accidental conception?

A.—This statement of the risks of inheritance is apparently based on Russell Brain's 1934 estimate that the expected incidence of epilepsy among the children of an epileptic is 1 in 10, but it is not quite an accurate interpretation in that it does not allow for the fact that the children of apparently healthy parents are by no means immune. Moreover, several recent observers have found that only 2 to 3% of offspring are affected when only one parent has epilepsy. It is possible that an occult predisposition to epilepsy in one or other parent is important where inheritance is concerned, and it is suggested (W. G. Lennox and others, *Arch. Neurol. Psychiat.*, Chicago, 1940, 44, 1155) that the outlook for the children can be better assessed if electro-encephalography is carried out on the apparently healthy partner of the epileptic wife or husband. The duty of the medical attendant is to tell the couple what is known of the risks of inheritance, and the ultimate decision regarding pregnancy should then rest with them. If, however,

a pregnancy occurs unintentionally there would not be any justification for terminating it unless some complication such as status epilepticus (which is comparatively rare) should arise.

It is impossible to foretell the effect of pregnancy on epilepsy. The fits might be reduced in number and the dose of sedatives could then be decreased. If need be, however, the drugs could be continued as at present without significant ill-effect on the course of pregnancy and labour, and without harm to the foetus provided they are not administered within four to six hours before delivery. The whole subject of epilepsy in relation to pregnancy, including some mention of the problem of inheritance of the disease, has been reviewed by C. W. F. Burnett (*J. Obstet. Gynec. Brit. Emp.*, 1946, 53, 539).

Lower Cervical Spondylarthrosis

Q.—What is the treatment for a case of well-marked lower cervical spondylarthrosis with narrowing of the intervertebral disk spaces; and what is the pathology of this disease?

A.—Lower cervical spondylarthrosis, more commonly known as osteoarthritis of the cervical spine, is characterized by degenerative changes in the intervertebral joints, often those between C 5 and 6 or between C 6 and 7. There is narrowing of the disk space and of the facet articulations, with osteophytic lipping of the margins of the vertebral bodies. These changes are often secondary to previous lesions of the cervical spine, usually either a prolapsed intervertebral disk or an infective condition. Treatment is in most cases conservative rather than operative. Some degree of relief may result from physiotherapy in the form of short-wave diathermy, exercises, and massage; in selected cases the exercises may be preceded by gentle manipulation under general anaesthesia. If satisfactory relief is not obtained from physiotherapy the cervical spine should be supported by a collar made from plaster or moulded felt. The partial immobilization and rest thus provided often succeed largely in eliminating the painful symptoms; after some months it may be possible to discard the support without significant return of the pain.

Operative treatment is advisable only occasionally—either for the relief of pressure phenomena resulting from persistent displacement of nuclear material, or in order to fuse the affected area of the spine when the arthritic symptoms are of extreme severity and have failed to respond to the more simple forms of treatment.

Tapeworm

Q.—What is the latest treatment for tapeworm?

A.—Oleoresin of aspidium *U.S.P.* (ext. filicis *B.P.*) is still the drug of choice, although it is probable that neither this nor any other drug used for the treatment of intestinal cestode infections is capable of killing the parasite *in situ*. Such drugs appear to act by temporarily anaesthetizing, paralyzing, or irritating the worms, thus causing them to relax their hold on the gut wall. This failure to kill the parasite explains the importance of purgation following administration of the drug, and the need for searching the patient's faeces subsequently for the head of the tapeworm in order to establish the success or failure of the treatment.

Acetylsalicylic Acid and Menstruation

Q.—Can acetylsalicylic acid affect menstruation? A woman aged 45, with a child of 12, has noticed during the last ten years that if she takes acetylsalicylic acid at any time during her menstrual period the bleeding stops within about two hours and does not start again until her next period. This has happened not only once but every time she takes the drug. She does not take it, although it causes no unpleasant effects. Is this an unusual phenomenon, and what is the explanation?

A.—It is certainly an unusual phenomenon, and although it is not known whether she takes acetylsalicylic acid during menstruation or at other times, it is not previously heard of such a reaction. It is not clear whether it would be causative. The action of acetylsalicylic acid is mainly on the central nervous system, and it is not known whether it has any effect, in a direct or indirect manner, on the "menstrual centre" which is believed to be situated in the hypothalamus. It is not possible, it is believed, that the effect is due to a direct action on the uterus, which results from the action of acetylsalicylic acid on the heat-regulating centre.

interfere with the menstrual flow, which is itself precipitated by alteration in the calibre and tortuosity of endometrial arterioles. It is also tempting to consider the possibility of a coincidence between the taking of the drug and the suppression of menstruation on the first one or two occasions of coincidence, however, which produced such a profound impression on the patient that she now expects menstruation to cease whenever she takes acetylsalicylic acid. Such a conviction may be enough to ensure that the phenomenon recurs constantly. The woman can certainly be reassured that suppression of menstruation, should it occur, is harmless.

Post-herpetic Muscular Palsy

Q.—What are the pathology and the ultimate prognosis of a residual intercostal muscular palsy at the site of the eruption after herpes zoster?

A.—Residual segmental muscular palsy is a well-recognized but uncommon sequel of herpes zoster. It is usually held to indicate that the inflammatory process, instead of remaining limited to the posterior root ganglion, has spread to involve some of the anterior horn cells of the same segment. There may be some improvement in the weakness but complete recovery seldom occurs.

Treatment of Chilblains

Q.—Is there any efficient treatment for chilblains in a healthy young adult?

A.—It must be confessed that the treatment of chilblains is unsatisfactory. The best results are probably obtained by the prophylactic measure of keeping the feet and hands warm with thick woollen socks, gloves or mittens. There have been frequent reports of the benefits of calcium, vitamin D, and parathormone, but in the experience of most they are seldom efficacious. Recently good results have been claimed with vitamin K or its analogues given by intramuscular injection. An article on the treatment of 8 cases of chilblains with synthetic vitamin K appeared in the *Journal* of Nov. 1, 1947 (p. 689). The pernicious tendency usually disappears with increasing age, and thus the patient's youth permits the condition to be viewed with optimism.

Test of Virginity

Q.—There is a custom among the natives of the Belgian Congo of testing the virginity of a bride by placing a white cloth on the bridal bed and observing the appearance of blood. Is this test 100% accurate? Is there any explanation of the bleeding which in some cases appears to be more than would be caused by a hymeneal laceration?

A.—The test is certainly not 100% reliable. Sometimes the hymen has a comparatively wide opening and is easily stretched so that no tearing takes place on coitus. Again, absence of bleeding might be due to failure to penetrate the hymen on the marriage night—a not uncommon occurrence. On the other hand, if the bridal couch is stained a wrong judgment is less likely but might still occur. It is surely not beyond the ability of a girl who is aware of the test which will be applied to think out some means of ensuring that a few bloodstains shall be found next morning.

The bleeding which follows coitus is usually from the hymen although a small tear of the fourchette is probably not rare. Injuries to other parts of the vulva and vagina can also result from brutal and forceful attempts to penetrate. The extreme variation in the amount of loss is mostly explained by differences in the thickness, vascularity, and width of the hymen, and the position of the tear in relation to blood vessels. The amount of bleeding from a tear of the hymen alone may be so great as to require medical attention, and when not treated properly has been known to necessitate blood transfusion.

Laurel Berries

Q.—Recently I found many laurel bushes heavily laden with ripe fruit. Are these berries poisonous to man? Have they ever been used as an article of food?

A.—The shrub common in Britain which is known as laurel is not true laurel but *Prunus laurocerasus*, or perhaps *Prunus*.

lusitanicus, another kind commonly found. The leaves of *P. laurocerasus*, according to Gilbert-Carter (*British Trees and Shrubs*, Oxford Clarendon Press, 1936), yield hydrocyanic acid, but the fruit is wholesome and good to eat. The fruit of *P. lusitanicus* is extremely unpalatable. It does not, however, seem to be poisonous. The true laurel is the bay-tree, and is not common in Britain.

Restrictive Covenants

Q.—(a) In an agreement with an assistant is 10 years' restriction from practising in a very limited area too long to be successful in a legal action after a long period of assistantship? (b) If notice has been given to the assistant "to terminate the agreement" is the restrictive clause of the agreement still enforceable?

A.—Covenants "in restraint of trade" are generally obnoxious in law, but may be justified by special circumstances. In particular, the law recognizes "goodwill" in a medical practice, and will uphold an agreement by which an assistant in a medical practice is restrained from taking an unfair advantage of his principal by using his knowledge of the patients so as to attract any part of the practice to himself after the termination of his engagement as assistant. Such an agreement will, however, be enforced only if it is reasonable and does not impose a degree of restriction which, in all the circumstances of the case, would not be justified. In the case of *Ronth v. Jones* (1947, 1 All E.R. 179), reported in the *Journal of May 17, 1947* (p. 700), Mr. Justice Evershed decided that a restrictive covenant was unreasonable which prohibited an assistant from practising, or assisting any other person to practise, in "any department of medicine, surgery, or midwifery" or from accepting any medical appointment whether paid or honorary within a radius of ten miles from the principal's address during a period of five years after the assistantship ended. This contract was drawn up in a form which had been in use by the British Medical Bureau, and there were many other agreements between doctors which had been similarly worded.

The Court held that such a covenant would have prohibited the assistant from doing many things which were clearly not likely to harm the principal; for instance, the covenant would not allow him to advance money to a lady to enable her to open a nursing-home, or to practise as a veterinary surgeon or dentist, or to accept an appointment as honorary lecturer in first-aid to an ambulance association. The learned judge expressed the view that the ten-mile radius and the five-year limit were both reasonable, but that in other respects as stated above the contract was unreasonable and would not be upheld by the Court. The assistant then gave an undertaking that for a period of eighteen months he would not accept as a patient any person who had been a patient of the principal at the time of termination of the assistantship. This undertaking was embodied in the order of the Court dismissing the motion for an injunction, with costs.

It should be noted that where a man makes a bad bargain the Court will not as a rule intervene to save him from the consequences of his imprudence, neither will the Court substitute a better agreement for one which has been found to be unenforceable, so that it may well happen that an agreement which is good in most of its particulars may turn out to be of no effect if some of its clauses are unreasonable. The only safe rule for a practitioner who contemplates entering into an agreement as partner or assistant is to have his contract drawn up by someone who has special experience of the drafting of medical contracts and who is thoroughly familiar with the legal pitfalls which surround these agreements.

Loss of Nails

Q.—A girl aged 19 began to lose her nails at the age of 5. At 10 she had lost all her finger- and thumb-nails, and those of her big toes. A very thin rubbery skin has grown over the nail-bed. Occasionally a piece of nail grows on two fingers but quickly disappears. Can anything be done? Would painting habitually with nail varnish be harmful? Could artificial nails be attached somehow?

A.—This is apparently a congenital abnormality and there is no treatment. It would be interesting to know if any relatives were similarly affected. Painting with nail varnish would be

harmless; artificial nails would not be a practical proposition (see *Inherited Abnormalities of the Skin*, by E. A. Cockayne, Oxford Medical Publications, 1933).

Infective Recurrent Erysipelas

Q.—What is the treatment for recurrent attacks of an erysiploid nature affecting only the foreskin in a married man of 53? These attacks last a week and have occurred every six weeks or so for the last 15 years. The skin over the distal two-thirds of the penis is involved, and there is a rise in temperature and sometimes a rigor. The inguinal glands are enlarged, and the skin of the penis is very oedematous, red, hot, and tender. The attack is generally modified by one of the sulphonamides administered orally. Penicillin, tried once, considerably modified the attack but did not prevent a recurrence after the usual interval.

A.—It is important to exclude a contact dermatitis as from a contraceptive, but the history suggests an infective recurrent erysipelas. Careful search should be made for any disease or fissuring of the skin of the prepuce or penis, of the perineum, the anus, or the adjacent areas. Infection in the rectum or adjacent tissues and in the urinary tract should be excluded. In the absence of any positive finding the use of penicillin, sulphonamides, or non-specific shock-therapy should be tried, but success is uncertain. The possibility of penicillin- and sulphonamide-sensitivity may cause difficulties. The writer has found that the intramuscular injection of penicillin, 32,000 units three-hourly to a total of 2,000,000 units, exercises effective control in 50% of cases. Sensitization reactions, if they occur, might be sufficiently controlled by giving "benadryl" at the same time. Milk protein or bacterial protein preparations injected intramuscularly, at weekly intervals, for six to twelve weeks may help.

Prolonged Fever of Unknown Origin

Q.—For six months a boy aged 13 has had a fever which responds to sulphapyridine, but not to any other sulphonamide or pyridine derivative yet tried. If sulphapyridine is stopped or given in doses smaller than 1.5 g. daily, his temperature rises to 102° F. (38.9° C.), and conjunctivitis and a rash appear. Enlargement of cervical, axillary, and inguinal glands was reported at the onset of the illness, but none is palpable now. There has been no splenic enlargement or other abnormal physical sign. The white blood cells ranged from 8,000 to 12,000. Agglutinations against enteric and *Brucella* organisms were negative. The Weil-Felix reaction and the Paul-Bunnell test were negative; blood culture was sterile; Wassermann reaction and Kahn test were negative in blood; the urine was sterile; stools were free from pathogens. Biopsy of lymph gland and sternal marrow gave normal findings. Radiographs of the chest were persistently normal. What is the diagnosis?

A.—Patients with prolonged fever fall into two groups: in one the diagnosis is obvious, or is rapidly made with the help of the laboratory; in the other all attempts to find the cause are fruitless, and the course of the disease provides the only clues to its nature. In the second group the fever may finally subside to leave the patient well and the physician still diagnostically destitute.

The patient described above can unhesitatingly be placed in this second category: he presents no physical signs apart from fever and a transitory skin eruption the appearance and distribution of which are not vouchsafed. The commoner infections have been excluded, and the only noteworthy feature is the subsidence of fever when sulphapyridine is given. It seems probable that this is a non-specific antipyretic effect which is often more prominent with this drug than with others of the sulphonamide group. Rarer causes of prolonged fever obviously require consideration, and malignant disease, polyarteritis nodosa, and disseminated lupus erythematosus account for a proportion of such cases. In the present instance the first seems improbable, and there is little to suggest the second, although a muscle biopsy might be worth while. There are two features which make the third a possibility—the initial lymphadenopathy and the skin eruption. Estimation of the plasma proteins might be of help, as the globulin fraction is increased in this disorder: repeated examinations of the ocular fundi should be made. Appearances often noted are yellow-white spots suggestive of

choroidal tubercles, haemorrhages, and slight papilloedema. A dermatologist's opinion on the rash might provide a clue. To close on a more mundane note, it is surprising how often prolonged and inexplicable fever is eventually found to be due to tuberculosis.

Sycosis Barbae

Q.—In cases of sycosis barbae failing to respond to local applications and removal of infected hairs, what is the prognosis following depilation by x rays? For a definite cure, is it necessary to secure permanent depilation? What is the accepted modern treatment?

A.—Temporary epilation by x rays is rarely employed in the treatment of sycosis, for there is risk of a patchy atrophy of the skin where treatments overlap. Recurrence of the sycosis is common. Permanent epilation should not be attempted, for it leaves disfiguring atrophy, with the risk of ulceration or worse complications. In local treatment fractional doses of x rays are useful combined often with "ung. quinolor co." at night and a zinc and copper sulphate lotion after shaving in the morning. Sulphonamides by mouth may help, but penicillin is disappointing. An important aspect of treatment is that of the underlying cause—the sycosis reflecting some general disturbance, and particularly psychological and nutritional disturbances and toxæmia from sepsis about the nose or throat or mouth.

Oral Administration of Penicillin to Infants

Q.—I would be obliged for any information about the oral administration of penicillin to infants. References to published papers on the subject would be welcomed.

A.—A. I. Suchett-Kaye and R. B. Latter described the use of oral penicillin in young children in a paper published in the *Journal of Dec. 13, 1947* (p. 953). They treated 25 children aged from 6 months to 2 years and concluded that oral penicillin appeared to be effective against most varieties of acute pneumonia in childhood. Comment on this paper appeared in a leading article in the same issue (p. 962). The paper by J. L. Henderson and I. W. J. McAdam (*Lancet*, 1946, 1, 922) should also be consulted. These authors added penicillin solutions to feeds, and found that adequate blood levels persisted for six hours or more after doses of 5,000–10,000 units in very small infants and of 100,000 units in those up to a year old.

Recurrent Attacks of Boils

Q.—What steps can be taken to prevent recurrent attacks of boils every six to nine months? The boils have occurred in crops on the face, neck, and limbs. They are usually of the painless indolent type with a good deal of pus formation. The patient, a woman of 40, is stout, otherwise in good health, and has no glycosuria.

A.—If no predisposing condition or cause for these attacks can be found it is to be assumed that the immunity mechanism is at fault, and a course of injections of an autogenous vaccine is indicated. The case described is of the type that responds best to this treatment, which should preferably be begun during an interval. If the staphylococcus is normally sensitive to penicillin a few intramuscular injections of the drug may be given to control any boils which develop during immunization, as commonly happens during its first stage.

Fibrous Cavemosis

Q.—A man aged 48 has chordee. It started a year ago and is getting worse. A specialist says it is due to scar formation in the corpora cavernosa either from a haemorrhage (he tends to bleed easily) or from plastic induration of the penis. Blood count and other tests are normal. Can you suggest a line of treatment as the risk of operative treatment failing seems high?

A. Fibrous cavemosis is a well-known condition, but the cause of it is often uncertain. After becoming progressively worse, the amount of curvature of the penis becomes considerable. It may cause any urinary difficulties, and treatment is necessary only if it renders coitus impossible or very difficult. The only treatment that may give a satisfactory result, and is supported by a long experience of the fibrous plaques to the corpora cavernosa, is the removal of the fibrous plaques by surgical removal of the corpora cavernosa. It is true that surgical removal of the corpora cavernosa has been followed by a few cases of chordee, but of recent years the results have been very satisfactory.

NOTES AND COMMENTS

Estimating Faecal Fats.—Drs. L. P. R. FOURMAN and G. H. SEAR (Oxford) write: Our attention has been drawn to the fact that a reference to the method for estimating faecal fats was omitted from our paper on "Absorption of Vitamin D in Steatorrhoea" in the *Journal of Jan. 24* (p. 142). The reference is: Fowweather and Anderson (1946), *Biochem. J.*, 40, 350.

Tallqvist Method of Haemoglobin Estimation.—Dr. P. K. MUSPRATT (Pleasington, near Blackburn, Lancs) writes: Under "Any Questions?" (Jan. 3, p. 33) a correspondent asks whether his low figures are due to rationing. I would suggest that his figures are in part at least due to the coarse quality of the present day blotting paper supplied. If he could manage to obtain one of the pre-war books he would, I think, find his figures higher. I have used this system for many years and found it most useful, but it requires a little experience to get useful results. I cannot agree that it is grossly inaccurate if properly used. I found pre-war books my colleagues in referee work used to get much the same figure as myself on the same cases. But of course the normal figures are far below 100%: 70% for females and 80% for males should be considered normal. A lower figure would probably be found in industrial cities of large size. The needs of the haematologist as the general practitioner are not identical; the former may have to use for the method, but I think the latter should find it distinct and useful.

Intractable Tinnitus.—Dr. J. R. writes: I was interested in the question and answer on the treatment of intractable tinnitus (Jan. p. 34). I recently had a very unpleasant tinnitus immediately following an acute middle-ear infection with abscess formation. Under intensive treatment in a nursing-home, and penicillin for 5 days, the ear dried up quickly. When I came home I found the tinnitus most distressing (at night especially). As your correspondent states bromides and phenobarbitone are unsatisfactory, and I found this so. The only drug which gave me peace was valerian taken in dragées, each one equivalent to 25 min. (1.5 ml.) official B.P. tincture. Even one taken at night was often sufficient to give a good night's sleep free from tinnitus. As the drug is absolutely harmless, well tolerated, and with no carry-over the next day, I think it would be well worth your correspondent giving it a trial.

Treatment of Warts.—Dr. MICHAEL J. FENTON (London, V) writes: With reference to the reply given for treatment of warts on the fingers ("Any Questions?" Jan. 17, p. 133) I have found occlusion with "elastoplast" a most efficacious method. This causes a maceration and on removal of the plaster the warts usually come away with it; in some obstinate cases renewed application of elastoplast may be necessary. The base of the wart is then touched with some simple cauterizing agent. This method of removal is of great use in cases of multiple warts in the knee area, so often seen in children.

Relaxation of Bronchial Spasm.—Dr. D. A. WILLIAMS (Cardiff) writes: Your questioner on this subject (Jan. 24, p. 183) might be interested to know that the use of equal parts of ether and of oil, dose 4 to 6 oz. (114–170 ml.), depending on the weight of the patient, given per rectum without a preliminary cleansing enema was a frequent form of therapy in adult cases of status asthmaticus after adrenaline had failed. It was usually necessary in severe cases of the infective type. The patient became relaxed and often somewhat drowsy, but was not completely anaesthetized, while the sputum became loosened and the wheezing, presumably due to bronchial spasm, became much less. If this failed to ease the attack it was often found that the patient would now respond to adrenaline. It may be repeated at intervals of four to six hours but in smaller doses. Its use is now rarely indicated, as intravenous aminophylline, after adrenaline has failed, is usually effective.

Correction.—Dr. G. L. Brown, who is going to lecture in Sweden, will leave Britain on March 6, not on Feb. 6 as notified in our issue of Jan. 31 (p. 233).

All communications with regard to editorial business should be addressed to the EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: BRITMEDJ, WESTCENT, LONDON. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* and unless the contrary be stated.

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SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY FEBRUARY 14 1948

HEARD AT HEADQUARTERS

The Loudspeaker

The Great Hall of the Association's House has at last been equipped with a permanent loudspeaker arrangement. A good deal of acoustic experiment has been carried out in recent years, and those who have attended Representative Meetings and Panel Conferences and other gatherings in the Great Hall have been the subjects. Now, at a cost of nearly £600, microphones and amplifiers have been installed in such a fashion that everybody will hear in comfort, and there will be no danger of that embarrassing break in the proceedings whereby the roar of the lion suddenly drops to the whisper of the mouse. The microphone has come to be regarded as a necessity in all large assemblies and many small ones, though our fathers, whose laryngeal apparatus cannot have been very different from our own, somehow managed to make themselves heard without it. The most desirable equipment would be in the speaker himself, who should learn to keep a reasonable distance away from the microphone, and should not use it, as some do, as if it were a telephone receiver, or, as some others do, twiddle it about in his hands. One shudders to think of the eloquence of representatives which has gone unheard and unrecorded because of the misuse of the very instrument which was intended to assist it.

A Big Consolidation

Six pages of the agenda of the last meeting of the London County Council were closely covered with proposals for the consolidation of the remuneration of the medical staff. The L.C.C. was asked to implement the recommendations arrived at in conference with the B.M.A. for further increases in remuneration of the grades of medical staff covered by the Askwith agreement. Only certain of the Council's grades are specifically covered by that agreement, but in view of these increases it was considered necessary to recommend consolidation for certain other grades at a higher level than would have been appropriate under a previous decision of the Council. The salary scales of whole-time medical officers in the hospital and mental health services and at the central offices were due for consolidation in any case, and in view of the Askwith increases opportunity has been taken to bring them into line. Increases are proposed for certain medical superintendents in order to maintain a proper relationship with the scales for other grades, and for certain specialist positions in view of the increase of the sessional rates for part-time consultants and specialists. To take one example of the proposed consolidation: whole-time radiologists, whose basic salary has been £1,100 rising by increments of £50 to £1,300 (or £100 less in the case of radiotherapists), and whose total remuneration has been from £1,220 to £1,420, will have their salary consolidated as from April 1, 1947, at £1,350, rising by increments of £50 to £1,400, and by increments of £75 to £1,550. The newly consolidated scales and rates of pay extend through the whole-time medical staff of hospital and social welfare services, visiting medical officers, and certain part-time consultants employed at a yearly salary. District medical officers have their pay rounded off to the nearest £5 above their present remuneration. The financial effect of the consolidation proposals will mean an additional expenditure during the present year of £24,552.

PAYMENT OF "AWARDS" TO PUBLIC VACCINATORS

On several occasions during the past two years the Association has represented to the Ministry of Health that steps be taken to resume the inspection of public vaccinators' records with a view to the payment of outstanding "awards"—i.e., payments in respect of successful infant vaccinations at present authorized by the Local Government Act, 1929. These "awards" are calculated on the basis of 1s. for each such vaccination. In some parts of the country no payments have been made for many years. In April, 1947, the Ministry sought the Association's views on its proposals for dealing with the matter. The proposals, however, were restricted to public vaccinators currently under contract, and the Association, after consulting the Association of Public Vaccinators, informed the Ministry of the view that practitioners who formerly were public vaccinators, and to whom "awards" might be due, should not be excluded from the scheme. The Ministry accepted this and has now issued to local authorities a circular dated Jan. 7, 1948, outlining the procedure to be followed.

Vaccination authorities are asked to submit to the Ministry details of public vaccinators under contract at Dec. 31, 1947, whose records have remained uninspected, and a certificate by the medical officer of health, if he is able to give it, to the effect that so far as he knows the vaccination work of the public vaccinators concerned has been satisfactory and has been carried out in accordance with the terms of their contracts and with due observance of the rules that apply under the present vaccination system. The Ministry, having regard to the details supplied, will then determine the amount due in each case and certify it for payment by the vaccination authority.

The circular contains the following paragraph in respect of former public vaccinators:

The Minister feels that it would be difficult to exclude from consideration in this matter, without exception, any former public vaccinator who, though no longer under contract as such with an authority, may put forward an application to be considered for a retrospective award. If, therefore, the department receives such an application direct from a former public vaccinator, who may be prompted to submit it in the knowledge of the action now being taken regarding public vaccinators currently under contract, the department will consider it, if received before July 5, 1948, on its merits, having regard to the time which has elapsed since the applicant ceased to be a public vaccinator and the reasonable possibility of now obtaining the necessary information about his vaccination work from the local authority. Where the department considers that, from these points of view, the application is one which can be reasonably entertained, it will communicate with the appropriate authority about the individual case, with a view to action being taken in line with the procedure relating to public vaccinators currently under contract.

Public vaccinators who were not under contract at Dec. 31, 1947, and who wish to claim payment are accordingly advised to write to the Ministry of Health, Whitehall, London, S.W.1.

At a recent very full meeting of the Colwyn Bay Medical Society the following resolution was passed: "That the members of the Colwyn Bay Medical Society unanimously agree that they find themselves unable to work the National Health Act as it now stands."

I.M.S. COMPENSATION AND N.H.S. ACT, 1946

At the meeting of the deputation of the Armed Forces Committee of the Association with representatives of the Commonwealth Relations Office in October, 1947 (see *Supplement*, Dec. 27, 1947, p. 167), the deputation asked whether an officer who accepted an appointment under any National Health Service would be liable to forfeit his compensation and receive only the resettlement grant of £500 on the ground that he had accepted a permanent, pensionable post under the Crown.

As the C.R.O. was unable to give an assurance that such an eventuality would not occur, the question was referred by the Committee to the Ministry of Health. A reply has now been received from the Ministry which states that appointments with regional hospital boards, executive councils, and local health authorities are not regarded as permanent, pensionable employment under the Crown, and in consequence ex-I.M.S. officers taking up such appointments would not be required to refund any compensation paid to them.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

- Metropolitan Borough Councils.*—Fulham, Hackney, Poplar.
Non-County Borough Councils.—Dartford, Radcliffe (limited to future appointments), Tottenham, Wallsend.
Urban District Councils.—Denton, Droylsden, Houghton-le-Spring, Huyton-with-Roby, Portslade, Redditch (restricted to new appointments), Stanley (Co. Durham), Tyldesley.
Scottish Burghs.—Motherwell and Wishaw.

Association Notices**DIVISIONS IN NORTHERN IRELAND BRANCH**

Notice is hereby given to all concerned of the following proposals made by the Council of the Northern Ireland Branch:

1. That a new West Down Division of the Northern Ireland Branch be formed with the following area:
 That part of County Down lying to the west of, but including, Magheralin, Dromore, Castlewells; that part of County Armagh south of, but including, Newtownhamilton and Bessbrook.
2. That the Portadown and West Down Division be renamed the County Armagh Division, comprising the area of County Armagh north of, but excluding, Newtownhamilton and Bessbrook.
3. That the area of the Belfast Division be redefined as follows:
 The City of Belfast, that part of County Antrim south of, but excluding, Foombridge, Ballymena, Carnlough; that part of County Down lying east of, but excluding, Magheralin, Dromore, Castlewells.

MEDICAL ASSOCIATION OF EIRE OPPOSED TO STATE SERVICE

A special meeting of the Central Council of the Association was held recently to discuss the White Paper on the Eire Health Act, 1947, and to consider the question of formulating a public statement in connection with the matter. The meeting passed the following resolutions:

1. That the Central Council of the Medical Association of Eire should express its opposition to the Health Act, 1947, and to the proposed State Service of Eire.
2. That the Central Council of the Medical Association of Eire should express its opposition to the proposed State Service of Eire, and to the proposed State Service of Eire, and to the proposed State Service of Eire.

The Central Council of the Medical Association of Eire has decided to send a deputation to the Minister for Health, Eire, to discuss the proposed State Service of Eire, and to the Minister for Health, Eire, to discuss the proposed State Service of Eire.

SCHOLARSHIPS IN AID OF SCIENTIFIC RESEARCH

The Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows: An Ernest Hart Memorial Scholarship of the value of £200 per annum, a Walter Dixon Scholarship of the value of £200 per annum, and four Research Scholarships each of the value of £150 per annum. These scholarships are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including State medicine) relating to the causation, prevention, or treatment of disease. Preference will be given, other things being equal, to members of the medical profession.

Each scholarship is tenable for one year starting on Oct. 1, 1948. The scholar may be reappointed for not more than two additional terms. A scholar is not necessarily required to devote the whole of his or her time to the work of research but may hold an appointment at a university, medical school, or hospital, provided the duties of such an appointment do not interfere with his or her work as a scholar.

In addition, applications are invited for the first award of the Insole Scholarship of the value of £250 for research into the cause and cure of venereal disease.

Conditions of Award: Applications

Applications for scholarships must be made not later than Friday April 30, 1948, on the prescribed form, a copy of which will be supplied on application to the Secretary of the Association, B.M. House, Tavistock Square, London, W.C.1. Applicants will be required to furnish the names of three referees who are competent to speak of their capacity for the research contemplated.

PRIZES FOR NURSES

The Council of the British Medical Association is prepared to consider the first award in 1948 of three prizes each of the value of 20 guineas for the best essay and three prizes each of the value of 10 guineas for the second best essay submitted in open competition by each of the following categories of nurses: (i) Pupil nurse; (ii) State registered nurses working in a hospital; (iii) State registered nurses not working in a hospital—i.e., district nurses, private nurses, etc.

The subjects of the essays for 1948 shall be: Category (i) "Suggested Improvements in the Methods of Training Nurses"; Category (ii), "Nursing the Patient, not the Disease: the Nurse-Patient Relationship"; Category (iii), "Difficulties of Nursing the Patient's own Home and their Solution."

The purpose of these prizes is the promotion of systematic observation among nurses. In awarding the prizes due regard must be given to evidence of personal observation. No essay that has previously appeared in the medical press or elsewhere will be considered eligible for a prize. Nurses who are undergoing a course of training at a hospital are eligible to compete under category (i); nurses registered by the General Nursing Council are eligible to compete under categories (ii) and (iii). If any question arises reference to the eligibility of a candidate or the admissibility of his or her essay, the decision of the Council of the British Medical Association shall be final. Should the Council decide that no essay entered is of sufficient merit, no award shall be made. Each essay must be typewritten or legibly written, must be unsigned, and be attached to it a sealed envelope containing the name and address of the candidate and the category into which he or she falls. Essays must be forwarded so as to reach the Secretary of the British Medical Association not later than May 31, 1948. Inquiries about prizes should be addressed to the Secretary, British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1.

CHARLES HILL,
Secretary

**Diary of Central Meetings
FEBRUARY**

- 18 Wed. Council, 10 a.m.
 26 Thurs. Publishing Subcommittee, 11 a.m.

Branch and Division Meetings to be Held

DORSET DIVISION.—At King's Arms Hotel, Dorchester, Tues. Feb. 17, 8.30 p.m. B.M.A. Lecture by Dr. Geoffrey Evans: "So Aspects of Diseases of the Kidney." All medical practitioners in area of the Division are invited.

GREENWICH AND DEPTFORD DIVISION.—At Miller Hospital, Greenwich Road, S.E., Wednesday, Feb. 18, 9 p.m. Dr. R. L. M. Interpretation of X Rays.

HYDE DIVISION.—At Bayley Hall, Hyde Park, Hyde, Wednesday, Feb. 18, 8 p.m. Film show of medical and allied subjects by Central Office of Information.

SUNDERLAND DIVISION.—At Sunderland General Hospital, Fri. Feb. 20, 7.45 p.m. Clinical demonstration by the staff of the hospital; Address by Prof. R. E. Tunbridge: Infantile Paralysis.

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SOCIAL MEDICINE IN THE CURRICULUM*

BY

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Dr Wilson Jameson¹ has said that the term "social medicine" in Great Britain is really a synonym of public health. An abbreviated American definition of public health organized community efforts for (a) the hygiene of the environment; (b) the control of communicable disease; (c) the organization of services for the early diagnosis and preventive treatment of disease in the individual; (d) the education of the individual in principles of health; and (e) the development of the social machinery which will ensure every individual in the community a standard of living adequate for the maintenance of physical and mental health. As such, public health becomes a field of social service. The General Medical Council in its evidence in the Goodenough Report² makes the aim of social therapy to be "to seek and to promote measures, other than those usually employed in the practice of remedial medicine, for the protection of the individual and of the community against such forces as interfere with the full development and maintenance of man's mental and physical capacity." This paper attempts to answer two questions; first, Specifically what do we want to train the general practitioner for in social medicine? and, secondly, How do we train him?

Medical education is still concerned primarily with teaching clinical pathological diagnosis and treatment, and even in this field of medicine it is as yet backward in its training of the general practitioner in geriatrics, in psychosomatic medicine, and in rehabilitation. In addition to removing these lags, social medicine requires extension of medical education to fulfil the aim of the General Medical Council, quoted above. The general practitioner must be fully aware of the effect on health of all socio-environmental factors which may lead to personal maladjustment and cause social deficiencies resulting in disability of the individual.

The promotive services are chiefly non-medical, but the physician should be aware of their relation to health and disease. Their availability in the community should be based upon a positive population policy to improve the quality of the country's human capital, on which are based the Government's policies on housing and nutrition. Two other important promotive health services are health education and community centres to provide mental, social, and physical recreation. The promotive services require buttressing by social security to assure adequate standards of living. The general practitioner must also be more adequately trained in the preventive services.

Organization a Prime Essential

Having outlined what social medicine wants to train for, I now turn to the chief purpose of this discussion, that is, to decide how training in social medicine can be undertaken

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adequately by medical schools. For this it is necessary to discuss the *organization* required for satisfactory teaching as well as the *content* of such teaching. The latter has already been the subject of numerous authoritative pronouncements, but the question of organization has received much less attention. It must also be noted that as yet we do not have scientific disciplines covering either the content or the practice of social medicine. The first step should be specific provision in teaching institutions for social physiology, social pathology, and social therapy.

It is now acknowledged without question that the pathologist cannot teach pathology adequately without a laboratory in which each student has his own place and his own microscope; it is similarly accepted that the clinician cannot provide adequate instruction without a minimum of controlled hospital beds per student. What is the corresponding essential for the adequate teaching of social medicine? A community in which the student can go through the routines and apply the techniques of social diagnosis and therapy as he does in clinical diagnosis and therapy, and thereby develop habits of practice useful in his future professional work. It is in such a community, furthermore, that the professors of social medicine can best carry on investigations under controlled conditions.

Until such controlled facilities are provided social medicine cannot hope for full development into a university discipline. Little imagination is required to see that both social physiology and social pathology would develop much more rapidly as scientific disciplines if studied "from the womb to the tomb" in a medical-school-controlled community of 100,000 to 250,000 rather than, as is the case at present, through *ad hoc* facilities. In the absence of a controlled community the techniques of social therapy remain undeveloped: nor can the general practitioner practise social medicine until he has had opportunity as a clerk or intern to habituate himself to proved methods and techniques of social therapy. Only such a controlled community will make it possible to put into effect the important recommendation that the medical schools should take their place as real partners in the National Health Service and discharge their responsibility in the experimentation and demonstration of progress in new forms of medical service.

Health centres in the teaching of social health correspond to hospitals in the teaching of clinical medicine. The Health Act, in recognition of the requirements to train physicians in diagnosis and clinical pathology, has left the control of teaching hospitals in the hands of the university authorities. If physicians are to be trained in the techniques of social medicine university authorities should also control the teaching health centres.

Concept of the Health Centre

The Health Act provides for the establishment of health centres and gives an implication of the services they will undertake. The nature and scope of the health centre was first described as the general practitioner centre in the Interim Report of the Consultative Council on Medical and Allied Services as far back as 1920¹; but, despite much lip-service all over the world, there has been practically no move to implement the concept. The draft Interim Report of the British Medical Association's Medical Planning Commission describes a "model health centre." The health centres provided by the Act are discussed both by Scott⁴ and by Stark Murray and McNae.⁵ The *Lancet* carried a series of articles in 1947 on "Health Centres of To-morrow." However, these reports gave inadequate attention to the promotive and rehabilitative services which constitute the major social emphasis of health centres.

A good discussion of the health centre in relation to social medicine comes from South Africa in recent papers presented by Kark and Kark⁶ and by Gale,⁷ who stress, as has the British Medical Association in its *Charter for Health*,⁸ that the family should be the unit of health care rather than the individual. This cannot be overemphasized if "positive health" is under consideration, because "the biological approach to physical and, more particularly, mental health is through the family, which is the natural unit of society." The South African concept of health care through health centres is briefly as follows:

Adequate health care is in effect a continuous programme of family welfare coupled with education regarding health. The health centre service places in the field for each 500 families a team consisting of a physician, a nurse, and two health assistants. An "album" is opened for each family to take stock not only of the physical conditions of each member but also of details of such social, economic, and environmental factors as may be related to health and disease. The team periodically reviews the health progress of each family, assisted by such other categories of medical personnel as circumstances may indicate. It is the responsibility of the team to bring about the utilization of the non-medical community resources indicated previously in the promotive service.

Here and there one notes fragmentary progress towards the extension of the teaching institution into the surrounding community. An example in London is the relationship established by the Institute of Child Care with the child-care activities in the borough of St. Pancras. Generally speaking, paediatrics has been most progressive in community work. Other examples are the Institutes of Child Care in Newcastle and Glasgow. While at present limited to public health, many schools of hygiene throughout the world have during the past two decades concluded agreements with local authorities whereby the school administers its own community. Examples are found as far apart as Toronto and Baltimore on the one hand and Warsaw and Manila on the other. As long ago as 1925 the Department of Public Health of the Peking Union Medical College in China secured administrative control of the health services in the district of 150,000 population in which the college is situated.

There is therefore ample precedent for and no insuperable obstacle to the extension by medical schools of their community facilities to the health care of a designated community of patients (some 100,000 to 200,000 population). It is an aim and duty to effect this. One which works in this direction is implied in Section 10 (a) of the Ministry of Health (General Circular 114) 47, as follows. The local authority, in so far as it is a medical school, may govern the health services in the district of the senior administrative authority, and in so far as it is a local authority, the authority concerned may govern the health services. Any difference in the

salary required to procure a competent officer above that paid ordinarily by the local authority would be a responsibility of the medical school. Similarly, the teaching institution would provide such funds which a teaching area might require over and above the average local authority expenditure for a similar population under its administration elsewhere. Thus the final administrative control vests in the local authority, but the medical school has an immediate jurisdiction over the technical aspects of such control. Experience has proved that it is essential for personnel in such a teaching area to be paid on a higher grade than corresponding personnel in non-teaching area if the technical standards are to prove satisfactory.

Where there is either compulsory or voluntary preparation the cost to the medical school of such control of health care facilities is minimal. Here in London, health centres have passed beyond the discussion stage to a definite decision on the number required for the population of such a borough as Hackney. The local authority and their communities would be the chief beneficiaries in making the medical school their agent for administering such centres, just as local authorities have benefited when they have made their hospitals available for clinical instruction.

The health centre would thus become the basic unit for providing health care in its community and for giving the student an opportunity to learn by self-participation in practice of social medicine along such lines as are outlined under Stage III in the Interim Report of the Royal College of Physicians of London. It is estimated that one physician provided with sufficient ancillary workers can give general practitioner services of health care to approximately 2,000 to 2,500 population and self-participative facilities to a medical student. This means that a health centre serving 20,000 to 25,000 population would provide the essential features of health-care practice necessary for clerkship and internship groups of 8 to 10 students. It is desirable to keep such groups small enough for each student to have ample opportunity for self-participation as well as frequent consultation and seminars with his supervising instructor.

The health centres would also constitute the workshop from which social pathology and physiology would largely carry out their community projects. The content of the former is now generally appreciated. The aim of research in social physiology (biology) would be to determine norms of population-quality, which eventually must constitute the base-line from which social welfare policies of Government would be derived. The material for study, as already is the concept of the Peekham and other groups, would be the family in social action and the effect of environment upon such families. The latter would include the determination of the interaction of socio-economic and other factors of modern society upon mental and physical health. Such studies would require medical personnel with qualifications in social anthropology, who, where necessary, would draw upon and supplement the routine personnel and equipment of the centres. Many studies would of necessity be long term in nature.

The administration of the medical school health centre should rest with the Department of Social Medicine and Public Health through arrangement with the local authority in the manner described. The professional personnel of the health centres should also, as in the case of the hospital, be members of existing clinical, nursing, and administrative departments, etc. The Department of Social Medicine and Public Health would have two technical interests in the health centres: one corresponding to, and bearing the same relation to, the teaching community as preclinical disciplines do to the teaching clinical departments, and the

ther the conventional public health interests, both in teaching and in research. Schools which, in addition to undergraduate, have graduate responsibilities in public health can also utilize the community in question, with functions differentiated into such recognized fields as epidemiology, nutrition, and biostatistics. The Interim Report rightly stresses the importance of medical and psychiatric social workers. The effectiveness of social medicine is as much dependent on these social workers as that of clinical medicine on nurses. It has been suggested in the United States that there should be one medical social worker for every 2,000 and one psychiatric social worker for every 300 out-patients annually. Several universities in the United States have extended the student health service to include the faculty as well as the employees which are under the administration of the Department of Preventive Medicine in association with Departments of Medicine. This provides a particularly interesting group for study and teaching in social medicine.

The fields and scope of social medicine have been so thoroughly discussed^{2,9,12} that without additional experience little more can be said. Curriculum and instruction are at the beginning of a trial-and-error period. This is confirmed by the recent recommendations of the General Medical Council¹⁴ that for the time being schools "should be left with an ample measure of discretion to determine for themselves how far the instruction of students in the subject should be carried."

Trends in Instruction

Before discussing trends it may be well to summarize the merging pattern of instruction in the whole field of social medicine and public health in North America. Clinical instruction usually begins in the latter part of the second or the fourth years of medical education, which do not include the fifth intern year. The pattern in several schools is already taking shape along the lines recommended by the Committee of the Association of American Medical Colleges. Thus at Johns Hopkins biostatistics is given in the first and epidemiology (the nature of disease) in the second year. The third year is given to the economic, social, and environmental factors in disease, while the fourth year is devoted to medical economics and the personal health services.

The more comprehensive trend is the permeation of the regular clinical curriculum with instruction on social and environmental factors. The less comprehensive concerns case-study projects. The latter is rapidly spreading and, as noted, is being undertaken in 39 schools. Its utilization in the following illustrations of clinical permeation makes it unnecessary to describe this trend separately. However, it should be pointed out that curative, preventive, and promotive medicine are brought together and integrated in "case work," and when used by the general practitioner bring him back to his true place in the forefront of the picture which of late years has been outshone by the specialist.

At Harvard special medical social case-teaching conferences are held monthly, attended by all clerks. Each student prepares a fully worked-up case during his clerkship. He acts with the aid of a suggestive outline and in consultation with the social service. At Beth Israel Hospital weekly medical social ward rounds are designed primarily to achieve the best co-ordinated medical care for the patient. Any social component bearing on the patient comes up automatically in discussion of the case. Medical social conferences, held weekly, are attended by students clerking in this hospital. The purpose is to deal with obstructions to good medical care and to help the patient in his planning.

Generally speaking, experience at Harvard has indicated that the students are too confused by curriculum requirements to grasp the import of social medicine until the clerkship year. There is a considerable literature on the Harvard methods of instruction. Attention is particularly called to the paper of Cohen and Derow.¹⁵

Washington University is another illustration of clinical integration. In the second year students are assigned in groups of four to single necropsies, with a separate student responsible respectively for clinical history, gross findings, microscopical findings, and social and environmental factors associated with the illness. The student responsible for the last-mentioned item determines at what point in the patient's life measures might have been introduced to prevent the illness or death, and also what either the patient himself or the community doctor could have done to maintain health. In the third year, along with clinical instruction co-ordinated to disease and organ system, there is included the social approach and reference to community facilities. In the fourth year groups of twelve students undertake a six-weeks clerkship in close co-operation with the clinical departments of medicine, psychiatry, and paediatrics. Students return to a more complete study of patients already examined by them in these departments to determine the social, economic, and environmental factors leading to the illness. These studies are discussed in seminars twice a week. This social point of view is assured by having members of the department participate in grand medical rounds, clinical pathological conferences, and ward visits. In addition the department conducts one of the four-a-month "Saturday noon medical clinics." The paediatric co-operation includes weekly two-and-a-half-hour conferences, with discussion of a case study by each clerk during the clerkship.

It is necessary to bear in mind that medical students are not interested in abstractions, because, as pointed out by Flexner, "medicine is learnt; it is not taught." Their interest is specific. Their education, to be effective, must be continuous and self-participative, and not sporadic and "canned." If the factors of social medicine are as important as claimed by its advocates they should be demonstrated in every case the student sees and not just once in a while in exercises.

Unfortunately this clinical integration trend in the United States, although a great step forward, is of a negative nature. The activities practised are limited chiefly to steps taken after disease occurs. Few relate to health promotion. The latter, generally speaking, cannot be undertaken until there is prepayment to provide comprehensive health care. In this respect there are two significant developments taking place in the United States whereby medical schools are organizing themselves to promote comprehensive health care on a prepayment basis to groups in the community and which will be available for teaching purposes. The inauguration of the Health Insurance Plan of Greater New York has led New York University to establish a group clinic to provide comprehensive medical care under this plan. The other schools in New York City may follow suit. Recently medical care of the indigent in Maryland was transferred from Welfare to the State Health Department and the Baltimore City Health Department. The two medical schools in Baltimore are organizing health centres within their premises to provide health care for the people within their own areas. These, together with the university health services, will provide a considerable population for whom comprehensive health care will be available, also for instructional purposes in health care, which must include all four services.

It is because the Health Act provides for a comprehensive medical service on a prepayment basis that England offers

such a unique opportunity to explore and demonstrate the positive aspects of health care, and it is because promotive health care services can best be administered from health centres that these constitute a central focus for the teaching of social medicine.

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THE PROBLEM OF CHILBLAINS

WITH A NOTE ON THEIR TREATMENT WITH NICOTINIC ACID

BY

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Chilblains are relatively common in Britain and on the Continent of Europe, but are rare in Canada and the United States of America. The usual sites of the lesions are the dorsal aspects of the proximal phalanges of the hand, on the plantar aspect of the toes, along the inner border and dorsum of the great toe, and in the region of the heel and Achilles tendon. Chilblains may also occur on the ears, but in this site they resemble frost-bite rather than a true pernio: Dubreuilh and Petges (1911) have even reported a case in which a chilblain occurred on the prepuce.

The first sign that a chilblain is developing is a local redness and irritation which comes on in bed or on sitting in front of a fire. The redness becomes more intense and the irritation increases, and if the chilblain is situated on a toe the joint feels stiff and slightly painful. The redness is gradually replaced by a cyanotic tinge and the irritation by pain; desquamation may supervene or bulla formation and ulceration may develop. In mild chilblains very little thickening and infiltration can be felt, but in severe multiple chilblains, such as may occur in the region of the Achilles tendon, there is marked thickening and induration and the skin feels very cold to the touch. In older people a chronic type of chilblain may develop on the backs of the fingers. It is associated with hyperkeratosis and painful fissuring of the skin. Pain is a more dominant symptom than irritation.

Hall (1941), in 100 consecutive cases, found 54 in the 10-20 years age group, 23 in the 10-20 years age group, and 23 in the 20-30 years age group. Haxthausen (1930) noticed the frequency of chilblains in women; and in the 10-15 and 15-20 years age groups, and rare after 20 years, and

Aetiology

There can be little doubt that cold plays a part in the aetiology of chilblains, although Ledue (1927) suggested that chilblains were first-degree burns due to the incautious exposure of numbed limbs to heat. Becker and Obermax (1940) believe that the degree of cold is not the sole cause and attempt to prove this point by stating that natives of India while studying in England do not develop pernio, questioned three Indian medical students and found that they were all suffering from chilblains. It is certainly correct, however, that there is another factor, as witness the fact that certain individuals may develop chilblains during a thaw when colder weather has left them unscathed.

Mackenna (1927) and Savill (1926) incriminate foci of sepsis, such as infected teeth and tonsils, as a predisposing cause. Funk (1899) blames anaemia, but Jausion, Sere and Meunier (1941) examined the blood in 17 of their cases and found no abnormality apart from a moderate polymorphonuclear leucocytosis in five of them. Glandular dysfunction has its advocates: Embden (1922) and Jus (1927) claim good results with thyroid extracts, but Pail Weber (1925) and Dore (1928) have not been able to confirm these results. Barber (1926) found the simultaneous administration of thyroid and large doses of iodine of no value; while, according to Hallam (1931), in a series of 1,275 patients 12 were suffering from myxoedema but were not subject to chilblains. On the other hand, 24 of the patients were under treatment for exophthalmic goitre; these, three had suffered from chilblains only since the onset of the hyperthyroidism. More lately a woman doctor (1947) has suggested a hormonal basis in chilblains as she has noticed that, although a chronic sufferer, she experiences relief during pregnancy. One of my patients noticed the same freedom from chilblains during her pregnancies.

Wright (1897) advises calcium, but Percival and Stewart (1927) consider a hypocalcaemia improbable. Hall (1931) found no benefit from the administration of vitamins A and D and calcium, and noticed no difference in the incidence of chilblains in 100 London school-children subjected to carbon-arc light through the winter as compared with control groups. Dr. J. T. Ingram, of Leeds, in personal communication, said he had noticed that a certain number of patients who were being treated for lupus developed chilblains for the first time while taking calciferol.

Many writers believe that there is a tuberculous diathesis in chilblain sufferers, but Barber (1926) denies this. The past and present incidence of chilblains in 217 men suffering from tuberculosis and undergoing treatment in a sanatorium was found, on personal interview, to be 19.8% in cases of pulmonary tuberculosis the incidence was 18.6% and in non-pulmonary 24.4%. Their ages ranged from 4 to 63 years. The slightly higher incidence in the non-pulmonary cases may be due to the fact that their average age was considerably less than the average age of the pulmonary cases and that their movements were more restricted. These figures do not, however, prove the relationship between tuberculosis and chilblains, for Winner and Cooper-Willis (1946) estimated that 50% of their sample Service women (A.T.S.) will at one time or another have suffered from chilblains by the time they reach the age of 40.

It was not found possible to obtain any correlation between the observed peripheral circulation and the incidence of chilblains. Many patients with red congested hands and lowered bodily metabolism, as evidenced by undue intolerance to low temperatures, were found never to have suffered from chilblains. Neither was any relation discovered between patients who often suffered from "dead fingers"

and those who suffered from chilblains. A patient who had severe degree of Raynaud's disease for two years before an amputation had to be performed, and who complained of cold feet both summer and winter, never developed chilblains; and an old lady who refused insulin treatment for her diabetes and as a result developed gangrene of the toes of one foot remained free from chilblains.

Andrews (1946), on the other hand, claims that even moderate exposure may produce chilblains in people predisposed by poor peripheral circulation. Hallam (1931), however, found 14 patients with arteriosclerosis in his series of 1,275 cases, and none of them suffered from chilblains: he remarks that in Raynaud's disease chilblains are not commonly seen, and notes how seldom chilblains occur in the aged even when serious organic disease is present.

Pathology

The gross pathology of the chilblain lesion is a vasoconstriction of the subcutaneous arteries and larger arterioles associated with a vasodilatation of the superficial minute vessels.

Microscopically the lesion has been described by Hodara (1896), who found the skin vessels full of blood and dilated, with thickened walls. In the vessels there were hyaline masses of white blood cells without actual thrombosis; the tissues showed dense inflammatory infiltrations of round cells, in which plasma cells were absent, and oedema of the connective tissue. Kyrle (1915) confirmed these observations. Reid Gans (1925) found thrombi in late cases of chilblains with alteration of the endothelium; the stratum corneum was thickened and the stratum granulosum occasionally so. In the connective tissue there were proliferation of the connective tissue cells and a considerable perivascular infiltration of lymphocytes. Hallam (1931) claims that a histological examination in the early stages shows a rapid regeneration of the small vessels accompanied by perivascular infiltration: this is not a mere transudation of serum. Some writers state, but a sudden and severe damage affecting the vessels of the papillary layer of the cutis andapedesis of red cells may also take place.

Pathogenesis

Many theories have been evolved to explain the pathology of the chilblain lesion. Harris, Lewis, and Vaughan (1929) think that cold urticaria is due to a dermolysin present in the blood which unites with the skin cells at low temperatures and lyses them on rewarming, setting free histamine; and Goldsmith (1936) suggests that this mechanism plays a part in the formation of chilblains. Unna (1896) maintains that there is a high degree of venous tone and a normal or very low arterial tone in perniosis; and Parrisius (1921) supposes that there is a spasm of the subcutaneous veins, as witness the slow return of blood to an anaemic spot caused by pressure on a perniotic area.

Lewis (1941) later elaborated his theory of the liberation of H-substance from the skin cells as a result of damage by cold; however, this theory does not seem to explain why severe degrees of cold may produce no lesion when moderate degrees cause chilblains in the same individual. It does not explain why persons who develop frost-bite do not at the same time develop chilblains, and it has been found impossible to produce chilblains experimentally by the injection of histamine or by the application of carbon dioxide snow. Simmons (1945) states that the spasm of the vessels in chilblains leads to suboxygenation of the tissues, which of itself gives rise to further vascular spasm; and Gellhorn (1943) points out that continued deficiency of oxygen supplies and blood stagnation in-

crease capillary permeability and lead to dropsical exudations. Sequeira, Ingram, and Brain (1947) claim that erythema perniosis is the outward sign of the inability of the skin, including its small blood vessels, to adapt itself to low temperature.

In an attempt to elucidate further the problem of the pathogenesis of chilblains I carried out certain experiments.

Present Investigation

It was noticed that considerable pressure with a glass slide on an established chilblain was necessary to cause blanching, and that on the release of pressure the colour was only slowly re-established. If the same experiment was carried out on the skin of a hand that had been immersed in water at 45° F. (7.2° C.) for three minutes it was found that blanching occurred readily, but that, as in the first experiment, the colour was only slowly re-established. Since in both cases the subcutaneous arteries were in spasm, as witness the coldness of the skin—for Krogh (1922) has shown that the skin temperature is dependent on the rate of blood flow—it follows that in the case of the chilblain there must have been interference with venous drainage. The veins draining the subpapillary venous plexus are thin-walled and pass through the corium in close relation to the collagen bundles, and it is not unreasonable to assume that oedema of the corium can cause pressure on and partial collapse of these veins. This mechanism may cause interference with the nutrition of the connective-tissue cells, with consequent cellular degeneration.

In another experiment the venous return from one hand was stopped by means of a tourniquet applied round the arm, and the hand was then immersed in cold water at 45° F. for six minutes: no cyanosis developed in the hand. With the tourniquet still in position the hand was then immersed in hot water at 115° F. (46.1° C.): cyanosis developed, and was well marked after four minutes. The hand was then returned to the cold water, with the tourniquet still in position, and it was noticed that the cyanosis started to disappear, and at the end of six minutes had been replaced by a bright-red colour. This experiment was repeated on three occasions with the same result. It was thus concluded that the cold had in some way caused a breakdown or dissociation of the carboxyhaemoglobin responsible for the cyanosis. This took place when the venous drainage from the part was occluded.

As has been shown, the venous drainage from a chilblain area is at least partially occluded and the skin temperature is initially very low; therefore it would seem that cold interferes with the formation or causes the breakdown of carboxyhaemoglobin and thus prevents the elimination of the waste products of cellular metabolism. It was felt that these waste products, if allowed to remain for any length of time in the tissue spaces or capillaries, would cause irritation and damage to the tissues resulting in the inflammatory reaction which has been shown to be the basis of the pathology of a chilblain. Several other experiments were done with this theory in mind, and further support was gained for it.

The nature of these waste products, or metabolites, is open to speculation, but they may well be the products of catabolism such as carbon dioxide and lactic acid, or they may be the products of incomplete anabolism such as oxaloacetic acid, fumaric acid, or succinic acid, because enzyme activity is either limited or arrested by cold and therefore the action of the dehydrogenases will be impaired.

One more experiment was performed: the arm and forearm were casanguinated and a tourniquet applied to occlude both the arteries and the veins. The hand was then immersed in cold water at 45° F. for two minutes and the

tourniquet was then released. It was noticed that the colour returned to the fingers very much more slowly than in a control experiment with the hand in warm water. It was thus concluded that cold can cause spasm of the subcutaneous arteries without the intermediary of metabolites.

To sum up on the basis of this hypothesis it would appear that the pathogenesis of chilblains is the following:

Exposure to cold causes a vasoconstriction of the subcutaneous arteries and interference with cellular metabolism resulting in the formation of irritating metabolites. On warming the part, if the arterial spasm relaxes the metabolites are removed and no lesion supervenes. If, however, the arterial spasm does not relax within a reasonable time more metabolites are formed at the site because of the increase in cellular metabolism due to warming the part; this causes irritation, oedema of the corium, and thus interference with venous drainage, setting up a vicious circle and producing a chilblain. Thus a chilblain will result only when cold causes arterial spasm and there is an upset of the balance between vital cellular activity and venous drainage.

It is claimed that this theory explains the many and varied anomalies of chilblain production.

Treatment

The best treatment of chilblains is undoubtedly prevention, and to this end warm clothing should be worn, a certain amount of exercise taken, and a liberal diet provided.

The number of special measures advocated is legion, but in the main their object has been to improve the local circulation of the affected limbs. Jacquet and Debat (1914) advise raising the hands and actively flexing the fingers several times; McAll (1946), during his internment in China, came across a means of exercising the fingers by playing with two walnuts in the one hand. Bathing the affected parts in hot and cold water alternately has been recommended, and Whitfield (1921) suggests bathing the chilblains in a 5% salt solution at a temperature of 38° C. to relieve the irritation. Haxthausen (1930) has used carbon-arc light filtered through a water filter to exclude the non-luminous heat rays and has also applied carbon dioxide snow for short periods; Steimann (1926) used ethyl chloride locally; Grünbaum (1920) and Stein (1928) advise diathermy; and Henk (1926) recommends one-third of an erythema dose of x rays filtered through an aluminium filter. Price (1933) suggests massage, galvanic and faradic stimulation, and Spiethoff (1933) advises Grenz rays; Dore (1928), on the other hand, has tried arterial sympathectomy with unconvincing results. Stimulating ointments containing such substances as iodine, camphor, phenol, turpentine, and methyl salicylate have their advocates. Wigley (1946) advises dressing ulcerated chilblains with penicillin. Braek (1940) used dihydro-imidazole; Grossman (1926) advises the induction of artificial fever by means of "aolan" and "novoprotin." Dr H. M. Walker, of Glaxo Laboratories, in a personal communication, claims that the value of vitamin D (5,000 units of calciferol and 5 mg. of calcium oleate per ml.) in the treatment of chilblains is not due to its calcium content but to the fact that it is a colloid suspension containing negatively charged colloids which have a specific stimulating action on the reticulo-endothelial system.

Haxthausen (1930) advocates a modification of Bier's method of paravertebral congestion, and Simmons (1945) treated chilblains by means of a paravertebral sympathetic block using 20 ml. of a solution containing amethocaine 1.0 g. and adrenaline. Whitfield (1921) recommends 1.0 g. of ephedrine (2.0 g. to 32 mg.) and erythrol tetranitrate 1.0 g. (113 mg. three daily). Grove (1926) advises the use of a 10% solution of sodium cacodylate; Lefevre, in a personal communication, treated 28 cases with intravenous

fluorescein, and had to record failure in only 9.4. Jausion, Somia, and Meunier (1941) used up to 600 mg. nicotinamide daily in their treatment of chilblains; they administered it both orally and by injection, and by this method they claimed they could cure mild cases in a week, moderate cases in two weeks, and severe cases in three weeks. Watson (1941) injected each chilblain with 0.5 ml. of histamine; this caused an immediate and intense irritation locally, with subsequent alleviation.

Having observed the vasodilator action of nicotine I decided to use it in the treatment of the cold congested hands and noses from which so many young children suffer in the winter; the results were dramatic. It was then decided in the winter of 1943-4 to attempt the treatment of chilblains, which has for so long been unsatisfactory in general practice, by the oral administration of nicotinic acid. The results were most gratifying, not one failure being recorded. In the following winter similar results were obtained, but it was felt that the weather had not been severe enough for the chilblains bad enough to assess the real value of the treatment.

The winter of 1946-7 proved so severe and unpropitious and the results so successful that it was decided to place this method of treatment on record. The basic dose of nicotinic acid administered was for an adult 50 mg. and for a child 25 mg. thrice daily immediately after meals; this tended to reduce the incidence of flushing, and no doubt caused a prolongation of the vasodilator action of the nicotinic acid. In severe cases the dose was increased, but in no case was it found necessary to give more than 300 mg. a day.

Relapse was common when the nicotinic acid was withdrawn, and advantage was taken of this fact to assess the value of the treatment. In eight patients who were asked to stop taking nicotinic acid as soon as their chilblains were cured or considerably improved, the chilblains returned and were promptly relieved by further treatment. Two patients who were cured by the administration of nicotinic acid were asked to stop treatment and to wait until the chilblains returned. They were then given nicotinamide in similar doses (the substitution was unknown to them), but no improvement resulted; they were then again treated with nicotinic acid with complete success.

It follows from this that it is of no prophylactic value to administer nicotinic acid for a long time before the advent of the chilblain season in an attempt to build up some sort of reserve. It also follows that nicotinic acid does not act primarily by virtue of its enzyme action on the radical of coenzymes 1 and 2, otherwise nicotinamide in similar doses should have effected as satisfactory a result.

Presentation of Cases

The cases presented are unselected and consecutive; they were collected in the normal routine of general practice. Detailed notes were made of 27 cases so treated, of which 21 were female and 6 male. The incidence and distribution of chilblains in 15-year age groups for males and females is shown in Table I.

TABLE I.—Incidence and Distribution of Chilblains

Age in Years	Female	Male	Hands	Feet	Hands and Feet
0-14	2	1	—	2	1
15-29	5	—	—	4	1
30-44	10	2	—	11	1
45-59	—	3	—	1	1
60-75	4	—	2	1	—

The results of treatment arranged in 15-year age groups is shown in Table II. Cases were considered to be improved if all subjective symptoms such as irritation and pain

TABLE II.—Results of Treatment

Age in Years	Cured		Improved		No Difference	
	Female	Male	Female	Male	Female	Male
0-14	2	—	—	1	—	—
15-29	4	—	1	—	—	—
30-44	6	2	3	—	1	—
45-59	—	1	—	2	—	—
60-75	—	—	4	—	—	—
Total	12	3	8	3	1	—

bolished, but they were not counted as cures unless there was no evidence of chilblains on examination. Observations were made on results only during the severe weather.

Every patient was asked if this was the best treatment so far tried, and 26 responded in the affirmative; this gives a failure rate of only 3.7%. The one failure was a female telephonist aged 30, who suffered from very severe chilblains of the hands and feet. Her work may have militated against a cure. She was given only 150 mg. of nicotinic acid daily, and in the light of further experience it was felt that the dose should have been increased.

Four patients blamed a change in the weather, such as a raw, for the onset of their chilblains; one blamed sitting still for a long time; two blamed sitting in front of a fire; fifteen blamed cold weather and frost; four blamed cold weather and damp. All but two said sitting in front of a fire made the chilblains worse. Fifteen were chronic sufferers and got chilblains practically every year; of these eight were cured and seven improved. Nine were sufferers for the first time: of these six were cured and three improved. The others were only occasional sufferers.

Two patients complained of occasional cracks at the corners of the mouth and one of a sore tongue, but it was difficult to relate these symptoms to a systemic deficiency of the vitamin B complex. Two patients noticed improvement after taking only 50 mg. of nicotinic acid; five noticed improvement after treatment for three days, ten after four days, six after seven days, and three were indefinite.

It is interesting to record that two patients found that they could tolerate the cold with much greater comfort during treatment; this may have been due to a "stoking up" of skin-cell metabolism resulting from the vasodilatation of the subcutaneous arteries.

Untoward effects noticed during treatment were of little significance and were only transitory: constipation was recorded in three cases, sleepiness in two, slight headache in two, and transient flushing and mild irritation of the skin in twelve.

Conclusions Regarding Treatment

On the basis of the action of nicotinic acid—namely, vasodilatation—it stands to reason that this treatment cannot be expected to benefit to any great extent chilblain sufferers who have pronounced arteriosclerosis or other condition of the peripheral circulation which interferes with the vasodilatation of the skin vessels. Nevertheless it is felt that nicotinic acid has a specific action on chilblains, and that the very vast majority of chilblain sufferers will benefit from this treatment.

Treatment should start as soon as the first sign of a chilblain makes its appearance and should be continued, possibly in reduced dosage, until the chilblain season has passed.

Summary

The problem of chilblains is discussed as regards their aetiology and pathogenesis. It is claimed that nicotinic acid, given orally, has a specific effect on chilblains. Twenty-seven cases are quoted to prove this, and it is suggested as the treatment of choice in general practice owing to its ease of administration and its freedom from serious untoward effects.

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HYPOTHALAMUS AND PITUITARY GLAND

WITH SPECIAL REFERENCE TO THE POSTERIOR PITUITARY AND LABOUR

BY

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Marañón (1947) reported the case of a woman who had diabetes insipidus with an associated uterine atony, and discussed the light that this and similar cases throw on the mechanism of labour. Two important facts emerge from a study of such cases: (1) that lesions of the hypothalamus or neurohypophysis which produce diabetes insipidus may also interfere with the mechanism of parturition, and (2) that similar lesions which produce interference with the secretion of the posterior lobe of the pituitary gland (as evidenced by the diabetes insipidus) do not necessarily interfere with the activity of the anterior lobe of the pituitary (as shown by normal menstrual cycles and pregnancy). It is felt that a summary of recent work dealing with these points may be of interest in view of Marañón's paper.

Anatomy of the Hypothalamico-hypophysial System

The Neurohypophysis (Posterior Pituitary Gland).—It is now generally recognized that the secretory tissue of the posterior pituitary exists in the median eminence of the tuber cinereum, in the infundibular stem, and in the infundibular process, all these parts being included by the term neurohypophysis (Fig. 1). The main anatomical connexion between the hypothalamus and neurohypophysis is a rich nervous pathway, of which the most important element is the supraoptico-hypophysial tract. There are also good grounds for belief in the existence of a tract from the paraventricular nucleus to the neurohypophysis. The origin and destination of the fibres in the tubero-hypophysial tract, situated in the posterior wall of the neural stalk, are unknown.

The Adenohypophysis (Anterior Pituitary Gland).—The adenohypophysis consists of the pars tuberalis, pars intermedia, and pars distalis (Fig. 1). These three structures

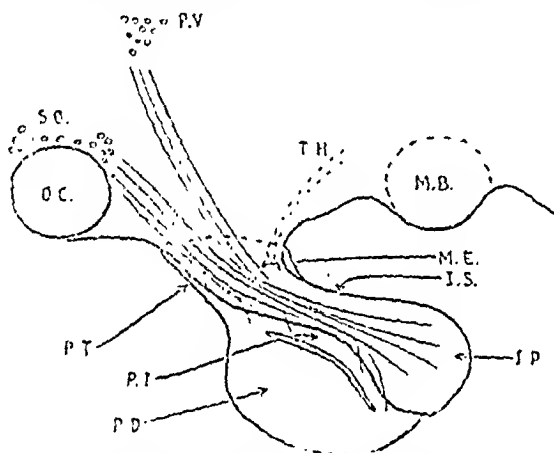


FIG. 1.—Diagram of a sagittal section through the pituitary and hypothalamus to illustrate the hypothalamic innervation of the pituitary gland. The neurohypophysis—which includes the median eminence (M.E.); infundibular stem (I.S.); and infundibular process (I.P.)—receives a rich innervation from the supraoptic nuclei (S.O.) and a supply from the paraventricular nuclei (P.V.). The tubero-hypophysial tract (T.H.) enters the dorsal or caudal wall of the tuber cinereum and infundibular stem. The three parts of the adenohypophysis are termed the pars distalis (P.D.), pars intermedia (P.I.), and pars tuberalis (P.T.). A few nerve fibres cross from the neurohypophysis to the adenohypophysis. O.C.=optic chiasma; M.B. mammillary body.

receive only a meagre innervation, and there is no sound evidence that the few nerve fibres found in them are other than vasomotor to the hypophysial vessels.

Both the posterior and the anterior lobes of the pituitary possess a systemic blood supply from the internal carotid artery, the venous drainage being in both cases to the adjacent venous sinuses. The vascular fields of the infundibular process and the pars distalis are largely independent, the pars intermedia being relatively avascular. The pars distalis, however, has a rich vascular connexion with the median eminence in the form of a portal system of blood vessels (Fig. 2). These latter vessels were first described by Papanicolaou and Lillie (1933, 1933), and later by Wislocki and Green (1942) and Green and Harris (1947). Small arterial branches from the internal carotid arteries supply a rich vascular plexus between the pars tuberalis and median eminence, termed the "vascular tufts" or "sinusoidal plexus" (Fig. 2). This plexus is situated over an area of the median eminence which is covered by the loops of the portal vessels which unite to form the typical sinusoids of the pars distalis. The vascular system has been described in the rat, rabbit, cat, dog, and human. It is situated in the posterior wall of the infundibular process and is supplied by a thick

dural septum, possesses a typical hypophysial portal system (Harris, 1947b). Green (1947), in a careful study of the amphibian hypophysis, confirms the presence of hypophysial portal vessels in the frog and analogous vessels in

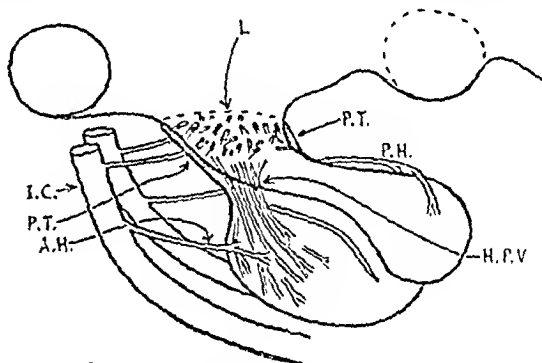


FIG. 2.—Diagram of a sagittal section through the pituitary and hypothalamus to illustrate the systemic arterial supply of the pituitary gland, and the hypophysial portal system. A.H. and P.H., the anterior and posterior hypophysial arteries; I.C., branches from the internal carotid arteries, supplying the pars distalis and infundibular process, respectively. Small twigs from the internal carotid arteries run to the pars tuberalis (P.T.) and supply a vascular plexus situated between this structure and the median eminence. From this plexus capillary sinusoids arise and penetrate the median eminence in the form of loops or tufts (L.). These capillaries unite into the large portal trunks (H.P.V.) and pass down into the pars distalis.

urodeles. Thus it may be said that these vessels are widely distributed amongst the vertebrates. All the evidence points to the direction of blood flow in these vessels being from the median eminence to the pars distalis. Since the pars tuberalis has no proved endocrine function, and since it bears a constant relationship to the upper set of capillaries of the portal vessels, it is suggested that the significance of this structure lies in the fact that it forms a bed for the vascular pathway from the median eminence to the pars distalis (Harris, 1947c).

Influence of the Nervous System over the Hypophysis

The hypothalamus undoubtedly influences the secretion of the posterior pituitary by means of the supraoptico-hypophysial tract, as first clearly shown by Fisher, Ingram, and Ranson (1938).

There is much evidence that nervous stimuli affect the activity of the anterior pituitary gland, and so indirectly, through the eutrophic hormones, other endocrine glands such as the gonads, thyroid, and adrenal cortex. In the experimental field Marshall (1942, 1947) has collected and summarized the evidence that external influences (exteroceptive factors) affect the reproductive rhythm of many birds and mammals by an action through the hypothalamus and anterior pituitary. Selye and McKeown (1934) uphold the view that suckling stimulates the anterior pituitary through reflex nervous pathways and so maintains milk secretion. Electrical stimulation of the hypothalamus has been shown to excite the anterior pituitary, as evidenced by the occurrence of ovulation in rabbits (Harris, 1937; Markee, Sawyer, and Hollinshead, 1946).

Clinically there are many observations that can be explained only by an action of the nervous system modifying anterior pituitary activity. Hypogonadism may be due to hypothalamic lesions. Hypertrophied genitalia (pubertas praecox) are also found associated with hypothalamic lesions, especially those situated caudal to the tuber cinereum. Weinberger and Grant (1941) suggest that this precocity is due to destruction of a posterior hypothalamic mechanism with release of an anterior hypothalamic innervation of the anterior pituitary. The effect of worry in causing menstrual irregularities, or diminution of milk flow in nursing women, is probably mediated by a nervous

influence over the anterior pituitary. The occurrence of psychic trauma in the history of patients showing endocrine disturbances is well known (Lichtwitz, 1942), and in this respect it is perhaps significant that hypothalamic lesions have been found in cases of thyroid dysfunction (Möschl, 1938) and diabetes mellitus (Vonderahe, 1937).

Since there is no sound evidence that secretomotor nerves to the testis, ovary, thyroid, adrenal cortex, or anterior pituitary gland exist, the most likely explanation of the above and other examples of neural influences over the endocrine glands is that the hypothalamus regulates the activity of the adenohypophysis by vascular transmission of stimuli through the hypophyseal portal vessels, as suggested by Harris (1944) and by Green and Harris (1947). The activity of the other glands of internal secretion would then be brought indirectly under neural control through the intermediation of the pituitary. The upper set of capillaries of the portal vessels are situated deeply in the median eminence, some penetrating to the ependymal lining of the third ventricle. In this region the capillary sinusoids are intimately related to a multitude of nerve fibres from the hypothalamus, and the possibility certainly exists that the hypothalamus could excite or inhibit the activity of the anterior pituitary by liberating some chemotransmitter into the portal vessels and so into the sinusoids of the anterior pituitary. At the present time the evidence regarding this hypothesis is indirect but substantial. Further information with respect to the state of the hypophyseal portal vessels in cases of pituitary dysfunction in man would be of much value. It may be mentioned that these vessels are particularly obvious in human material.

The Posterior Pituitary and Labour

Many workers have found that simple hypophysectomy (leaving the upper end of the neural stalk and median eminence *in situ*) does not necessarily lead to dystocia, and for this reason it was believed that the oxytocic extract obtainable from the posterior pituitary gland was of pharmacological interest only. Fisher, Magoun, and Ranson (1938) and Dey, Fisher, and Ranson (1941) found, however, that a large proportion of cats and guinea-pigs suffering from experimental diabetes insipidus had a prolonged labour or delivered their young dead. Similar results have been found by Smith (1946), working on monkeys. Previous work was criticized by Fisher, Magoun, and Ranson (1938) on the grounds that most workers had failed (a) to control the complete removal of the neurohypophysis, including the median eminence, (b) to control the presence of some normally secreting anterior-lobe tissue, and (c) to record the details of labour such as the type and duration of the different stages. Several cases are on record of prolonged labour in women suffering from diabetes insipidus (see Marañón, 1947). However, the evidence is not entirely clear-cut, for both in animals (Dey, Fisher, and Ranson, 1941) and in man (Dandy, 1940) normal labour has been reported in spite of a concurrent state of diabetes.

Haterius and Ferguson (1938) and Ferguson (1941) have shown that stimulation of the pituitary stalk in anaesthetized post-partum rabbits and cats produced an increase in uterine activity even though all the structures in the neck except the internal carotid arteries, jugular veins, and a flap of skin had been crushed. Ferguson (1941) also described a reflex secretion of oxytocic substance from the infundibular process following distension of various parts of the reproductive canal in rabbits, and suggested that such reflexes play a part in the normal labour. Harris (1944, 1947a) has shown that stimulation of the supraoptico-hypophyseal tract in unanaesthetized rabbits produces a marked increase in uterine activity. Stimulation was performed by inducing the stimuli through the intact

skin into a previously implanted coil, an insulated lead being taken from the coil to the site stimulated. The spread of stimulus was not more than 0.5 mm. The uterine reactions were recorded from a chronic vaginal fistula, and in many cases the sensitivity of the uterus was standardized by ovariectomy and the implantation of a tablet of stilboestrol di-*n*-butyrate. In these experiments the response of the oestrous, or oestrogenized, uterus could be graded at will by varying the intensity of the stimulus, though the response to similar stimuli applied to the oestrogenized rabbits was found to be very constant from day to day. The oxytocic reaction to stimulation could be closely duplicated by intravenous administration of 200-500 mU. of posterior-lobe extracts, especially extracts relatively low in pressor activity. Stimulation or injection of extracts had little effect on the activity of the anoestrous or pseudo-pregnant uterus, or on the organ under the influence of progesterone. From experiments using this (remote control) method of stimulation has accumulated much evidence that the substance secreted from the rabbit's pituitary is richer in oxytocic, relative to pressor, activity than various standard whole posterior pituitary extracts. For example, the uterine response to the injection of whole pituitary extract consists of a stage of increased activity followed by a variable stage of inhibition. This latter effect is probably the result of the pressor fraction causing constriction of the uterine blood vessels and ischaemia of the uterine musculature. The inhibitory pause in the uterine response to stimulation of the supraoptico-hypophyseal tract is short-lived, and is lacking in the response to injection of the purified oxytocic fraction. Thus it would seem the secretion elicited by stimulation of the neurohypophysis possesses (relative to oxytocic content) less pressor activity than whole extracts and more than purified oxytocic extracts.

It may be concluded, then, that evidence is accumulating for the physiological role of the posterior pituitary in labour. It might be suggested, from the results of animal experimentation, that in replacement therapy during labour the purified oxytocic fraction be used instead of whole posterior-lobe extracts. However, more direct evidence on the reactions of the human uterus *in situ* to such extracts is desirable.

It is of interest that stimulation of the neural stalk in rabbits also produces inhibition of a water diuresis, increase in urinary chloride, and an increase in intestinal peristalsis, though no change is obtained in the level of the blood sugar and only slight rises in blood pressure (Harris, 1947a, 1947d).

Conclusions and Summary

The relationship between the hypothalamus and the pituitary gland is reviewed.

There is much evidence that the hypothalamus controls the secretion of both the anterior and the posterior lobes of the pituitary gland. The mechanism whereby control of the anterior lobe is exerted is probably by means of a humoral relay through the hypophyseal portal vessels. Nervous regulation of the anterior pituitary brings the testis, ovary, thyroid, and adrenal cortex indirectly under nervous control via the mediation of the pituitary eutrophic hormones. This offers an explanation of various endocrine disturbances (pubertas praecox and others) associated with psychic trauma or lesions at the base of the brain. The activity of the posterior pituitary is regulated largely by the supraoptico-hypophyseal tract. Evidence is accumulating that this mechanism plays a physiological part in labour, and attention is drawn to the reflexes described by Ferguson. Results obtained by stimulating the pituitary stalk in animals suggests that the secretion of the posterior lobe contains less pressor activity than whole posterior pituitary extracts. It is suggested that replacement therapy for cases

close and, it is suggested, significant; pantothenic acid and pyridoxin, closely correlated with riboflavin, might also be implicated, but for the purposes of my argument I am going to assume for the moment that a riboflavin deficiency is the cause of the condition under consideration.

The brain derives its energy solely by the metabolism of glucose. It is suggested that the initial biochemical lesion consists in a partial failure of glucose breakdown at the link between the anaerobic dehydrogenase system and the aerobic cytochrome/cytochrome oxidase system which is formed by an enzyme into which riboflavin enters as co-enzyme. In other words, there is produced a condition of anoxia or hypoxia. This of course is generalized, but only those nervous elements with a high metabolic rate, and therefore the more vulnerable, suffer as a result of this partial oxygen deprivation.

If this assumption be correct it becomes at once apparent why only the sensory side of the central nervous system is affected, for it has been shown that the oxygen consumption of the sensory nuclei is far greater than that of the motor nuclei.

The researches of Gasser (1937), Dunning and Wolff (1937), and Craigie (1939) have demonstrated, in animals, that the oxygen consumption of the grey matter of the central nervous system is very much greater than that of the white matter; that the blood supply—i.e., the number of capillaries present ("capillarity")—is proportional, but that the oxygen consumption of the grey matter is not due to the richness in cellular elements but to the neuropile (Gasser uses the word "neurophil") or mass of fine protoplasmic strands contributed by dendrites, terminal axon arborizations, and other synaptic structures.

Those areas with a high degree of capillarity and high metabolic rate include the cochlear and vestibular nuclei, Deiters's nucleus, the granular layer of the cerebellar cortex, the second layer of the occipital cortex, followed in descending order by parietal, temporal, pre-central, and insular cortices.

Conclusion

Briefly these are the arguments put forward in support of a thesis which suggests that the group of syndromes under consideration are due to failure in the metabolism of glucose in the neuropile of those areas of the central nervous system which have a high metabolic rate, in turn caused by hypoxia induced by hyporiboflavinosis and/or a deficiency of other closely associated members of the vitamin B₂ complex.

There is also some evidence that a disorder of the capillary bed (capillary dysergia) is caused by a deficiency of riboflavin coincident with the affection of the nervous tissue.

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The Minister of Health states that the following agreement has been reached between representatives of the British Medical Association, of the Associations of Local Authorities, and of the London County Council: "That for the period from July 1, 1947, until the appointed day for the purposes of the National Health Service Act, 1946, or, if new scales have not then been agreed, until the date of operation of any new scales, whichever be the later, there should be substituted for the percentages mentioned in paragraph 1 of the Interim Revision of the Askwith Memorandum agreed to at the conference held at the Ministry of Health on March 26, 1946—viz., 30, 20, and 10 respectively—the percentages of 35, 30, and 25 respectively, this substitution to include the substitution of 25% for 10% in the last line of subparagraph 1 (a)."

The Minister understands that this modification has been accepted by all parties to the Askwith agreement, and it is being circulated to local authorities by the Minister at their request.

AN IMPROVED DIRECT COAGULASE TEST FOR THE RAPID DETECTION OF STAPHYLOCOCCUS AUREUS

BY

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As a preliminary to penicillin therapy a method has been suggested for the rapid detection of *Staphylococcus aureus* (*pyogenes*) which consists in adding the material to be investigated (pus or fluid squeezed from a swab) direct to citrated or oxalated plasma (Lominski and Grossfeld, 1944). Coagulation of the plasma indicates the presence of the organism. Positive reactions develop at 37° C. within several hours (occasionally in 20 minutes), thus being available before the results of cultures; they may also be obtained where staphylococci are too scanty to be detected in smears of the material. The reliability of the test was controlled both by culture and by the coagulase test carried out with the isolated strain. However, in the course of extended routine observations doubt arose regarding the advisability of the use of citrated plasma for coagulase tests in general, since it was found that such plasma may be clotted under certain conditions by organisms other than staphylococci. The use of heparinated plasma, on the other hand, was found to exclude this fallacy. (A detailed account of the mechanism involved, which is entirely different from that of staphylococcal coagulase, will be published elsewhere by E. M. Harper and N. S. Conway.)

Accordingly, the original method has been modified as follows: to 1 volume of citrated plasma are added 3 volumes of saline, 1 volume of meat extract broth, and heparin in such amount that 1 ml. of the mixture contains 2 to 5 Toronto units. Heparin serves the purpose of assuring the specificity of the test, while the addition of broth provides better growth conditions for staphylococci. Excess of broth must be avoided, as it favours rapid liquefaction of the coagulum and thus makes the test difficult to read overnight.

The modified direct coagulase test here described has so far proved very sensitive and highly specific, and its diagnostic value equals that of the ordinary coagulase test carried out with pure strains of staphylococci. Thus, over the last three years the reliability of this modified test has been confirmed in several thousand cases controlled by culture and the ordinary coagulase reaction with the pure strain. Where *Staphylococcus aureus* was present the results were positive in almost 95% of cases; in no instance was a fallacious positive result obtained in the absence of the organism.

The presence of other organisms does not, as a rule, prevent a positive reaction, but early reading of the test is essential, since a coagulum which forms within several hours may liquefy later owing to the presence of proteolytic bacteria. It should be added that the final test with a pure strain of staphylococcus-like Gram-positive cocci ought also to be carried out in heparinated plasma.

We are indebted to the Rankin Medical Research Fund for a grant toward the expenses of the work.

REFERENCE

- Lominski, I., and Grossfeld, E. (1944). *British Medical Journal*, 2, 854.

Reviews

CURARE

Curare. Its History, Nature, and Clinical Use. By A. R. McIntyre, Ph.D., M.D. (Pp. 240; illustrated. 27s. 6d.) Chicago: The University of Chicago Press. London: Cambridge University Press. 1947.

The clinical applications of curare have aroused widespread interest in recent years, and a monograph on this drug will therefore be welcomed. The author of this book, Prof. A. R. McIntyre, is Professor of Physiology and Pharmacology in the University of Nebraska and a recognized authority on curare, having been largely responsible for the introduction of standardized extracts into clinical practice. He begins the book with a fascinating account of the adventures in South America from the sixteenth century onwards of the first European explorers to see the effects of arrows poisoned with curare. He then discusses the botanical characters of the plants used to make the poison and the chemical properties of the active principles, of which tubocurarine is the best known. This alkaloid is easily made available in the pure state, and its exact chemical structure was established by the careful work of Dr. Harold King in 1935. Some samples of curare, however, contain more active substances, such as toxiferin, and may contain various other poisons with quite different actions. Confusion has arisen in the past because curare has been regarded as a single drug, and those who have used it have not realized that all specimens are not alike and have not taken care to state the exact nature of their material.

Prof. McIntyre describes the early pharmacological studies of curare which culminated in the beautifully simple experiments of Claude Bernard in 1857, which proved that curare inhibits the transmission of impulses from motor nerves to voluntary muscle. This is undoubtedly the chief action of the drug, and the most important fact known about it was established in 1930 by Dale, Feldberg, and Vogt, who showed that when a muscle is paralysed by curare the nerve continues to liberate acetylcholine, which is prevented from having its normal effect on the muscle. Prof. McIntyre reviews much other work devoted to the problem of how this happens but does not succeed in presenting a clear picture of the results. He emphasizes that curare has actions on other parts of the body, and particularly on the central nervous system, and he ends the book with a history of the clinical uses of the drug. Its use in medicine was first suggested in 1811, but actual trials were not made until 1858. During the second half of the nineteenth century curare was administered in the treatment of tetanus, epilepsy, chorea, and hydrophobia, but progress was impeded by the variability of samples. In modern times interest was stimulated by the enthusiasm of West in 1931-5. In 1938 A. E. Bennett, at the suggestion of Prof. McIntyre, used curare in conjunction with shock therapy, and in 1942 Griffith and Johnson used it to secure relaxation in anaesthesia. Prof. McIntyre reviews all this work in the monograph before us and includes a bibliography of over 1,300 items. It will be a standard work.

J. H. GADDUM

SURGICAL TREATMENT

Textbook of Surgical Treatment. Including Operative Surgery. Third edition. Edited by C. F. W. Illingworth, M.D., Ch.M., F.R.C.S. Ed. Compiled by 21 contributors. (Pp. 644; illustrated. 32s. 6d.) Edinburgh: E. and S. Livingstone. 1947.

It might be interesting to listen to a round-table discussion by students on the relative merits of books by one and by several authors. There is little doubt that there would be considerable difference of opinion, for each case has its special merits and defects. In any case, this textbook by 21 contributors has already found favour, for this is the third edition to appear within four years. It undoubtedly provides what is difficult to obtain elsewhere—a conspectus of the main outlines of surgical treatment.

Several new sections have been added to this edition. There is a useful chapter on the indications for and the methods

of using penicillin. Its author is wise in stating that "the findings to date . . . cannot be taken as final," for even since he wrote our knowledge has advanced in several particulars. Facio-maxillary injuries are competently discussed, but we think that a few words on the methods of grafting an ununited fracture of the mandible might with advantage be inserted. In a book where such a wide field of knowledge is covered there are sure to be some gaps. The index is not quite full enough. We could not find there any mention of acute dilatation of the stomach, the thymus, actinomycosis, or Meckel's diverticulum. The first two do not appear to be mentioned in the text. Actinomycosis is considered in the chapter on penicillin but is not mentioned in the section on the face and neck. In the section on sigmoid volvulus the surgeon is warned not to bring the distended colon outside the abdomen, "as without the support of the abdominal wall it may rupture"; the alternative method of making a large incision and quickly bringing the whole coil outside the abdomen might be mentioned, for it allows the volvulus to be untwisted without any need for puncture. Since this book is intended for senior students we think it would be helpful if after each section there were added a short list of references to the most authoritative writings on that subject.

V. ZACHARY COPE.

MEDICINE FOR PATIENTS

The Art is Long. By William Edwards, M.D. With foreword by the Rt. Hon. Lord Horder. (Pp. 160. 10s. 6d.) London: Andrew Melrose, Ltd. 1947.

The Doctor's Job. By Carl Binger, M.D. (Pp. 244. 12s. 6d.) London: George Allen and Unwin, Ltd.

The author of the first of these books sets out to describe for the layman the work of every type of doctor. The medical student, the hospital resident, the family doctor in varied practice, the public health officers, the Service doctors, the specialists, and many others will find that Dr. Edwards has adequately described their work. He has thereby done a useful public relations job for the medical profession. There is little here that will be new to medical readers, but many a patient, bemused by the complexity of modern medicine, will find the answer to his questions. The family doctor, when he has read these lively essays in portraiture, would find a useful place for this book on his waiting-room table.

While both these books are ostensibly written for the layman, Dr. Edwards's book exactly fits its purpose; Dr. Carl Binger, excellent though his book is, seeks two audiences and therefore fails to find either. His chapters on fees, on the choice of a doctor, and on the achievements of medicine are sound exposition for intelligent patients, but there are other chapters whose appeal should be directly to doctors and where, with the layman out of the room, the discussion could have proceeded with sober and scientific caution. For Dr. Binger writes like a man of judgment and he brings to his especial interest, which is the application of the Freudian code to the aetiological and therapeutic problems of internal medicine, unusual qualities. This book of his suggests that he could write an important book which would help to answer the urgent question, Granted that there are psychosomatic diseases, how much of each of them is related to a psychogenic factor and how much to a constitutional pattern? And what results may be expected from the application of a psycho-analytical technique to such diseases as duodenal ulcer, ulcerative colitis, and the allergic disorders?

Dr. Edwards describes the work of only sixteen specialists, but Dr. Binger tells us that the American Medical Association recognizes twenty-six specialties—and obviously the quiver is not yet full. In fact, Dr. Binger's first-rate book might well be interpreted as a demand for the recognition of one more specialty—psychosomatic medicine—in spite of his expressed denial of such an intention. Those who have followed the American literature on psychosomatic medicine written by himself and by Cobb, Alexander, French, Weiss, Wolff, Dunbar, and others are not likely to agree with Binger that it is possible for one man to practise both internal medicine and psychotherapy. The investigation of psychosomatic problems appears to lead directly towards the higher flights of psychiatry—to the uncovering of deeply unconscious mechanisms—as indeed might be expected when one considers that tensions which are

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38,534 DOCTORS DISAPPROVE

By a 9 to 1 majority in an 84% poll the medical profession has shown Mr. Bevan how completely he has misjudged the thoughts and feelings of the medical men and women of this country, and how ill-timed, inept, and untrue were his vicious remarks about raucous-voiced and politically poisoned people. His attempt to find a narrow target for his vituperation has failed completely. By their votes British doctors have shown what they think of his recent observations and the National Health Service Act in its present form. The medical profession and some of its leading personalities have during the last few weeks been subjected by certain newspapers to misrepresentation and personal abuse: 90% of all those voting have made the only fitting response to this. This is a truly remarkable result, and a confirmation, incidentally, that in these columns we have voiced what are the ideas and feelings of the great majority of doctors in this country. The policy and actions of the British Medical Association in relation to the present controversy have now been fully vindicated.

In the first few days of the plebiscite Mr. Bevan accused the B.M.A. of intimidation by means of the voting paper. The B.M.A. immediately invited a senior officer of the Minister to inspect the counting of the votes and the arrangements made for it, and expressed the hope that the Minister himself might come if he so wished. He had made the accusation, and he was given the opportunity of substantiating it. One of his officers replied that the Minister "cannot see his way to accept your proposal that he should associate himself or his officers with the Association's plebiscite."

The Council of the B.M.A. met on Wednesday to receive the results of the plebiscite and to discuss future action. The Representative Body at its meeting on March 17 will decide what this action is to be. A heavy responsibility now lies upon the British Medical Association—a responsibility not only to the medical profession but to the community generally, which has been given the most exaggerated idea of the medical benefits it has been led to expect when the National Health Service Act comes into operation on July 5. If it is made possible for the medical profession generally to join in that Service doctors will become heavily overworked, and there will be a dilution of the quality of treatment because of the excessive demands on a doctor's time that will inevitably be made by people who have been told that they will be free at any time to call upon a doctor's services of whatever nature. On July 5 there will be no increase in the number of doctors, nurses, or hospital beds, and there will be no health centres. The man or woman who now hesitates to call in a doctor for

a trivial complaint will no longer hesitate to call in a medical man or woman employed by the State to give services free of charge. If it proves to be possible to start this Service on July 5 we foresee a state of affairs that will sadly disillusion a public that has been so misled by the Minister and his publicists about the medical benefits it will receive.

The results of the plebiscite are analysed at page 352 of this issue. Of the 51,042 medical men in Britain to whom voting papers were sent, 43,013 have returned valid papers—an 84% poll. The strictest supervision of these papers was maintained by the auditors, Messrs. Price, Waterhouse and Co., and 593 of the voting papers had to be declared invalid. Of the 43,013 voting, 38,534—or 90%—expressed disapproval of the Act in its present form. Of the general practitioners 17,626 expressed disapproval, and 17,037 voted against accepting service. The necessary majority and the necessary numbers of general practitioners more than fulfil the stated requirements for the B.M.A.'s decision to oppose the Act in its present form.

Of those directly concerned in service under the Act—consultants and specialists and general practitioners—who answered Question B, 22,106 have said they will not take service under the Act in its present form, as against 3,471 who have said they will take service. If nothing happens to change the views of these men between now and July 5 Mr. Bevan will have at his disposal 3,560 general practitioners (giving him the benefit of the non-voting G.P.s) and 971 consultants and specialists to operate the National Health Service Act designed for a population of 47,000,000. These figures and facts deserve the serious consideration of the Minister of Health, the Government, and Parliament. In particular they deserve the serious consideration of the general public, who are being misled by Mr. Bevan's promises and who have failed to understand what the position of the medical profession is.

The way different sections of the profession have voted is of considerable interest, and Mr. Bevan will, perhaps, share our surprise at some of the results. He might, of course, have expected that the small clique of "political conspirators" in the B.M.A. Council would influence the general practitioners, and perhaps even the consultants. But he can hardly have expected that the majority of those already in whole-time employment, and especially those in whole-time Government service, would disapprove of the Act in its present form. Yet that is what they have done. In 1943 the Society of Medical Officers of Health issued a report advocating a State Medical Service. But out of the 2,392 men and women working whole-time in the Public Health Service, 1,928 disapprove of the Act in its present form, and only 316 approve of it. *Of the 762 medical men and women working whole-time in Government service, 634 disapprove of the Act, and only 127 express their approval.* This result deserves to be italicized. Of the 548 whole-time teachers in Great Britain, 424 disapprove, and only 110 approve. Of the 530 whole-time research workers, 220 disapprove, and 104 approve. These are, indeed, instructive figures. One may assume that those in whole-time employment are not particularly interested in the question of buying and selling practices, or in the basic salary or in the tapering capitation fee, or, possibly, even in negative direction. Some of them, no doubt, in their disapproval are expressing their sense of solidarity with the

rest of the medical profession: some of them, too, feel affronted by the unmannerly and unfair treatment meted out by Mr. Bevan to practising doctors. Whatever may be the constitutional niceties of the right of appeal to the Courts against dismissal in the National Health Service, many, we believe, are gravely disquieted by the fact that in a State Medical Service available to the whole of the community a man's life and career may be ruined by the decision of a tribunal of three men, of whom only one has a legal training. The General Medical Council is the statutory body for dealing with cases of professional misconduct. In the future the Ministry of Health will be able to get rid of what it will regard as an unsatisfactory servant, and that servant will then have no alternative but to emigrate or try to gain a livelihood in another occupation for which he has not been trained. This power of the State over an individual highly and lengthily trained to do one kind of work is indeed alarming in its enormity. The more highly skilled a man is the less easily is he adaptable to alternative forms of work. That is the penalty of specialization. But in England to-day we find men of all political parties ready to give the State this unbelievable control over individual freedom. Mr. Bevan should take note that many medical men are already emigrating, or seeking to emigrate, from this country in order to escape the new servitude. There are probably other reasons why medical men in whole-time Government and local authority service disapprove of the Act in its present form. Behind this opposition we see apprehension at the increasing regimentation of all sections of the community, and a reaction against the dislike and envy of the educated classes shown by the rank-and-file of the present Labour Government, eager to disenfranchise the university voter. As Lecky observed over fifty years ago: "It is curious how often in modern England extreme enthusiasm for education is combined with an utter disregard for the opinions of the more educated classes."

Mr. Bevan's cries about a "political conspiracy" are falsified not only by the above results but by at least two of our correspondents who, while openly declaring themselves to be Socialists, state their opposition to the Act. Mr. Bevan has liked to claim that the young men are on his side. It has not been possible to break down the present plebiscite figures, but we know into what age groups the various sections of the profession fall on the basis of the analysis of the last plebiscite, the final figures of which were published in the *Journal* of Jan. 11, 1947. We may examine the votes of those working whole-time in voluntary hospitals. The great majority of these are working full-time whole-time—namely, house-physicians, house-surgeons, resident medical and surgical officers, registrars, etc. The other men working whole-time would be the professors of medicine and surgery, professors of physiology, professors of bacteriology, and so forth. In 1947 1,000 of these voluntary hospital workers voted, and 722 were aged 7 years or less; 695 were aged 7 to 14 years; and 60 had been qualified for 15 years or more. It seems probable that the age distribution of these voluntary hospital workers is unrepresentative of the whole of the medical profession.

of the young men than last year. In this plebiscite 3,425 whole-time voluntary hospital workers disapprove of the Act, and only 467 give their approval. With minor variations the same proportion signified their intention not to take part in the Service in its present form. This is the response of the young men with whom the future of medicine lies, many of them wanting to go into general or consultant practice in the future, and all of them the least likely to be affected by B.M.A. "propaganda."

The plebiscite shows that the medical profession has firmly resisted all attempts made to play off one section against the other. By its vote it has shown that we are, indeed, one profession, in spite of the widely varying nature of the type of work and of the method of employment characteristic of various professional groups. This expression of solidarity is a real and valuable thing, and a confirming of faith in our common professional heritage. It is now up to the medical profession to make this unity still firmer and to use it in the coming months with the highest sense of responsibility. Parliament and the medical profession are pledged to provide a comprehensive medical service for the country. We may have grave doubts about the wisdom or possibility of putting a gigantic scheme of reform into operation in July of this year, but the expressed opposition of the Negotiating Committee is to certain features of the Act and certain proposals of the Minister. Mr. Bevan should now know that this opposition is not just the agitation of a political caucus or what *The Times* unkindly described as "the views of a score of elderly doctors." Parliament and public opinion will now realize that even if Mr. Bevan succeeds by financial pressure in coercing doctors into the Service on July 5 he will have in his service 38,534 unwilling and dissatisfied workers.

SAFEGUARDS FOR THE GENERAL PRACTITIONER

A sentence in the first leading article in the *Journal* of Feb. 7 seems to have given rise to some misunderstanding on the question of buying and selling practices. Having disposed of some of the stupid criticisms levelled against this custom, we observed that "if the financial burden of buying a practice is too heavy for the young man to bear in these days then there is a case for reasoned discussion on this point." To deny this in these days of economic stress would not appear to be reasonable. The fundamental case for the preservation of ownership of goodwill is to-day the preservation of the professional freedom of the general practitioner in a State medical service. If the medical profession enter such a State service then it is essential to see that within it the general practitioner retains professional freedom and what individual freedom may be possible in the uncomfortable new England taking shape under our eyes.

The medical profession has this week decided by an overwhelming vote against service under the Act in its present form. On the items of disagreement it would seem fair to state that for the general practitioner the principal objection is to a universal basic salary applied to all practitioners,

young, middle-aged, and old. We have the evidence of Government spokesmen that the idea of salary is related to control of certification, and, as the Labour Party is still committed by its published policy to a whole-time salaried service, the fears that the basic salary is a pointer in this direction are clearly well founded.

What real safeguards can be introduced? The assurance of any Minister of Health is valueless because it is not binding on his successor. We stated in the *Journal* of Feb. 7 that "at the moment it is difficult to see how the general practitioner can maintain his professional freedom without ownership." There are, of course, other considerable advantages to the purchaser of goodwill. These were discussed in a leading article in the *Journal* of Jan. 24. But even though all political parties have accepted the Government proposal to abolish ownership of goodwill in public practices the medical profession has the right to persist in its claim to continue the custom to which they have been used in the medical service under the National Health Insurance Acts. We do not accept Mr. Bevan's contention that the buying of goodwill is "an evil thing." His Ministry is a Ministry of Health—not a Ministry of Morals.

The essence of ownership is freedom and independence. In the *Journal* of Feb. 7 we suggested a possible alternative for safeguarding this freedom. There can be no question of change of policy, for this is decided by the Representative Body. We were concerned solely with possible methods of safeguarding professional freedom—which is the principle behind ownership. The Negotiating Committee, in its document laid before the Minister, suggested that the method of remuneration should be in the Act, thus: "It is the Committee's view that, except where special circumstances justify it, the remuneration of general practitioners should be by capitation payment in proportion to the number of persons on a doctor's list and that this principle, which it regards as fundamental, should be embodied in the Act." Summarizing this in the leading article of Feb. 7, we suggested that if this were done it "might offer an alternative safeguard" (our italics). It would certainly make it impossible for any Minister to introduce overnight a whole-time salaried service. An amendment to the present Act as suggested by the Negotiating Committee would make statutorily secure the Minister's assurance. If general practitioners were thus safeguarded against the arbitrary introduction of a whole-time salaried service it would be of value, as we indicated; but it is to be doubted whether practitioners would regard this as affording as strong a safeguard as personal ownership of goodwill.

THE FUTURE OF THE KING'S FUND

Like many other organizations connected with hospitals. King Edward's Hospital Fund for London is closing a chapter in its history and opening a new one. A recent meeting of the General Council, presided over by the Duke of Gloucester, was probably the last at which the annual distribution of grants will be made on traditional lines. A few months hence the financial responsibility for hospitals will be transferred to the State, and the activities of

the Fund, so far as they have been directed to the maintenance of hospitals, will take a different pattern. "Henceforward," said the Duke of Gloucester, "the Fund will be able to help the hospitals in ways which lie outside the scope of routine expenditure. It is a great opportunity and a great responsibility."

For fifty years the Fund has maintained its ordinary distribution; it has assisted in the building of new hospitals, and has sustained several of the great teaching hospitals through periods of crisis. When the National Health Service Bill was considered in Standing Committee Mr. Bevan was questioned about the future of the Fund. He strongly denied any intention to seize the Fund and disburse its income, and when he was further asked whether each hospital receiving a grant from the Fund would be able to use it as a kind of pocket-money over and above the State provision, he said he would be loth to believe that those responsible for the Fund were going to use it in that way, and added, "There will be many other purposes for which the Fund can be used." At the meeting of the General Council Sir Edward Peacock, the treasurer, stated that it is already evident that the help which the Fund can give to the hospitals when they have passed under public control may be even more important than hitherto, that the Fund is feeling its way cautiously in this new territory, and that already several services were in being.

The Fund, of course, has never been a mere distributor of largesse. It has led the way in a number of important hospital matters such as the financing of training schemes for administrators, hospital caterers, and domestic supervisors, the assistance of group preliminary training schemes for nurses, and the augmentation of the efforts of individual hospitals in nursing recruitment. Various plans are now under consideration for helping Regional Boards over the transitional period by means of the Emergency Bed Service which the Fund sponsored. All these, as Sir Wilson Jameson said on the same occasion, are pointers to future possibilities. It is certainly a fortunate circumstance that in this time of change an organization independent of the Government and outside all the new administrative machinery which is being fashioned, a body, moreover, possessed of ample resources—the Fund's ordinary income to almost half its extent is derived from investments—and with an unrivalled experience of voluntary hospitals and their difficulties, should be available and ready with its help.

The grants distributed by the Fund to about 150 hospitals in the London regions in 1947 amount to £300,000, ranging from sums of over £10,000 to four large hospitals down to £25 or £50 to cottage hospitals or quite small institutions. About a quarter of a million of the distribution is for maintenance: some £26,000 is for schemes of capital expenditure, such as the provision or completion of a nurses' home or the purchase of x-ray apparatus or hospital furniture, and a further £20,000 is allocated to convalescent homes not attached to hospitals. A year ago a Convalescent Homes Committee was appointed under the chairmanship of Sir Henry Tidy to look into the position with regard to these homes, which it found to be very indefinite. No list of such homes existed, and information

was difficult to obtain. The first task of the committee was to prepare a directory, and details of 150 homes have been obtained. But much more has been done than a mere compilation of particulars. Arrangements were made for the visiting of all homes serving the London regions, most of them on the coast from Bournemouth to Felixstowe, and information was obtained as to their needs. Not only has financial help been given, but much useful advice also by experts on dietetics and on more general questions working under the Fund's auspices.

It was reported to the General Council that the income of the Fund is being well maintained. Subscriptions and donations are slightly down on the year, but the amount received from legacies has risen considerably; and as for the individual hospitals themselves, the income has been remarkably steady, notwithstanding the shadow of impending change. Evidently it takes more than a great State merger operation to repress the sentiment awakened by hospitals among the British people and the desire to express that sentiment by gifts. The new Act leaves the way open for the public to continue to subscribe to the hospitals, and the Fund appears to be confident that the flow of voluntary gifts will continue. It is understood that the method of applying a gift for the benefit of a hospital will be in the discretion of its management committee, but presumably it will not be included in its normal maintenance budget. Dealing with this point in his address to the General Council, the Duke of Gloucester said: "The value of this additional money will lie in the power it will give hospital committees to do many things that they would not otherwise be able to do within the limits of a strict budget; but much more than that, it will help to give the committees a sense of real responsibility."

NUTRITIVE VALUE OF MEAT EXTRACT

Meat extracts were first prepared by Liebig, more famous as the father of organic chemistry, about the middle of last century. When they were produced commercially their attractive taste and their property of stimulating appetite and digestion soon earned them a high place in public favour. These virtues have never been seriously questioned, and in recent years controlled experiments have been made to measure the ability of the extracts to increase gastric secretion and the tone of the gastric muscle.¹ The claim that meat extracts improve stamina and muscular performance was less generally accepted, except by military hygienists. Early dietitians, indeed, found that they were poor sources of proteins, carbohydrates, and fats, the only types of nutrients then recognized, and therefore pronounced that they had little value as food. The discovery of vitamins at first did nothing to improve their reputation, as the vitamins A, B, C, and D—the first to be recognized—were absent, or present only in negligible amounts.

As a result of Stern and Silway's modern research on the vitamin B₁ content of meat extracts, meat extracts in a more favourable position. Because all the vitamins in this complex extract are contained in one part of extract represents the vitamins A, B, C, and D—the first to be recognized—were absent, or present only in negligible amounts.

in so far as vitamin B₁ is concerned, since the small amounts which are present in the meat disappear during the process of extraction. Nicotinic acid, on the other hand, is highly concentrated, beef extracts containing 1.0–1.2 mg. per g. as against 0.024–0.102 mg. in the original meat. Riboflavin is concentrated in about the same ratio. These values imply that 10 g. of meat extract daily, or about 2–3 breakfast-cups of beverage, would meet the needs of an adult for nicotinic acid. As much as 30–40 g. of extract, however, would be necessary to provide the required quantity of riboflavin.

It may be asked whether these considerable amounts of vitamins are wholly or in part responsible for the value of the extracts as stimulants. There is little doubt that their ability to increase appetite is due to their high content of "meat bases," such as carnosine, anserine, adenosine, creatine, etc. Frankau³ has described experiments in which a diet rich in nicotinic acid was found to improve muscular performance and stamina and increase efficiency when severe tests involving both physical effort and co-ordination were undertaken. Such an important finding obviously requires confirmation and correct interpretation before receiving general acceptance, but it is at least possible that the views of the early military hygienists will at last be supported by some scientific justification.

AGENE-TREATED FLOUR

The discovery by Sir Edward Mellanby¹ that flour "improved" by the agene process, involving treatment with nitrogen trichloride, produced canine hysteria when given as food to dogs had important biochemical implications apart from its possible significance in relation to public health. The obvious questions were, first, Is the effect due to a toxic substance or to the impairment or inhibition of a vitamin? and, secondly, If a toxic substance is responsible, what is its nature? The first question was answered independently by Sir Edward Mellanby² and by Dr. T. Moran,³ the most clear-cut evidence being provided by the latter's demonstration that flour treated with greater concentrations of nitrogen trichloride than in commercial practice can produce hysteria in dogs within twenty-four hours. This is clearly inconsistent with any explanation in terms of deficiency disease. Towards an answer to the second question little direct progress has yet been reported. Moran and his collaborators,⁴ however, have described a possible mechanism by which the still unknown toxic substance is produced. Not only the gluten fraction of flour but also casein, the zein complex of maize, egg albumen, haemoglobin, "and probably many other proteins" are also capable, when similarly treated, of giving rise to canine hysteria with the same symptoms that Mellanby earlier described. By supposition therefore the same toxic substance can be formed from these proteins also. On the other hand, negative results were obtained with arachine, isolated from peanuts, and keratine; while in the case of gelatin the effect was slight compared with that of the other proteins mentioned previously. This suggested a comparison of the compositions, in terms of amino-acids, of these two groups of proteins, and the result indicated that methionine plays a key part in the mechanism. Arachine, gelatin, and keratine each contain only about 0.5% of this amino-acid, whereas those proteins which seem to be connected with the toxic substance contain at least 2%. This interpretation is further supported by the fact that from defatted and agene-treated peanut meal it is possible

¹ *British Medical Journal*, 1946, 2, 935.

² *Ibid.*, 1947, 2, 294.

³ *Lancet*, 1947, 2, 293.

⁴ *Proceedings of the Nutrition Society*, 1946, 191, 125.

to separate two fractions—the first arachine, which as already stated is non-active, and the second a water-soluble protein which has an appreciable methionine content and, when thus treated, causes hysteria in dogs.

Two different experiments, however, provide evidence that the reaction is not limited to nitrogen trichloride and methionine. The first showed that casein, when treated as a complete protein, produces the toxic substance; but if first broken down by hydrolysis into its constituent amino-acids and then treated with nitrogen trichloride it has no harmful effect. The second experiment was concerned with methionine when separated from other amino-acids. This substance, mixed with starch at 14% moisture as a "filler," was found to be unique in its capacity to react with nitrogen trichloride and in fact took up one-third of its own weight. However, if the reaction was allowed to proceed to saturation the resulting product caused no toxic symptoms in dogs, while the symptoms produced by the same mixture at half saturation were a temporary paralysis of the legs which passed off within a few hours and was clearly distinguishable from hysteria. Both these experiments suggest that more than one amino-acid is involved in the production of the toxic substance which causes canine hysteria, but the second tends to confirm the supposition that methionine is the most important.

On the practical side the assurance has been given that other chemical "improvers" of flour—such as chlorine, chlorine dioxide, potassium bromate, and ammonium persulphate—produce no abnormal symptoms in dogs even when used in amounts twelve times the usual and administration is continued over periods as long as twelve weeks. Since nitrogen trichloride has now been incriminated when used to "improve" flour it should also be regarded with suspicion if used in the manufacture of any food. There seem, indeed, to be few proteins on which it does not act to produce substances which are toxic to dogs, and in the present state of knowledge it would be unwise to assume that man would be unaffected by such substances.

THE AETIOLOGY OF ANKYLOSING SPONDYLITIS

Although rheumatoid arthritis and ankylosing spondylitis possess many features in common the striking difference in the sex distribution indicates that their aetiology and pathology are different. Because ankylosing spondylitis occurs usually in young males the possibility of a prostatic focus being the cause has been considered, but no definite support for this was found, and investigation of the phosphatases, both acid and alkaline, has yielded indefinite results. The probability that the sex glands have an influence in both diseases cannot, however, be ignored and demands further investigation. Sjövall¹ concluded that 21% of women under 40 with rheumatoid arthritis suffered from ovarian insufficiency. On the other hand the young robust males attacked by ankylosing spondylitis often provide evidence of considerable sexual activity.² The influence of the sex glands on bone metabolism has been frequently demonstrated, and the association of osteoporosis with re-deposition of calcium in adjacent tissues is suggestive of the part these organs may play in the aetiology of spondylitis.

Davison, Koets, and Kuzell³ have recently studied the excretion of the 17-ketosteroids in both rheumatoid arthritis and ankylosing spondylitis, and they report marked differences between the two diseases. The 17-ketosteroids are a group of compounds forming the metabolic end-products of steroids originating in the adrenal cortex of the female and

in the adrenal cortex and the gonads of the male. The excretion of these substances in the urine was found to be increased in ankylosing spondylitis. In a series of 13 cases with characteristic x-ray changes in the spine but without any changes in the small joints of the extremities the amount excreted averaged 27.3 mg. in 24 hours compared with an average of 14 mg. in the normal healthy males. In 11 females with typical rheumatoid arthritis chiefly affecting the joints of the extremities it was found to average 12.8 mg. compared with an average of 10 mg. for normal females.

These findings support the view that the sex glands may be connected with the cause of ankylosing spondylitis and in addition provide confirmation that the disease is not simply a form of rheumatoid arthritis. The research is being continued, and it is to be hoped that other workers will repeat these investigations in order that the facts may be verified and further light shed on both diseases.

REGENERATION OF FASCIA LATA

Tissue regeneration after injury or operation is an interesting subject. The possibilities of bone reconstruction have been fully used by orthopaedic surgeons. The whole success of peripheral nerve surgery depends on nerve regeneration. Sometimes when regeneration of tissues is claimed the process is merely one of replacement by scar tissue, as is seen, for example, in the formation of disk-like structures after the removal of the menisci from the knee. There is obviously some practical importance in knowing what happens after the removal of fascia lata from the thigh in the process of carrying out surgical repair elsewhere, as is done by the methods of Gallie. Not only have many surgeons been concerned about muscle herniation but there is also the possibility that more fascia might be required from the same site at a later date. Does fascia lata regenerate sufficiently to close the gaps and is regeneration complete enough to permit the removal of further material later on?

Foshee¹ has endeavoured to answer these questions. His results are most interesting and are illustrated by excellent photomicrographs. In experiments with dogs, regenerated fascia lata was studied at different stages from the fourteenth to the ninety-seventh day after the original removal. Normal fascia is composed of three layers—inner and outer fibres with a middle longitudinal layer. The inner and outer transverse layers always regenerate satisfactorily, but no regeneration of the middle longitudinal fibres takes place. On the other hand, in the regenerated fascia the inner and outer layers hypertrophy to compensate for the lack of vertical fibre formation.

In another paper Foshee² reports his observations upon material removed from five patients, and it is apparent that human fascia lata behaves in precisely the same way. The transverse fibres do not always run at right angles to the longitudinal fibres, but the regeneration of the transverse inner and outer layers is so rapid and complete that it is never necessary to suture the gap in the fascia lata from which a transplant has been taken. Herniation does not occur. The more active the individual the thicker will be the regenerated fascia, and in six months to one year afterwards it will be sufficiently strong to be used successfully in certain surgical procedures in which ordinarily normal fascia lata is desired but lacking. In the human material it was clear that the regenerated fascial layers are direct extensions from normal fascial edges across the gap, but the noticeable density of the inner as compared with the outer layer suggested that the presence of the underlying muscle is of importance to the success of the regeneration.

¹ *Acta med. scand.*, 1944, 117, 69.

² Buckley, C. W., *Ann. rheum. Dis.*, 1945, 5, 49.

³ *J. clin. Endocrinol.*, 1947, 7, 201.

¹ *Surgery*, 1947, 21, 800.

² *Ibid.*, 1947, 21, 819.

PLEBISCITE ON THE NATIONAL HEALTH SERVICE ACT

Summary and analysis of replies received up to and including 16, February, 1948

TABLE I

(1)	(2)	(3)						(4)		Classification No.	
Reference to Plebiscite Form	Classification of professional work	Registered medical practitioners either resident in Great Britain or serving in H.M. Forces at home or overseas (55,842 plebiscite forms issued)									Medical practitioners with foreign qualifications resident in Great Britain who are for the time being registered by the General Medical Council (1,233 plebiscite forms issued)
		England and Wales		Scotland		Total Great Britain					
		Approve	Dis-approve	Approve	Dis-approve	Approve	Dis-approve	Approve	Dis-approve		
A	1a. Consultant or specialist, not holding whole-time salaried post	228	3,655	41	432	269	4,087	4	12	1a	
	1b. Consultant or specialist, holding whole-time salaried post	339	1,132	73	176	412	1,308	3	4	1b	
	2. General practitioner, principal ..	1,207	13,614	206	1,689	1,413	15,303	4	5	2	
	3. General practitioner, assistant ..	251	1,958	55	365	306	2,323	25	57	3	
	4. Whole-time voluntary hospital ..	393	2,928	74	497	467	3,425	7	5	4	
	5. Whole-time local authority general hospital	200	1,052	17	119	217	1,171	4	4	5	
	6. Whole-time local authority special hospital	147	657	27	156	174	813	13	11	6	
	7. Whole-time public health service ..	277	1,683	39	245	316	1,928	9	5	7	
	8. Whole-time Government service ..	101	519	26	115	127	634	2	3	8	
	9. Whole-time teacher	95	313	15	111	110	424	1	2	9	
	10. Whole-time research	92	182	12	38	104	220	2	7	10	
	11. Other whole-time non-Government post	46	354	7	59	53	413	—	3	11	
	12. Medically qualified dental surgeon	9	246	3	61	12	307	3	4	12	
	13. Retired	148	3,355	28	524	176	3,879	1	—	13	
	14. Unclassified	266	1,946	57	353	323	2,299	15	16	14	
	15. Services, permanent commission ..					47	779	1	1	15	
	16. Services, temporary commission, specialist					31	169	5	3	16	
	17. Services, temporary commission, graded specialist					41	268	1	1	17	
18. Services, temporary commission, general duty officer					137	1,064	17	5	18		
Totals		3,799	33,594	680	4,940	4,735	40,814	117	148		

TABLE II

B		In Favour	Not in Favour	In Favour	Not in Favour	In Favour	Not in Favour	In Favour	Not in Favour	
"I AM IN FAVOUR of accepting service under the Act in its present form"	1a. Consultant or specialist, not holding whole-time salaried post	340	3,571	66	404	406	3,975	6	11	1a
	1b. Consultant or specialist, holding whole-time salaried post	473	946	92	148	565	1,094	3	3	1b
	2. General practitioner, principal	1,784	13,204	301	1,610	2,085	14,814	2	4	2
	3. General practitioner, assistant ..	344	1,870	71	353	415	2,223	26	49	3
"I AM NOT IN FAVOUR of accepting service under the Act in its present form"	4. Whole-time voluntary hospital ..	522	2,767	91	467	613	3,234	7	5	4
	Totals	3,463	22,358	621	2,982	4,084	25,340	44	72	

TABLE III

C		Do Not Agree	Agree	Do Not Agree	Agree	Do Not Agree	Agree	Do Not Agree	Agree	
"I AGREE to abide by the decision of the majority and undertake not to enter the service if the answers to part B reveal a majority against undertaking service as defined in para 4 of preamble and it is approved by the British Medical Association"	1a. Consultant or specialist, not holding whole-time salaried post	406	3,406	67	387	473	3,793	3	12	1a
	1b. Consultant or specialist, holding whole-time salaried post	518	808	97	137	615	945	1	5	1b
	2. General practitioner, principal	1,887	12,671	351	1,506	2,238	14,177	1	7	2
	3. General practitioner, assistant ..	369	1,778	83	326	452	2,104	12	59	3
"I DO NOT AGREE to abide by the decision of the majority if it is against accepting service as defined in para 4 of preamble"	4. Whole-time voluntary hospital ..	600	2,611	116	436	716	3,047	5	7	4
	Totals	3,780	21,274	714	2,792	4,494	24,066	22	90	

The work carried out by staff of the British Medical Association for the purpose of obtaining a plebiscite of the medical profession on the National Health Service Act in column (1) of the above Tables was directed and supervised by our representatives continuously from its inception on 12 January until 17 February, 1948. The completed plebiscite forms received during that period were examined only by our representatives and by staff of the Association working under our supervision and under pledge of secrecy and were retained under our control from the time of their receipt at B.M.A. House until their destruction in the presence of our representative on 17 February, 1948.

Approved and forwarded by appropriate tests

Representatives of the medical profession were taken to furnish a plebiscite form to every registered medical practitioner either resident in Great Britain or serving in H.M. Forces at home or overseas and to every medical practitioner with foreign qualifications resident in Great Britain who was for the time being registered by the General Medical Council;

The figures given in the above Tables I, II, and III are a correct summary and analysis of the replies received up to and including the second post on Monday, 16, February, 1948.

PLEBISCITE RESULTS, FEBRUARY, 1948

SOME IMPORTANT PERCENTAGES

All percentages are calculated to the nearest whole number. 51,042 Plebiscite Forms were sent to practitioners other than those serving in H.M. Forces. The distribution of practitioners as between England and Wales* and Scotland* is based on figures obtained from B.M.A. records.

			Question	Total Voting	Percentage Approving the Act	Percentage Disapproving	Not Voting	Of those who Voted	
								Approving	Disapproving
All civilian categories	Great Britain	A	84%	9%	75%	16%	10%	90%	
	England and Wales*	A	85%	9%	76%	15%	10%	90%	
	Scotland*	A	79%	10%	69%	21%	12%	88%	

	Question	Of those who Voted	
		(A) Approving (B) In Favour (C) Not Agreeing	(A) Disapproving (B) Not in Favour (C) Agreeing
Group 1 A. Consultant or specialist not holding whole-time salaried post	A	6%	94%
	B	9%	91%
	C	11%	89%
Group 1 B. Consultant or specialist holding whole-time salaried post	A	24%	76%
	B	34%	66%
	C	35%	61%
Group 2. General practitioner principal	A	8%	92%
	B	12%	88%
	C	14%	86%
Group 3. General practitioner assistant	A	12%	88%
	B	16%	84%
	C	18%	82%
Group 4. Whole-time voluntary hospital†	A	12%	88%
	B	16%	84%
	C	19%	81%

† Excluding those of specialist status (covered by Group 1 B) but including practitioners holding B1, B2, and A appointments and Class I and Class III appointments under the Government's postgraduate scheme for ex-Service practitioners.

BLOOD TRANSFUSION SERVICE FOR LONDON HOSPITALS

One of the important peacetime activities of the British Red Cross Society is the Greater London Blood Transfusion Service. An organization for the recruitment of voluntary blood donors for the service of patients in London hospitals was started as far back as 1921. It began with a telephone call from King's College Hospital to the Camberwell branch of the British Red Cross Society asking urgently for a donor. The secretary of the branch, the late Mr. P. L. Oliver, assembled his office staff and they all went to the hospital, where one of them was chosen for the immediate purpose. The transfusion was successful, and the patient's life was saved. Mr. Oliver then formed a company of men and women who agreed to have their blood tested and grouped and to stand by for a call from any hospital at any time. The service extended, and in 1926 was taken over by the B.R.C.S. as one of its own activities. By the outbreak of war in 1939 the service, with its experience of over 50,000 transfusions, proved of great help to the authorities in meeting the problem of expected war casualties.

After the war the management of the service was transferred from the Red Cross headquarters to a committee set up by the City and County of London branches of the Society, and a year later other county branches in the metropolitan area took a share in the management, so that now the Greater London Blood Transfusion Service covers London and five adjoining counties and serves fifty or more hospitals. The service is responsible for the supply of donors where it is essential that freshly drawn blood should be used. Every call is for a definite patient (there is no blood bank), and therefore the importance and urgency of the demand is brought home to the donor. The number of calls rose as the service became

known; it was 1,095 in 1945, 1,863 in 1946, and 2,436 in 1947. In January, 1948, the number of calls was 273. The highest number received on any one day was 27.

All newly enrolled donors undergo a simple medical examination and their blood is tested and grouped by the medical officer to the Service, Dr. H. F. Brewer, at the Pathological Department, St. Bartholomew's Hospital. The Service is in a position not only to supply Rh-negative and Rh-positive donors of A, B, AB, and O groups, but also donors of any of the rare Rh sub-groups for both transfusion and research purposes. No maximum of donations is fixed for any one donor. More than half of those on the active panel have given blood over ten times, and more than a quarter have served over twenty times. One donor has served over one hundred times, and the seventieth birthday of another was celebrated by the seventieth transfusion, though it should be added that 65 is the usual age limit. The minimum period between donations is three months for men and four months for women, so that the maximum is four or three transfusions a year. In only two cases out of 60,000 has the service been made aware of a donor having suffered in health, even temporarily, from withdrawal of blood. All donors, however, are insured against ill-effects, and are examined after ten transfusions or multiples of ten.

It seemed interesting to inquire what is the bond which holds the thousand and more donors together. They are not paid for their service, only reimbursed for their expenses, and the calls must often be made at times which involve sacrifice. A high standard of discipline is exacted, and donors are expected to conform to Red Cross traditions. The secretary of the service, the Hon. Mrs. Kathleen Howie, stated that in her opinion the more important of the two factors which held the band of donors together was that each of them, after giving his or her blood, received a form describing the nature

of the disease or injury for which the transfusion was given (but not giving the patient's name), the amount of blood drawn, and the result of the transfusion so far as could be ascertained. The other factor is that donors receive a certificate with appropriate seals for the transfusions they have given. A considerable number have been awarded the silver bar for 50 transfusions. Another feature of the service is that a report is expected from the hospital or from the doctor giving the reason for and the result of the transfusion—the result not to be confined to such words as "satisfactory" or "good"—and in particular mentioning any untoward reaction which might possibly be attributable to the transfusion and of which the medical officer to the service should be informed. The headquarters of the service are at 10, Collingham Road, Earl's Court, S.W.5, and the telephone number, day and night, is Prohisher 6477-8.

NATIONAL INSURANCE PAYMENTS AND BENEFITS

The Government has recently made Orders-in-Council making July 5 the appointed day for the National Health Service Act, 1946, and the Scotland Act, the National Insurance Act, 1946, and the National Insurance (Industrial Injuries) Act, 1946. Many medical men have wondered what the relation between these Acts is and what insurance contributions, if any, they must pay. We therefore outline below some points of interest to the medical man.

The present National Health Insurance scheme is contributory—that is, people pay weekly contributions in order to qualify for medical treatment from their panel practitioner. After July 5 it is proposed that the National Health Service shall be free to every man, woman, and child in the country without the necessity of paying insurance contributions. The National Health Service is, therefore, not a contributory scheme, but it is financed in small part from insurance contributions paid under the National Insurance Act. For each National Insurance contribution paid by a man over the age of 18, 10d. will be transferred to the fund required to finance the National Health Service; for each woman over 18 the sum is 8d., and for boys and girls under 18 it is 6d. It is estimated that these sums will provide about £32,000,000 towards the cost of running the National Health Service, which is £152,000,000 a year. This is a matter of Governmental book-keeping, and the Health Service remains available to all without payment, even, for example, to a person who has failed to pay his insurance contribution.

Contributors

For the purposes of the National Insurance Act the contributors are classified into three main categories: (1) employed persons (these are people gainfully employed under a contract of service); (2) self-employed persons (these are people who derive a living without being employed by some other person or body); (3) non-employed persons (that is, people who are neither employed nor self-employed). The people who come into these categories constitute rather less than half the population of Britain. Not included are wives, children under 16 or those who continue to receive full-time education after that age, and people with an income of less than £104 a year.

general practitioners being the local executive council and that of the consultants and specialists being either the regional hospital board or the board of governors of a teaching hospital. If a general practitioner has a small practice in the National Health Service and a large private practice he will presumably still be regarded as an employed person. Medical men who employ a secretary or a maid will pay the employers' weekly contribution, and the secretary or maid will of course pay the employee's. People who come into the second category (self-employed); such as doctors in private practice, pay weekly contributions at the following rates: men, 6s. 2d.; women, 5s. 1d.; boys under 18 who are not receiving full-time education, 3s. 7d.; and girls, 3s. 1d. Non-employed people whose income exceeds £104 a year pay at the following rates: men, 4s. 8d.; women, 3s. 8d.; boys, 2s. 9d.; and girls, 2s. 3d. Contributions will not have to be paid during periods of sickness or unemployment.

Benefits

The benefits available to contributors include unemployment and sickness benefits, retirement pension, widows' benefits, maternity grants and allowances, and death grants. Only employed people (Category 1) are entitled to unemployment benefit; non-employed people (Category 3) are entitled neither to sickness nor to unemployment benefits. Self-employed people (Category 2) may receive sickness benefits but not unemployment benefits.

Insured people must have paid in a certain number of contributions (which vary for different benefits) if they are to receive the benefits. For unemployment and sickness benefits at least 26 contributions must have been paid since that person became insured, and 50 contributions must have been paid or credited during the preceding contribution year. The contribution year runs from the beginning of July to the end of June the following year; the benefit year runs from January to December. Contributions are said to be credited when the insured person is exempt from paying them—for example, during unemployment or sickness. To qualify for the retirement pension at least 156 contributions must have been paid, with a yearly average of paid or credited contributions of 50; but people insured for the first time under the Act must complete 10 years' insurance to qualify for a pension. For a death grant to be payable the contributor must have made at least 26 payments and have either had 45 paid (or credited) contributions during the previous contribution year, or had a yearly average of 45 paid (or credited) contributions.

The unemployment, sickness, and retirement benefits amount to 26s. a week for the insured person, with additional allowances of 16s. for a wife and 7s. 6d. for the first child. Unemployment benefit is payable for 180 days, though more payments may be made if the person's contribution record is good or on the recommendation of a local tribunal. The insured person may requalify for benefit by returning to work and paying contributions for 13 weeks or more. People who have paid the minimum number of contributions required for sickness benefit will be entitled to receive that benefit for a year and they will requalify for the benefit by returning to work and paying 13 weeks' contributions. However, contributors who have made 156 payments will receive sickness benefit for as long as the sickness lasts, even if it exceeds a year.

The benefits for maternity, for which contributions must have been paid by either the mother or her husband, are of two kinds: a grant of £4 on the birth of a child, or of £8 for twins, or £12 for triplets, and either a maternity allowance or an attendance allowance. The maternity allowance is 36s. a week for 13 weeks, beginning 6 weeks before the week in which confinement is expected. The attendance allowance is £1 a week for four weeks after confinement and is payable only to women whose contributions (or those of her husband) are not sufficient to qualify for a maternity allowance. The death grants are intended to meet funeral expenses of the husband, wife, widower, widow, and children. They are as follows: for a person over 18, £20; for children aged 6 to 18, £15; for those aged 3 to 6, £10; and for those under 3, £5. The grant will be paid to the insured person or, on the death of the insured person, to the person responsible for the funeral expenses.

Since people insured for the first time under the new Act must complete 10 years' insurance in order to qualify for a retirement pension, they may, after reaching pensionable age before completing that qualification, elect to do one of two things: (1) continue contributions until a period of 10 years is completed, or (2) reclaim with interest part of the contributions allocated to retirement pension and waive further claim. People who do not qualify for a contributory pension can apply for a non-contributory pension when they reach the age of 70, subject to certain conditions including a means test.

The insurance officer will decide claims for benefit, and the claimant may appeal to a local appeal tribunal. In certain circumstances the appeal may be continued to the National Insurance Commissioner, whose decision is final.

Some of the conditions outlined above depend upon regulations yet to be laid before Parliament. We understand that the Ministry of National Insurance will issue a booklet to the public during May giving a full description of the National Insurance schemes.

THE DOCTOR IN THE MAGISTRATE'S COURT

Another of the series of lectures on medico-legal subjects arranged by the Metropolitan Counties Branch for the benefit of senior students and newly qualified practitioners was delivered in the Great Hall of the Association's House on Feb. 3 by Mr. Claud Mullins, former metropolitan magistrate at the South-Western Court. Dr. H. Guy Dain, Chairman of Council of the British Medical Association, presided.

Mr. Claud Mullins said that when he first became a magistrate he was as cocksure as any of his legal brethren, but it took him only a few weeks to realize how much he needed the help of the medical profession. It was the sexual offenders first of all who compelled him to seek the advice of doctors. He could not understand why they did what they did, nor did he know what action he could take to prevent them from doing it again. Sir William Clarke Hall referred him to the Tavistock Clinic (the Institute of Medical Psychology), whose medical director, Dr. J. R. Rees, undertook to see such cases as he thought could be helped in that way. Some years before the war an inquiry was undertaken by the Prison Commission concerning the possibility of treating offenders of this type in prison. The report was rather a depressing one, especially with regard to the exhibitionist group, and was contrary to his own experience, which was that if an offender would go to a psychiatrist for treatment, and would stick to the treatment, he would improve. The failures were among those who would not go or, having gone once or twice, would not continue.

In the Criminal Justice Bill as introduced into Parliament just before the war there was a clause under which courts, through their probation machinery, could pay for doctor's treatment, but this clause did not reappear in the present Bill. A heavy blow would be struck at the use of psychiatry in dealing with offenders if the necessary treatment was required to be taken at mental hospitals, places dreaded by the rather primitive people concerned. Part of the success attending the treatment of the sexual delinquent was attributable to the private nature of the treatment; it was a great advantage if it could take place in the doctor's consulting room.

As a police magistrate he had often found doctors very useful in marriage cases. In many cases the real trouble between husband and wife was a complete inability on the husband's part to understand sexual manners. The man had never learned the elementary fact that there were times when a woman might not want sexual intercourse, and the result was frustration on the one hand and an unnecessary frigidity on the other. Magistrates felt that they were not the right people to teach sexual manners and that the services of a doctor could with advantage be offered. He obtained through the British Social Hygiene Council the names of doctors willing to undertake this task, and he found that if a couple could be persuaded to go to such a doctor concerning their matrimonial difficulties it almost always resulted in a reconciliation. He was rather proud of the number of cases which he had turned over to a doctor and which had been successfully resolved.

Inadequacy of the Law

All those who sat in judgment on offenders against the law were either lawyers or lay magistrates; on their decisions the fate of a criminal depended. Mr. Mullins thought the time was coming when the public would realize that for a good deal of crime a fair trial and a sentence according to law was not enough. Lawyers and lay magistrates were not always the best people to decide on the course to be taken with an offender, and it was by no means only in sexual cases that psychiatry might be needed. At all times there were in prison men, and women too, who could have been made into decent citizens if only when the case was heard someone had been present to point out to the judge, the recorder, or the magistrate what course was likely to be most successful in putting them right. He believed that at some future date crime might be divided into two classes, medical and non-medical. The law was inadequate to deal with some types of crime. Before sentence was passed in these cases there should be provision for social investigation by probation officers and for medical investigation by doctors. He wanted to see doctors take at least as important a place in court as the officers already there. He wanted them to come in, so to speak, in the province of the sentence.

In some discussion following the address the question of doctors called in by one side and giving partisan evidence was raised. Mr. Mullins said that it was certainly an undesirable position when the doctor was called in by one side or the other, exposing him to the criticism that he was weighting his evidence in favour of the side which had called him in. The more desirable arrangement would be a medical panel available to the court. Doctors from this panel would in certain cases give their opinion previous to the trial, and if they decided that the man was of unsound mind the trial would not proceed. It was perfect nonsense to submit evidence of insanity to a jury.

Asked whether there was likely to be any change in the McNaghten "rules," Mr. Mullins said that these "rules" had caused great controversy. Before the war a committee recommended that irresistible impulse should be regarded as an excuse within the McNaghten rules; he was against this because it could be pleaded by criminals to cover many crimes. What he wanted to see was an alteration of the procedural law; he wanted a classification of degrees in murder, proper medical investigation of cases beforehand, and, if there was a conviction, more cases to be sent for medical investigation and treatment.

L.C.C. PUBLIC HEALTH DEPARTMENT

Structure under National Health Service

The new structure of the Public Health Department of the London County Council, to enable it to fulfil its functions under the National Health Service Act, Sections 21-9 and 51, has now been determined. On the appointed day the council ceases to administer its hospital services and becomes responsible as local health authority for London for the personal health services defined in Part III of the Act. It has already submitted proposals to the Minister for the administration of the majority of these services—care of mothers and young children, health visiting, home nursing, prevention of illness, and care and after-care, vaccination and immunization, and duties under the Lunacy and Mental Treatment Acts and the Mental Deficiency Acts. The midwives' service scheme is already administered by the Council. Proposals have not yet been submitted for the health centre service. The Council will, of course, continue to administer through the public health department certain services, as, for example, the school medical service, which devolve upon it under other legislation.

New Medical Staff

Heavy responsibilities will fall on the medical officer of health for the county in providing the link between all sections of the National Health Service, and therefore it is proposed that the position of deputy medical officer of health,

Correspondence

The Plebiscite

SIR,—I have read and reread the Plebiscite Form. I am in a quandary. How do I reply to Question C? I shall answer Questions A and B in the negative. As I am not willing to sell my practice to the Minister of Health, nor to any other person who would not be personally interested in it—nor do I approve of the salary element—I cannot agree or disagree with "the majority."

My wife and I have discussed our probable financial position should the Act come into force, and as individualists we are prepared to stand on our own feet even though the profession sells itself to the State: and we are well aware that it may be equivalent to financial suicide. We are prepared to take the risk—and the risk to the higher education of our children—because we are both convinced that the fundamentals of the Act are morally wrong. It is another example of the State supporting the individual, whereas the individual should support the State. To us "social security" is the antithesis of incentive and reduces the speed of every hare to that of tortoises. A pension in lieu of full salary (in the doctors' case salary plus capitation fee at present) is not our idea of a sound moral training. Is the individual so weak-minded or imprudent that he cannot be expected (or permitted) to save for himself? I am open to further arguments regarding the sale of my practice to the Minister of Health; but, until I am convinced that having sold to him he cannot force me into a salaried service, I shall retain my capital in my own hands and take the risk of it depreciating to nil should the vote be in favour of accepting service under the Act in its present form.

To my mind a National Health Service should and can be born, and soon. I want to take part in an N.H.S., but not to the detriment of my self-respect. I hope that every medical man, both those qualified and those preparing to qualify to practise, will read again and again the article by Colm Brogan (*B.M.J.*, Jan. 31, p. 209) and take it to heart. It will be cowardice that sells the soul of medicine to the State. What shall it profit a man if he gains the whole world and loses his own soul?

Am I, Sir, justified in answering Question C of the plebiscite in the affirmative, since I do not wish to be released from my undertaking in answering Question B in the negative?—I am, etc.,

London, N.19.

C. H. JOHNSON.

Attack Now

SIR,—Like myself there must be a large number of doctors who, although wholeheartedly against Mr. Bevan's Act, are afraid that they will lose their life-savings, as represented by the compensation, if they fail to sign on the appointed day. Letters in the *B.M.J.* and conversations with other doctors show that this fear has not been entirely allayed by the assurance of the B.M.A. If we wait until July 5 before taking any action we have to fight: (1) without our N.H.I. cheques, because existing contracts will be cancelled on that date, and (2) without the fees of a large number of our present private patients, either because they will be quite genuinely unable to afford both private and public service—this latter being of course compulsory—or because they are unwilling to do so; and we run the risk of losing our compensation—in my case some thousands of pounds I hope. I would suggest, Sir, that if the plebiscite result justifies it, as it gives every indication of doing, we should attack now by resigning from the N.H.I. on April 1. The resulting confusion would soon force Mr. Bevan into a more reasonable frame of mind, as it did in the matter of the capitation fee, and (this is the main point of my suggestion) would give us the advantage of the three remaining months of our existing private practice before the date to sign or not to sign.

Common sense tells me that Mr. Bevan could not hold out against such a state of affairs for twelve weeks, and that by the appointed day we should have won the battle and there would be no fear of not being able to sign on July 5 and so risk losing our compensation. Finally, Sir, it is my opinion that the fear

of loss of compensation is the strongest card in Mr. Bevan's hand and that it will become stronger as the date approaches. Parliament will, I am sure, endorse Mr. Bevan's policy this week, and, however big a majority of "Noes" the plebiscite may reveal, the position will remain the same. Therefore, I suggest, do not wait until July 5 but attack now.—I am, etc.,

Nantwich.

K. KNOWLES.

Buying and Selling

SIR,—Is clarification of our ideas and emotions really helped forward by dismissing as "nonsense" views which do not secure your agreement? The comparison between dealing in practices in a nationalized health service and dealing in commissions in the Army is not wholly invalid inasmuch as in both cases one buys a right to an income from public funds. The newly qualified doctor who has secured a bare pass but whose wealthy father is able to buy for him a practice which an honours man after three or more years of postgraduate hospital work is quite unable to afford is not altogether different from the young gentleman whose father in days gone by could buy his commission.

Again, many of us find it difficult to defend our official position on this point when a layman declares that it is "nonsense" to claim the right to buy and sell practices in a public service. Anyone who offers a practice for sale is on difficult ground if he tries to probe into the professional aptitude, moral code, or social standing of a purchaser who is willing to buy and able to pay. It is really difficult to dismiss as "nonsense" the contention that a transaction of this kind is a buying and selling of patients, particularly as the vendor hands over the most intimate records of his patients without taking any steps to assure himself that they will employ the purchaser.

I hope and believe that there will be a vast majority of "Noes" in the plebiscite, but I submit that it is unwise to overlook the fact that they will be tendered for many different reasons.

It seems to me, as an unimportant and uninfluential member of the profession, that the time is more than ripe to change the whole incidence of our propaganda. The public is not interested in our grievances. We must bring it home that this or any similar Act will not make available one extra consultant, one extra general practitioner, one extra matron, sister, or nurse, one extra wardmaid or orderly; that it will not add a single bed in any available ward or reopen any single ward now closed for lack of staff; that it will do nothing to provide an extra service or building of any kind. The Act can do nothing to cause a levelling-up of skill or services but may do much to cause a levelling-down. The Act will cause those who have average or less than average sickness to pay a great deal more than they have hitherto done for medical attention.

At the risk of being accused of wanting to rock the boat at a critical time I would like to conclude by expressing my considerable uneasiness when I note that a large section of the press (nearly all of it if one excludes Lord Kemsley's excellent papers) is hostile and that the majority of the public are apathetic, perplexed, or openly hostile. If we have, as the vast majority of us believe we have, a very good case, why are these things?—I am, etc.,

Launceston.

DONALD M. O'CONNOR.

Amendments to Act

SIR,—Resolutions expressing disapproval of the National Health Service Act are being carried by overwhelming majorities at professional meetings everywhere, but do these votes have very much significance? It is surely clear that almost any medical man can find something in the Act with which to disagree, and can therefore in all sincerity vote against it as it now stands. Since, however, the feature which offends one may appear highly desirable to another, who in turn objects to some quite different section, it does not inevitably follow that a mass vote against the Act is a mass vote against the whole or even against some specific part of the scheme. Therefore a large majority voting in disapproval of the Act does not necessarily imply an equally strong support for the full programme of amendments in the summary at the end of the statement of the Negotiating Committee's case which has been circulated by the Council of the B.M.A. Indeed, to judge by the correspondence in the *Journal*, it would seem that few of the

proposals command individually the support of an effective majority in the profession, and from the comments in the press it appears doubtful if any single one finds much sympathy among the general public.

The implication of *The Times's* question, quoted in the leading article on "The Press and The Profession" in the *Journal* of Jan. 24 (p. 155), as to the nature of "the B.M.A. questionnaire" is emphasized and expanded in the letter from Dr. J. Shackleton Bailey (p. 167). I agree entirely with his view that the only amendments which can or should be secured are those which have the support of a very substantial majority of the profession, and that the Association should at once take steps to discover which of the proposals of the Negotiating Committee do in fact obtain such support. If this can be done it becomes possible, by selecting those points on which the profession can be virtually united, to create the essential factor for success in obtaining an amended Act and a reasonably satisfied and contented body of doctors to operate the Service. If, however, the B.M.A. continues to press for a whole series of amendments, many of which are opposed by considerable numbers among the profession, then it cannot fight whole-heartedly, nor is it likely to impress a Minister who is presumably well aware of the divergent opinions held by his opponents.

The letter from Dr. J. V. Dockray (p. 172) encourages me to believe that, unless the B.M.A. succeeds in crystallizing the issues more effectively, I shall not be alone in accepting service under an Act which I do not altogether like, but which appears preferable to the amorphous mass of amendments put forward by the Negotiating Committee.—I am, etc.,

Maryport, Cumberland.

J. D. H. BIRD.

An Amending Act Needed

SIR,—If, as we all believe, the plebiscite shows an overwhelming majority against the Act, the Council might consider issuing a statement incorporating the following points. (1) The profession is *not* against a satisfactory health service. It is against the Act in its *present form*. (2) If amending legislation is passed incorporating the points of difference it would have the support of the whole profession. (The points of difference seem to be most adequately recorded in the resolutions of Jan. 5 of the Fellows of the Royal Faculty of Physicians and Surgeons of Glasgow.) Such an approach would put public opinion well on our side and give the Government and the people a final chance of preventing an unfortunate conflict.

If no response to this offer is made by the Government, then a trial of strength should be made by withholding certification. This would give us confidence in ourselves and our fellow practitioners before the appointed day, and perhaps force a solution.—I am, etc.,

London, N.W.11

HAROLD E. THOMAS.

Alternative Plan?

SIR—I am strongly opposed to the State scheme. I have recently purchased a practice and a large house that goes with it and therefore have heavy financial obligations. I have signed the plebiscite that I will abide by the decision of the majority. But I know that as the "appointed day" approaches there will be increasing mental conflict between loyalty to the profession and that of my obligations—the latter affecting the well-being of my family. There must be many others in the same position as myself. This is not what Mr. Bevan wants!

We as a profession must realize that the plebiscite will not be a final decision and that doctors will not just stay out, risking the health of patients depending on the loyalty of others over whom they have no control. I therefore wish to emphasize the fact that Mr. Bevan no doubt has his plans. We must not forget the strength of the "enemy." (2) In order to avoid the need for any amendment, they must have confidence in the profession. We have not yet been informed of any such confidence. (3) We should preferably have a referendum before the appointed day—i.e., while our minds are still free. (4) Clear propaganda both for and against the State scheme must be put before the public so that they can make up their minds. (5) The members of bodies representing the profession should not be allowed to be divided.

Compromise Suggested

SIR,—I once heard a young lady say that, however much she rebelled against parental authority, she always ate all she ever could. That is a sound principle. Parliament has approved the National Health Service Act, 1946, and papa Bevan advises the B.M.A. to put on record the opinion that, while they may disagree with the Act in this or that particular, nevertheless they will loyally accept the decision of Parliament and go on agitating for such revision as they think proper. That seems sound advice. While we may agree with the leading article of the *Sunday Times* that Sir Stafford Cripps has been grossly unjust to the doctors, and while we may deprecate Mr. Bevan's haughtiness with the Negotiating Committee, there still seems no need for imposing on the rank and file of the profession the self-immolation of starvation on July 5. There can surely be some give and some take.

If we examine dispassionately the main points of obduracy on the part of the Negotiating Committee, and intransigence on the part of the Minister, they resolve into four: (1) ownership of goodwill; (2) appeal to the courts; (3) element of basic salary; and (4) negative direction.

The essence of practical policy, not to say sweet reasonableness, would seem to be compromise, for which the British have some reputation. Taking the points in order, I would observe upon the first that maintenance of the position that we prefer the succession of a medical practice to depend on the purse rather than on nomination, with its accompanying risk of some degree of nepotism, is somewhat a pious expression of choice between two evils. Neither way is perfect, neither is worth fighting for. I for one will not be led out on hunger-strike to maintain the first point.

As regards the second point, I do not object to adjudication of disputes by a reasonably constituted tribunal. It would probably be just as fair as the courts, and certainly less expensive. If the Negotiating Committee prefer the corresponding clause in the Health Act for Northern Ireland, by all means let them ask for it. Just as with the first point, I find nothing here to justify me in hunger-striking.

The third point is more important. While here, as on the first two points, I feel no great trepidation about the basic salary, I realize that the bulk of my professional brethren do. I think if the Minister met us on this point he could also reasonably concede the fourth—namely, conversion of negative direction into positive inducement by giving a basic salary in certain under-doctored areas.

I have therefore to propose that the B.M.A. Divisions authorize the Negotiating Committee to yield gracefully on the first two points and ask the Minister in turn to compromise on the other two. Surely that would secure our professional freedom and, just as important, freedom of movement. Should the Minister prove intransigent and refuse seriously to negotiate on a new approach, then the B.M.A. can declare a dispute and call a no certification strike before July 5. I for one will join it. If, on the other hand, the B.M.A. defer action until July 5, I shall not commit my family to a hunger-strike at their bidding, nor do I think will a great many doctors who would support them in a reasonable middle course.—I am, etc.,

South Molton, Devon.

R. A. NASU

Basic Salary Compromise

SIR,—I should like to suggest a possible compromise between the doctors and Mr. Bevan on the basic salary dispute. The doctors do not want to be paid for the work they do by salary. Mr. Bevan wants to help the young doctor starting in practice. Every doctor has certain basic expenses. He must maintain a car. He must provide a surgery, keep it clean, and equip it. He must pay somebody to take in messages from his patients. These items alone cost £300 a year.

Could not Mr. Bevan call his basic salary an "essential expenses allowance" and guarantee to the doctors by amending his Act that the "salary" will never exceed in amount the minimum expenses every doctor incurs? The work a doctor does for his patient can then be paid for by capitation fee. I should not object to this form of "salary." Would other doctors? I have sent this suggestion to my local M.P. for Epping.—I am, etc.,

London, E.4

JOAN WAGSTAFF.

Where is the Staff?

SIR,—While in favour of the National Health Act, even as it stands, in my view the main issue in refusing to join this service is that in doing so we, as medical practitioners, are aiding the delusion of the public. What are they offered? (1) Free service at time of service.—Where are the doctors needed? (2) Free hospital treatment.—Where are the beds? (3) Home help and home nurses.—Where, oh where, are the nurses? Surely we are not going to help the general public to expect these, at the moment, Utopian ideas. By all means let us have a comprehensive service, but let us first have the man-power and woman-power to implement these ideals.—I am, etc.,

Bristol

REGINALD E. GIBSON

Tell the Public

SIR,—I believe that if the National Health Scheme be accepted in the present form the public would be the first to bitterly regret the step before long. It would seem that the public ought to be educated as to why the medical profession is largely in opposition to the scheme, as the Government propaganda machine is trying to represent the medical profession as a mercenary body interested only in its vested interests.

I believe that doctors should explain to their patients in the course of conversation what a menace to the free action of doctor and patient is involved in this political scheme.—I am, etc.,

Prestatyn.

T. H. HARGREAVES.

SIR,—In reviewing the campaign up to the present, there still seems to me to be much doubt in the minds of the public, and to a lesser degree in the minds of the doctors themselves, as to what it is all about. I am fully aware of the good work done by the B.M.A., and I hope the doctors have taken it to heart. But we must not forget the first importance of public opinion (after all, it is the public who stand to gain or lose by it). Many lay people of all types have discussed it with me, and it is clear that they have the most confused ideas about the whole thing. Many of them think that it is a purely political move. One friend of mine who has had very wide experience as a journalist said: "Why can't you medical people draw up a very short list, setting forth very simply what you stand for? It should not be more than 500 words. It should have the widest possible publication, so that everyone who reads any newspaper, all over the country, can see it and grasp its meaning easily."

Large numbers of letters, and very long tedious articles, have appeared in different papers already. People are only confused by such articles, and the letters generally each take up some particular point, and then reach only a limited circulation. I send you this suggestion for what it is worth, but personally I feel it might do much good to clear the air of a good deal of doubt and misunderstanding. The doctors have been told, but it is equally necessary to tell the public and to tell them in a manner which they can readily understand. They will then be able to form their own opinions—they have certainly not been able to do so up to now. It is no use to send a notice to any one, particular paper, which only reaches a small section of the people. The notice *must* have the widest possible publicity; but I imagine this could be arranged with the Press.

If you think it a good plan to act on these lines, naturally the sooner something is done about it the better.—I am, etc.,

London, W.1.

REGINALD C. JEWESBURY.

SIR,—At a meeting held in this small village recently a resolution was passed, by an overwhelming majority, supporting the doctors in their dispute with the Minister of Health, and urging that remuneration in a National Health Service should be by capitation fee only. The meeting was arranged by myself and was attended by my partner and by two other doctors practising in the district. About 150 of our patients crowded into the village hall in response to our invitation that they should come to ask questions. Many of them have since told me that before the meeting they were quite ignorant of the issues at stake, and they have urged me to ask you to bring our meeting to the notice of doctors throughout the country so that similar meetings can be held elsewhere. They were convinced, and I fully agree with them, that if patients could hear

their own doctors' points of view we would have a much more powerful force of public opinion behind us than we have now.

I suggest to any of my colleagues who contemplates holding a similar meeting that: (1) The discussion should be kept as far away from party politics as is possible, and indiscriminate slanging of individuals or parties should be avoided. The experience of our meeting showed that Socialist supporters could be won to our point of view. (2) The issues involved should be kept as simple as possible, and the "capitation fee *versus* salary" controversy should be the main point for discussion. (3) The public should be told that we are fighting their battle even more than our own. One of my patients told me after the meeting that the layman seemed to find it difficult to realize that any group of people could in these times be indulging in political agitation with the object of benefiting humanity rather than of improving their own financial status.—I am, etc.,

Ash, Cambridgeshire.

I. D. OGILVIE.

SIR,—Perhaps the weakest link in the B.M.A.'s chain of opposition to Mr. Bevan is its failure so far to produce a coherent alternative plan. Let there be even a unanimous decision to reject the present "health service"; what is to take its place? There must be few doctors who are glad to acquiesce in a system in which some of their patients are deprived of investigations and treatment because they cannot afford them. Journeys by ambulance, x rays, flying-squads, etc., vary in their availability in different areas, and it is in the field of rationalization and standardization of equipment and provision of facilities that the medical profession has itself long advocated reform.

The B.M.A. would strengthen its case if it were to make clear its willingness to co-operate in the development and organization of technical services whose desirability is not disputed. If these were paid for out of public funds the Minister would naturally have a right to supervise them, and would also have a duty to answer for their proper use in Parliament. But even the most elaborate scheme for equipment, accessory services, and nursing facilities need not in any way curtail the freedom of the medical practitioner, who would simply be assured of their availability to all his patients whatever their income. He himself could be free to make an individual contract for service with each of his patients, either privately or through an insurance agency (whether the latter was Nationalized or Friendly need not concern him). If the Minister was anxious to transfer doctors from Bournemouth to Jarrow, on his own assumption that their god is their income, he would have only to subsidize the contracts offered by insurance agents in Jarrow for queues to form on platforms to the North.

Much of the opposition to the B.M.A. among patients is based upon the fear that the doctors are in some way against the provision of the "best possible medical treatment for all" so liberally promised by Mr. Bevan. This opposition could well become support if it could be made clear, by alternative proposals, that doctors do in fact want every facility and service to become available to their patients, together with the freedom to employ individual judgment in their use.—I am, etc.,

Oxford.

E. M. VAUGHAN WILLIAMS.

Free Choice

SIR,—Freedom is necessary both for the consultant and the general practitioner. The profession has turned down negative direction as a negation of freedom. The Minister of Health called the sale of practices a blot on our medical system. The Conservative Party, during the debate, was in tacit agreement. It is the weakest part of the doctors' case, yet it is intimately connected with their professional freedom. It is a measure of the present impasse. Can a solution be found, and can the gap be bridged?

At present for the transfer of a panel practice patients on Dr. A's list are notified that he is relinquishing his practice, but that they will be transferred to Dr. B, his successor, unless they take their card to another doctor for signature within one month. I would suggest a change, and hope that a different formula might prove acceptable to both sides. On the transfer of a public practice all patients on Dr. A's list are notified that he is relinquishing his practice on a certain date, and that as

Dr. Gilford started in practice 44 years ago. He has seen and helped medicine to evolve slowly. Yet now he wants the whole doctor-patient relationship turned upside down overnight. His allegiance was to his patients; now it will be to the State. I am sure his patients will appreciate that. It is an extraordinary thing that a man of Dr. Gilford's obvious great talents should be so blind that he cannot see the ghastly danger ahead of doctors and patients alike. Call it what you will. It is dictatorship pure and unadulterated, with the loss of that precious freedom for which so many gallant young men and women fought and gave their lives all over the world. The B.M.A. and the Negotiating Committee have given us a lead. It is up to us all to support them.—I am, etc.,

Hook, Hants.

R. H. SCOTT.

SIR.—Basic salary.—The doctor receiving a basic salary is a State-salaried employee and must carry out any duties assigned to him in the way indicated. The salaried servant is not a free man. The basic salary as an attraction to under-doctored areas would be unnecessary if a supplementary capitation bonus—an addition to the general capitation fee—was paid in such areas. (This method could also be used to help rural practitioners.) The basic salary for newly qualified general practitioners would be inessential if the buying and selling of practices was permitted, enabling them to earn a reasonable net income in their early days.

Goodwill of practice.—If the State owned the goodwill of the doctor's practice the State and not the doctor would say how that practice was to be run. The doctor would have lost his freedom. Direction would have been made easy.

Direction.—Negative direction when there are many under-doctored and few over-doctored areas becomes positive direction when there are few under-doctored and many over-doctored areas—and a great increase in the number of doctors is envisaged.—I am, etc.,

Newcastle-upon-Tyne.

WM. HUNTER.

Distribution of Doctors

SIR.—If a statement is repeated sufficiently often it is apt to be regarded as a fact. Dr. Charles R. Palmer (Feb. 7, p. 271) has repeated the statement made in Parliament and in the Press when he writes: "It is obvious that one cannot receive money from public funds whether by capitation fee or salary for practising where there is not a public need. It is not just to expect it." As I understand it the G.P. neither wants nor expects to receive public money except for services rendered or definite risks undertaken. This is quite a different situation to that put up by supporters of the Act and so easily demolished, a very elementary form of debate.

Surely the statement should be: "Every general practitioner should have the right to sell his skill where he pleases and as a natural corollary be paid only for the work he undertakes to do (i.e., capitation fee)." If every G.P. elected to practise in Worthing the capitation fees per doctor would be very few and in many cases nil. This in itself would solve the problem of distribution.—I am, etc.,

Hove, Sussex.

H. J. MCCURRICH.

Newly Qualified Doctor in N.H.S.

SIR.—There have recently been complaints from newly qualified doctors that under existing conditions their initial salaries are low. I should like to point out that under the proposed Health Act the initial salary for any doctor is £300 per annum. The capitation fee for any patient only commences after that patient has registered with a doctor, and there appears to be no certainty that a doctor's patient will be transferred to his successor automatically.

In the event of the death or retirement of a doctor practising under the Health Service, what method is there of conveying his fact to the patient? What inducement is there for the patient to register with his doctor's successor until he is actually ill and in need of medical assistance, which may be many years later?—I am, etc.,

St. Albans, Herts.

PHYLLIS F. L. DAPLIN.

The Temporarily Registered Practitioner

SIR.—It has come to our knowledge that doctors on the temporary register should vote on a special coloured paper. We feel indignant that we should be earmarked as a special group, and especially as we are called blacklegs in the general and medical press. We should like to point out that we have all served this country during wartime in H.M. Forces or in civilian capacity. Most of us are already British subjects and feel strongly about being called displaced persons. The number of 3,000 temporary registered doctors is an exaggeration; most of this original number were in this country with the Allied Forces during the war only; others have emigrated or are too old to start practice again. According to the estimation of the Ministry of Health the number would be no more than 1,500 and of the B.M.A. perhaps about 1,000. To anticipate the result of the plebiscite by calling us blacklegs would only serve to impair our good relations with the rest of the profession. We are feeling indignant over the frivolous attack on us in the press, even in some medical meetings, and think this amounts to a kind of intimidation. In spite of this attempted intimidation we have advised the doctors of our association that each of them should exercise his right to vote as he thinks fit, guided only by his conscience and his conviction in the light of past experience.—I am, etc.,

London, N.W.11

M. BERGENTHAL,
Chairman, Association of Refugee Doctors
from Germany in Great Britain.

Questions in Parliament

SIR.—The *Spectator* (Feb. 6) draws attention to the Socialist Government's dictum through the Minister of Transport that after nationalization it is not legitimate for a Member of the House of Commons to put questions of detail to the Minister. Will the Negotiating Committee secure a definite clause in the Act ensuring for the medical profession that this democratic right of appeal is safeguarded before it finally commits itself to acceptance of service?—I am, etc.,

St. Mawes, Cornwall.

J. N. WHEELER.

Intimidation

SIR.—Mr. Bevan complains of the possibility of intimidation by the B.M.A. with regard to the plebiscite. I think he is about the last person who should take up this attitude. His own Act contains as good an example of intimidation as can be imagined. I refer, of course, to the condition that there will be no compensation if one fails to join the scheme by the appointed day. This seems to be no less than an attempt at compulsion in spite of the contention that participation is entirely voluntary.

Doctors should be free to enter at any time after the appointed day without loss of compensation. If the scheme is attractive enough, a sufficient number will be forthcoming. I hope that when the Act comes to be amended we will see to it that it is made so attractive that doctors and patients alike will be anxious to join, and that intimidation in any form will be unnecessary.—I am, etc.,

Musselburgh, Midlothian.

JAMES SHARP.

SIR.—The dispute is not altogether devoid of humour: for instance, the accusation that the B.M.A. might intimidate doctors in the plebiscite made by Mr. Bevan in the House of Commons. Isn't that the place where they have party whips to ensure that Members vote according to party doctrine? And wasn't he the Minister who introduced the vicious clause about no compensation for those who enter after the appointed day?—I am, etc.,

Penna, Bucks.

JAMES SMIBERT.

Political Selection

SIR.—Recently I applied for an appointment with a certain nationalized industry, and was granted an interview. The selection board consisted of three men, one of whom was a doctor. The doctor asked me the usual questions and was perfectly helpful and understanding. But imagine my surprise and inward fury when one of the laymen asked me my views on nationalization! No doubt my evasive answer did not

influence their rejection of me for the appointment, but surely a political means test is an unwarrantable method of trying to assess a medical candidate for a purely medical post.—I am, etc.,

Stockport

W. E. BROUGHTON.

Mutual Confidence

SIR.—We read with interest the letter of Dr. N. J. P. Hewlings (Feb. 7, p. 269). We heartily agree with his views and feel sure that the big fear of all G.P.s re the future N.H.S. is that we cannot be sure how many of our colleagues will refuse to sign when the allotted day comes to join the Service. Dr. Hewlings's suggestions are very good, but we feel that they do not go far enough. We would like to suggest that when the time comes for signing the contract with Mr. Bevan—we presume there will be some form of contract—all medical men in all areas should meet, as we do for local B.M.A. meetings, and in the presence of each other join the Service or refuse to do so as they feel justified.

We—and I am sure many other doctors—having given a good number of years to the Forces, are just beginning to find our feet, and we feel that we dare not risk the possible loss of capital involved in the value of our practice or the compensation. Mr. Bevan's strongest weapon is the fact that we lose all claim to compensation if we do not sign on the appointed day, and the only way for us to fight this weapon is for us all to publicly refuse service. By this means we will all be sure that we have sufficient backing to fight for better conditions. Our neighbours will not join for fear we have and we will not be forced to for fear our neighbours have.—I am, etc.,

J. H. BEGG.

A. S. CAMERON.

Wroughton, Wilts

SIR.—We think that the main issues of the controversy between Mr. Bevan and the medical profession are now clarifying. To us it appears that it is no longer a battle of the rights and wrongs of the scheme: it is essentially a battle of morale, for it is obvious that the vast majority of the profession are against the scheme. As we see it, unless some radical change occurs, the profession will vote 90% against the plebiscite and equally will vote 90% for the scheme in July. What is the reason for this? To put it in a nutshell, the individual practitioner would vote against the scheme if he thought his colleagues would do the same, but unless he has faith in the integrity of his colleagues he will in the last resort vote for it. We suggest that some more binding arrangement should be made. In each area a document should be drawn up in which the local doctors solemnly pledge themselves to vote against the scheme. This document should be witnessed by independent persons and should be regarded as an absolutely sacred undertaking. There might be an escape clause releasing the signatories of the document from their pledge if less than 85% of the profession agree to do likewise. This should do away with these apprehensive people who wish to sit on the fence and who will at the last prejudice the opposition to the scheme. A list of those who sign these documents should be publicly displayed in the area concerned and a copy sent to the B.M.A.

We feel that nothing less than the most energetic measures will meet the situation. The moral fibre of the country is not good, and to this the medical profession is no exception, for unless immediate action is taken to unite the profession, irrespective of the results of the plebiscite, Mr. Bevan's intimidation tactics of divide and conquer will inevitably succeed. If the profession fails to rekindle the spirit of its ancestors, we are

in a sorry predicament for young men who are not yet qualified, and for the few doctors with families to write to Mr. Bevan and say they are prepared to take risks we shall not be able to take. We think that the freedom of liberty will be lost. We think that we are in a predicament that we think the only way out is to unite the profession. To put it vulgarly, it is

I W. MARRIOTT,
D. H. H. WATKINS,
J. S. PRATT.

The Moral Issue

SIR.—A medical man in his professional capacity has and can have only one loyalty, and that towards his patient. By the law of nature and the recognized code of medical ethics Christian as well as pagan, the doctor is bound to seek the welfare of his patient by all the means within his power exclusive of every other consideration. From time immemorial the Hippocratic Oath (*Encyclopaedia Britannica*, 14th ed., vol. 15, p. 198b) makes every medical man promise: "The regimen I adopt shall be for the benefit of my patients, according to my ability and judgment, and not for their hurt, or any wrong. I will give no deadly drug to any, though it be asked of me, nor will I counsel such. . . . Whatever home I enter . . . I will keep silence thereon, counting such things as sacred secrets."

It is quite clear to the medical profession that Mr. Bevan in the N.H.S. Act, 1946, shows himself jealous of this relationship. The preliminary draft of the National Insurance (Unemployment and Sickness Benefit) Regulations, 1948, newly made under the N.I. Act, 1946, for unemployment and sickness benefits, requires the insured person to "answer any reasonable inquiries by the Minister or his officers as to the advice given him by the medical practitioner," under pain of forfeiture of his sickness benefit. The Ministry of National Insurance betrays suspicion of both doctor and patient; in effect it will amount to sowing distrust between patient and doctor.

Mr. Bevan by the N.H.S. Act wants to assume absolute power over every doctor and surgeon in the land, and absolute mastery over every hospital and nursing institution he may at any time wish to seize. The N.I. Act regulations prepare the way to coerce doctor and patient to reveal to them, and the whole hierarchy of officials the "sacred secrets" which no doctor may tell and no human being may be compelled to reveal—except where there is a danger to the patient himself (e.g., in case of lunacy) or to the community (as in contagious disease). Apart from this, no man has or can be given any authority to know such "sacred secrets." Both the N.H.S. Act, 1946, and the draft regulation under the N.I. Act, 1946, as they stand are therefore immoral. To carry out his obligations towards his patients, the doctor must be free from all interference from "higher authority" (including the paymaster, who regulates even the qualities of the medicines to be used), and the patient must have the right and the real opportunity to choose his own doctor whom he can trust implicitly.—I am, etc.,

Liverpool

THOMAS J. AGIUS, S.I.

Manipulation in a State Service

SIR.—When the time comes for the State to assume financial responsibility for all medical care, official provision will have to be made for, among others, patients requiring manipulative—the only branch of therapy suitable for delegation to medical auxiliaries as yet unprovided for. The number of doctors practising this art is so small that they cannot themselves deal with more than a fraction of all such cases. Indeed, there are said to exist, outside the medical and physiotherapy professions, some 3,000 persons in this country earning their living by giving manipulative treatment of one sort or another. This provides some measure of the amount of work done; for, though a good deal of it may be done unnecessarily, this does not apply to all of it, as results prove. Since patients will be paying the State to defray the cost of all medical treatment they obviously cannot be asked to pay all over again for manipulation performed by unqualified persons outside the Service.

Grave danger may arise of the State being compelled to public demand to enrol and recognize irregular practitioners unless an alternative body exists to whom this work can be properly delegated. By virtue of their ethical stand and wholehearted collaboration with the medical profession the State will naturally turn to chartered physiotherapists to meet the demand. And the physiotherapists must close this gap, otherwise others exist only too ready to rush in to fill it.

It is thus imperative, in my view, that no time should be lost in teaching manipulative technique to physiotherapy students. The subject is in fact included in the syllabus, but is dealt with very cursorily at present at most schools. Indeed, before the war almost the only systematic teaching was that of Dr. Merritt

St. Thomas's Hospital. May I urge all surgeons working at hospitals with physiotherapy training schools, and all medical officers of physiotherapy departments, to institute as a matter of urgency wider teaching on this important subject?—I am, etc.,

London, W.1.

J. H. CYRIAX.

Rationing and Tuberculosis

SIR.—I heartily agree with Dr. Keers's observations (Feb. 7, 1947, p. 245) that during the years of rationed foodstuff sanatorium patients have been regaining their lost body weight at a much lower rate than comparable groups of patients did before the war, and I find too that clinically this slowing is accompanied by a slowing in the healing process, as evidenced by less rapid improvement in their sedimentin indices. I disagree with him, however, that there is any evidence that curtailment of meat and cheese are especially to blame.

It is illuminating to compare the performances of the average patient at Mundesley with those of the average patient at Tor-na-Dee over the same years. Columns 2 and 3 in the table below are the average gains in pounds of body weight during each twelve months in question (calculated in the manner described in Dr. Keers's article):

	Average Gain lb. (kg.)	
	Mundesley	Tor-na-Dee
1937	16.0 (7.26)	} average 8.12 (4.08)
1938	16.2 (7.35)	
1939	20.3 (9.2)	
1940	5.7 (2.58)	
1941*	11.8 (5.35)	
1942*	15.8 (7.17)	
1943*	13.3 (6.03)	
1944*	11.0 (4.99)	
1945*	7.4 (3.34)	1 (0.45)
1946	1.3 (0.59)	-1 (0.45)
1947	11.2 (5.08)	-1 (0.45)

* Years of extra sugar at Mundesley. † Year of extra fats at Tor-na-Dee.

It will be observed: (a) Since food rationing began, patients at neither sanatorium have shown their expected pre-war rate of body-weight regain. (b) In 1940 both institutions showed a significant drop in the rate immediately following the onset of rationing. In 1940 I found that newly admitted Mundesley patients on wartime diet were on an average only 2½ lb. (1.13 kg.) heavier at the end of their first six months. (c) At Mundesley from 1941 to 1945, thanks to the Medical Research Council, each patient was allowed an extra "experimental" 4 lb. (1.8 kg.) of sugar per week. This was taken by all patients in a fruit-flavoured drink between meals and supplied an additional 1,000 calories per diem over and above the ordinary diet. During this period I found that newly admitted patients on this regime regained their lost body weight at the same rate as pre-war new patients for the first two months (i.e., 1.6 lb. (0.73 kg.) per month), but fell off thereafter so that at the end of the first six months the "war diet plus sugar" patient was only 7 lb. (3.17 kg.) heavier whereas his "pre-war diet" counterpart had been 10½ lb. (4.76 kg.) heavier. (d) In 1942 arrangements were made for Tor-na-Dee Sanatorium to run a similar dietetic experiment with a special group of patients receiving an additional 1,000 calories per diem of fats instead of sugar. (e) In 1946 Mundesley was back on ordinary civilian diet (with of course the extra 2 pints (1.14 l.) of milk a day accorded to the tuberculous). Once again the drop in rate is significant.

I have three comments to make: (1) I agree with Dr. Keers that after each fresh "cut" in any commodity the rate of weight-increase fell badly for a month or two until patients accustomed themselves to make good with alternative foodstuffs.

(2) There is one inconstant factor, it must be emphasized, which tends to invalidate equally both Dr. Keers's results and mine—if viewed separately—and one which has hitherto deterred me from publishing my results until I could find a "control" series of figures which would be similarly influenced by this factor: and that factor—oddly enough—is the varying delay between diagnosis and admission to sanatoria. Since the beginning of the war this delay has grown from a matter of a very few weeks to peaks of five and six months before settling down to its present three to four months. While awaiting

admission, usually in bed at home (where they are treated with all the family tit-bits), patients often regain a large proportion of their lost body weight. Consequently by the time they are admitted many are nearly back to their normal weight—a few are even over-weight—and they cannot be expected to put on weight anything like so rapidly as did their pre-war counterparts, who would have been admitted within a week or two of diagnosis when their body weight was lowest. The patient who is one stone below par regains his first half stone much quicker than he does his last seven pounds.

(3) Dr. Keers's figures have confirmed my belief expressed elsewhere (*Tubercle*, 1942, 23, 10) that it is calories that count in combating tuberculosis and that the caloric value of the present civilian diet is inadequate for the tuberculous. I have gone so far as to hazard that the average daily requirement of the tuberculous patient is more than 2,500 calories. The best form in which additional calories should be administered is still an open question. Dr. Keers found that extra fats caused nausea (*Tubercle*, 1943, 24, 8): few patients could go on taking them indefinitely. I found that sugar drinks could be imbibed without detriment to appetite or the capacity to enjoy full meals. Unfortunately at no time has there been a third experiment involving an extra 1,000 calories per diem in protein form; but there is still time so long as rationing remains with us.

It would be interesting to learn the experiences of any other sanatorium superintendents who hold the weighing machine in as high esteem as Dr. Keers and I do.—I am, etc.,

The Mundesley Sanatorium, Norfolk

GEORGE DAY.

Smallpox in Edinburgh, 1942

SIR.—Dr. C. Simpson Smith, in his paper on "Smallpox in Staffordshire, 1947" (Jan. 24, p. 139), states that "once again an outbreak of smallpox followed a confident diagnosis of chicken-pox by competent experts" and follows by mentioning four other outbreaks in which the same sequence of events occurred, including the Edinburgh outbreak of 1942. As far as Edinburgh is concerned he is completely in error, and the reference he gives (*B.M.J.*, 1944, 2, 54) does not say so. The first patient coming to our notice was in cell isolation on admission to the City Hospital, and, though his rash had much in common with chicken-pox, there were certain elements which aroused our suspicions, and within two hours he was installed in the special smallpox isolation which had been earmarked for first cases in an outbreak. It is true that the above reference mentions that it was not till the rash of the patient was fully out that a confident diagnosis of smallpox could be made, but as he had been securely isolated from his arrival in hospital there never was the slightest suggestion that he infected others or initiated the outbreak. Furthermore, again quoting the reference given by Dr. Smith (a condensed version of a report I gave to the Fever Group of the M.O.H. Society), it is stated that the Edinburgh cases fell into two groups: (1) 23 institutional cases and (2) 13 city cases, of which five were direct contacts of other city cases. The source of infection of the institutional cases was never disclosed, nor was the association of these with the city cases, or of the primary city cases with each other.—I am, etc.,

City Hospital, Edinburgh

ALEXANDER JOE.

The Training of Specialists

SIR.—Sir Francis Fraser's masterly paper on the training of specialists (Jan. 24, p. 135) and the plan proposed are probably the fruit of years of careful thought and study, and it is only with great humility that one points out the dangers of the combination of rigid specialist training and the State-owned hospital. It is true that seven years of strict and orderly training will make the young specialist ready for responsible appointment sooner than the present haphazard system prevailing in this country, but, unfortunately all too often, there will be no job waiting for him when he finishes, and the period of waiting will creep on to ten, fifteen, or even twenty years, and an agreeable apprenticeship becomes an unhappy servitude.

The reason for this is not far to seek: the State-controlled hospital, unlike the E.M.S. hospital, must be economically run, and as regards medical staff this is done by reducing the chiefs

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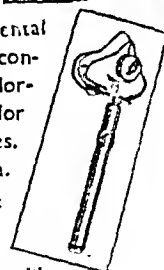


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among the refugees. Under the conditions prevailing at that time it was not possible to investigate each case in detail. The stools of twenty of these cases, however, were examined and in only one case was *V. cholerae* isolated. Taking into consideration the general health of the refugees and conditions prevailing in the camps it is more than likely that the majority of the suspected cholera cases were in fact cases of acute gastro-enteritis. Nevertheless the segregation of all patients suffering from diarrhoea and vomiting was carried out as far as possible.

In the whole of East Punjab, where about nine million people were involved in the exchange of population between the two dominions, 5,432 cases of suspected cholera were reported up to Nov. 1, 1947.

You further state that "both India and Egypt have had to be helped with supplies of vaccine." While offers of vaccine were certainly made to the Government of India from various countries, for which we are indeed grateful, the supply of cholera vaccine manufactured in the various institutes in India was more than sufficient to meet the demand of this country. Not only that, but the Government of India were able to supply 3,140,000 ml. of cholera vaccine to the Government of Pakistan, and 3,000,000 ml. to Egypt, the latter consignment being flown from Bombay to Cairo.—I am, etc..

Office of the Director-General of Health
Services, Government of India, New Delhi.

N. JUNGALWALLA,
Major.

Morbidity Associated with the Induction of Labour

SIR,—In the *Journal* of Nov. 8, 1947 (p. 738), you published an annotation on the results of induction of labour, quoting a morbidity rate in mothers and infants of 25%. These results are so completely at variance with my own experience of induction that I should like to say a few words on the subject.

In articles written by obstetricians in recent years and at meetings of associations references to induction are frequent, but it is clear that no unanimity has yet been reached as to which method is best. In my own practice I now have records of induction in over 700 cases without any ill effects that could in any way be attributed to the induction in either mother or child. I have used induction for all the usual conditions, such as toxæmia, disproportion, and postmaturity, as well as for mere convenience in patients coming from a distance. I have used it at different stages of pregnancy from 33 weeks onwards, and with unflinching success.

The method used is that of preliminary medicinal induction (castor oil, quinine, etc.), followed immediately by artificial rupture of the membranes at the internal os with curved artery forceps or the special catheter obtainable for the purpose. Labour comes on usually within 2-3 hours but may be delayed for a day or two in exceptional cases. I obtain as free a flow as possible and, if necessary, when the head is deeply engaged I push it up to permit the escape of fluid at the time of rupture.

No anaesthetic is required even in primipara except where there is undue rigidity or spasm of the vagina in a nervous subject. This applies to not more than one case in forty (primipara only). The average time of labour is less than those normally delivered. Since the instrument is never passed further than the tip of the finger by which the cervix is first dilated, no damage can be done to the cervix, the uterus, or the baby.

If there are good reasons for using any other method of induction I should be most interested to hear of them.—I am, etc..

Trinidad, B.W.I.

M. SCHWARTZ

Natural Position for Childbirth

SIR,—I was greatly interested in Dr. Kathleen Vaughao's letter (Jan. 31, p. 222). Some time ago I was called to attend a confinement in a gipsy encampment on the roadside. The parturient woman was housed in a makeshift tent composed of a few lengths of canvas stretched over a flimsy wooden framework. The patient was well on in her labour, and a short time previously had been going about her duties, drawing water, chopping sticks, etc., until her pains had become too strong to continue doing so. She had taken up a squatting position in the tent, and informed me that she was most comfortable "sitting on her hunkers." Just before the child was born she was supported on each side by two of the women. There was no difficulty in delivery of the baby, and the placenta followed shortly afterwards. On inquiry, the woman informed me that

she had had five other children—all born in the squatting position. Several other married women in the encampment told me that this position was adopted amongst them during childbirth as it seemed the "most natural-like."—I am, etc..

Portadown, N. Ireland.

W. A. GREER HEATLEY

Herpes Zoster and Varicella

SIR.—The association of herpes zoster and varicella in the same patient is uncommon. In a comprehensive review of the literature up to 1939, Ferrimao (1939) analysed 98 cases. He came to the conclusion that the condition is most common in elderly men, and that the appearance of the varicella usually follows the zoster in five days. The appearance of varicella or herpes in contacts was noted by Kanof and Baer (1939), who described a case where the daughter of a man of 65 developed varicella six weeks after her father's initial herpes lesion. Almeyda (1942) described a case of a woman of 42 who developed herpes and, four days later, varicella. Her daughters aged 13, 20, and 11, all developed varicella. The woman who worked in this household acted as a carrier, and conveyed the virus to her husband. He developed both diseases and died after a haematemesis. More recently Alleo (1944) and Manning (1944) reported cases of a child of 5½ and a man of 63 who showed both diseases.

We therefore feel justified in recording the appearance of both diseases in a man of 65 and the development of varicella in an adult contact.

A man of 65, with no previous history of chicken-pox or herpes, first complained of pain in the left side of the chest on Nov. 27, 1947. Eight days later (Dec. 5) he developed a herpes eruption, but on the right side of the chest and the ulnar side of the right arm. The eruption corresponded to the distribution of C 8, Th 1, 2, 3, 4, 5. Two days later he noticed a few "spots" on the forehead. Examination showed a typical varicella eruption on the face and trunk. Twelve days later (Dec. 19) his daughter, aged 24, developed a varicella eruption on the face, trunk, and arms. She also had no previous history of varicella or herpes. At the time of writing (Jan. 7, 1948) the man has post-herpetic neuralgia, particularly in the arm. The skin surface is now unbroken. The daughter shows no fresh vesicles.

For this case of herpes we have used the method of treatment described by Gross (1947). This consists of the application of the following paint three times a day:

R
Aneurin hydrochloride (50 mg. per ml.) 1 ml.
Glycerin 3 ml.

So far we have treated about a dozen cases by this method and in our opinion the results claimed by Gross are justified. There is a diminution of pain when the paint is applied and the vesicles dry more rapidly than with collodion.—We are, etc..

J. W. L. DICKSON
G. BLAIR

Middlebrough

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Treatment of Rheumatoid Arthritis

SIR.—Dr. Imre Barsi (Jan. 31, p. 227) brings up again the question of treating rheumatoid arthritis by transfusion with blood from pregnant women. He dismisses, in my opinion rightly, the possibility that hormonal factors are responsible for the alleged improvement, but fails to find a definite explanation. May I suggest that the beneficial effect of this "new" form of therapy is based on three factors?

(1) It follows the line of treatment practised by rheumatologists for over twenty years as autohaemotherapy, which consists of withdrawing a suitable amount of blood from the patient (generally 5-10 ml.) and immediately injecting it intramuscularly. This method represents without doubt the mildest, yet a most effective, form of protein shock. In the course of several hundreds of such injections I have observed only very rarely an even transitory rise in body temperature. Nor have I found such a rise a necessary accompaniment of therapeutic efficiency.

(2) Having been strongly impressed by the fact that patients suffering from rheumatoid arthritis as a rule show a considerable

spontaneous improvement during the summer months, or when transferred from a harsh to a mild and sunny climate, I myself tried to evaluate the possible biochemical effects of sunshine in such cases, and came to the conclusion that the increased calcium metabolism—i.e., a higher calcium level of the blood produced by the sunshine—is probably playing a certain role in this beneficial effect. Ever since then I have combined the autohaemotherapy with intravenous calcium injections, with gratifying results in every case. As is well known, the calcium metabolism is considerably increased during pregnancy, with a resultant higher calcium content in the blood, and it is difficult not to see the parallel.

(3) It is now twenty years since I drew attention in the *Journal* (1928, 1, 493) to the great importance of proper and systematic treatment of the general debility invariably present in advanced cases of rheumatoid arthritis, which manifests itself by great somatic weakness, loss of weight, and progressive anaemia. I have witnessed on countless occasions a marked and lasting improvement following treatment aimed directly at raising the general resistance. To my mind there is little doubt that the main effect of Barsi's transfusion is due to an amelioration of the patient's anaemia.

The simplicity, effectiveness, and time-proven value of autohaemotherapy, combined with intravenous calcium injections and with orthodox treatment for anaemia and general debility (vitamins, iron tonics, and the rest, and occasionally in very bad cases an ordinary blood transfusion), compare most favourably with Barsi's treatment and make it doubtful whether his therapy is ever justifiable, especially as the repeated taking of blood from a pregnant woman is hardly a matter to be lightly undertaken.

Having treated rheumatic patients for nearly thirty years I consider it somewhat rash to proclaim patients "completely cured" after periods of observation ranging from two months to five years. One often sees even in apparently hopeless cases a remission from symptoms occurring occasionally with dramatic suddenness and lasting sometimes for several years—only to be followed later by a complete setback. Similarly, the rheumatologist will not infrequently encounter a patient suffering from rheumatoid arthritis which is made definitely much worse just by reason of her pregnancy.—I am, etc.,

L. SCHMIDT.

L. SCHMIDT.

Localization of Deep Pain

SIR.—In his paper on "Localization of Deep Pain" (Jan. 31, p. 188) Dr. I. B. Harman propounds a theory of perception which throws light on a clinical experience which is as puzzling as it is common in medical practice among Africans in Central Africa. I refer to the patient who, on being asked of what he complains, touches his elbows, then his wrists, then his knees, then his ankles, often without uttering a word. That is the sum total of symptomatology on which a diagnosis has to be made. Frequent experience of such cases has led to the conclusion that the patient is indicating that he suffers from something that makes his whole body feel weak and aching, such as malaria, leprosy, tuberculosis. But it has remained a puzzle why the joints of the limbs should be picked out in this way, when a short examination shows nothing abnormal in them.

The suggestion of Dr. Harman makes a reasonable and highly probable answer to this problem when he states, with reference to the conception that a person has of his own body (the body image) that "an individual has a clearer consciousness of his limbs than his trunk, and . . . of the joints than of the spaces between."

The sick African, then, who points mutely to the joints of his limbs, is at least where he feels ill is corroborating this body image. Conversely, the proposition corroborates the body image of patients who present themselves in the clinic and express that they feel ill all over.—

E. W. PRICE.

Curare

I have been interested in the curare described by Mr. Jelly in your issue of Feb. 7, 1948, and in the advantages of its use in the treatment of the various conditions mentioned. I have been particularly interested in the fact that it is a non-toxic drug, and that it is a non-antidote to the various conditions mentioned. I have been particularly interested in the fact that it is a non-toxic drug, and that it is a non-antidote to the various conditions mentioned.

vein. The veins of the foot are convenient for the administration of drugs during abdominal operations, their use avoiding "the disturbance of towels and the discomfiture" of even the most testy surgeon. As for the "administrative difficulties" of intravenous work, these should not present themselves to the experienced anaesthetist. Further, there appear to be no grounds for assuming the presence of an intravenous needle is inadvisable, even if left *in situ* during the operation, while it seems hardly fair to the patient if one includes "nuisance value" to the surgeon among the contraindications to intravenous infusion.

I would consider 2-3 minutes rather long for the appearance of the full effect from an intravenous dose of curare, and I inject the drug about a minute before the peritoneum is to be incised. Mr. Jelly claims for his method that it "requires a reasonable level of anaesthesia before the abdomen is opened," which implies that the curare is not being used to its best advantage. Reduction in the amount of curare employed in favour of a larger dose of anaesthetic should not be a cause for congratulation of any anaesthetist. The anaesthetic drugs should be used to produce the lightest narcosis possible, and the curare to afford the best muscular relaxation obtainable. The picture of a patient leaving the theatre "after a half dose of anaesthetic and the repeated summation of more than a full dose of curare" is difficult to conceive. After a reasonably skilful "curarization" the patient is moved from the theatre with his reflexes regained, usually with movement returned to his limbs, and frequently awake. The respirations are obviously of equal or greater amplitude than presented by comparable cases not receiving curare. If the effect of the curare persists for any reason, there is always prostigmin and atropine which may be injected into a vein or into the liver according to choice.—I am, etc.,

St. Albans.

GORDON OSTLER.

Hay Fever to Eczema via Benadryl?

SIR.—I was very interested in Dr. K. M. Tomlinson's letter (Feb. 7, p. 276) as I had one very similar case last summer. A young woman aged 30 came complaining of hay fever, which condition had appeared every summer since childhood. I gave her a course of "benadryl" with startlingly good results. Three weeks later, however, she returned with a fairly severe eczema which responded well to treatment with tar. She had never previously suffered from eczema and has remained clear ever since.—I am, etc.,

Belfast.

PERCY G. HARRIS.

SIR.—In reply to Dr. K. M. Tomlinson (Feb. 7, p. 276) I cannot find any reason for his supposition, particularly as this anti-allergic drug has been used by me for quite a while with beneficial results. I am not assuming that it cures all types of allergy, but it definitely allays the more acute symptoms. It is a well-known fact that allergic individuals display a variety of manifestations of this reaction, which can be produced in many ways by liberation of histamine, as clearly illustrated by Lewis under the heading of "Triple Response from Histamine."

I have had occasion to treat many cases of cutaneous types of allergy associated with bronchial asthma, hay fever, urticaria, etc., and I always try to ascertain the causation, whether it be due to foods, drugs, or a focal infection. As both the cases treated by Dr. Tomlinson were presumably hay fever he omitted a valuable line of investigation, which was to examine the condition of the nasal mucosa and the sinuses for focal infections, such as suppurative sinusitis, polyposis, hyperplastic rhinitis, etc. It is known that bacteria, particularly staphylococci, very often give rise to chronic eczema or bronchial asthma, thus illustrating allergic manifestations due to bacteria. I have seen cases where dual reactions were present in the same patient—asthma and eczema; chronic sinusitis and arthritis; chronic sinusitis and eczema—and I have invariably found beneficial results follow the treatment of the focal infective condition with intramuscular penicillin emulsion (100,000 units for six consecutive days), and "benadryl" as an anti-allergic. I have not yet come across any case displaying any allergic reaction due to benadryl.—I am, etc.,

G. G. G.

SYDNEY J. BRUGARD

STR.—I was interested in Dr. K. M. Tomlinson's letter (Feb. 7, p. 276) concerning "benadryl" and hay fever. Last August I, too, treated my hay fever with benadryl and had complete relief from the symptoms; in September I developed a form of eczema of the beard area which persisted for some weeks and was eventually proved to be due to sensitivity to a brushless having cream which I had been using for about twelve months.

Having never had any skin condition like this before, I assume that benadryl may have been in some way responsible. Is it possible that the absence of histamine action in a tissue renders it more liable to become sensitized by a foreign protein?

It would be interesting to hear of any cases of asthma developing after the use of benadryl.—I am, etc.,

Bristol.

A. R. WEAR.

I also have found gas-oxygen and minimal trichlorethylene excellent for maintenance anaesthesia with curare. Similarly it is most useful, again in minimal quantities with gas-oxygen, for the purpose of keeping a patient asleep during spinal anaesthesia. In the latter circumstances it need only be used intermittently and permits therefore of a high percentage of oxygen being employed.

The non-inflammability of trichlorethylene is particularly valuable as it can be used when a cautery is a part of the operative technique. It is of course now well known that trichlorethylene is contraindicated in a closed circuit owing to the toxic products produced by its interaction with soda lime.—I am, etc.,

Penn Street, Bucks.

BERYL L. HARRISON.

Iridocyclitis Treated with Benadryl

STR.—I was interested to see Dr. Barbara Shaw's letter (Feb. 7, p. 277) under the above heading. I have been subject to attacks of iridocyclitis since 1944. My last attack started on Dec. 11, 1947, and lasted approximately seven weeks. I performed all the usual investigations, but was unable to find any cause. I was, I found, also liable to sensitivity reactions from various drops which I instilled—namely, hyoscine, hyoscyamine, and atropine—and on this account I used homatropine for a short time. This, however, was not strong enough and I developed approximately 12 posterior synechiae. I was then obliged to revert to atropine and at the same time I began to take "benadryl" 50 mg. t.d.s. This entirely alleviated the sensitivity reaction and I continued to take it for three weeks. It was then discontinued and atropine was exhibited for a further fortnight. In this case, therefore, I do not think that benadryl had the slightest effect on the course of the iridocyclitis.—I am, etc.,

Erdington, Birmingham.

J. MOSS.

Test of Death

STR.—In my letter on this subject (Feb. 14, p. 315) I should have worded one observation as follows:—In one case at least my ophthalmic examination was made some time after death, but whilst the cornea was still not sufficiently clouded to prevent the fundus being seen, and I found no segmentation present. Apparently, therefore, the segmentation sign of death had never occurred or had passed off again.—I am, etc.,

London, W.I.

F. PARKES WEBER.

Trichlorethylene in General Anaesthesia

STR.—I have read with great interest the article by Dr. Gordon Ostlere (Jan. 31, p. 195) on the above subject. Although I cannot claim to have employed "trilene" in quite such a number of cases as the Hill End Hospital series, nevertheless I have used this drug on many hundreds of occasions with no untoward sequelae whatsoever. Cardiac arrhythmias have been noted occasionally clinically, but are usually transient and appear to be eliminated by the addition of a higher oxygen percentage. Tachypnoea, I agree, is common, but this again can frequently be controlled by increased oxygen and less trichlorethylene, although in certain cases a change over to some other agent may be necessary to combat this condition. I employ the "pentothal," gas-oxygen, minimal trichlorethylene sequence almost as a routine for radical mastectomy, and no surgeon has complained of increased bleeding.

In my view trichlorethylene is quite the most useful adjuvant to gas-oxygen anaesthesia in that it obviously permits of the use of a much higher oxygen percentage than if N_2O were the sole agent. Trichlorethylene is practically non-irritant, so that induction is smooth; also it seems to pave the way for the addition of ether vapour. It very rarely causes post-operative nausea, let alone vomiting.

The main disadvantage of trichlorethylene is that it does not give satisfactory muscular relaxation, with the exception, for some reason, of the muscles of the jaw. This latter exception is of particular value in that a pharyngeal airway can be inserted in a light plane of anaesthesia, whereas this manoeuvre cannot be accomplished with gas-oxygen alone. It is well known that although the jaw is fully relaxed with pentothal the insertion of an airway will often produce laryngeal spasm.

Drug Addiction

STR.—Dr. Eric Coplans (Feb. 14, p. 320) describes a cured case of morphine addiction by slow withdrawal of the drug, but both he and Dr. F. R. Ellis (Jan. 24, p. 175) fail to make clear that there are two types of addicts. The first and more easily cured variety becomes an addict accidentally as the result of pain requiring relief over a prolonged period of time; the second type is the unfortunate possessor of a psychopathic make-up who has neither the desire nor the strength of will to desist from taking the drug and thus frequently reverts to his former ways after a so-called cure.

It does not appear to be generally known that auto-serotherapy—as mentioned by Dr. Margaret Vivian (Feb. 7, p. 277)—will enable both types to get off the drug, with the minimum amount of distress and discomfort, in about two or three weeks.—I am, etc.,

Amesbury, Wilts.

G. LOWELL WEBB.

STR.—The prognosis of drug addiction is quite serious enough without the absurd statement of Dr. F. R. Ellis (Jan. 24, p. 175) that the condition is incurable. Among the ne'er-do-wells and misfits of society morphine addiction is possibly never cured, but there are many doctors in this country who have been cured and remain cured indefinitely. Dr. Ellis does a grave disservice to those others who in the future, as the result of unbearable stress or intolerable pain, may fall victims to the morphine habit.

I do not, of course, know on what tremendous personal experience Dr. Ellis founds his dictum. "Notwithstanding all evidence to the contrary," but I hardly think that his proposal to produce "an arrested development stage" of morphinism (whatever that means) will do much to solve the problem. What he calls the "dreadful agony produced by the conventional form of treatment" is really the agony of deprivation which all treatments, with varying success, endeavour to mitigate. It follows that Dr. Ellis has nothing better to offer than a succession of such periods of agony to be inflicted at intervals when the addict, with developing tolerance, loses the enjoyment of his rationed dose. It would be interesting to discover from any practical experience gained by Dr. Ellis in this sort of procedure what sort of doses of "hyoscine or a barbiturate" are recommended when the patient starts breaking the furniture.—I am, etc.,

London, W.I.

G. LAUGHTON SCOTT.

The Danger of Warming Transfusion Fluids

STR.—It was common practice a few years ago to warm transfusion fluids by immersing the container in water at approximately 42° C. Under war-time conditions many medical officers discontinued this practice chiefly on account of the time involved in warming fluids. It was generally found to be satisfactory to allow the temperature of blood taken from the refrigerator to rise to that of the surrounding atmosphere. The rapid administration of even large volumes of fluid at atmospheric temperature did not result in an increased incidence of pyrexial or other reactions.

Apart from the time factor, however, there is another very good reason for discontinuing the practice of warming transfusion fluids—namely, the danger of overheating blood and plasma. That such a danger is not fully realized is illustrated by two recent cases in this Region. In each case the blood had been coagulated by immersion in very hot water. The loss of

JOHN WALLACE.

Vaginal Temperature

JOY L. JAMES.

Radiological Evidence of Age

...towards the legal mind requires definite statements
...in the statements involving latitude. In a legal case, in
...before the Court, I told a K.C. exactly how
...in my evidence. He therefore had
...and proved a doctor who had
...his evidence, with the result that
...was the on to be false, and the
...I was pleased to hear this
...to his evidence had been
...the K.C. was more than
...to that most central
...for definite state-

BERNARD J. LEGGETT.

The Lazy Eye

S. BLACK.

Child Guidance and Youth Organizations

D. T. MACLAY.

POINTS FROM LETTERS

Unpaid Service

Dr. E. H. WALKER (Torrington, Devon) writes: . . . The doctor's wife, already probably one of the most persecuted persons, thinks she will suddenly become the unpaid telephonist and receptionist of the State. She need not. She and all her kin should inform Mr. Bevan that she does this service unpaid no more. It would give Mr. Bevan his worst headache and bust his scheme until he provides his new civil medical service with clerks in the same way as he does his food officer, petroleum officer, or any other officer. He doesn't ask them to employ their wives, unpaid, to enable them to carry out their duties for the State, and the miner and railwayman certainly wouldn't.

Sanatorium Treatment

Dr. G. KEMBLE WELCH (North Auckland, New Zealand) writes: Dr. P. Heffernan (Nov. 22, 1947, p. 837) raises two points about tuberculosis of wider importance than his letter implies.

First, he says that any doctor well acquainted with persons suffering from pulmonary tuberculosis can recall the names of hundreds of patients whose lives have been saved by prolonged sanatorium treatment. But the natural course of phthisis is very uncertain and patients not in sanatoria make astounding recoveries from apparently hopeless disease, while other cases with minimal lesions who are sent to sanatoria in the confident expectation of cure fail to respond and there die quickly.

Surely the only way to discover the value of treatment applied to such a disease, where in any given case it is quite impossible to foretell the outcome, even without treatment, is by a large-scale trial, carefully controlled and statistically examined—a trial such as the tuberculosis specialists demand of the B.C.G. vaccine.

Dr. Heffernan says it is quite impossible to show by statistical methods that sanatorium treatment has any influence whatever on the course of pulmonary tuberculosis. This brings me to my second point, which is that the inescapable conclusion from this lack of statistical benefit is that if any case is cured by sanatorium treatment some other case must be killed by sanatorium treatment—otherwise the benefit must show in the figures.

A Peek of Troubles

Messrs. J. FISHER and R. A. HINDE (Norwich) write: May we use your columns once more to convey our thanks to many of your readers who responded to our request (Jan. 10, p. 79) for information about birds opening milk bottles. We much regret that lack of time prohibits us from replying to all our numerous informants individually, but assure them that the information they have given us will be of the utmost value for our inquiry.

OTRMS

Dr. W. MUNRO LESLIE (Harrow) writes: Dr. W. C. Colville (Jao, p. 229) says, "There is nothing more exasperating than a panel patient rolling up with his panel card the first time he is ill and yet has been living in the area for months. . . ." May I submit, sir, that there is? It is when a panel patient rolls up *without* his panel card the first time he is ill. Apparently the onus is then on the doctor to find out if the patient is really entitled to medical benefit. The doctor must complete the Form 6819/1940—the "notice of account when fee for deposit is not paid in cash." He must keep a copy of the details himself, and must advise the patient to take a receipt from the chemist for the amount paid. The transaction must go through his books and only be cancelled if/when the insurance committee confirm that the patient is a panel patient. This assumes however that the patient has forwarded the form to the insurance committee. Alternatively the doctor may, should the patient be under 6 feet, collect a fee from him. He still must complete a similar set of forms, so that there is no saving of the doctor's me or temper. What other section of the community would tolerate such a preposterous state of affairs? . . .

Thanks to the Consultants

Dr. KENNETH McFAOYEAN (London, S.E.24) writes: I am sure that I am voicing the feelings of many thousands of my fellow practitioners in expressing my deep appreciation of the magnificent stand taken by the consultant section of our profession in regard to the J.H.S. Act. If the behaviour of the present Minister of Health is in any way responsible for bringing about a new sense of unity within the ranks of the medical profession, it must surely be the only thing to his credit.

300 a Year

Dr. R. W. COCKSHUT (London, N.W.4) writes: Shakespeare knew all about it:

"O, what a world of vile ill-favour'd faults
Looks handsome in three hundred pounds a year!"

—Merry Wives of Windsor, Act III, Scene iv.

Obituary

JOSEPH GEOGHEGAN, M.D., F.R.C.S.Ed.

Dr. Joseph Geoghegan died in London on Feb. 4 at the age of 59 after over a year of ill-health. He was a man of many parts, a familiar figure at luncheon at the Royal Society of Medicine, a poet, a frequent contributor to medical and scientific journals, an ardent player of squash rackets, an authority on diseases of the digestive system—the exhaustive book he wrote on the subject, highly commended by the late Sir Arthur Hurst, was never published because of the war, though he was recently revising it. Dr. Geoghegan was the son of the assistant editor of *The Scotsman*, and was educated at George Watson's College and Edinburgh University, graduating M.B., Ch.B. in 1911, taking the F.R.C.S.Ed. in 1917, and proceeding M.D. in 1919. After taking resident posts at the Edinburgh Royal Infirmary he joined the Colonial Medical Service and was posted to the Caicos Islands in the West Indies, but took a commission in the R.A.M.C. on the outbreak of the 1914-18 war and served with distinction as a surgical specialist in France. After the war he returned to the West Indies, but this time to private practice in Kingston, Jamaica, where he was very successful and popular with the English community. Twenty years ago he came to London, was appointed physician to out-patients at the Royal Hospital, Richmond, and carried on a large medical practice in Wimpole Street, W.1, among his patients being many doctors and their families. Dr. Geoghegan married Miss Muriel Kerr-Brown, the Edinburgh pianist, in 1912, and is survived by his widow, a married daughter, and a son, who is a member of the medical profession.—R.S.S.

ETHEL WILLIAMS, M.D., D.P.H.

Dr. Ethel Mary Nueella Williams, who was one of the first women doctors to practise in Newcastle, died at her home on Jan. 29 at the age of 85. She was born at Cromer in 1863 and her father was a country squire, one of whose close friends was Lewis Carroll. She began her education at a high-school in Norwich and went on to Newnham College, Cambridge, where at that time women could attend lectures but could not take degrees. She was unable to obtain her hospital training in this country and so her clinical work as a student was done in Vienna and Paris. She took the London M.B. in 1891 and proceeded M.D. in 1895, going on to take the Cambridge D.P.H. in 1899. She was resident medical officer at the Clapham Maternity Hospital and at the Blackfriars Dispensary for Women and Children before settling in Newcastle and starting in general practice. She distinguished herself in 1906 by being one of the first women in the North of England to drive a motor-car. About this time too she became an active member of the suffragist movement, taking part in the first suffragist procession—the so-called "mud procession" of 1907.

Over the next thirty years, despite the increasing demands of her growing practice, Dr. Williams took an interest in public affairs, and she was concerned in the foundation of a number of women's organizations. She became a J.P. in 1931 and was a member of the old Newcastle School Board and later of the Education Committee. By this time she had retired from active practice but she maintained an unflinching interest in the public life of Newcastle. In 1946 the Newcastle Branch of the National Council of Women presented her with a portrait and a cheque as "some tribute to her long and valuable public service to her fellow men and women in this district." The cheque Dr. Williams immediately handed over to the Northern Women's Hospital. Dr. Williams was at one time president of the National Federation of Medical Women, and in the early days was chairman of the North-eastern Federation of the National Union of Women's Suffrage Societies. She was a member of the Senate of Durham University and acted as medical officer to the Women Students' Day Training Department at Armstrong College.

Dr. OLAF GLEESON died on Jan. 7 at the age of 58. He qualified M.R.C.S., L.R.C.P. in London in 1915, and served as a captain in the R.A.M.C. He had been for some years

F. R. S. writes: The death of Dr. H. H. Brown in his 86th year severs a link with the great days of University College Hospital towards the close of the nineteenth century. Dr. Brown entered as a medical student at University College Hospital, attracted there by the presence of men like Sharpey-Schafer, Sidney Ringer, Thomas Barlow, Henry Gowers, and Victor Horsley. His student career was brilliant; he seemed to obtain gold medals and scholarships without apparent effort. Even as a student he carried out an effective piece of research on spermatogenesis, and his drawings were used in many editions of Sharpey-Schafer's book on histology. Nevertheless the lure of clinical work proved too great and he gave up research. He held his appointment at the East Suffolk and Ipswich Hospital for twenty-five years, and his work there did much to raise its prestige. Dr. Brown was unexcelled as a clinician, and his surgical daring and success were a local wonder. Despite long hours spent at the hospital, he found time to run a busy general practice and to enter into local politics. During World War I he had charge of the military beds at the main and the two auxiliary hospitals, and the enormous labour that this entailed was recognized by the award of the O.B.E. In person Dr. Brown resembled the typical John Bull, and he had many of the characteristics attributed to that mythical figure; his tenacity and pugnacity were well-known and, wedded to a fine intellect, he soon became the final court of appeal in all desperate cases of illness; indeed, not to die when Dr. Brown foretold it was almost an imperipence on the part of the patient. Dr. Brown retired in 1932 but he remained a keen student of medicine until nearly the end, and we in East Anglia say goodbye to a great personality and a fine doctor.

Medical Notes in Parliament

N.H.S. Superannuation in Scotland

On Feb. 9 Mr. J. J. ROBERTSON, Joint Under-Secretary of State for Scotland, moved the approval of the Draft National Health Service (Scotland) Superannuation Regulations, 1948, proposed to be made by the Secretary of State for Scotland under Section 66 of the National Health Service (Scotland) Act, 1947. He said these complicated Regulations were necessary to set up a simple comprehensive superannuation scheme for all persons employed in the National Health Service in Scotland. Except on minor points they made the same provision as the Superannuation Regulations already approved by Parliament for the English Health Service. They provided for all employees and practitioners in the new Service superannuation benefits on a contributory basis, consisting of retiring and incapacity pensions, short-service gratuities, death gratuities, and injury allowances. They also included provision for widows' pensions. They contained special provisions to ensure that the existing superannuation rights of the 60,000 persons who would become subject to the Regulations on the appointed day would be fully preserved and that everyone transferred into the new Service would be at least as well off as before the transfer. Hospital officers who at present had no pension rights would for qualification purposes in the new scheme be able to count all their previous hospital service. Such an officer might become eligible immediately for some benefits of the scheme, such as the incapacity pension, which was normally one-quarter of the officer's remuneration, or the death gratuity, which was a minimum of one year's service salary. A unique feature of these Regulations was the extent to which they preserved the pensions rights of persons who after the appointed day moved from the Health Service into other types of public service or from other types of public service into the Health Service. The Scottish Regulations had been discussed in draft with some forty representative bodies. On one or two points the Government had not been able to go as far as it was asked, but nevertheless it had received a fairly high degree of support for the proposals now made.

Mr. CHARLES WILLIAMS asked the Government to justify the difference in the rates proposed for men and women.

Mr. J. S. C. REID asked whether there was full interchangeability for pensions between the general practitioner, the teacher in the university, the full-time Government servant, and the full-time municipal servant. He asked for an assurance that if full interchangeability did not exist already it would be brought in as soon as might be. He thought the proposals for officers in voluntary hospitals were satisfactory, and he understood with regard to those who had already retired that *ex gratia* payments would be made. These payments would continue the pension which they now enjoyed as a matter of grace from existing hospital authorities and so the position of all was adequately safeguarded. On the general provisions for pensions for general practitioners he said the scheme was fair but would be brought to naught unless a steady level of prices could be maintained over a man's whole professional career. The same consideration applied to payments on goodwill. He asked who determined whether a medical man was finally and totally incapacitated. If he recovered sufficiently to try again had he to give up all rights he had acquired or would he be allowed to see if he was fit enough to practice? He could see no reason why the man who started at 56 and went on working should never be allowed to earn a pension even if he went on to be 70. That seemed quite unjustifiable. He hoped Mr. Robertson would make it clear that a doctor who finished ten years' service, no matter what his age, would be entitled to a pension based on those ten years.

Dr. H. B. MORGAN asked whether any change was proposed in the definition of the words "mental health officer." In England a new interpretation had been put on that term by which many of these officers were precluded from getting the full advantages of the Superannuation Regulations. He also asked for an assurance that employees in mental institutions would have the right of opting to retire and would not be compelled to accept new terms under the new Superannuation Regulations. With regard to mental employees in the Royal Institutions in Scotland the Secretary of State had acknowledged the option of these men to remain in their old schemes. The Secretary of State had given an assurance with regard to the Institution of Dumfries, but was not sure whether the Royal Institutions in Perthshire or Stirling had such schemes, or the Morningside Institution at Edinburgh or the Royal Institution in Glasgow.

Sir WILLIAM DARLING thought the Secretary of State should help doctors who were placed in a difficulty owing to having taken in the earlier years of their lives very substantial insurance policies.

Replying to the debate, Mr. WOODBURN said he was pleased to have an assurance that some doctors were coming into the scheme. It was a great comfort to him that some members of the Opposition were convinced there would be a scheme. There was provision in special cases that practitioners might carry on beyond 65 and so complete the ten years and be entitled to a pension in the normal way. If a practitioner came in at 57 and had only 8 years he would get his contributions returned with compound interest and also the value of his practice in the normal way. He thought the assurance given to the Creighton Royal Institution could be extended to others similarly placed. He thought the general principles laid down were just and fair to young doctors. He would look into a real case of difficulty if Sir William Darling furnished it. The differential rates proposed for men and women were based on the different expectation of life.

The House then approved the Regulations.

Bovine Tuberculosis

Mr. TOM WILLIAMS on Feb. 2 moved the Second Reading of the Animals' Bill, one purpose of which is to extend the authority of the Ministry of Agriculture to make payments to farmers for eradicating bovine tuberculosis from their herds. He said that since the middle of 1944 the number of attested herds in Great Britain had increased from 16,000 to 30,000. There were now nearly 1,200,000 attested cattle in Great Britain, or more than one-eighth of the total cattle population. Scotland had made more progress than England and Wales, although Pembroke, Cardigan, and Carmarthen had done magnificently. England lagged hopelessly behind. Preliminary discussions had taken place on a plan for the elimination of tuberculosis area by area. To clear the whole country of bovine tuberculosis could not take less than ten to fifteen years.

After a brief debate the Bill was read a second time.

Attempted Rape Bill

Mr. YOUNGER, for the Home Office, moved on Jan. 30 the Second Reading of the Attempted Rape Bill which proposed to raise the maximum penalty for the offence from two years' imprisonment to seven years. He said the judges had pointed out that the attempt might cause the victim all the indignity and terror of the full offence.

Colonel LIPSON contended that there was no evidence that the number of convictions for sexual offences was increasing.

The Bill was then read a second time. It was taken in Committee on Feb. 5, when an amendment to substitute 15 for seven years was rejected. The Bill was read a third time by 196 to 17.

Pneumoconiosis.—The number of certificates of disablement or suspension on account of pneumoconiosis issued by the Silicois Medical Board to coal-miners during 1947 was 3,724. The distribution of these among the regions of the Ministry of National Insurance was Northern 94, East and West Riding 146, North Midland 12, South Eastern 55, South Western 64, Wales 2,837, Midland 102, North Western 105, Scotland 309. No certificates were issued in the Eastern and Southern regions.

Fees for Dentists.—Mr. JAMES GRIFFITHS said on Jan. 27 that the settlement of the dispute about dentists' fees for National Health Insurance work provided for retrospective payments for dentists if, in the light of the forthcoming report of the Spens Committee on Dental Remuneration, present fees were found to have been inadequate. That the great majority of dental letters issued by approved societies were taken up by dentists was evidence that the settlement was widely accepted. There was no compulsion on the dentist to accept a dental letter.

Cars for Doctors.—In response to Colonel WHEATLEY, who asked that doctors might have equal priority with the export trade in securing new motor-cars to replace worn-out ones, Mr. J. JONES regretted it was impossible to increase the supply of motor-cars to the home market at the expense of exports. The motor industry, however, was honouring its undertaking to give as much preference as possible to the delivery of cars ordered by doctors.

Purchase Tax on Drugs.—Sir STAFFORD Cripps announced on Jan. 27 that a further Treasury Order exempting certain drugs from the recent increase in Purchase Tax would shortly be announced. He would also consider medicines in a review of the Purchase Tax in connexion with the forthcoming Budget.

Medico-Legal

SHORT WEIGHT IN PILLS

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

A Dorset doctor ordered from a firm of drug suppliers in London some 1-gr. (65-mg.) and 3-gr. (0.2-g.) pills of sodium thiocyanate. The firm obtained them from a large manufacturing concern. The patient did not respond properly to treatment, and the pills were analysed and found to be of short weight by 23 and 28% respectively. The second firm were therefore charged with supplying an article not of the nature and quality demanded by the purchaser. The magistrates found that the firm had adopted the usual trade practice in the manufacture of the pills and were not aware that this deficiency could occur in making pills by hand; they therefore dismissed the case. On appeal by the county inspector, the Divisional Court said that the bench ought to have convicted.¹

The firm's excuse was that a certain amount of material sticks to the hand or the mortar in the mixing, and they therefore could not guarantee that every pill that went out contained 1 or 3 gr., as the case might be, as it would not pay them to test the pills. The court could not accept this. If the firm knew that the pills might be deficient they should inform the doctor or customer of the fact. There was no evidence that doctors and the public generally knew that they could not expect a pill to weigh as much as it was supposed to. A manufacturer was protected against the consequences of a small deficiency by the provision of the Food and Drugs Act that an accidental abstraction of some constituent did not entail a penalty if it had not affected the quality or potency of the drug and was not made fraudulently, but he could not waive his responsibility for a shortage that really mattered. If manufacturing chemists could not supply the right quantity they, and the retailer, should make it clear to the purchaser that they could not say that a particular pill contained substantially the precise amount of the drug ordered.

¹ *Breed v. British Drug Houses*, 1947, 2 All E.R., 613.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

Air Vice-Marshal Alan Filmer Rook, C.B., O.B.E., F.R.C.P., R.A.F., and Leonard Heber Hawtrey May, M.B., B.Chir., have been appointed Senior Health Officer and Junior Health Officer respectively in the Department of Medicine for a period of three years from May 1.

UNIVERSITY OF LONDON

Prof. G. R. Cameron, D.Sc., F.R.S., F.R.C.P., will deliver the Sydney Barrer Memorial Lecture, on "Pulmonary Oedema," in the lecture theatre of University College Hospital Medical School, University Street, Gower Street, W.C.1, on Tuesday, March 16, at 4.30 p.m. The lecture is open to all qualified medical practitioners and medical students.

The following have been recognized as teachers of the University of London and are indicated in parentheses: *St. Bartholomew's Hospital Medical School*: Mr. A. W. Hadenoch, Mr. A. H. Hunt, and Mr. J. A. O'Connor (Surgery); Dr. K. O. Black and Dr. N. C. MacCallum (Medicine); Dr. J. W. Aldren Turner (Medicine (Neurology)); Mr. H. J. V. Burrows (Orthopaedics); Dr. A. W. Hadenoch (Medicine (Dermatology)); Mr. D. B. Fraser (Obstetrics and Gynaecology); Dr. R. A. K. Hunter and Mr. I. G. Williams (Medicine (Dermatology)); Dr. P. M. B. McKenna (Dermatology); Mr. H. B. Hadenoch (Medicine (Dermatology)). *St. Thomas's Hospital Medical School*: Dr. J. A. O'Connor (Surgery); Dr. K. O. Black and Dr. N. C. MacCallum (Medicine); Dr. J. W. Aldren Turner (Medicine (Neurology)); Mr. H. J. V. Burrows (Orthopaedics); Dr. A. W. Hadenoch (Medicine (Dermatology)); Mr. D. B. Fraser (Obstetrics and Gynaecology); Dr. R. A. K. Hunter and Mr. I. G. Williams (Medicine (Dermatology)); Dr. P. M. B. McKenna (Dermatology); Mr. H. B. Hadenoch (Medicine (Dermatology)). *St. George's Hospital Medical School*: Dr. J. A. O'Connor (Surgery); Dr. K. O. Black and Dr. N. C. MacCallum (Medicine); Dr. J. W. Aldren Turner (Medicine (Neurology)); Mr. H. J. V. Burrows (Orthopaedics); Dr. A. W. Hadenoch (Medicine (Dermatology)); Mr. D. B. Fraser (Obstetrics and Gynaecology); Dr. R. A. K. Hunter and Mr. I. G. Williams (Medicine (Dermatology)); Dr. P. M. B. McKenna (Dermatology); Mr. H. B. Hadenoch (Medicine (Dermatology)).

Hospital Medical School: Sir William P. Mallinson, B.M., B.Ch. (Mental Diseases (Psychiatry)). *Middlesex Hospital Medical School*: Dr. E. W. Hart (Children's Diseases); Mr. P. H. Newman (Orthopaedics).

The British Postgraduate Medical Federation, in respect of its facilities at the Postgraduate Medical School of London, has been admitted as a School of the University in the Faculty of Medicine.

The Royal College of Surgeons in Ireland has been recognized for the purposes of the M.B., B.S. degrees for external students for a period of five years from Oct. 1.

The John Marshall Fellowship, of the value of £700 a year for two years, has been awarded to Athol George Riddell, M.B.E., M.B., B.S., University College Hospital Medical School, from Nov. 1, 1947.

Dr. J. R. Gilmour has resigned from the post of Reader in Morbid Anatomy at London Hospital Medical College, and Dr. A. C. Stevenson, Reader in Public Health at the London School of Hygiene and Tropical Medicine, resigns from this post on April 1.

George Perkins, M.C., M.Ch., F.R.C.S., has been appointed to the University Chair of Surgery tenable at St. Thomas's Hospital Medical School, as from Jan. 1.

King's College Hospital Medical School

Harold Clifford Edwards, C.B.E., M.S., F.R.C.S., has been appointed Dean of the Medical School in succession to Terence Edward Cawthorne, F.R.C.S., who has resigned.

Henry Adolph Magnus, M.D., Morbid Anatomist to the Hospital and Medical School, has been appointed Director of the Pathology Department.

UNIVERSITY OF WALES

The following candidates for the degrees of M.B., B.Ch. at the Welsh National School of Medicine have satisfied the examiners at the examinations indicated:

OBSTETRICS AND GYNAECOLOGY.—Maureen M. Bassett, Sarah A. Chard, N. V. Chivers, S. I. Cohen, A. V. Coleman, G. J. Davies, Joan V. Davis, E. F. Griffiths, Anne Guy, E. J. Hargadon, J. M. E. Hyde, Marjorie L. James, Beryl H. Jones, Eluned K. Jones, J. H. Jones, Rosina E. Jones, T. D. Jones, D. M. D. King, R. H. Lewis, C. S. Livingstone, Joan A. McLay, J. E. Mitchell, M. A. Owen, C. L. Perry, G. M. Reynolds, Frances M. Richards, J. M. Richards, Esme S. Rogers, Sybil H. Stephens, *C. E. Stroud, Augusta J. Taylor, J. H. S. Wakelin, J. A. Wilkinson.

* With distinction.

SURGERY.—Maureen M. Bassett, N. V. Chivers, *S. I. Cohen, A. V. Coleman, D. P. Davies, E. F. Griffiths, Anne Guy, *J. M. E. Hyde, E. G. A. Jackson, D. W. James, Marjorie L. James, Dylis W. John, J. H. Jones, R. H. Lewis, C. S. Livingstone, Joan A. McLay, J. E. Mitchell, Lillian M. Morgan, E. G. Rees, Frances M. Richards, J. M. Richards, Sybil H. Stephens, *C. E. Stroud, Augusta J. Taylor, J. H. S. Wakelin.

* With distinction.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

At a meeting of the Royal College of Physicians of London held on Jan. 29, with the President, Lord Moran, in the chair, the following resolution was passed:

"That after the plebiscite and the Special Representative Meeting of the British Medical Association on March 17 a special Comitia should be held to determine what action could most usefully be taken in the interests of the public and the profession as a whole."

Dr. G. Bourne was appointed to represent the College on the Central Council for District Nursing and Prof. J. M. Mackintosh at the Royal Sanitary Institute Conference to be held at Harrogate from May 24 to 28.

Membership

The following candidates having satisfied the Censors' Board were elected Members of the College:

J. L. Adams, M.B., D. G. Adamson, M.B., Y. Ez-el-Din Ahmad Azab, M.B., Daphne S. A. Anderson, M.B., W. F. Anderson, M.D., W. B. Armstrong, B.M., P. Arnold, M.B., G. P. Baker, M.B., C. W. Bartley, M.D., A. G. Beckell, B.M., A. B. Black, M.B., V. M. Borrelli, M.B., P. F. Borrie, M.B., B. F. Breatley, M.B., H. T. Calvert, M.B., J. A. G. Carmichael, L.R.C.P., Major, R.A.M.C., H. S. De Silva, M.B., P. E. Dipple, M.D., A. Divaris, M.B., A. St. J. Dixon, M.B., H. G. Dunn, M.B., A. M. Edwards, M.D., F. J. Fish, M.B., Constance C. Forsyth, M.B., J. L. Frew, M.D., A. N. Gangull, M.B., T. J. B. Giffen, M.B., Janet B. Gorham, M.B., N. Green, M.D., H. Grusin, M.B., R. T. S. Gunn, M.B., R. T. Hastings-James, M.B., I. F. Hayall, M.D., J. Hennemann, M.B., H. W. Hickman, M.B., J. A. Hildes, M.D., S. W. Hinds, M.D., J. Hirst, M.D., W. S. Holden, M.B., C. A. Holman, M.B., E. H. Howarth, M.B., I. P. Jaffe, M.B., H. W. F. Jones, M.B., Henricette Lackner, M.B., G. de J. Lee, M.B., J. Lee, M.B., D. Longton, M.B., J. B. Lowe, M.B., D. B. Macaulay, M.B., E. McC. McGirr, M.B., A. G. MacGregor, M.B., M. McGregor, M.B., C. S. McKendrick, M.B., T. P. Mann, M.B., P. M. C. Mark, M.D., A. S. Mason, M.B., R. M. Mason, B.M., J. D. H. Matthews, M.B., W. B. Matthews, B.M., D. A. D. Montgomery, M.D., J. A. U. Morgan, M.B., J. E. Morris, M.B., A. H. Nakhoda, M.B., F. W. Nash, M.B., W. O'Brien, M.B., D. F. D. O'Neill, M.D., A. G. Parks, B.M., J. C. Peate, B.M., J. P. Perin, M.B., J. Pinching, B.M., P. E. Polani, M.D., A. S. Ramsey, M.D., D. G. B. Richards, M.B., P. H. Rogers, M.B., A. J. Rook, M.B., E. S. Rowbotham, M.D., J. Rubie, M.B., J. Rudolph, M.B., W. A. M. Seldon, M.B., S. A. Sewell, M.B., S. C. Sheth, M.B., V. Solomon, M.B., J. P. Sparks, M.D., Y. H. Tang, M.D., Jean S. Taylor, M.B., W. H. Trethowan, M.B., O. L. Wade, M.B., J. K. Watt, M.B., G. D. Walker, B.M., R. L. Ward, M.B., A. D. Weatherhead, M.B., R. H. Wheeler, M.B., R. H. White-Jones, M.B., E. G. Wilkins, M.D., J. M. Wilson, M.B., P. H. L. Wolfson, L.R.C.P., B. S. B. Wood, B.M.

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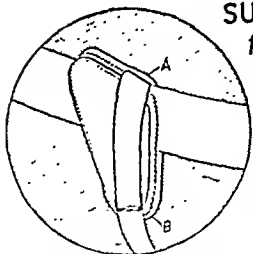
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Diplomas

The following diplomas were granted, jointly with the Royal College of Surgeons of England:

DIPLOMA IN ANAESTHETICS.—J. B. Seavle; and to the other successful candidates whose names were printed in the report of the meeting of the Royal College of Surgeons of England in the *Journal of Jan. 24* (p. 178).

DIPLOMA IN PSYCHOLOGICAL MEDICINE.—D. W. Rowntree; and to the other successful candidates whose names were printed in the *Journal of Jan. 24* (p. 178).

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE.—S. Khayatt; and to the other successful candidates whose names were printed in the *Journal of Jan. 21* (p. 178).

Diplomas in Laryngology and Otolaryngology and in Industrial Health were granted to the successful candidates recorded in the *Journal of Jan. 24* (p. 178).

DIPLOMA IN PHYSICAL MEDICINE.—W. R. Grant, A. K. Tyler.

DIPLOMA IN OPHTHALMIC MEDICINE AND SURGERY.—J. Scully.

DIPLOMA IN MEDICAL RADIOLOGY.—D. K. Sambrook.

DIPLOMA IN CHILD HEALTH.—M. B. Gamat, A. D. M. Jackson.

DIPLOMA IN PUBLIC HEALTH.—L. R. B. Birt, P. Coggin Brown, Jessie A. R. Cripps, T. M. W. D'Arcy, Margaret B. Davies, J. Dolan, V. O. B. Gartside, R. B. Illing, C. L. Knight, S. E. Large, Barbara Law, W. C. D. Lovell, J. H. Maughan, A. J. Nelson, J. O'Regan, J. S. Parker, P. Parison, J. V. Radley, J. Reynolds, H. J. A. Richards, A. F. Ritchie, Mary V. Rose, Marguerite S. Sheare, Elspeth W. Smellie, Agnes A. V. Smyth, W. Stewart, P. Weyman, D. H. J. Williams.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

At an ordinary meeting of the Council of the College, held on Feb. 12, with Sir Alfred Webb-Johnson, Bt., President, in the chair, a proposal to provide residential accommodation for postgraduate students of the College was approved in principle.

It was decided to establish a Faculty of Anaesthetics in the College.

The Hallett Prize was awarded to D. S. Chapman (University of Durham).

The following hospitals were recognized in respect of the resident surgical posts required of candidates for the Final Fellowship examination: Bootle General Hospital (resident surgical officer); City General Hospital, Sheffield (house-surgeon and casualty officer); West Norfolk and King's Lynn Hospital (resident surgical officer for one year only).

The following members of the medical profession were elected Fellows in Dental Surgery: J. B. Parfitt, M.R.C.S., L.R.C.P., G. F. Fawn, M.R.C.S., L.R.C.P., A. L. Packham, M.R.C.S., L.R.C.P., H. L. T. J. Hardwick, M.R.C.S., L.R.C.P.

Diplomas

Diplomas of Membership were granted to M. D. M. Bowen, J. S. Jenkins, and to the recipients of the licence of the Royal College of Physicians of London whose names are printed above in the report of the meeting of the College.

Diplomas in Public Health, in Psychological Medicine, in Anaesthetics, and in Ophthalmic Medicine and Surgery were granted, jointly with the Royal College of Physicians of London, to the successful candidates whose names appear above in the report of the meeting of that College.

Diplomas in Tropical Medicine and Hygiene were granted, jointly with the Royal College of Physicians of London, to M. S. Holman and S. Khayatt, and in Child Health to H. S. de Silva.

The Board of Faculty of Dental Surgery held its first dinner on Jan. 30, when it entertained at the College some of the senior distinguished members of the profession who were recently elected to the Fellowship in Dental Surgery. The President of the College, Sir Alfred Webb-Johnson, who presided, proposed the health of the guests. He took the opportunity of thanking the Board for the silver cup which it had presented to the College to commemorate the inauguration of the Fellowship and the establishment of the Faculty. The cup is of George II period and bears the arms of the Earl of Chatham (William Pitt) who was responsible for Parliament buying the John Hunter Collection and entrusting it to the College. Mr. A. E. Rowlett, replying for the guests, thanked the President and the College for all they had done for dental surgery, particularly in the establishment of the Fellowship and Faculty. They all realized how much they owed to the President. The Dean (Prof. R. V. Bradlaw), Sir Frank Colyer, and Mrs. Lindsay also spoke.

Medical News

Not to Serve under the Act

At the Annual General Meeting of the Association of the Honorary Staffs of the Major (Non-Undergraduate) Voluntary Hospitals of England and Wales held on Jan. 29 the following resolution was passed unanimously:

"That this Association at its Annual General Meeting agrees to recommend that no member of the staffs of its member hospitals should accept service under the National Health Service Act as it now stands."

The Council has been concerned about the possible appointment of Regional Advisers and has passed the following resolution:

"That the Regional Adviser, if appointed, in visiting hospitals should advise, but not have the power of direction in clinical matters."

Unit for Premature Babies

A unit for premature babies was opened at the Hammersmith Hospital on Feb. 12. The medical staff is provided by the Institute of Child Health and the British Postgraduate School. Prof. Alan Moncreff, Dr. D. de la C. MacCarthy, and Dr. R. R. Gordon are in charge of the unit.

W.H.O. Established

Twenty-nine member States of the United Nations have now ratified the constitution of the World Health Organization, and the Soviet Union has promised to do so shortly. It is therefore established on a permanent basis, and the first World Health Assembly will be held in Geneva in June. Subjects tabled for early discussion by the World Health Organization include such tropical communicable diseases as cholera, yellow fever, and malaria, and more general topics such as child health, standardization of biological products, and rural hygiene.

Bridge of Earn Fitness Centre

The Residential Rehabilitation Centre for male patients formerly at Glengables Hospital is now functioning at Bridge of Earn Hospital and Fitness Centre, Perthshire. All classes of male patients, irrespective of their trade or calling, suffering from medical or surgical disabilities and requiring rehabilitation can be accepted, but they must be ambulant and able to feed and clothe themselves. Cases can be admitted from hospital or direct from medical practitioners anywhere in Scotland. Applications for admission of patients should be made to the Medical Superintendent and should give as much information as possible about the clinical condition of each patient; case sheets and x-ray photographs should be sent if available. They will be returned on discharge of the patient.

Prize in Ophthalmology Offered

An honorarium of \$1,000 to promote research in ophthalmology is offered through the American members of the staff of the International Association for the Prevention of Blindness. The jury will consist of the executive committee together with the president and the officers of the Association. The award will be made in connexion with the Sixteenth Concilium Ophthalmologicum. The subject is "Simple Non-inflammatory Glaucoma" and may include anything relative to the problem. The work must be original. Papers may be written in English or French and should be either previously unpublished or published between now and Oct. 15, 1949. They should reach the secretary of the International Association for the Prevention of Blindness, 66, Boulevard St. Michel, Paris, not later than Oct. 15, 1949.

Institute of Psycho-Analysis Prize

The prize of £25 offered by the Institute of Psycho-Analysis (96, Gloucester Place, London, W.) for the best entry for the students' prize essay competition has been awarded to Mr. H. S. Glast (Sheffield University) for his essay entitled "A Social Approach to Psycho-Neurosis."

Chest Specialist from Chile

Dr. H. Orrego Puelma, Head of the Chest Diseases Department of the San Salvador Hospital and specialist in tuberculosis, is visiting Britain under the auspices of the British Council to study recent developments in the treatment of tuberculosis and particularly rehabilitation problems.

Tuberculosis Research to Germany

An institute has recently been established in Schleswig-Holstein for research in tuberculosis. It is staffed by German experts.

Wills

Dr. Alexander Munro, of Bournemouth, who died on June 10, left £26,419. Dr. George Fyfe Waierson, Kendal, Westmorland, and Bolton, Lancs, who died on Feb. 27, left £40,545.

No. 5

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Jan. 31.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	48	6	27	2	1	83	5	23	1	2
Deaths	—	—	—	—	—	—	—	—	—	—
Diphtheria	200	26	56	11	2	176	9	59	28	13
Deaths	4	—	—	—	—	6	2	1	—	1
Dysentery	208	15	29	1	—	61	3	10	2	—
Deaths	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica, acute	1	—	—	—	—	2	1	—	—	—
Deaths	—	1	—	—	—	—	—	—	—	—
Erysipelas	—	39	11	3	—	—	41	5	1	—
Deaths	1	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years	—	—	—	—	—	—	—	—	—	—
Deaths	64	8	6	2	1	92	9	14	12	3
Measles*	4,233	340	885	88	13	13,501	482	254	50	767
Deaths†	—	3	—	—	—	2	1	1	—	5
Ophthalmia neonatorum	69	3	7	—	1	52	—	16	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever ..	4	—	—	—	—	1	2(B)	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenza ..	850	56	9	6	8	1,278	79	27	18	7
Deaths (from influenza)‡ ..	24	3	2	—	1	148	23	10	12	1
Pneumonia, primary ..	—	—	—	—	—	—	—	—	—	—
Deaths	316	59	260	32	8	—	94	310	39	19
Polio-encephalitis, acute ..	4	—	—	—	—	12	—	—	—	—
Deaths§	49	6	3	2	—	1	1	1	8	1
Poliomyelitis, acute ..	3	—	—	—	—	—	—	—	—	—
Deaths|| .. ..	—	—	—	—	—	—	—	—	—	—
Puerperal fever	—	—	4	—	—	—	18	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia|| ..	106	7	12	1	1	126	10	10	1	—
Deaths	—	—	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	1,926	105	355	36	48	1,135	89	288	41	36
Deaths†	—	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid fever	2	—	—	8	2	6	1	1	5	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough* ..	2,725	191	32	65	10	1,890	156	295	60	43
Deaths	10	1	—	—	—	13	4	8	3	3
Deaths (0-1 year) ..	407	66	53	21	14	558	74	78	42	22
Infant mortality rate (per 1,000 live births) ..	—	—	—	—	—	—	—	—	—	—
Deaths (excluding stillbirths) ..	5,359	871	709	233	150	7,079	1,222	775	326	204
Annual death rate (per 1,000 persons living) ..	—	—	14.3	14.6	—	—	—	16.1	—	—
Live births	8,566	1,396	958	414	265	9,677	1,485	1,189	376	265
Annual rate per 1,000 persons living ..	—	—	19.3	25.9	—	—	—	24.0	—	—
Stillbirths	216	21	43	—	—	245	30	38	—	—
Rate per 1,000 total births (including stillborn) ..	—	—	43	—	—	—	—	31	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

|| Includes puerperal fever for England and Wales and Eire.

- EPIDEMIOLOGICAL NOTES

Poliomyelitis

After the rise last week the figures for the week ended Feb. 2 show a substantial fall in the notifications of poliomyelitis 25 (49). Notifications of polio-encephalitis 6 (4) rose by 2. Figures for the previous week are given in parentheses. The counties with more than one notification were:

	Poliomyelitis	Polio-encephalitis
London	1 (6)	3 (0)
Essex	2 (2)	—
Hertford	2 (0)	—
Lancs	1 (4)	1 (2)
Middlesex	4 (5)	—
Shropshire	2 (0)	—

Discussion of Table

In England and Wales infectious diseases were more prevalent during the week, and an increased incidence was reported for measles 776, whooping-cough 178, dysentery 77, scarlet fever 79, acute pneumonia 70, and acute poliomyelitis 14.

A rise in the incidence of measles occurred in most areas. The largest increases were Northamptonshire 108, Warwickshire 91, Cheshire 67, Norfolk 59, London 56, and Essex 51 while the only decrease of any size was 47 in Staffordshire. An increase in the notifications of whooping-cough was recorded in only a few counties; the largest rises were Yorkshire West Riding 89, Essex 47, and London 33.

The incidence of scarlet fever remained practically constant in most areas; the only increases of note were Yorkshire West Riding 39, Staffordshire 31, and Warwickshire 25. The only large local variation in the returns of diphtheria was a decrease of 10 in Lancashire.

A large part of the increase in the notifications of dysentery was contributed by Lancashire, where the cases rose from 61 to 103. The chief centres of infection in this county were Burnley C.B. 42, Liverpool C.B. 11, Lancaster M.B. 14 and Prestwich M.B. 12. The other large returns of dysentery were Yorkshire West Riding 33 (Sheffield C.B. 22), Middlesex 21, and London 15.

The largest returns of acute poliomyelitis were Warwickshire 7, London 6, Lancashire 4, and Yorkshire West Riding 4. Multiple cases of poliomyelitis were notified in only three administrative areas: Warwickshire, Birmingham C.B. 4; Yorkshire West Riding, Bradford C.B. 3; and Cheshire, Wirral R.D. 2.

In Scotland falls were recorded in the notifications of measles 138, acute primary pneumonia 18, and dysentery 14. Nearly half of the cases of dysentery were notified in the north-eastern area.

In Eire the notifications of measles declined by 33, while those of whooping-cough rose by 23. The fall in the incidence of measles was general throughout the country, while the rise in the notifications of whooping-cough was due to an outbreak in Wicklow, Wicklow U.D. 20.

In Northern Ireland only small fluctuations were reported in the incidence of infectious diseases.

Week Ending February 7

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,943, whooping-cough 2,572, diphtheria 223, measles 5,596, acute pneumonia 1,012, cerebrospinal fever 56, acute poliomyelitis 25, dysentery 160, paratyphoid 6, and typhoid 12.

Written by Harlan Hoyt Horner, the Secretary of the Council on Dental Education of the American Dental Association, *Dental Education Today* (Cambridge University Press, 33s.) represents a layman's views on dental education. He presents an exhaustive survey of the dental schools in the U.S.A. with a comparison of their methods of teaching, and makes suggestions for dental education in the future. The writer is clearly advocating autonomy in the dental profession and does not appear to consider that dental surgery should be regarded as a branch of medicine. With this view all may not agree.

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Q.—Should any special precautions be observed in bringing up infants whose elder brothers and sisters have developed surgical tuberculosis?

A.—The question implies that two or more members of the family have developed active tuberculous lesions; it is therefore necessary to search for the source of infection and at the same time to build up the general resistance of the infants by giving them an adequate diet, sufficient rest, and a well-regulated life. The source of infection may be a member of the family, or it may be the milk supply. It is essential that all members of the household should be examined by a chest physician and the milk should be tested for tubercle bacilli. The chests of those who have non-respiratory tuberculosis should also be examined, even though they may have recovered from their disability. If the source of infection is found, precautions must be taken to prevent infection reaching the infants. The latter should be tuberculin-tested to determine if they have been infected; if they are, chest radiographs should be taken, and these should be repeated yearly until the age of 6. If the infants have not been infected, they should be tuberculin-tested every four months so long as they remain in the tuberculous household, and if the skin reaction becomes positive chest radiographs should be taken and repeated every three months for a year to trace the course of the primary infection. In a country where B.C.G. vaccination is practised the negative reactors in such a family would be vaccinated. As the household must be regarded as tuberculous the standard of living should be kept high and all should obtain sufficient rest and nourishment.

Q.—The answer to a question on "Cod-liver Oil for Adults" (Sept. 6, 1947, p. 403) states that "the fear of excessive doses of vitamin D has now been shown to be groundless." The most recent paper on the subject that I have come across was by Glynn (J. Amer. med. Soc., 1946, 1, 1208), on "Vitamin D Intoxication: Metastatic Calcification from Massive Doses of Vitamin D." In this paper he deals with one case and refers to many others in which metastatic calcification and death were attributed to overdosage with vitamin D. I should be grateful if you could refer me to more recent work which has disproved this, and to any other work on the subject.

A.—That answer referred to excessive doses of vitamin D received through taking cod-liver oil. There was at one time a suggestion that even the amounts in cod-liver oil might give rise to calcification, but doubt was thrown on this by Cox and Rees (*Laboratory Hosp Bull* 1934, 54, 430); and Burack and Zimmerman (*J. Nutrit.* 1937, 14, 535) have stated that the amount of cod-liver oil necessary to induce pathological calcification in a series of antirachitic vitamin would have to be calculated in terms of antirachitic vitamin (Correll and Wise (*J. Nutrit.*, 1943, 26, 641) showed that toxic manifestations from the vitamin D of cod-liver oil occurred at 5000 times the minimal

[illegible]

without intoxication, but emphasized that kidney dysfunction and arteriosclerosis are contraindications. Macrae (*Lancet*, 1947, 1, 135) found no evidence of renal damage even in patients in a severe toxic state, and abdominal radiography showed no calcification. He states, however, that it is always a possibility, and constant watch is necessary. Dowling (*Lancet*, 1947, 1, 44) says that even his own dosage of 150,000 units daily is not a "safe dose," because of individual variation in requirement, but thinks it unlikely that its administration for limited periods would entail any great risk of calcification or other serious sequelae.

Q.—Can you suggest any treatment or diet that will inhibit the formation of cystine, or increase its elimination without stone or gravel formation?

A.—Cystinuria is an inborn error of metabolism which appears to be inherited as a Mendelian recessive characteristic: it affects both sexes and occurs at any age. Cystine lithiasis, however, occurs in only a small proportion of cases of cystinuria and is commoner in younger patients. The amount of cystine excreted in the urine has been found to be increased by a high protein diet and by feeding the sulphur-containing amino-acids—methionine and cysteine—but not by feeding cystine itself. A period of starvation, however, does not cause disappearance of the substance from the urine.

A tendency to calculus formation can be prevented, or at least reduced, by a constant high fluid intake and by keeping the urine alkaline with sodium bicarbonate or sodium citrate, since cystine is soluble in an alkaline solution. Reducing the level of protein intake below that of the present ration scale would be undesirable in an abnormality which will last the patient's lifetime, but, obviously, excess protein intake should be avoided. If the patient develops a urinary infection it must be promptly and adequately treated, as infection greatly predisposes to calculus formation. Mandelic acid therapy for such an infection would clearly be strongly contraindicated, but sulphonamide therapy combined with alkalinization and high fluid intake could be used. Cases have been described in which cystine stones have gradually disappeared under alkalinization therapy.

Q.—What would be the appearance and signs of a demodex infestation in man? Is there a modern certain cure for the condition (a) in man, (b) in dogs?

A.—*Demodex* probably occurs in the skin of more than 50% of Europeans. It does not seem to inconvenience its human host in any way, and the statement that it is the cause of acne lacks scientific proof. It is usually accepted that in dogs it may cause a severe form of mange, but the finding of the parasite in at least 10% of normal animals has raised the question whether its presence in association with the lesions is not purely incidental. The treatment of demodectic mange in animals is notoriously difficult, although success has been claimed with the use of both benzyl benzoate and rotenone. The subject is dealt with by Riley and Johannsen, *Med. Entomol.*, 1932, 1st ed., p. 61; Irwin, L., *Vet. Med.*, 1937, 32, 318; Davidson, J., *Vet. Med.*, 1945, 40, 377; and Unsworth, K., *J. comp. Path.*, 1946, 56, 114.

Q.—What is meant by the term "man value" in dietetics? What facts should be taken into consideration in deciding whether the diet of a group of "young persons" is adequate?

A.—The amounts of food eaten by mixed populations cannot be compared directly one with another or with a standard of requirements, because the quantity required and actually eaten varies with age and sex. As a statistical device for making such comparisons it is assumed that women and children eat definite fractions of the amounts eaten by adult males. To each woman and child of stated age and sex a "man value" is given. An adult male is counted as 1 "man value"; in the table of Cathcart and Murray, still commonly used, the "man value" of an adult female is 0.83, and the "man values" of children range from 0.2 for a child of 0-1 year to 1 for a boy

of 14 or over. Thus the "man value" of a family, consisting of a man, wife, and three children aged 10, 6, and 2 years, is $1+0.83+0.8+0.6+0.4=3.63$. If their food supplies 9,440 calories a day they are getting 2,600 per "man value." These "man values" apply to calories only.

According to the Recommended Allowances of the U.S. National Research Council, boys of 13 to 20 require more calories than adult men, and requirements of other nutrients are highest in this age period. According to this scale of allowances girls of 13 to 15 need more protein and calcium and girls of 16 to 20 more calcium than are required by adult males.

Shock Treatment during Pregnancy

Q.—Can electric convulsion therapy be continued in a young woman during pregnancy? Can insulin-coma therapy safely be carried out during pregnancy?

A.—Electric convulsion therapy can be safely continued in the early months of pregnancy, but there is said to be some risk of miscarriage or premature birth in the later months. The writer's own experience is limited, but one patient who had E.C.T. on two occasions when 30 weeks pregnant, and later had an induction of labour, now has a healthy and forward infant.

Insulin coma produces a prolonged anoxia, which is likely to be damaging to the foetus. Treatment of the pregnant woman by this method, should therefore be postponed if possible.

Closed-plaster Treatment of Fractures

Q.—What are the indications for Trueta treatment, and is its efficacy proved?

A.—The closed-plaster treatment of compound fractures and wounds of the limbs, advocated by Winnett Orr between the wars and extensively used by Trueta during the Spanish Civil War, has now achieved an established place in orthopaedic surgery. The method is indicated particularly in the treatment of wounds, with or without bone injury, when it is unwise to attempt suture of the skin, either because the wound is already grossly infected or appears likely to become so, or because there has been actual loss of skin, rendering suture impossible. In circumstances such as these there is no doubt that the treatment is efficacious in helping to overcome wound infection and in facilitating healing by providing complete rest for bones and soft tissues. It has the additional advantages that it is comfortable for the patient, it entails relatively little work for the nursing staff, and it minimizes the possibility of secondary bacterial infection of the wound.

The main potential dangers of the closed-plaster method are: (1) That in cases of recent injury reactionary swelling beneath the plaster may lead to ischaemia of the limb. In fresh cases the plaster should therefore be split throughout its length, and a careful watch be kept on the state of the distal circulation in order to avoid the possibility of such a catastrophe. (2) That infection with gas-gangrene organisms may develop beneath the plaster and may remain undetected in its early stages. A careful watch for the occurrence of unexplained pyrexia or of suggestive pain should lead to the early inspection of the wound in such a case.

In recent years the combination of early and thorough wound excision with the employment of penicillin and other forms of chemotherapy has made possible the early closure of a large proportion of potentially infected wounds by secondary suture, or even by delayed primary suture, and the indications for the closed-plaster method of treatment have become correspondingly less frequent.

Postprandial Pain

Q.—What are the significance and mechanism of the relief of postprandial pain by alkali in an alcohol-fast achlorhydric patient? The pain is typical of peptic ulcer—coming on 20 minutes after the meal, quite acute, and controlled by mild ulcer diet.

A.—The question implies that no ulcer has been shown to be present. Nevertheless, acute pain 20 minutes after a meal associated with achlorhydria is almost certainly due to a gastric ulcer. If expert radiology is available and yet no ulcer is

seen, the patient should be examined by gastroscopé. Achlorhydria without ulceration never gives rise to clear-cut pain, although diffuse epigastric discomfort may be associated with it. In such cases there is often a great excess of mucous secretion in the stomach, probably linked with a chronic gastritis. It is well known that the giving of acid in such cases aggravates the symptoms, whilst alkali relieves them. This is because the latter aids the solution and expulsion of the glairy mucus.

Werdnig-Hoffmann's Paralysis

Q.—Is there any treatment which may have some chance of success in a case of Werdnig-Hoffmann's paralysis? The patient is a child of 5½ years whose younger brother died of the same disease some months ago.

A.—There is no known treatment which offers any prospect of cure or even of arrest of the progression of the disease in cases of Werdnig-Hoffmann's paralysis.

Causes of Haemoptysis

Q.—In all cases of haemoptysis in which the cause is not immediately obvious to the tuberculosis officer about one in twelve are tuberculous in origin. The others are referred back as non-tuberculous, with the report that x-ray examination of the chest is negative. Is the haemoptysis due to the "strain of coughing"?

A.—There is no doubt that in chronic bronchitis a severe paroxysm of coughing may be followed by a few flecks of blood in the sputum. However, a plain radiograph of the chest, although it can exclude tuberculosis, cannot do the same for other causes of haemoptysis. A common reason is bronchiectasis, the diagnosis of which requires bronchography. For the exclusion of other causes bronchoscopy is necessary. Nevertheless, when all diagnostic weapons have been fully exploited a number of patients remain in whom no reason for the haemoptysis can be found.

Dysmenorrhoea

Q.—What is the modern treatment of dysmenorrhoea? An unmarried woman aged 33 gets intense pain during the first 24 hours of each menstrual period. Her periods are otherwise regular, and apparently pursue a normal course after the first 24 hours.

A.—Dysmenorrhoea is a symptom, not a disease, and its treatment varies with its cause. The spasmodic pain which is common in women aged 18 to 25, and which occurs without any apparent gross abnormality in the uterus, does not usually persist after the age of 30, or at least it becomes less intense. In this case all steps should be taken to find the cause; and the possibility of pelvic endometriosis should be kept in mind. It is specially important to know whether the woman has always had dysmenorrhoea or whether it is a comparatively recent development.

Disseminated Sclerosis and Pregnancy

Q.—In women suffering from disseminated sclerosis I have observed that pregnancy nearly always produces an improvement—sometimes of long duration. Is this a common occurrence? If so, would the transfusion of blood from pregnant women have any therapeutic value in the treatment of this condition?

A.—The usual experience is that pregnancy produces a deleterious effect upon the course of a disseminated sclerosis. The procedure suggested is unlikely to have any beneficial effect, and might indeed prove harmful.

Pyrogens

Q.—Could you tell me what pyrogens are and how "pyrogen-free" water is obtained?

A.—Pyrogens are almost always dead micro-organisms or their products. These organisms are rarely pathogenic, but are nondescript Gram-negative bacilli or even algae which are liable to grow in water which is not sterilized. Not only should all water used for making up intravenous solutions be distilled but the solutions should be made in it and the product autoclaved soon after distillation, before any such growth can occur.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.I. TELEGRAMS: FUSION 2111. TELEGRAMS: All other telegrams, Western, London. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the British Medical Journal alone. Authors desiring REPRINTS should communicate with the Publishing Manager, B.M.A. House, Tavistock Square, W.C.I. on receipt of proofs. ADVERTISEMENTS should be addressed to the Advertisement Manager, B.M.A. House, Tavistock Square, London, W.C.I. Office 9 a.m. to 5 p.m. TELEGRAMS: FUSION 2111. TELEGRAMS: Brimmedadi, Western, London. MEMBERS' SUBSCRIPTIONS should be sent to the SECRETARY OF THE ASSOCIATION - FUSION 2111. Telegrams: Mediterra, Western, London. B.M.A. CENTRAL OFFICE: 7, Drum-Booth Gardens, Edinburgh.

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY FEBRUARY 21 1948

HEARD AT HEADQUARTERS

The Basic Question

The various reasons given for an unwanted basic salary for doctors sent me back to the file of Official Debates. In the House of Lords, when the National Health Service Bill was in committee, an amendment was carried against the Government calling for payment by capitation fee only. In the course of the debate various reasons were given for a basic salary: that it would meet the financial difficulties of early years in practice, give some feeling of security to young doctors, attract doctors to areas inadequately served, and so on. Lord Addison appeared to look forward to a differentiated basic salary according to the difficult character or remoteness of the district. But when the measure came up for third reading in the Lords the Lord Chancellor gave a reason for basic salary which had not been given in the earlier debate. He said that it would help to secure satisfactory certification. When he was Minister of National Insurance he had come across cases—he admitted they were not many—in which doctors had been lax in certification, and insured persons had tended to remove themselves from the list of a doctor who was strict in this respect and attach themselves to one who was lax. The Lord Chancellor said that if the capitation method were abolished in favour of salary it would do away with the temptation to the doctor; but, while such total abolition was not practical politics, a basic salary would be of some assistance. The Government had full warning, even before the long months of "negotiation" began, of what the profession felt on this subject, Lord Horder pointing out in this debate that this was the most vulnerable spot at which the Government could attack the independence of the profession.

Democracy

Sir Stafford Cripps recently accused doctors of striking at the very roots of democracy. The remark of a doctor at Headquarters deserves quotation: "I wish I knew what democracy was. In the old liberal conception it meant individualism and freedom; in the new industrial democracy it appears to mean standardization."

By the Way

We confess to some sympathy with a motion which stands in the name of two members of the London County Council for discussion at the next meeting—that the question of eliminating or diminishing the time spent in complimentary speeches be considered. How often have we wished at medical society meetings for the suppression of votes of thanks and everything else that could be taken as said.

The word "clinical" is in danger. Whether rightly or wrongly, since it merely pertains to a bed, it has been appropriated by medicine for centuries, but now it is being wrenched away by engineering. We heard a speaker at a large meeting the other day, describing the work of a factory, divide it into its administrative and what he called its "clinical"—by which he meant the work at the bench—aspects.

American Comment

"The Handwriting on the White Cliffs of Dover" was the heading to a little article in an American journal which found its way to Headquarters the other day. It proceeds in this fashion: "Britain's physicians are slated to be drawn into the

socialized sphere. Most of them are pretty leery of the way nationalized medicine will work out. On the basis of performance to date their qualms seem justified. The situation has important overtones for U.S. physicians too. The spectacle of a foundering nationalized economy in Britain is hardly calculated to inspire the confidence of United States voters in measures that might scuttle private enterprise—or private medicine—here."

CAPITATION FEE FOR DRUGS AND APPLIANCES

Following representations by the Insurance Acts Committee of the B.M.A., the Minister of Health has decided to increase the capitation fee payable to insurance practitioners in respect of the provision of drugs and appliances (except those mentioned in the appendix to the Distribution Scheme) to insured persons in an emergency or before a supply can conveniently be obtained under the Medical Benefit Regulations. The fee will be increased from 1s. 3d. to 2s. 6d. per 100 insured persons on the practitioner's list, other than those for whom he is required to supply all necessary drugs and appliances. In the areas where, by reason of special circumstances, a capitation fee higher than 1s. 3d. per 100 persons has been approved, the higher fee will be similarly doubled. The increase will have effect as from Oct. 1, 1947.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Poplar.

Non-County Borough Councils.—Dartford, Radcliffe (limited to future appointments), Tottenham, Wallsend.

Urban District Councils.—Denton, Droylsden, Houghton-le-Spring, Huyton-with-Roby, Portslade, Redditch (restricted to new appointments), Stanley (Co. Durham), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

Correspondence

Liverpool Regional Hospitals Medical Association

SIR.—In the *Supplement* (Jan. 17, p. 13) we read with pleasure the announcement of the formation of the Liverpool Regional Hospitals Medical Association, the objects of which were stated to be (1) the establishment and maintenance of high standards of efficiency in the hospitals of the region, and (2) the promotion of the professional interests of the members. Over a year ago the Association of Medical Officers (Essex), representative of all branches of the profession employed wholly or part-time by the Essex County Council, was formed with similar prime objects. Its committee feels that the time has come when the Association should be merged in the formation of a body covering the whole of the North-east Metropolitan Region. It is in the best interests of the doctors concerned and of the public that there should be a close liaison between those who may be employed by the regional board and their professional

colleagues in the service of local authorities in the Region, and both should be eligible for membership of a regional medical association.

We should welcome the co-operation of interested professional groups or individuals in the Region, and invite them to communicate with our honorary secretary at Delafords, Theydon Bois Road, Epping, Essex.—We are, etc.,

W. L. YELL,
Chairman.

F. N. FOSTER,
Vice-Chairman.

L. S. FRY,
Hon. Secretary.

D. H. IRWIN,
Hon. Treasurer.

L. COSIN,
G. E. KEITH.

E. MILES,
R. C. COHEN.

H. RAMSAY,
N. S. R. LORRAINE.

M. TURNER,
D. MACLEAN.

Executive Committee

"Intraprofessional Courtesy"

SIR.—When your remarks under "Heard at Headquarters" on "Intraprofessional Courtesy" appeared (*Supplement*, Oct. 11, 1947, p. 87) I was away recovering from a considerable illness and owed much to several colleagues for their skill and care of me in hospital. Hence my failure to notice the paragraph at the time. I had no difficulty in paying them something more than would cover their out-of-pocket expenses, though not an amount that in magnitude would represent a fee. I also obtained a useful sum towards my own hospital private-room expenses.

The simple, and indeed obvious, way of doing this is to insure with the London Association of Hospital Services (of 10, Old Jewry, E.C.2), whose premiums are so reasonable and general scheme so comprehensive. They make special provision for doctors. In a case such as my own a cheque is paid direct to the colleagues involved, with a simple note from the courteous and understanding secretary to point out that these payments are not fees but a contribution from an insurance policy, and therefore may be accepted without any feeling that a direct payment has been made between colleagues.

May I suggest that many more doctors should take advantage of this service, and should keep a brochure of the scheme among the papers in their waiting-rooms for the benefit of their patients? It is a far, far better thing than any offered by the miserable State.—I am, etc.,

London, W.4

THOS. NELSON.

Association Notices

CONSULTANTS AND SPECIALISTS COMMITTEE

As a result of the ballot held to fill the vacancy caused by the resignation of Prof. J. I. Morrison, Mr. Percy Malpas, F.R.C.S. (Liverpool), has been returned unopposed as the representative of Region 3 of the Consultants' Roll upon the Committee for the remainder of the session 1947-8.

CONFERENCE OF REPRESENTATIVES OF SCOTTISH DIVISIONS

With the authority of the Council of the Association a Conference of Representatives of Scottish Divisions will be held in Edinburgh on Wednesday, March 10, 1948 at 11 a.m. under the Chairmanship of Dr. J. B. Miller, Chairman of the Representative Body of the Association. The object of the Conference is to give the profession in Scotland an opportunity for discussion with the National Health Service (Scotland) and to discuss the proposed Representative Meeting in London on April 15-16, 1948.

The proposed Representative Meeting of Scottish Divisions will be held at the Representative Body, or their deputies, will be invited to attend. The proposed Representative Meeting of the Association will be held at the Representative Body, or their deputies, will be invited to attend. The proposed Representative Meeting of the Association will be held at the Representative Body, or their deputies, will be invited to attend.

consideration of any motions brought forward by Divisions, and probably a statement concerning the position of doctors in the Highlands and Islands Service. Any motions for consideration by the Conference should reach the Scottish Secretary of the Association at the Scottish Office, 7, Drumshugh Gardens, Edinburgh, as early as possible in March.

GROUP OF OTOLARYNGOLOGISTS

A meeting of the recently formed Group of Otolaryngologists of the Association will be held at B.M.A. House, Tavistock Square, London, W.C.1, on Friday, March 5, 1948, at 4.30 p.m. The Group consists of all those members of the Association who are engaged predominantly in the practice of otolaryngology. The agenda will consist of (a) the election of chairman; (b) consideration of the size of the Group Committee; and (c) a general discussion on the work of the Group.

CHARLES HILL,
Secretary.

Diary of Central Meetings

FEBRUARY

26 Thurs. Publishing Subcommittee, 11 a.m.

Branch and Division Meetings to be Held

BIRMINGHAM: CENTRAL DIVISION.—At 154, Great Charles Street, Birmingham, Tuesday, Feb. 24, 8.15 p.m. Clinical meeting conducted by Mr. P. Jameson Evans.

CLEVELAND DIVISION.—At Sparks' Cafe Royal, Middlesbrough, Thursday, Feb. 26. Address by Dr. W. F. T. Haultain: The Endocrines in Gynaecology. To be preceded by supper at 7.15 p.m.

Meetings of Branches and Divisions

NORTH OF ENGLAND BRANCH

The first meeting of the autumn course of Scientific Meetings was held at the Royal Victoria Infirmary, Newcastle-upon-Tyne, when Mr. J. V. Todd gave a demonstration of cases dealing with the treatment of poliomyelitis. He was assisted by the staff of the Physiotherapy Department. This interesting demonstration was followed by the Ministry of Health film on the early diagnosis of acute anterior poliomyelitis. Prof. M. J. Stewart, of Leeds, then lectured on "Some Aspects of Silicosis and Asbestosis." He described the morbid anatomy of subclinical silicosis and silicotic apical scars, and discussed silicosis of the spleen and the mode of transmission of the silicotic particles to this organ. He then discussed in detail the pathological problems of asbestosis, and finally gave a résumé of haemate miner's fibrosis. This lecture was attended by about 120 members of the Branch. The President, Dr. T. H. Bates, was in the chair, and a vote of thanks was proposed by Prof. R. C. Browne.

The second meeting was held on Oct. 16, 1947, at the Royal Victoria Infirmary, when Dr. W. G. A. Swan gave a demonstration on thyrotoxic heart failure. He described the symptoms and signs of this condition and discussed the treatment by thiouracil. This was followed by Dr. C. C. Ungley lecturing on the "Neurological Disorders in Pernicious Anaemia." He discussed the aetiology, mentioning its relation to other types of megalocytic anaemia, and described the symptoms and signs of subacute combined degeneration of the cord.

At the third meeting, held in the Dental Hospital, Prof. J. Boyce demonstrated a large number of cases illustrating the diseases of the oral mucosa. A lecture followed by Mr. R. C. L. Batchelor, of Edinburgh, on "Penicillin in the Treatment of Venereal Disease." He discussed the modern treatment of gonorrhoea in detail and mentioned the possibility of oral penicillin. The treatment of syphilis was then presented in all its many aspects and the dangers were emphasized. Dr. W. V. Macfarlane made a considerable contribution to the discussion following Mr. Batchelor's lecture. About 50 members attended the meeting.

The fourth meeting was held in the Royal Victoria Infirmary on Dec. 18, 1947, when the staff of the Thoracic Unit gave a demonstration. Cases were shown of the operative treatment of patent ductus arteriosus, aneurysm of the aorta, diaphragmatic hernia, thrombosis of the superior vena cava, carcinoma of the oesophagus, and chronic pericarditis. Dr. Douglas Guthrie, of Edinburgh, followed this extremely interesting demonstration with an address on "The Patient—a Forgotten Factor in the Progress of Medicine." He gave a short survey of patients in the Egyptian and Greek eras of medicine. He briefly discussed the early days of anaesthesia and antiseptics, and then mentioned several patients who had been turned into famous pathological specimens. Finally he considered the problem of the doctor as a patient. There were about 110 members present at this meeting.

RETURN TO PRACTICE

The Central Medical War Committee announces that Dr. W. E. F. Moss has resumed civilian practice at 118, Harley Street, London, W.1 (Wetlock 1611).

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SCEPSIS SCIENTIFICA*

BY

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The habit of mind of any scientist is sceptical in so far as he is, or should be, unwilling to admit the truth of anything without proof. The antithesis is a habit of faith in beliefs, usually expressed in abstract ideas, that make so strong an appeal to the individual as to require no proof; to him they seem self-evident. The habit of faith is one shared by scientists, who must accept teachings and beliefs that they have not personally inquired into. There is this difference, that the latter know they can obtain verification of the facts if they turn to the original experiments or calculations. If after that they feel sceptical they will try a rigidly identical experiment, themselves or will devise new ones to test the results previously given. Belief in abstractions, on the other hand, can only refer for confirmation to others, contemporary and past, who attest them with equal or greater vividness and force.

The definition of the scientific outlook just given might be commented upon by philosophers. They might somewhat cynically say that in history it was observable that individual scientists had seemed to be readier to accept the truth of personal researches than that of others. They might observe also that the answer to an experiment is always a special answer since it is conditioned by the nature of the experiment itself, and that its applicability in a chain of reasoning depends on the choice of that particular experiment out of all possible experiments. They would almost certainly object that the word "truth" was misused, for science has nothing to do with truth in the sense in which scholars for centuries have employed the word—"correctness" or "accuracy" would be better. The amended definition would then run that a sceptical habit of mind is proper for scientists with reference to their own as well as to other people's work, that it embraces unwillingness to accept without adequate proof the correctness of a certain type of observation, usually with limited aim; and it might be added that this proof should preferably be quantitative, should take the form of measurement.

Essential Irrationality of Science

The philosopher would perhaps go on to add his own sceptical reflections on the limitations of the scientific method and of the orthodox scientific mind. He would find it difficult to express himself better than A. N. Whitehead or to add anything to what that philosopher wrote in his classic *Science and the Modern World*. He there speaks of the essential irrationality of science, by which he means its pursuit of crude and brutal fact and imperative acceptance of fact irrespective of its having any recognizable meaning.

This charge of irrationality is at first a little shocking, but it is valid. For science takes a special pride in the necessity for such acceptance and is particularly suspicious

of first causes and purpose. It is simpler when the results of experiments or biological observations are in line with orthodox beliefs; when they are not, the observer must still record them even when they puzzle him, are even more "irrational" than he expected. Within its own framework science presents mental difficulties, for clearly the scientific outlook requires a discipline of mind not quite natural or intuitive. There is a possibility then that the discipline may prove to be too rigorous. We can find two very different examples of suggestions for minimizing the risks of personal bias. The first is inherent in the Baconian notion of the value of the collective brains of a scientific committee. It was perhaps a Lord Chancellor's idea of science, as William Harvey, his doctor, might have said of it, recalling what he had said of Bacon's philosophy. An entirely different and individual concept, that of ridding the observer of all preconceptions and emotional content, was that of François Magendie 200 years later.

Magendie claimed that he went into the animal laboratory with a head empty of any expectation of what he would discover. He had two hands, two eyes, and no brain, or, rather, no mind. It would be tedious to explore the labyrinths of Magendie's illusions, he could not possibly have been as ingenuous as he thought he was, a kind of Parsifal transplanted, the wise fool of the laboratory. None the less it is quite certain that Magendie's ideal is theoretically necessary if the observer is to maintain the discipline that science demands. Unless extreme care is taken the experimenter or inductive reasoner may find himself falling into the errors which Olmsted finds in Brown-Séquard's later work. He no longer asked, says Olmsted, "How will Nature act under certain conditions?" but, "What conditions can I set up so that I can demonstrate to others the way I think that Nature will act?" The classical dilemma of science emerges: the necessity for an idea, a preconception, a theory which is to be put to experimental test, and the consequent danger that the manner in which the experiment is conducted may prescribe a wanted, an emotionally desired, result.

It is not without interest to seek from contemporary sources further amplification of the necessity seen at the beginning of the scientific era for three things—freedom to submit anything whatever to sceptical criticism, the danger of the scientist being deceived in his own experiments, and recognition that the scientific method could not expect to solve all the problems that might be put to test. Let us listen to some of those contemporaries.

Joseph Glanvil

Nearly 300 years ago there was published a book bearing the title of this article. It was by Joseph Glanvil, who died too young: it contained a reprint of an essay that later became famous—"The Vanity of Dogmatizing or Confidence in Opinions," originally printed in 1661, the year in which

*The substance of an inaugural lecture delivered to Leeds University Medical Faculty

everybody are easily made. We recognize that the world may look the same or a little different to other people; we know from the cell layers in the retina and from the presence or not of a chiasma that it must look different, sometimes very different, to other animals, both in colour and in perspective. We admit that our senses may mislead us, that what in the distance we thought was a man is a bush, and so forth; but we have spent our lives from our cradles in correcting these errors and have developed a built-in theory of probability that minimizes mistakes. Man only rarely raises his eyes to the firmament, and when he does it with scientific intent he finds mathematics there. He can conclude that the Universe was constructed by a Supreme Mathematician, one who had pre-knowledge of the discoveries of Newton, Einstein, Planck, and Rutherford and then hid them in nature to give reason for a terrific university game of hunt-the-slipper. But we can be sure, with Eddington, that the mathematics was not there until man put it there.

Kant in one of his more intelligible passages rightly held that space and time are not inherent in the objects of our knowledge but are elements in the knowledge itself—i.e., we put them there by our methods of observation. None the less, it has to be admitted that there is something to measure and that mathematical accounts are almost the only ones so far available. Man looks at the Universe, and if the Universe looks back at him he does not know, nor, except in rare moments, does he greatly care. There have been those so impressed by the vastness of space that man has seemed to them an unimportant object. It cannot be shown that this deduction has had any recognizable effect on those thinkers' manner of living or their relation with their fellow men. It is a view to point: an argument or to be subject matter for a reverie. Man remains the most important subject in the world; his own nature and that of the furniture of the earth provide him with urgent problems enough.

The Brain and the Mind

Philosophy has agreed with the doctors that whatever mankind studies he has only one tool to use, his mind. It is the instrument of progress. We have seen how fallible its qualities, especially when attempting to make a right use of knowledge, have been held to be, and that not only recently but for centuries. It would be easy by presenting passages from Descartes' and Hume's writings to show two great thinkers struggling with this problem, the use of knowledge, and after long meditation concluding that the only way in which they could advance was by rejecting everything that they had ever learned and beginning anew. This they tried, and it was not the solution they required. Prejudices, emotions, illogical successions of reasoning would creep in.

Could anything be learned from the structure and workings of the brain? To this old question we have no modern answer. It had early been a matter for wonder that a cold, grey, soft mass such as the brain could be the seat of those powerful mental qualities that can so delight and inform us—and so deceive us. In its gross morphology the brain is not difficult to understand, but it yielded grudging fruit to the early experimenters. It has required the two centuries after 1740 to formulate the nervous impulse from the mediaeval concept of the animal spirits. And except that we admit now that we have no reason to believe that mental activities are carried out by processes very different from the impulses in the peripheral nerves and spinal cord, we still do not know how they produce the aggregate of mental processes that we call mind. That was Sherrington's conclusion. In that failure we greatly disappoint the philosophers, who imagine that we know more than we do, and, what is worse, build on that belief.

[*Passages on growth of knowledge of nervous impulse have been omitted.*]

The advance of basic knowledge of the brain's structure and its working could be made to appear as a swiftly moving panorama of events that were in reality long and laborious in the enacting. It could be made to read like a smooth tale of success, a scientific rise from log cabin to White House. We know that what really happened is what happens now, that one man here possesses a piece of information, a man there another. It may be a long or a short while before it is realized that they fit together to make something else. But on the matter of mind it may seem strange that the great philosophers who have communed and speculated about man, his meaning and his purpose, should have known so little of the intimate mechanisms of integration in the brain.

The great innovators in psychology—Freud, Jung, and Adler—have shown no more interest in structure than Plato. It is actually of less moment than might be imagined: for the definition of correct method, of what we can hope to know, how we know it, what are our lets and hindrance, and what is beyond knowing, requires next to no neurological knowledge. It was no detriment, for example, to David Hume, who, supposedly the arch sceptic, comes nearest to the scientist's ideal of a philosopher in his axiom that given a cause we cannot foretell what the result will be unless we have previous experience of that cause acting in rigidly identical circumstances. This is pure science. The difficulty is that causes do not arise in isolation but, too often for our composure, derive from events further back again. Generalized, Hume's doctrine is expressed by saying that we know nothing except by experience—again the basis of pure science. Distrust of dogma, of far-reaching planning based on a concept, is a characteristic of British political and philosophical thinking, as Bertrand Russell has recently so brilliantly demonstrated.

Application of the Scientific Method

What is the use, we say, of a logician's theory neatly pursued when experience has taught us that so many adventitious variables will force their way in. Better far not to attempt to see too far ahead; better to correct the bias as each variable appears. That, too, is the method of science. Are we to infer that speculation is never permissible in science? By no means. The difficulty is to get the dosage right. Science, at conceptual level, is as speculative as art; every good piece of research begins as an idea coming unsought into a mind. "All the thinking in the world," said Goethe, commenting on someone's remark that thinking is so difficult, "does not bring us to thought: we must be right by nature, so that good thoughts may come before us like free children of God, and cry, 'Here we are!'" We know not how this is, but in its highest form the inspiration is the same as that which visits poets and artists. The difference lies in the method applied to the idea.

Science is more fertile than art in suggesting trains of thought with one thing arising out of another. It does not do this smoothly without pause nor in a straight line, for not only may it seem more profitable and enlightening to swerve into a side-chain but something may be discovered that casts doubts not so much on the main truth of the argument as on its being the whole truth and sends us back to examine the beginnings anew. This happened, of course, classically with Newton, and it is unlikely that Einstein's correction will stand permanently unaltered. Hence all scientists must harbour, as most of them do, a grain of scepticism in their composition. To be too great a sceptic is not a sign of greatness, for it is easier and less laborious to doubt than to discover truth. Reflection suggests that the

only sciences which have succeeded in producing immediate conviction and durable results are mathematics and those into which mathematics enters to a very great degree. The biological sciences are more difficult because of their incalculable variables. But we advance none the less, step by step.

When we look back we can be impressed by the ignorance that was our forefathers'. The mathematicians of Elizabethan times were totally ignorant of the quantum theory, of nuclear physics, of wave mechanics. That is scarcely 400 years ago. What will they say of us 400 years from now! We are aware of vague discomforts in our minds about so many things. So must they have been. Until we can get our uneasinesses to the point of crisp formulation they admit of no answer, for we cannot investigate them. Let us not therefore laugh too loud at our fathers lest posterity overhears us! Their ignorances were of things that they could not have known; they lacked the interlocking discoveries and precision instruments that little by little advance learning. This is implicit in all that I have said of the nervous impulse and the cellular nature of the nervous system and the body. It is true of chemistry, physics, and astronomy.

It was nearly 300 years before instruments of sufficient delicacy were available to confirm the parallax of the fixed stars which the Copernican theory of the earth's motion demanded. It would be absurd to imagine that progress in instrumentation is a process which has now ceased, that further improvements will not dislodge our present ignorances. We can be very sure that there are a dozen things under our noses which we misconceive or do not even see. The greatest source of error lies in our having explanations that satisfy us or with which we make do because we can see no other. That was where our forerunners came to grief, though I deprecate such a manner of expressing it. It is unquestionably where we ourselves shall be found to have erred. Our greatest ignorances must by definition be those of which we are unaware. Wilfred Trotter speaks of our natural resistance to new truths, our battle to throw them off at once because they irritate like an acid or sting. That seems to be particularly so when we are satisfied with what we already know of the subject. When our minds are vacant of explanation we seem to be extraordinarily gullible, ready to accept any theory, however nonsensical.

The Emotions in Science

Whatever means science theoretically should use, the scientist is a man more imaginative than Bacon would allow or Magendie would admit. He does require a presupposition which it is his intention to investigate. He is in fact a good deal more rational, more emotional, in a word more human, than argument can hold him to be. Hence his scepticism must be wilful. There have been important scientists who have appeared to maintain a scrupulous objectivity in their researches but who have displayed in other subjects, notably on politics. It is difficult to believe that none of these qualities are to be found in the scientist's work. Everything that a scientist does must be a personal flower and be subject to those vagaries which attend all human work. The intellectual cold purity of the scientific method is like a flame without heat, a realization of the ideal of realization. Orderly and methodical as the scientific method is, it is not an inflexible procedure; the scientist is a human being, and his work is a human work.

kinds of knowledge. In these others the emotional side of men's nature is permitted a freer rein, and in the art its fullest development is positively demanded. Men cannot lead contented lives unless they store their minds with goods bearing different kinds of trade-mark. There are many who believe that scientific certainty is not the only kind, who would agree with Descartes that they could recognize some ideas as so clear and so distinct that they brought instantaneous conviction and were immediately acceptable as truths. But unless they can be demonstrated, can be shown to be indestructible on attack, they must remain truths only for the individual who holds them. This seems a depressing conclusion, however well it may explain man's permanent liability to disagree with his fellows.

Conclusion

However, it is, as Glanvil would have said, "more perpendicular to our discourse" to conclude that our task in keeping emotions in control in science is difficult, since they are so permissible in much else that occupies our thoughts, colour our lives, and are at all times ineradicable. The rules that we live by have been made by experience as curbs on unfettered emotional behaviours. The rules of science have a shorter history, but are in the main of the same kind narrowed by a sharper focus to a different end. We have seen that better knowledge of the brain gives us no hope for lenses that will automatically correct the astigmatism of our minds. Let us then live our lives according to rules of historical experience, and in our scientific thinking let them be tempered, but with our actions not paralysed, by scepticism.

THE BACTERICIDAL ACTION OF STREPTOMYCIN

BY

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Professor of Bacteriology in the University of London*

Streptomycin, an antibiotic derived from *Actinomyces griseus*, and discovered by Schatz, Bugie, and Waksman (1944), owes its therapeutic value to action on bacteria which are insensitive to penicillin, notably *Myco. tuberculosis* and many species of Gram-negative bacilli. The original description credits it with "strong bactericidal properties" without giving evidence for this statement. Several subsequent authors, including Hegarty, Thiele, and Verwey (1945), Hamre, Rake, and Donovick (1946), Strauss (1947), and Smith and Waksman (1947), have shown that low concentrations added to susceptible bacteria in a nutrient medium cause a slow fall in the viable count; it has also been observed that in a non-nutrient medium there is no such effect unless a considerably greater concentration is used. The only published example of a test employing a high concentration in a nutrient medium is an experiment by Helmholz (1945), who inoculated the urine of a patient under treatment with streptomycin and containing 1,330 units (micrograms) per ml. with various bacteria, and found that they were all killed within one hour. Since concentrations of this order can easily be attained in the urine, and local treatment can produce similar conditions elsewhere, it is clearly of interest to know more about their effect on bacteria.

In so far as the action of a chemotherapeutic agent is bactericidal, that action must be influenced by the various factors such as concentration, temperature, medium, and

inoculum size, which are known to affect chemical disinfection generally. Since there appears to be little information on these points, the following experiments were undertaken to provide it.

Method.—The organism used was *Staph. aureus* (Oxford H strain), the inoculum being derived from a 24-hour culture in ox-heart-extract peptone broth. The basis of the test mixture was usually the same broth, to which was added streptomycin and such an amount of culture as to give an initial viable count of about 50,000,000 per ml. Tubes or flasks containing these mixtures were maintained at the desired temperature, usually 37° C., in a water-bath, and viable counts were performed at intervals, either by the conventional method of pour plates made from decimal dilutions or by the surface viable count method (Miles, 1937), which is more economical in medium, and quite accurate enough when large changes in population are taking place.

Bactericidal Action

The Effect of Concentration

It is evident from Fig. 1, showing the fall in the viable count over a period of eight hours produced by four different concentrations of streptomycin in broth at 37° C., that streptomycin is bactericidal. An original population of 95,000,000 per ml is entirely extinguished by 20 µg. per ml. in eight hours, by 50 or 100 µg. per ml. in four hours,

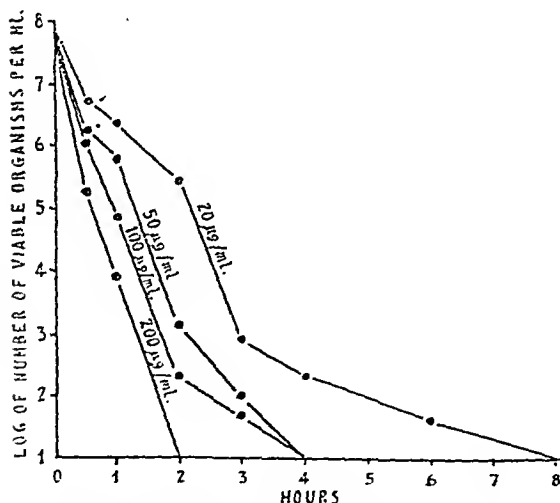


FIG. 1.—Rate of death of *Staph. aureus* in broth at 37° C. containing 20, 50, 100, and 200 µg. of streptomycin per ml.

and by 200 µg. per ml. in two hours. It also appears that the death rate varies with the concentration of the drug; this is still more evident in Fig. 2, in which it should be noted that the time scale covers a period of only two hours. Here a concentration of 200 µg. per ml. has not quite extinguished a rather larger inoculum within that period, but 2,000 µg. per ml. has an exceedingly rapid lethal action. Counts made at short intervals, not all of which are plotted on the graph, showed a marked fall within one minute and a mortality of 99.8% within ten minutes. How soon this mixture was completely sterilized cannot exactly be stated, because cultures made from the first dilution of it contained too much transferred streptomycin to permit growth. It can, however, be stated that the number of survivors per ml. after 20 minutes was less than 5,000 (mortality of over 99.995%).

The action of streptomycin thus differs radically from that of penicillin, which is not accelerated by increase in

concentration above a minimum level. I found three years ago (Garrod, 1945) that a concentration of 1,000 units of grossly impure penicillin per ml. was actually less rapidly bactericidal than one of only 1 unit per ml. owing presumably to the retarding effect of some impurity. On the other hand, the LT 50 (time required to kill 50% of

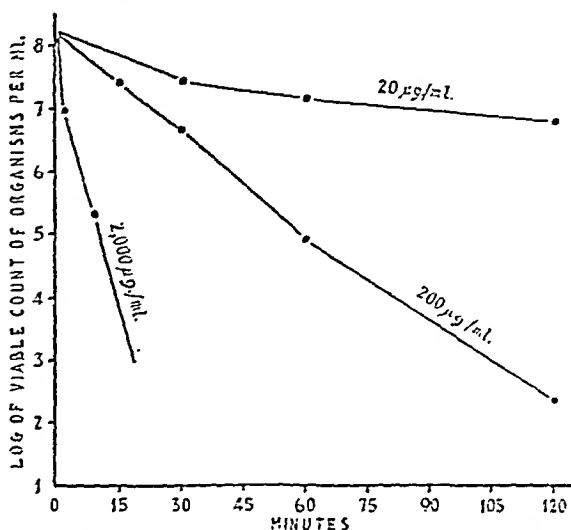


FIG. 2.—Rate of death of *Staph. aureus* in broth at 37° C. containing 20, 200, and 2,000 µg. of streptomycin per ml.

the inoculum) of a sample of 85% purity—the best then available—was between 100 and 89 minutes for all concentrations tested from 1 to 1,000 units per ml. I have recently repeated this experiment with pure penicillin G, and the results are shown in Fig. 3. The fall in the viable count produced by concentrations of 1, 10, 100, 1,000 and even 10,000 units per ml. is so similar that the graph is too tangled for its individual lines to be labelled or even followed clearly. It will also be noticed that this lethal effect is much slower than that of even moderate concentrations of streptomycin. (It appears in this experiment with pure penicillin G to have been even slower than that usually produced by commercial penicillin. This point has not been further investigated, but if such a difference were found it would be of interest in view of recent observations on the therapeutic inferiority of the pure product.)

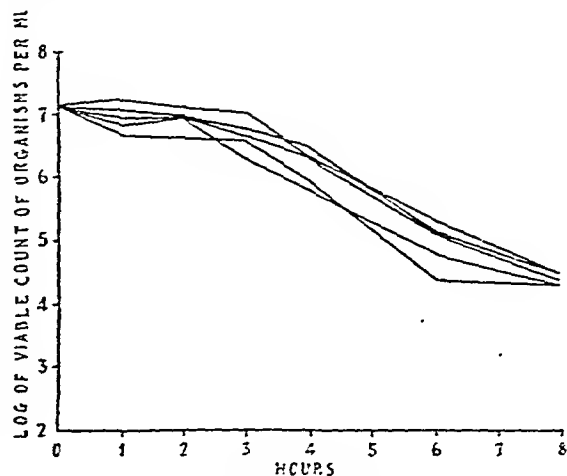


FIG. 3.—Rate of death of *Staph. aureus* in broth at 37° C. containing 1, 10, 100, 1,000, and 10,000 units of pure penicillin G per ml.

That streptomycin in higher concentrations is rapidly lethal is of practical as well as theoretical interest; an example of the former will be mentioned later.

Effect of Temperature

All bactericidal action is accelerated by increase in temperature, and streptomycin forms no exception to this rule. Fig. 4 illustrates the results of an experiment in

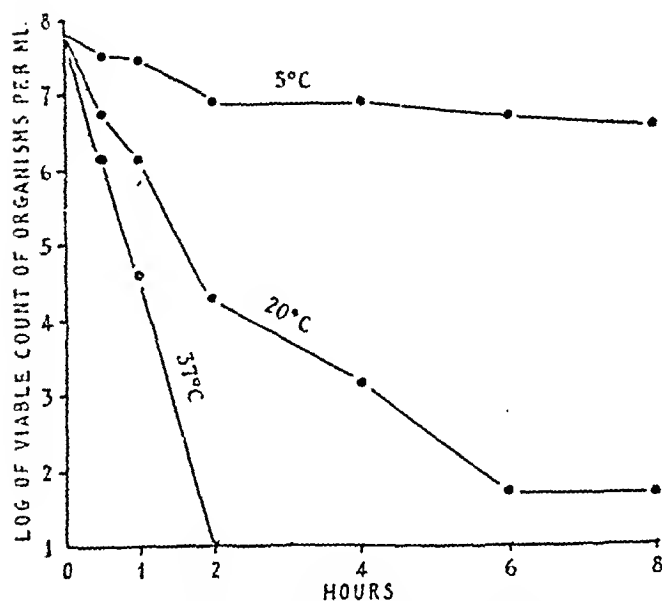


FIG. 4.—Rate of death of *Staph. aureus* in broth containing 200 µg. of streptomycin per ml. at 5°, 20°, and 37° C.

which the effect of 200 µg. of streptomycin per ml. on *Staph. aureus* in broth was observed simultaneously at 5°, 20°, and 37° C.

Effect on Different Species

The effects observed are not peculiar to staphylococci; Fig. 5 shows the death rate of *Bact. coli* and *Str. pyogenes* in comparison with that of *Staph. aureus* under the same

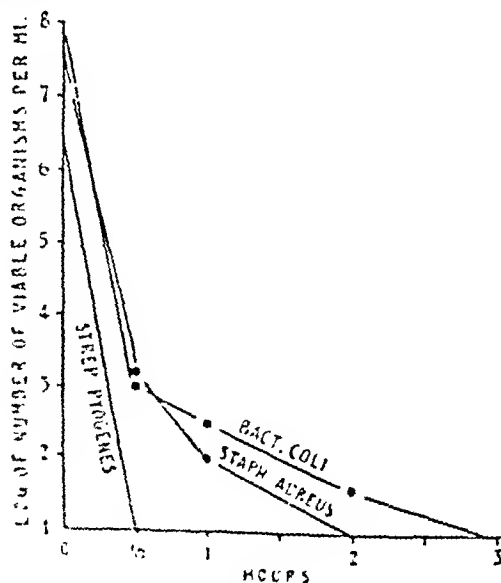


FIG. 5.—Death rate of *Bact. coli* and *Str. pyogenes* in comparison with that of *Staph. aureus* under the same conditions. 200 µg. of streptomycin per ml. at 37° C.

It is of interest to note that the rate of death of *Staph. aureus* in broth at 37° C. is much more rapid than that of *Bact. coli* and *Str. pyogenes* under the same conditions. The susceptibility of *Staph. aureus* to streptomycin is much more rapid than that of *Bact. coli* and *Str. pyogenes* under the same conditions (Report, 1947).

required to inhibit growth are 0.5 – > 16 µg. per ml. for *Staph. aureus*, 2.0 – > 16 for *Str. pyogenes*, and 0.3–3.1 for *Bact. coli*; the rate of disinfection presumably varies correspondingly, and the behaviour of single strains therefore not exactly representative of the species as a whole.

Effect of the Medium

In all the foregoing experiments the medium was broth. In order to determine the effect of other media broth culture of *Staph. aureus* was thoroughly washed (centrifuged three times and resuspended in saline); when such a suspension was added to defibrinated blood or serum containing 200 µg. of streptomycin per ml. at 37° C. the rate of fall in the viable count approximated closely to that observed in broth. In urine (sterilized by filtration and adjusted to pH 7.4) the effect was similar but less rapid. On the other hand, washed culture added to saline containing 200 µg. of streptomycin per ml. was completely unaffected; the viable count, as in the saline control containing no streptomycin, remained almost stationary throughout the eight-hour period of observation.

In view of the finding of Strauss (1947) that higher concentrations are bactericidal even in a non-nutrient medium, this experiment was amplified as follows. The same inoculum of washed *Staph. aureus* was added to four media, giving an initial viable count of approximately 50,000,000 per ml. In broth containing 200 µg. of streptomycin per ml. the count fell to nil in one hour. In saline with or without 200 µg. of streptomycin per ml. it remained stationary. In saline containing 2,000 µg. of streptomycin per ml. it fell in 30 minutes to 850,000, and thereafter fluctuated round this level; individual colony counts were inconsistent, suggesting that the cells were in a condition in which chance affected their capacity for growth. It thus appears that very high concentrations of streptomycin are incompletely and irregularly bactericidal in a non-nutrient medium.

In its dependence on a nutrient medium for rapid bactericidal action streptomycin resembles penicillin, but there is a striking difference in their effects. That of penicillin becomes evident only after a lapse of time amounting to about one hour, during which one generation of division may occur (Chain and Duthie, 1945; Schuler, 1945). That of streptomycin is immediate; under favourable conditions it begins within one minute and may be far advanced in ten minutes. So far as I am aware, no other bactericidal agent having so rapid an effect is dependent on a nutrient medium for its efficacy. This peculiar behaviour will have to be taken into account in any hypothesis about the mode of action of streptomycin.

It was not considered necessary to study the effect of pH, since it has been amply demonstrated by Abraham and Duthie (1946) that alkalinity (pH 8.0) favours the action of streptomycin, whereas on the acid side of neutrality (e.g. pH 6.0) its activity is much diminished.

Effect of Bacterial Numbers

That the size of the inoculum affects the concentration of streptomycin required to inhibit growth has been shown by May, Vourekha, and Fleming (1947), Berkman, Henry, and Housewright (1947), and Lenert and Hobby (1947). The dependence of bactericidal action on the same factor was observed by Strauss (1947). It was clearly of interest to determine the effect of inoculum size on bactericidal action under the conditions of the present experiments. Broth culture of *Staph. aureus* was spun down and resuspended in one-tenth of its original volume, this suspension and three decimal dilutions of it being added to fresh broth containing 200 µg. of streptomycin per ml.

These mixtures were maintained at 37° C., viable counts being made as usual (Fig. 6). The mixture with an initial count of the order of tens of millions was sterilized in two hours, as had repeatedly been observed before. Those containing tenfold lower bacterial concentrations were sterilized in 30 minutes; that containing the highest bacterial concentration was not sterilized at all, the count falling by over 99% in 30 minutes and then remaining stationary for the remainder of the experimental period (eight hours). This experiment was repeated several times with different concentrations of both streptomycin and bacteria, always with the same type of result. The absolute concentration of streptomycin is not the determining factor: it is the relation between that concentration and the numbers of bacteria. It appears that a given concentration of streptomycin can kill only a population of a certain density; if more are present some will survive.

Several possible explanations of this unusual finding have been explained with negative results. Subcultures from surviving bacteria were retested by the same technique and found not to display any markedly increased resistance.

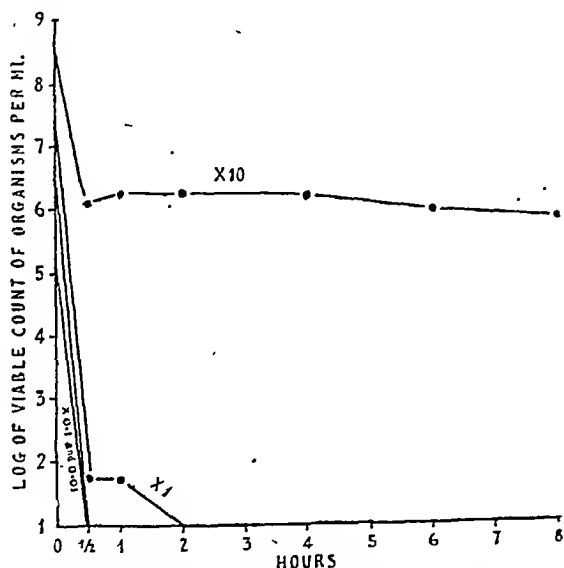


FIG. 6.—Rate of death of *Staph. aureus* in broth containing 200 µg. of streptomycin per ml. at 37° C.: inoculum of four different sizes— $\times 10$, 1, 0.1, and 0.01 of broth culture.

The streptomycin is not inactivated by an excess of bacteria; when these are removed and fresh culture of either *Staph. aureus* or *Bact. friedländeri* is added its bactericidal activity is undiminished. The presence of additional dead bacteria does not prevent the killing of living ones, provided the numbers of the living are within the capacity of the streptomycin concentration used.

Despite the apparently normal streptomycin sensitivity of cultures derived from survivors in such experiments the suspicion remains that a greater resistance possessed by a small proportion of cells in a culture must account for survival. It appears that no culture is homogeneous from this standpoint: Klein and Kimmelman (1946) have shown in the case of dysentery bacilli, and Alexander and Leidy (1947) in that of *H. influenzae*, that an enormous inoculum will yield growth in a medium containing 1,000 µg. of streptomycin per ml., indicating that one cell in some billions is resistant even to this concentration. The Oxford strain of *Staph. aureus* behaves similarly: a heavy inoculum (about 500,000,000 living cells) produced hundreds of colonies on agar containing 10 or 20 µg. of streptomycin

per ml., and 16. 2. and 1 colonies respectively on agar containing 50, 100. and 200 µg per ml. It seems likely that this is only another aspect of the same phenomenon as survival in tests of bactericidal action, although the present experiments have not proved this. Further observations are desirable both on the effects of the ratio weight of streptomycin/bacterial numbers on bactericidal action and on the properties of cells surviving under such conditions.

Clinical Applications

It is generally assumed that parenteral streptomycin treatment has only a bacteriostatic effect, but the concentration attained in the blood for a time after a single dose may exceed 30 µg. per ml., and this may well be bactericidal. Lower concentrations than this, according to Smith and Waksman (1947), will kill *Myc. tuberculosis* in vitro. The present tendency in the U.S.A. is to administer the drug only twice daily for the treatment of tuberculosis—a proceeding which does not maintain a constantly bacteriostatic concentration in the blood. Feldman (1946), treating tuberculosis in guinea-pigs, found that doses given once, twice, or four times daily, or four times daily only during alternate weeks, had an "essentially equal efficacy." These otherwise anomalous findings could be explained by assuming that each dose actually kills many of the more susceptible bacilli which are accessible and actively multiplying at the time of its administration.

The fact that higher concentrations are more rapidly bactericidal has an important bearing on local treatment. Of this there are various forms, including intrathecal injection in meningitis, application to infected surfaces, and the treatment of urinary-tract infections. Streptomycin, like penicillin, is excreted in the urine, where it attains a high concentration. If its effect *in vivo* parallels that here described *in vitro*, susceptible bacteria should disappear rapidly from the urine soon after excretion has begun. In fact they do. In a number of patients receiving 0.5 g. (500,000 units) of streptomycin four-hourly for the treatment of long-established and otherwise resistant urinary-tract infections due to *Bact. aerogenes*, *Bact. coli*, or *Ps. pyocyanea* a series of specimens has been obtained at short intervals during the early stage of treatment and cultivated quantitatively. A viable count which is usually several hundred millions per ml. before treatment falls to a few thousands two hours after the first dose—i.e., even before excretion has become maximal. After six, eight, or twelve hours, if treatment is going to succeed, the urine is completely sterile. If treatment is to fail, specimens continue to yield counts of a few hundreds or thousands per ml. until the second day, when there is a sharp rise and the organism is found to be already much more resistant. It seems as if the issue is settled one way or the other within 24 hours or less. It also appears that an exceedingly brief period of treatment may suffice: in our experience apparently permanent cures of long-standing infections have been achieved by giving only six, four, or even three 0.5-gm. doses. Whether so small a total dose is always advisable only further experience can show. If so, the economy secured is an obvious advantage.

Conclusions

1. Streptomycin is bactericidal. The rapidity and extent of its bactericidal action depend on: (a) concentration—high concentrations having an exceedingly rapid effect; (b) temperature; (c) medium, the effect being exerted in all nutrient media, including certain body fluids, but only to a slight extent in non-nutrient media; (d) the size of the inoculum, a small population being destroyed rapidly, whereas a proportion of a large one survives.

2. It seems possible that the therapeutic effects of streptomycin are due to bactericidal rather than to bacteriostatic action. This is certainly so when high concentrations are attained locally, as in the treatment of infections of the urinary tract.

The streptomycin used in this work (streptomycin hydrochloride Merck) was supplied for studies in this hospital by the Streptomycin (Non-tuberculous Conditions) Clinical Trials Committee of the Medical Research Council, to whom I express my thanks. I am indebted for valuable technical assistance to Miss P. M. Waterworth.

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CALCIFEROL IN THE TREATMENT OF CUTANEOUS TUBERCULOSIS

BY

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The value of calciferol in the treatment of lupus vulgaris is now generally known. Its mode of action is still a matter for speculation, and is likely to remain so until more serial observations upon cases undergoing this treatment have been made. This report describes a series of such cases treated at Charing Cross Hospital.

The advantage of calciferol over previous methods, with the results of which it seems to compare most favourably, is almost as much a social and economic as a medical one. That a large number of man-hours are saved by patients taking a drug by mouth rather than attending a department for electrotherapy, etc., for many hours a week is obvious. In the present need for maximum effort and full employment, this is a factor of considerable importance, and does not seem to have been sufficiently stressed.

Our study of treatment seems to have started on both sides of the Channel at about the same time, and similar conclusions have been reached independently, which seems to us to confirm the validity of the conclusions. (Charpy (1943), in *Annales de Dermatologie et de Syphilis*, and Dowling and Pearsall (1946), in *British Medical Journal*, appear to share the honour of the first publication of the results of this treatment.)

The first case reported here was a 35-year-old male patient with a large, well-defined, indurated nodule on the left side of the face, which had been present for several years.

Details of Cases

Case No.	Sex	Age	Duration of Lesion	Class of Lesion	Site of Lesion	Treatment	Re
1	F	5	3 mths.	A	Malar	1	a
2	F	43	25 years	A	"L. hip	1, 2	c
3	M	34	30 "	B	Malar	1	a
4	F	31	6 "	A	Face	1, 2	a
5	F	62	20 "	A	Malar	1	b
6	F	46	28 "	A	Neck	1	a
7	M	26	1 "	A	Both legs	1, 2	b
8	F	56	3 "	A	Face	1	c
9	F	68	20 "	C	Face, neck	1	a
10	F	71	50 "	B	Neck	1	b
11	F	59	25 "	Serofulodermin	Face	1, 2	c
12	F	20	4 "	Miliaris faciei	Face	U.V.L.	d

Key to Table

Class of Lesion (the Typical Nodules were of course Present in All Cases)

- A. Lesions less than 4 in. (10 cm.) in diameter. No deformity produced by scarring.
 B. Lesion greater than 4 in. in diameter; scarring may be extensive but no disabling deformities present.
 C. A severe lesion producing extensive scarring and disabling deformities—e.g., ectropion or destruction of nasal cartilages.

Treatment Groups

1. Calciferol 50,000 units with added calcium thrice daily ("high potency ostelin" tablets).
 2. Calciferol, either in pure alcoholic solution or in oily solution ("sterogyl"), 600,000 units per ml. twice weekly.

Result Groups

- (a) Lesion clinically healed.
 (b) Lesion very much improved, but one or two possible foci of activity still remaining.
 (c) Progress of lesion arrested; "minimal favourable response."
 (d) No apparent response; lesion continuing to progress.

Discussion of Results

The twelve cases reported (see Table) have been under treatment for nine months or longer. Six were cured, three were very much improved, two have shown very little improvement, while one has shown no response to treatment.

These figures may be compared with the results obtained by Dowling and Prosser Thomas (1946) up to December, 1945—18 cured, 9 much improved, and 5 somewhat improved—also with those of Kuske (1946) at Berne—50% excellent, 20% arrest of lesion, and in the remainder a "minimal favourable response." (The assumption that this last group corresponds to result group "c" in our table of results is our own.) Two other series which give figures for results are those of Dowling, Macrae, and Jones (1946) with 20 cases and 14 (70%) recoveries, and of Dr. Emrys Jones, of Cardiff, who had 15 cases with 16 "cleared" (89%).

Thus in some 82 cases we find 54 (66%) which have healed under the influence of calciferol, and it is probable that with further treatment this figure will be higher still. It must, however, be remembered that the Finsen Institute in Denmark claimed 735 cures out of 975 cases (75%) between 1914 and 1923 using methods other than the administration of large doses of calciferol.

It is probably safe to assume that about 60% of cases of lupus vulgaris in this country at this time may be cured by calciferol therapy alone (the reason for qualifying this statement is discussed on p. 388). It is of interest to note that streptomycin has been tried out in America on cases with lupus vulgaris, but the results have so far not been as successful as with calciferol.

Two Cases of Special Interest

Case 10.—This patient complained of flatulence, sickness, and diarrhoea after taking one "ostelin" tablet thrice daily for 14 days. She was told to continue with the tablets unless the symptoms got worse, when she was to stop taking them and report to

us. She returned two weeks later, having stopped the tablets for a week. She complained of some frequency of micturition. Her urine was found to be normal but perhaps increased in amount. A plain radiograph of the abdomen revealed fusion of L3 and L4, with calcified mesenteric glands probably of tuberculous origin; also possibly, in view of the history, a large amount of calcium in the colon. The patient continued without calciferol and was examined two weeks later. Her symptoms were then quite relieved. A plain radiograph appeared the same as before. Barium was given by mouth, and later the patient was examined under the x-ray screen, when it was obvious that the calcium deposits were not in the caecum or colon but only in the mesenteric glands. More intensive questioning revealed that there was some suggestion of a tuberculous kidney 30 to 40 years ago because of backache then, but it had not been very thoroughly investigated and there was nothing else that the patient could recall.

This case is reported in detail because we have already been warned of the possibility of "flaring up a lesion" with calciferol (Dowling and Prosser Thomas, 1946; Dowling, Macrae, and Jones, 1946). In this case there may have been a quiescent tuberculosis of the mesenteric glands, which seem so well calcified now but which the calciferol may have temporarily stimulated. It is therefore important before starting treatment to consider the possibility of an exacerbation not only of the skin lesion but of a lesion elsewhere.

Case 12.—This was a resistant case of lupus miliaris faciei. (Another case of lupus miliaris faciei has been treated by us with calciferol, but was not under observation long enough to qualify for the table of case results.) The patient presented with symmetrical aggregations of lupus nodules on forehead, cheeks, chin, and neck. There was no family history of tuberculous diseases, and thorough investigation revealed no evidence of tuberculosis elsewhere. One "ostelin" tablet thrice daily (150,000 units of calciferol daily) resulted only in intense thirst and troublesome borborygmi: no effect was observed on the lupus lesions. After two weeks' rest the course was restarted, but again symptoms of intolerance caused us to stop it.

We then tried the effect of calciferol locally. An ointment was made up with "radiostol" in a base of paraff. melle to give a concentration of approximately 70 units of calciferol per gramme. This was applied to the lesions and rubbed well in twice daily. Within three weeks there was a most dramatic improvement in the lesions: the erythema faded and the papular eruption almost faded. A stronger ointment was therefore tried, using pure calciferol in alcoholic solution in the same base at a concentration of 150,000 units per gramme. After two weeks' use of this ointment the condition had relapsed to its original state. This may well have been a flare-up caused by the very high local concentration of calciferol, or the alcohol solution may not have been absorbed through the skin. A return to the "radiostol" ointment now had no effect, nor did the oral administration of pure calciferol in doses of 300,000 units twice weekly.

An ointment corresponding to the stronger of the above was then made up, substituting A.T.10 (dehydrotachysterol) for the calciferol (0.375 mg. per g.); the patient applied this to the left half of her face and the calciferol ointment to the right half for four weeks. Neither appeared to affect the lesions. She has completed a course of ultra-violet irradiation, but her face remained in much the same state when last seen.

Methods of Administration

Ostelin High-potency Tablets.—Each tablet contains 50,000 units of calciferol with added calcium. The usual dose is three tablets a day for 14 days when the patient starts treatment. The blood chemistry is investigated beforehand (see below). When the patient is seen in 14 days the blood chemistry is again investigated and the dose is maintained if there are no untoward symptoms. After a further 14 days the patient is seen again and, if no toxic symptoms have developed, carries on with the same dose for a month. A further specimen of the blood is then

taken, and if all is well the patient comes up once a month for observation. If toxic symptoms develop either the calciferol is withheld or the dose is reduced for a week or two. After about four months the patient is usually given a rest from calciferol for two to eight weeks. This method is based on the original method used by Dowling and Prosser Thomas (1946) in 1943.

Pure Calciferol in Alcoholic Solution (5 mg. per ml.: 1 mg. corresponds to 40,000 units of activity).—We diluted this to an emulsion with 1 fl. oz. (28 ml.) of water, and the patient took it in three doses during the week. This corresponds to the solution in propylene glycol used by Charpy (1943), the administration of which, combined with the giving of calcium (as calcium gluconate) or 1 to 2 litres of milk a day for one or two months, is becoming known on the Continent as the "méthode de Charpy."

Stergyl calciferol—600,000 units in ampoules for oral or intramuscular use. We did not give any by injection to these cases.

Radiostol, employed to make up the ointment for Case 12.

Toxic Effects

At some stage of treatment most of our cases showed symptoms attributable to the large doses of calciferol. These were: salty taste in the mouth, thirst, anorexia, nausea, vomiting, flatulence, abdominal pains, diarrhoea, giddiness, lassitude, and frequency of micturition. Case 8 complained of headaches and cramps in the legs.

It was most noticeable that the symptoms occurred almost entirely when the patients were taking ostelin tablets. Furthermore, we found that two cases developed severe symptoms with ostelin tablets but were unaffected by the pure vitamin (started six weeks after the last course of ostelin) in dosages of 1,200,000 units weekly for three weeks. Cases 3 and 7 had no toxic symptoms at any time. All cases which showed symptoms apart from a salty taste in the mouth or thirst had chest and plain abdominal radiographs taken. Only in Case 10 was any abnormality found.

Case 8 was carefully investigated for hypertension or peripheral vascular failure. There was some tenderness of the calf muscles, but the circulation of the feet was always good and x-ray examination of the legs showed no evidence of calcified arteries. Blood pressure was normal.

Comparison of Intolerance of Calciferol and A.T.10

A.T.10 is probably the best substance to use as a control in calciferol investigations. A synthetic compound resembling tachysterol (the precursor to calciferol in the ergosterol-calciferol synthesis), it has the same effects upon the blood chemistry but does not cure rickets. We are grateful to Dr. Nathan for a gift of A.T.10 produced by Bayer (Darmstadt), which was used as our control.

A healthy man aged 24 was given a course of pure calciferol for eight days. When the blood chemistry had been normal for one week after this a similar course of A.T.10 was given, the symptoms being noted as they occurred. On neither occasion was calcium added. Intense thirst developed on the fifth day of taking calciferol and on the fourth day when taking A.T.10: anorexia developed on the seventh day with both substances, and marked borborygmi were noticed a few hours later. Also at this time there developed a definite "sensitivity," hardly amounting to pain, over the whole abdomen on palpation. This suggests that the above symptoms are not specific for calciferol in high doses but follow some effect of calciferol which is also produced by A.T.10.

Experience suggests that it is intensified by giving additional calcium. It has, however, been previously recorded that these symptoms bear no definite relation to the serum calcium (Dowling and Prosser Thomas, 1946), an observation which we can confirm.

Blood Chemistry

The reactions of the following factors in the patients' blood to dosage with calciferol were investigated: (1) the serum calcium; (2) the serum alkaline phosphatase; (3) the serum cholesterol. The serum calcium was estimated on each sample of blood before the other tests, and these were then done in the above order. (Our debt to Dr. Patterson, of the Institute of Pathology, and to his assistants for performing nearly 200 estimations is such that we feel compelled to acknowledge it in the text, where we hope it is less likely to be overlooked.) These are first done before any calciferol is given.

Serum Calcium.—Our results agree with those of others. After an initial lag of a few days up to two to three months the serum calcium rose in all cases, usually to about 11 mg. per 100 ml. (normal 9-11 mg.). At this level there were usually no symptoms except for some thirst. In some cases it rose to over 14 mg., and in one case to 15.2 mg. These higher levels were nearly always associated with symptoms of a fairly severe nature, but, apart from these cases, we did not notice any definite relation between the severity of the symptoms and the serum calcium level. However, we are of the opinion that a steady rise in the serum calcium is an indication for a reduction in the dose of calciferol if not for its complete withdrawal. All our observations have been on the total serum calcium levels. There is need for further research on the effects of the different forms in which calcium is present in the blood.

Serum Alkaline Phosphatase.—(Our results are given in King-Armstrong units, the normal values being 3 to 13 units.) Before starting treatment with calciferol the normal alkaline phosphatase in all our cases of lupus vulgaris was between 5 and 8.5 units. With the administration of calciferol there was sometimes an almost immediate fall in this figure, which then continued more slowly while the dose was maintained. In some cases it rose again while the patient was still on calciferol. When the reading became less than 4.5 there were nearly always some signs of intolerance. These symptoms, however, did not always disappear when the alkaline phosphatase rose again. Although inconclusive, it is interesting to note that at times there seemed to be some relation between the intensity of the fibrous reaction to the lesion and the relative value of the alkaline phosphatase. Although within normal limits it appeared that the better the fibrous reaction and the more scar tissue in the lesion the lower was the original reading. Thus in a case with few nodules of activity and a firm scar a reading of 18 units was found. A case showing more activity gave the figure of 8.2 units. As this finding seemed fairly constant it was tested that a lesion showing chronic inflammation with a minimum of scarring would give a high figure: some weeks later the case with a lymphocytoma was seen, and the reading here was 13.7. Later readings have been 10 units and over). It must be noticed that the serum alkaline phosphatase rose in the whole much more rapidly to the administration of calciferol than the serum calcium. Experiments with a normal subject showed a fall in the alkaline phosphatase of 10 units after one hour of taking 100,000 units of calciferol.

It has been stated (Hochberger and others, 1942) that in a case of tuberculous infection in which the serum calcium and the serum cholesterol is nearly normal, the prognosis is good, and that if it returns to normal the prognosis is favourable. Conversely, in a case in which the serum calcium is not so good the prognosis is not so good. The method of estimating the serum cholesterol gives a normal value of 160-240 mg. per 100 ml. In our cases the serum cholesterol was normal at the start of treatment, and remained so throughout. Two cases in which the serum calcium was raised to 14 mg. per 100 ml. and the serum alkaline phosphatase was 18 units, both of which were treated to 100,000 units of calciferol, showed a fall in the serum calcium to 11 mg. per 100 ml. and the serum alkaline phosphatase to 10 units. The prognosis in these cases is not so good.

At the start of treatment the serum calcium was 11 mg. per 100 ml. and the serum alkaline phosphatase was 10 units. The prognosis in these cases is not so good.

only 92 mg. per 100 ml. After three months' rest and intensive treatment with calciferol by mouth the figure had risen to normal (184 mg.) and he was able to go to a sanatorium. Our findings would therefore seem to confirm the above statement. There appeared to be a definite relation between the value of the serum cholesterol and the administration of calciferol in lupus vulgaris, and this relation follows the clinical course of the disease.

We should mention here the thorough investigation of the effect of calciferol on the blood sedimentation rate by Dr. Feeny (1946), at the London Hospital; he found that it is not constantly affected.

Discussion of the Effects of Calciferol

There are two ways in which calciferol may exert its effect.

1. *By Direct Inhibition of the Tubercle Bacillus.*—The only apparently serious suggestion that this may be the mechanism is contained in an unsupported statement by Bicknell (1946). So significant a finding would no doubt have been supported by the fullest evidence if this had been available. Nevertheless it is important that the effect should be investigated. We are grateful to Dr. Walker for permission to quote an experiment undertaken by him at the Glaxo Laboratories in which cultures of *Mycobacterium tuberculosis* were grown on media containing increasing concentrations of calciferol. There was no inhibition of the growth in concentrations approaching those *in vivo*. To investigate the possible effect upon the resistant "envelope" of the organisms cultures of fresh pathogenic tubercle bacilli were incubated for 24 hours with fresh human serum, and calciferol in various concentrations, in the Bacteriological Laboratory of Charing Cross Hospital. The "envelopes" were morphologically unaltered, and the organisms retained their vitality and pathogenicity up to a concentration of 500 units of calciferol per ml., where the serial concentrations were discontinued. It would appear, therefore, that calciferol has no specific effect on *M. tuberculosis*.

2. *By Increasing the Body Resistance.*—It is more probable that this is the effect of calciferol. In favourable cases the rate of tissue repair exceeds that of tissue destruction. The relatively raised alkaline phosphatase sometimes seen at the start of treatment may be an expression of a relative tissue lack of calciferol to meet the demands of local inflammation and repair. When repair and fibrosis become pathologically overactive we find a tendency to depression of the serum alkaline phosphatase. This was found in cases of scleroderma (Medvei, 1945) provided there was no element of hyperparathyroidism (Wigley and Hunter, 1945).

Earlier in this article the average recovery figures were qualified by the statement "in this country at this time." This refers to the variation of calciferol in the average diet of the population at different times—a factor already noted by Jaeger (1946) at Lausanne.

Effects of Calciferol on Some Other Diseases

1. *Other Tuberculous Diseases.*—(a) *Cerebral Tuberculoma* (2 cases).—No apparent effect. (b) *Tuberculous Meningitis* (2 cases, both fatal).—During the terminal stages the effect of giving calciferol intrathecally was investigated—in one case it was apparently well tolerated, but in the other it caused a reaction. (c) *Bronchopneumonic Phthisis* (1 case, quoted above).—Clinical and radiological improvement in three months.

2. *Skin Diseases.*—(a) *Pemphigus Vulgaris*.—A case of some years' duration in a woman of 53. At start of treatment with a tablea there were several blisters, ulceration of the throat, cough and dysphagia. After 14 days she felt better and the blisters were fewer, so the tablets were increased from 10 to 20 a day. This was continued for two months, during

which time the blisters varied in size and number, although the patient felt well all the time. Then thirst developed and a rest of two weeks was given, during which time the blisters got worse. Calciferol was resumed, one tablet twice daily for three months with a month's rest between courses. Her present condition is good, with few blisters, and she feels much better. (b) *Lymphocyoma*.—This occurred in a woman aged 55. Biopsy showed dense aggregations of lymphocytes with very little fibrosis; there was a history of its having been present for one year. The Wassermann reaction was negative. This lesion improved under x-ray treatment, but when a fresh lesion appeared calciferol was tried—ostelin one tablet twice daily. With x-ray treatment the previous lesion was considered healed after six courses over two years. The fresh lesion was healed clinically with calciferol in four months. A further biopsy now showed a reversal of the histological picture, with dense fibrosis, dilated capillaries, and small discrete foci of lymphocytes. "Apparently a remnant of a pre-existing lymphocyoma" (Dr. Muende, St. John's Hospital, Leicester Square). (c) *Granuloma Annulare*.—One case, that of a woman aged 33. Calciferol had no effect on this lesion in any dosage orally or by local inunction.

3. A case of multiple myelomatosis improved while on calciferol.

Summary

Twelve cases of cutaneous tuberculosis are presented and the results discussed. Four methods of administration are outlined and some toxic symptoms described.

The effects of calciferol on blood chemistry were found to be as follows:—(a) a rise in the serum calcium usually occurs after prolonged administration; (b) an almost constant fall in the serum alkaline phosphatase generally occurs soon after the calciferol is given; and (c) the usually slightly raised serum cholesterol tends to increase before returning to normal.

The effect of calciferol appears to be that of increasing the body's resistance, and it does not seem to have any direct toxic effect on the tubercle bacillus.

Brief notes are given on some other diseases treated with calciferol.

We wish to thank members of the honorary medical staff, especially Dr. H. A. Dunlop, for valuable suggestions and advice and for permission to investigate the effect of calciferol on some of their patients; and Mr. Whittet, late chief pharmacist at Charing Cross Hospital, now at University College Hospital, for preparing the calciferol in various ways. We are also greatly indebted to Dr. Walker, of Glaxo Laboratories, for supplies of pure crystalline calciferol in nitrogen-sealed ampoules for these investigations and for undertaking the assay of the (oily) solution of A.T.10.

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Preventive Medicine and Public Health, by Prof. Wilson G. Smillie (New York, the Macmillan Company, 30s.), is an interesting book intended for the medical student who expects to practise medicine in the community. The greater part of most textbooks of public health are on environmental hygiene and the communicable diseases. Nearly half this is on child hygiene, adult health protection and promotion, and public-health administration, much of this last section being devoted to health education, medical social work, and allied subjects. The part on adult health protection will break new ground to many readers; it includes sections on geriatrics, the preventive aspects of peptic ulcer, appendicitis, heart disease, obesity, diabetes, arthritis, allergy, and alcoholism. Treatment as well as prevention is discussed in some of these sections. British readers will find much food for thought in all parts of the book—for instance, the table showing positive Wassermann reactions found in a variety of economic and social groups giving rates per thousand varying from 1 in university students, 8 in prospective blood donors, and 12 in premarital tests, up to 110 in street beggars, 240 in convicts, and 300–700 in prostitutes; the psychological implications are obvious. The diagrams are most instructive.

RETROPERITONEAL HAEMORRHAGE IN PREGNANCY

BY

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The following case may be of interest because of the great rarity of retroperitoneal haemorrhage complicating pregnancy (six cases have previously been reported), and because of its association with a condition of eclampsia and a concealed accidental haemorrhage.

Case History

The patient was a 2-gravida, aged 25, whose general health was good. She had had scarlet fever at the age of 16. In September, 1945, she had a normal pregnancy—labour of 36 hours' duration terminating in the spontaneous breech delivery of a male child weighing 8 lb. (3.6 kg.) which died from cerebral haemorrhage after half an hour.

Her menstrual history showed menarche at 14; periods regular, 28-day cycle; normal loss; no dysmenorrhoea; no intermenstrual discharge. Her last menstrual period began on Aug. 11, 1946, and the expected date of confinement was May 18, 1947. The patient had made regular attendances at her antenatal clinic. Her last visit was on April 3, when the uterus was found to be of the size of 34 weeks. The position was vertex R.O.A., the head not engaged; the foetal heart was heard. She was admitted as an emergency case at 3.30 p.m. on April 10.

At 3 p.m. that day she had felt weak and sick and had suddenly collapsed with sharp pain in the hypogastrium. She was reported to have had one fit at home and two fits while in the ambulance en route to the hospital. Pain was severe and constant. There was no history of a "show," and she had not had any frequency of micturition or dysuria. The rectum had been evacuated in the morning.

On examination she was pale and restless. The pulse varied between 110 and 120, and was of very poor volume. The blood pressure was 70/45. Nothing abnormal was detected in the heart, and the lungs were clear. The uterus was of 36 weeks' size; the position of the foetus was difficult to detect, but was thought to be vertex R.O.A. The foetal heart could not be heard. The uterus was tense, tender, and lightheaded. There was no loss per vaginam. A catheter specimen of urine revealed albumin (Esbach's reaction, 10 parts per 1,000). The haemoglobin was 50%. A provisional diagnosis of concealed accidental haemorrhage and antepartum eclampsia was made.

In view of the condition of the uterus and the state of profound shock a conservative attitude was adopted and anti-shock therapy was immediately instituted. Morphine, 1¼ gr. (16 mg.), was given immediately and again four hours later. A blood transfusion of group O cross-matched blood was begun, and the patient was put on to a half-hourly pulse chart, four-hourly blood-pressure chart and fluid-balance chart, and a half-hourly respiration chart. Over a period of three hours 1½ pints (850 ml.) of blood was given and the drip was continued as a slow intravenous 10% glucose infusion in order to improve the urinary output. Potassium citrate, 15 gr. (1 g.), and phenobarbitone, 1½ gr. (32 mg.), were given every four hours.

At 6.30 p.m., three hours after admission, the blood pressure had risen to 98/60, the pulse was 90 and regular, and the patient felt better in herself, although she still had some pain over the lower pole of the uterus. By 10.15 p.m. she was feeling much better; her blood pressure had risen to 118/60, and her uterus was softer and less tender. The foetal presentation and position could be made out distinctly as vertex R.O.A. with the head unengaged. The foetal heart was not heard.

At 10 a.m. the next day (April 11) the blood pressure was 118/70 and the pulse rate 80, and the patient was quite comfortable. The urinary output for the previous 16 hours was 10 oz. (284 ml.) and the Esbach reaction had come down to 5 parts per 1,000. Four hours later the patient complained of a recurrence of the severe abdominal pain. She was again shocked, her pulse having risen to 124 and her blood pressure

having dropped to 90/60. The fundus of the uterus had risen 2 in. (5 cm.), and the uterus had again become tense and tender. It was obvious that the patient was bleeding again into the retroplacental space. The intravenous glucose drip was changed over to cross-matched group O blood, and atropine, 1/100 gr. (0.65 mg.), was given intravenously. In view of the gravity of the situation a classical caesarean section was performed for the sake of speed, and a stillborn macerated male foetus was delivered at 2.30 p.m.

A large retroplacental haematoma was found at operation, and petechial haemorrhages were apparent deep to the peritoneal covering of the uterus. Following the injection of 5 mg. of ergometrine and 5 units of "pitocin" direct into the uterine musculature, and the application of a hot saline pack, the uterus retracted well enough to obviate the necessity for performing a hysterectomy. The patient's post-operative condition was reasonably good, her pulse being 120 and her blood pressure 100/60. "Omnopon," 1/3 gr. (22 mg.), was given post-operatively. At 6 p.m.—three and a half hours after operation—the patient was comfortable and her pulse rate was 100. The following day the pulse remained in the region of 100, the abdominal distension was slight, and 25 oz. (710 ml.) of urine was passed spontaneously after an injection of 1 ml. of carbachol. Esbach's reaction was 1 part per 1,000.

On the second post-operative day (April 13) the blood pressure remained in the region of 124/80, pulse 100, temperature 99° F. (37.2° C.). The patient was comfortable and her urinary output was 30 oz. (850 ml.). No albumin was present in the urine. Next day the blood pressure was 120/70 and the pulse round about 84. Fluid output was satisfactory and there was no albumin in the urine.

At 6 a.m. on the 15th the patient was reported to have had a fit, and on examination a few minutes later she was found to be in a state of extreme collapse, with a pulse rate in the region of 150 and almost imperceptible, blood pressure 60/?, and air hunger. It was obvious that a severe internal haemorrhage had occurred. Blood transfusion was immediately begun and 2 ml. of nikethamide given in an effort to combat the profound shock present. Moderate heat was applied in the form of a heat-craddle, the foot of the bed was raised, and 1/6 gr. (11 mg.) of omnopon was given. There was no response, and two hours later the patient died.

Post-mortem Examination

The relevant post-mortem findings were as follows:
Wound: The incision was clean and uniting well. The general peritoneal cavity contained about 4 pints (2.25 litres) of blood. *Uterus:* The fundus was 4½ in. (11.25 cm.) above the symphysis pubis. No adhesions were present. A classical caesarean scar was clean and uniting well. Bisection of the uterus following removal revealed a normal placental site. The uterine wall appeared pale but otherwise normal. *Intestines:* N.A.D. *Liver:* Enlarged; no obvious necrosis; areas of petechial haemorrhage beneath the peritoneum. *Spleen:* Three times normal size, lobulated, on section appeared normal. *Adrenals:* Slightly enlarged, pale, capsule stripped. *Stomach:* Mucosa normal. Linear retroperitoneal haemorrhage extending along the greater and lesser curvatures of the stomach.

Diaphragm: The whole region within the curvature of the first, second and third parts of the duodenum was occupied by a massive retroperitoneal haemorrhage which completely obliterated the retroperitoneal space of the pancreas. On section of this area the haemorrhage was seen to be broken up into scattered clots of blood. The peritoneum of the lesser sac was ruptured over the head of the pancreas; it appeared that the haemorrhage had started near the junction of the body and tail of the pancreas, and had poured into the lesser sac and then into the retroperitoneal space of the lesser and into the retroperitoneal space of the greater sac. The massive intra-abdominal haemorrhage was the cause of the profound shock.

Other organs: The heart, lungs, kidneys, bladder, and other organs were normal. The placenta was normal. The foetus was stillborn and macerated. The placenta was delivered at 2.30 p.m.

Discussion

Kenny and Doniach (1945) reported the first case of retroperitoneal haemorrhage associated with a condition of pre-eclampsia. The patient was at full term and had severe pain and shock following intercourse. At operation a retroperitoneal haemorrhage was found extending from the pelvic brim to the diaphragm. The patient died; the source of the bleeding was not found at necropsy.

Potocki (1918) was the first to describe a retroperitoneal haemorrhage associated with pregnancy. His patient was only 10 weeks pregnant, and was operated upon for a suspected ruptured ectopic gestation. At laparotomy an extensive retroperitoneal haemorrhage was found in the region of the transverse mesocolon, pancreas, stomach, and the left kidney. The patient died, the cause of death being considered to be due to a ruptured military aneurysm of the left renal artery.

Low (1944) reported a fatal case of retroperitoneal haemorrhage occurring two weeks from term. At necropsy a massive retroperitoneal haemorrhage was found extending from the left brim of the pelvis, behind the sigmoid colon, descending colon, and splenic flexure; it was most marked in the region of the left kidney and spleen. The patient died seven hours after a classical caesarean section. Wilson (cited by Low, 1944; Kenny and Doniach, 1945; O'Connor and Bradley, 1946) described a case of post-partum retroperitoneal haemorrhage in which the patient died on the operating table. At necropsy a ruptured aneurysm of the left renal artery was found.

Halban and Seitz (1928) considered that retroperitoneal haemorrhage was nearly always perirenal in origin, and that the condition may be secondary to renal phthisis or neoplasm or may arise spontaneously in haemophilia and nephritis.

Danforth (1945) reported a case of ruptured aneurysm of the splenic artery. The patient was a 3-gravida, aged 28, who collapsed with severe upper abdominal pain at the 28th week. She showed signs of severe internal haemorrhage, and a vaginal hysterotomy was performed because the condition was considered to be due to premature detachment of the placenta. The patient died, and necropsy revealed an aneurysmal sac of the splenic artery and rupture into the lesser sac of peritoneum. No mention was made of the urinary findings or of the blood pressure before the accident.

The most recently reported case of retroperitoneal haemorrhage arising during the course of pregnancy, and incidentally the only recorded case of recovery, was that of O'Connor and Bradley (1946). Their patient was a 2-gravida, aged 38, at full term. Pregnancy had been uneventful apart from a mild hyperpiesia, and she was admitted to hospital because of moderate pain in the left side of the abdomen. On pelvic examination a tender firm mass was found filling the posterior half of the pelvis, and a provisional diagnosis of a fibroid of the lower segment of the uterus that was likely to cause dystocia was made. A lower-segment caesarean section was performed, and after delivery of the infant the pelvic mass detected before operation was found to be a large firm retroperitoneal haemorrhage filling the whole of the true pelvis and extending into the mesentery of the sigmoid colon. The patient made an uninterrupted recovery, with gradual resolution of the pelvic haematoma. The haemorrhage was thought to have originated from a ruptured haemorrhoidal vein.

It is notable that in five out of the six previously reported cases the haemorrhage started in the region of the floor of the lesser sac of peritoneum, and in these five cases there was profound shock and the patients died. In the sixth case

the haemorrhage had a pelvic origin, the shock was less profound, and the patient recovered.

My case naturally falls into the same category as the first five cases. The site of the haemorrhage is of interest because the tear in the peritoneum of the floor of the lesser sac lay directly over the course of the splenic artery, just distal to the bifurcation of the coeliac artery. The actual origin of the haemorrhage could not be determined because of the friability of the various tissues of the area, but, judging from the speed with which the patient bled to death, the vessel concerned must certainly have been of fairly large calibre, and the pressure behind the blood must have been sufficient to rupture the peritoneal floor of the lesser sac. This catastrophe's occurrence in close proximity to the coeliac plexus no doubt further aggravated the shock. The retroperitoneal haemorrhage which caused the death of the patient occurred on the fourth day after caesarean section for accidental haemorrhage, and it would be of interest to correlate, if possible, the condition of retroperitoneal haemorrhage with toxæmia of pregnancy. One of the outstanding features of the pathology of eclampsia is capillary thrombosis followed by extravasation of red blood cells, and I wonder whether or not a similar occurrence might happen in vessels of larger calibre in isolated instances. Certainly in two of the previously reported cases a condition of toxæmia of pregnancy was present.

Summary

A case of eclampsia complicated by an accidental haemorrhage is described.

Conservative management of the haemorrhage had to be abandoned in favour of classical caesarean section owing to the fact that the uterus remained obstinately tense, and a sudden increase in the retroplacental haemorrhage made immediate operative intervention imperative.

The patient made a smooth recovery until the fourth post-operative day, when she developed a massive retroperitoneal haemorrhage which seemed to originate in the region of the junction of the body and neck of the pancreas. The haemorrhage burst through the peritoneum of the lesser sac, and from 4 to 5 pints (2.27 to 2.84 litres) of blood passed through the aditus of the lesser sac into the general peritoneal cavity, causing death from internal haemorrhage.

A review of the literature to date is given, and an attempt is made to correlate a possible connexion between the toxæmias of pregnancy and retroperitoneal haemorrhage occurring during pregnancy.

My thanks are due to Dr. J. Seed, Medical Superintendent, Driffield County Hospital, East Yorks, for permission to publish the case, and to Dr. Barnard, County Pathologist to the East Riding of Yorkshire, who carried out the pathological investigations.

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The Foreign Office announces the publication and distribution of the first volumes of the *Fiat Review of German Science*, compiled by German experts under the direction of the British, American, and French Field Intelligence Agencies (Technical). The review is written in German and covers fundamental research in pure science during the years 1939-46. The first printing is a restricted edition for official distribution between the three Allies and Unesco. The British share of about 250 sets will be issued to Governmental and other bodies within the Commonwealth, to universities and medical schools, and to the libraries of certain learned and professional societies. It is hoped that the edition will be completed within the next six months.

CLINICAL VALUE OF SOME METHODS OF ESTIMATING ERYTHROCYTE SEDIMENTATION RATE

BY

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Many papers have been published on the rate of sedimentation of red corpuscles since Westergren (1921) recorded his original observations on the significance of an increased rate of fall in tuberculous male patients. Several techniques have been devised, including the use of heparin (Rourke and Ernstone, 1930) and oxalate (Wintrobe and Landsberg, 1935) as anticoagulants. Variations in the bore and length of the measuring tube have been advised (Cutler, 1926; Wintrobe, 1936), and a micromethod is used in some sanatoria (King Edward VII Sanatorium Annual Report, 1933-4). Investigation has been made into the physical and chemical factors involved, and varying importance ascribed to the size of the tube used (Ham and Curtis, 1938), to variations in temperature during recordings (Weingarten, 1945), to the presence of anaemia (Wintrobe, 1936), and to deficiency of plasma fibrinogen (Ham and Curtis, 1938). Various factors may be allowed for in "correction charts," of which the most popular allow for degrees of anaemia evidenced by variations in the volume of packed red corpuscles (Wintrobe, 1936; Whitby and Hynes, 1938).

The sedimentation rate is now generally accepted as a useful index of activity in tuberculosis and rheumatism, but it was felt that a comparison between methods from a clinical standpoint might be interesting. This paper describes the findings, of such a comparison—between the clinical course of some tuberculous patients and the trend of their sedimentation rates as estimated by the methods of Westergren (1921), Wintrobe (1936), and Whitby and Hynes (1938), the last two methods involving corrections for anaemia.

Methods of Investigation

Sedimentation rates were estimated on all patients admitted to the tuberculosis wards of the London Hospital Annexe. Four ml. of blood was aspirated from an ante-cubital vein—2 ml. being mixed with 0.5 ml. of 3.8% sodium citrate solution and the remaining 2 ml. placed in a test-tube in which a drop of a mixture of ammonium citrate (6%) and sodium oxalate (4%) had been dried. The citrated blood was drawn up into 200-mm. Westergren tubes and the oxalated blood placed in Wintrobe tubes of 100 mm. length. The length of clear plasma in the upper part of the tubes was read at the end of one hour, and in the case of the Wintrobe tubes the volume of packed corpuscles was read after 24 hours. The investigation was carried out at laboratory temperatures varying from about 12 to 25° C. Subsequent estimations were made at intervals ranging from two to six weeks.

At the end of a year it was possible to collect the records of 61 patients who had remained continuously under observation for periods ranging from six weeks to six months (average 3.3 months) and who had had sedimentation rates estimated by both methods on from four to ten separate occasions (average 5.6).

To the readings made using 100-mm. tubes were applied two corrections: (1) Wintrobe's correction for anaemia, and (2) Whitby and Hynes's correction, which includes a classification of the rates observed into normal and doubtfully, slightly, moderately, or severely raised.

Clinical Material.—No special selection of cases was attempted. They had all been referred for hospital observa-

corrected by the Whitby and Hynes method and in four cases corrected by the Wintrobe method readings were obtained agreeing better with the clinical course than those obtained by the Westergren technique.

Discussion

It has already been noted by Whitby and Hynes (1938) that the Wintrobe correction for sedimentation rates contains certain fallacies—i.e., that above certain figures the corrected rate is higher than the volume of packed cells, and that below certain volumes of packed cells sedimentation rates cannot be abnormal. Their own correction curve, like that of Wintrobe, is derived from estimations of rates in certain abnormal cases in which the blood was subsequently manipulated to conform to normal haematocrit readings, the final figures being controlled by a group of rates observed in an equivalent number of healthy students. It appears, however, from this investigation that these corrections rob the estimation of the sedimentation rate of its value. The corrected figures in the Wintrobe series often produced a series of readings which was so variable that in nearly half the cases the figures did not appear to conform to any pattern at all. The correction devised by Whitby and Hynes so levelled out the unevenness commonly found in sedimentation readings, and the estimations included so many readings in the "doubtfully" or "slightly" raised categories, that again no pattern suggesting improvement or deterioration could be detected.

Baumont and Maycock (1935) made a plea for the increased employment of the Westergren method as being superior to two other methods then in use, and stressed the point that useful information could be obtained only by adopting the same method in serial readings. Bailey (1941) compared the Wintrobe method with the Westergren in a series of 131 cases, and reached the conclusion that the corrected rate was of little use in classifying the patient's clinical status and was misleading in a considerable proportion of cases. Davis (1946) in a general review of the clinical use of sedimentation-rate estimations advocates the Westergren technique. My findings support the opinion that the Westergren method, as generally used, gives figures for the sedimentation rate that agree better with the course of the patient's illness, estimated by prolonged clinical observation, than do the present methods that employ corrections.

Summary

A study of the erythrocyte sedimentation rates of 61 female patients suffering from pulmonary tuberculosis is reported. A comparison was made between the clinical course of the illness on the one hand and the sedimentation rates as estimated by the methods of Westergren, Wintrobe, and Whitby and Hynes on the other. The Westergren method appeared to be the most useful both in estimating the degree of activity of the disease and in indicating the direction of its progress.

My thanks are due to Dr. R. R. Bomford, Dr. K. M. A. Perry, and Dr. H. B. May for their encouragement and advice in the preparation of this article; to the medical superintendents of Pine-wood, Grove Park, and the Grosvenor Sanatoria, and of Eversfield Hospital and the Royal National Hospital, Ventnor, for their reports on cases; and to Messrs. Telfer and Sait and Miss Carey for invaluable technical assistance.

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ERYTHROCYTE SEDIMENTATION RATE THE EFFECT OF ALCOHOL AS CONTAMINANT

BY

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Schött (1928) described the effect of alcohol on the erythrocyte sedimentation rate (E.S.R.). Very small additions of alcohol in the form of drops of different dilutions in ether usually caused an increase in the one-hour sedimentation reading, while larger additions reversed the tendency and resulted finally in very reduced values. The alcohol present in venepuncture needles which had been stored in spirit was sufficient to cause large discrepancies in the results of E.S.R. determinations.

Famulari and Colacresi (1935) studied the effect of intragastrically administered alcohol on the E.S.R. They found a great diminution in the E.S.R. following the administration, but they did not examine the effects obtained by the addition to blood *in vitro* of similar proportions of alcohol to those obtained *in vivo*.

Schött's observations seem to have escaped general notice, and the purpose of this note is to draw attention to the phenomenon and its technical implications.

The Test

Sedimentation-rate determinations were performed on blood from patients with and without the addition of various proportions of industrial methylated spirit B.P., hereinafter referred to as "spirit." The blood was heparinized, 5 to 6 ml. of blood being added to 0.05 ml. of heparin solution (50 international units). One-millilitre samples of the heparinized blood were taken into test-tubes and each was mixed with 0.25 ml. of 3.8% sodium citrate solution. To the mixtures were then added 0.01, 0.02, 0.03, and 0.04 ml. of spirit respectively, a control tube having no spirit added. It will be noted that this procedure does not exactly reproduce the conditions of practice, where the blood would be contaminated with spirit before the citration. One-hour sedimentation values of the mixtures were determined in Westergren pipettes, care being taken to obtain thorough mixing and to ensure that the pipettes were clean, vertical, and not exposed to direct sunlight or draughts. The determinations for each patient were started together, and always within three hours of taking the blood.

A progressive diminution in sedimentation, preceded in some cases by a slight increase, was observed in the presence of increasing amounts of spirit. The results in 30 cases are shown in the Table. With the exception of Cases 29 and 30 (investigated at 19° and 17° C. respectively), corrections of the E.S.R. for the temperatures of the determinations have been made from an empirical chart (*Laboratory Digest*, January, 1946). Slight haemolysis was observed with Cases 4, 5, and 10 in the mixtures containing the higher concentrations of spirit.

Whether the depressant effect of spirit can constitute a considerable source of unreliability in E.S.R. determinations depends on the possible degree of contamination of blood samples. The "residual contents" of Record-type syringes of various capacities, complete with needles, were estimated as follows, detaching the needles only during expulsion of liquids.

Aqueous dye solution (T 1824) was drawn into the syringe to capacity and expelled. After sucking in and expelling air one

to three times, water was drawn in to capacity and expelled, as dilute dye solution, into a measuring cylinder. The dilute dye, after making up to a measured volume, was compared

Table showing the Effect of Increasing Concentrations of Spirit on the E.S.R. (mm./1 hr.)

Case No.	Amount of Spirit in 1-25 ml. of Citrated Blood				
	0	0.01 ml.	0.02 ml.	0.03 ml.	0.04 ml.
1	1	2	1	1	1
2	4	3	3	2	2
3	5	6	5	3	1
4	6	8	5	2	1
5	9	6	2	2	1
6	10	13	11	5	2
7	13	9	4	2	2
8	15	13	11	6	3
9	17	18	13	9	4
10	18	14	12	7	2
11	23	19	13	6	3
12	25	20	14	5	2
13	26	28	24	21	11
14	26	19	6	3	1
15	29	21	6	4	3
16	30	25	18	12	7
17	32	24	14	6	3
18	34	30	22	12	5
19	36	32	25	7	4
20	42	35	14	6	3
21	54	42	18	7	2
22	64	59	40	24	14
23	64	52	22	5	4
24	67	69	62	44	13
25	74	75	70	57	38
26	78	77	53	29	12
27	86	86	78	53	26
28	94	91	74	47	26
29	120	112	102	85	42
30	128	126	126	86	43

colorimetrically with an appropriate dilution of the original dye. A simple calculation gave the residual contents of the syringe with needle. Three syringes of each size were examined, two determinations being made on each syringe, with the following results:

Size of Syringe	Range of Residual Volume
20 ml	0.1 to 0.4 ml.
10 ml	0.03 to 0.1 ml.
5 ml	0.03 to 0.1 ml.

The amount of blood usually taken from a patient for an E.S.R. determination varies from 2 to 6 ml., and thus a specimen taken in a syringe which has been stored in spirit and used without adequate rinsing may well be contaminated with 2% of spirit. This degree of contamination will render the determination of E.S.R. liable to gross error.

I am indebted to the physicians to the Royal Infirmary, Sheffield, for permission to use material from their cases. My thanks are due to Professor Krebs for his advice and interest, and to Dr. Weetch for the critical suggestion and for his continued interest.

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As a result of experiments aimed at increasing the efficiency of the test applied to dairy cattle an alternative procedure to that of the use of both farmer and veterinary surgeon has been suggested. In recent years the test used has required two separate examinations carried out on nearly 10,000 cattle each year. A single injection test which the Tuberculosis Research Council are satisfied is as reliable as the present method. The Secretary of State for Scotland has given in 1929 on the manner of the test of an animal for the purposes of the Tuberculosis Order (Scotland) 1936-44. The results of the test are compared with the results of the test carried out on the same animal by the farmer and the veterinary surgeon. The results of the test are compared with the results of the test carried out on the same animal by the farmer and the veterinary surgeon.

Medical Memoranda

Calciferol in Tuberculous Peritonitis with Disseminated Tuberculosis

While the value of calciferol in the treatment of lupus vulgaris is now established, reports of its use in other tuberculous conditions, with the exception of adenitis, are few. No claims can be made for a preparation after its apparently successful use in an isolated instance, but the dramatic improvement in the following case renders it worthy of record.

CASE REPORT

On July 8, 1946, a girl aged 19 was admitted to hospital with lung infiltration of an exudative character in the right mid-zone with no expectoration. This lesion, which was not then diagnosed as being tuberculous, had not resolved when she was discharged from hospital a month later. She did not attend as an out-patient as instructed, and stayed at home until May 5, 1947, when she was admitted to hospital with acute abdominal pain and signs suggestive of tuberculous peritonitis. A subsequent laparotomy showed free fluid in the peritoneal cavity and studding of the peritoneum with numerous tubercles; the diagnosis was confirmed by microscopical section.

On July 3 she was transferred to a sanatorium, but her condition deteriorated steadily: renal and vesical tuberculosis were diagnosed. Intravenous pyelography showed changes of the renal calices consistent with tuberculosis of the kidney, and cystoscopy revealed tuberculous granulations in the bladder. Moreover, tubercle bacilli were found in the urine on repeated investigations. The laparotomy wound, which had broken down a month after operation, showed no sign of healing. On Sept. 22 she was transferred to hospital as no longer suitable for sanatorium treatment and came under our observation for the first time.

On admission she was extremely pale and wasted; the laparotomy wound was discharging freely and she suffered from severe abdominal pain and tenderness, especially in the right loin, and frequency of micturition. She had a high swinging temperature ranging from 97 to 102° F. (36.1 to 38.9° C.) and appeared to be going downhill rapidly, and the prognosis was considered to be extremely grave. This state of affairs persisted for two months. On Nov. 19, in view of the grave nature of her condition, it was felt that as a last resort treatment with high-potency "ostelin" (Glaxo) might be worthy of trial, and we decided, her blood chemistry being normal, to give her 100,000 i.u. daily. Within seven days the temperature became normal, and at the end of 14 days the abdominal pain had completely subsided and the laparotomy wound had healed. No toxic manifestations were observed. Owing to the renal condition the drug was discontinued for 14 days; then another 14-day course was given. Since then steady progress has been maintained; the patient remains afebrile, her appetite has improved, and her weight increased from 4 st. 12 lb. to 6 st. (30.84 to 38.1 kg.). No tubercle bacilli can now be demonstrated in repeated examinations of the urine. The lung lesion, which has shown a slow but steady tendency towards resolution throughout, is now almost completely healed. It has not been associated with the expectoration of sputum.

The very marked improvement in which the appearance of the patient changed from that of a moribund case of tuberculous to one of returning health and vitality we feel cannot be dissociated from the administration of the calciferol. It is suggested that the treatment of similar lesions under controlled conditions with this preparation is worthy of more extensive trial.

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Recent Advances in Public Health, by J. L. Burn (J. and A. Churchill, 25s.), is an informative and interesting book on many aspects of public health not discussed in the ordinary textbooks—for example, problem families, care of the cerebral palsied child, the care of the premature infant, municipal foot health services, fire safety, human-milk bureaux. Dr. Burn does not refer to marriage guidance, which some consider to be complementary to child guidance, and equally important to the mental health of the child. In other sections he considers the latest contributions to the solution of public health problems, notably water purification and air-borne infections. The sections on handicapped children will be found most informative. The book should be widely read by public-health officers wishing to keep themselves up to date and can be recommended to D.P.H. students.

Reviews

TREASURY OF INHERITANCE

The Treasury of Human Inheritance. Vol. IV. Nervous Diseases and Muscular Dystrophies. Part V. Dystrophia Myotonica and Allied Diseases. By Julia Bell, M.A., F.R.C.P. With Clinical Notes by J. Purdon Martin, M.D., F.R.C.P. With pedigree plates XLV-LXI, Figs. 840-1,063. (Pp. 68. 21s.) London: Cambridge University Press. 1947.

Research workers have contributed so much to medical genetics as has Dr. Julia Bell. Successive monographs of the *Treasury of Human Inheritance* have revealed her flair for thorough reviews of the literature, for the drawing up of clear pedigrees, for careful selection of what is important in the case notes, and for marshalling concisely the outstanding conclusions to be drawn from the data presented. The whole series is indeed a treasury for research workers. With this number Dr. Bell brings to an end the fourth volume, which deals with nervous diseases and muscular dystrophies. It is greatly to be hoped that she will now investigate other diseases, for with the appearance of each monograph one more condition falls into the small hut, thanks largely to her, growing list of inherited disabilities to which we have a sure and convenient genetic guide.

The present number is especially interesting and includes valuable clinical notes by Dr. Purdon Martin. It also includes accounts of a long series of cases of dystrophia myotonica collected by Dr. Otto Maas, many of which are now published for the first time. Dr. Bell considers that Thomsen's disease and dystrophia myotonica are separate conditions. In this she differs from some authorities, notably Dr. Maas himself. In transmission Thomsen's disease behaves as a simple dominant, his is strictly true of the carefully compiled pedigree of Thomsen's own family, which has been enlarged and brought up to date by his great-nephew, Nissen. Dystrophia myotonica behaves somewhat as though it were due to an irregularly expressed dominant gene, but there are some strange anomalies. First, Maas finds incipient signs of the disease in all or most of the members of sibships containing affected persons. Secondly, apparently normal brothers and sisters of affected persons tend on the average to die at a younger age than they should. Thirdly, the correlation between members of the same family in age at onset is very low. Fourthly, there is a similar lack of association in severity. Finally, there appears to be anticipation—that is, the disease tends to appear at an earlier age in later generations—even when appropriate statistical allowances have been made. There seems to be no known genetic mechanism which could explain these remarkable findings. Future research workers who solve the problem will be grateful to Dr. Bell for providing a fine body of data on which to test their theories.

The standard of production is as high as ever; it is of an excellence seldom encountered these days. It is wise, however, to bind the separate parts as soon as possible, for owing to the size of the pages and the heavy plates they are apt to integrate quickly unless this is done.

J. A. FRASER ROBERTS.

RHESUS FACTOR

Its Relation to Congenital Haemolytic Disease and to Intra-uterine Transfusion Reactions. By Edith L. Potter, M.D., Ph.D. (Pp. 344; illustrated. \$5.50 or £1 10s. 6d.) Chicago: The Year Book Publishers Inc. London: H. K. Lewis and Co. 1947.

Potter is to be congratulated on this admirable monograph of the Rh factor. A general survey of the Rh antigens and antibodies in relation to haemolytic disease and transfusion reactions is followed by a good historical chapter on the discovery of the Rh factor. The author discusses the general properties of Rh antigens and antibodies and includes a section on the historical development of the nomenclature; she re-iterates Wiener's terminological vacillations, which caused so much confusion. In the section on the inheritance and antigenic structure of Rh-Hr she does rather less than justice to the part played by British workers in clarifying the situation, for does not make clear that it was they who first suggested the

true complexity of the Rh structure at a time when Wiener and other American writers had quite failed to understand the reciprocal relations of Rh and Hr. Thus Fisher (p. 69) did not "postulate that H' is inherited as an allele of R," for at that time Wiener denied that there was more than one Hr antigen and still considered it as an entirely separate antigenic system. The truth is that the unassailable logic of Fisher's analysis and synthesis has compelled American writers to accept his interpretation, and they have subsequently applied the Rh-Hr terminology to Fisher's Cc Dd Ee notation by the simple device of applying to Hr the ' or ' indices to indicate their allelic relationships to the Rh antigens.

Dr. Potter derives only 27 genotypes from Fisher's notation instead of 36, even the common R₁R₂ CDe-cDe being omitted. If this omission implies that it is impossible to distinguish serologically all the possible genotypes, she does not make that clear. The difference is not inherent in the notation, but perhaps Dr. Potter has overlooked the difference between linked and unlinked genes. In any case it would surely be better to include the common R₁R₂ CDe-cDe instead of the very rare R₁R₂ CDe-cDe. She fully considers the current nomenclature, and, while wisely distrusting systems based on arbitrary numbers, approves of Graydon and Simmons's slight modification of the present system. There is a useful table of the Rh-positive and Rh-negative distribution in different races, including such data as are at present available on the sub-types. She rightly condemns Wiener's biological test as dangerous, emphasizes the importance of giving only Rh-negative blood to Rh-negative women, and stresses the permanence of maternal iso-immunization. She presents an excellent review of haemolytic disease and classification of affected infants, the morbid anatomy and histology being beautifully illustrated. The sections on diagnosis and treatment could hardly be improved.

In the section on the significance of the homozygous state among the fathers of affected children Dr. Potter (p. 133) has overlooked the fact that her sample of 102 Rh-negative mothers is not a random sample but very highly selected. In relation to the occurrence of the disease in a second child the chance that the heterozygous father will produce the necessary two successive Rh-positive children is only one in four, whereas of course the homozygous father produces only Rh-positive children. There is thus inevitably a selection in favour of the homozygous state of the fathers of four in one.

In conclusion it may be said that Dr. Potter has written a monograph on the Rh factor which no one doing practical work in this subject should be without. While she does not present anything new for those who have followed the evolution of knowledge about haemolytic disease from the beginning, she provides a most useful summary of the present state of knowledge and a complete bibliography that will help everyone working in this field.

D. F. CAPPELL.

FOOD POISONING

Food Poisonings. Its Nature, History and Causation: Measures for its Prevention and Control. By Elliot B. Dewberry. Foreword by Gerald R. Leighton, M.D., D.Sc., F.R.S.E. In Three Parts, with Appendixes. Second edition. (Pp. 246; illustrated. 17s. 6d.) London: Leonard Hill, Ltd. 1947.

The publication of a second edition of this book within four years shows that it has had a considerable appeal. While the author is not himself an expert upon these complicated problems, he has carefully studied the literature and gives us a reliable and reasonably complete account of the various aspects of food poisoning. He has greatly improved the account of food poisoning due to staphylococci, which was very inadequately treated in the first edition, and describes it in detail in a separate chapter of 21 pages. He devotes sufficient space to discussing salmonella poisoning and infections, and perhaps more to an account of botulism than its comparative rarity demands. Other types of food poisoning considered are those caused by poisonous metals, plants, fungi, fish, and shellfish, and there is a short account of food allergy. In three appendices he describes the laboratory investigation of outbreaks, steps recommended by the Ministry of Health to investigate outbreaks, and the identification of *Salmonella* types. There are a few omissions, but the author does give a reasonably complete and accurate account of the subject. There are a number

of attractive illustrations, mostly of people prominent in the elucidation of food poisoning. In any new edition it would be helpful to give some account of precautions which should be taken in communal cookery establishments to reduce the risks of food poisoning.

WILLIAM SAVAGE.

THE EAR

Kurzes Handbuch der Ohrenheilkunde. By Prof. Hermann Marx. Second edition. (Pp. 888; 499 figures. Paper covers Rm. 46; stiff covers Rm. 48.50.) Jena: Gustav Fischer. 1947.

This book is a second and larger edition of the short handbook on diseases of the ear by Prof. Marx published in 1938. It is not a short textbook, as the title suggests, but a full and detailed work of 848 pages, profusely illustrated—a reference book, indeed, for the advanced postgraduate student and beyond the compass of an undergraduate. There is a long bibliography, mostly of German authors; references to British and American literature are scanty. The illustrations are excellent and depict a wide range of clinical conditions and pathological anatomy. The photographs of the macula and the crista with its cupula are particularly fine. The pictures of the various types of mastoid swelling and of different degrees of facial paresis are useful to the student. The photomicrographs illustrating chronic adhesive processes in the middle ear are interesting.

In the first chapter the author clearly describes and illustrates the development and comparative anatomy of the ear in relation to the visceral arches. He fully discusses the difficult physiology of balance and hearing. Marx uses the earlier Continental form of audiogram with the normal threshold line shown as a curve, which may at first confuse British and American readers. He is lukewarm in his appraisal of the fenestration operation for otosclerosis. He gives a good survey of labyrinthitis, but his account of it, as of the intracranial complications of mastoiditis, is based on work done before treatment with penicillin was started, and much of the operative work described is now almost obsolete. He fully describes open drainage of brain abscess, but this procedure is now falling into disrepute. Marx prefers surgery to radiotherapy for the treatment of carcinoma of the ear. There is an extensive section on tumours of the acoustic nerve.

STEPHEN SUGGitt.

INSTRUCTION FOR WOMEN

By Margaret Moore White, M.D., F.R.C.S.,
M.R.C.O.G. (Pp. 107. 7s. 6d.) London: Cassell and Co.,
Ltd. 1947

This book is written for girls and women to enable them to understand the physiology of the various events that take place in their lives between puberty and the menopause. The author begins by describing events at puberty, including menstruation, and gives sensible advice about menstrual hygiene. In three chapters she discusses various aspects of marriage—preparation and early years, birth control, and sterility. She then considers maternal care, labour, and the lying-in period. Advice on infant feeding and on the problems of infancy and early childhood follow. In the final chapter she discusses the menopause.

A sterile, unadorned look and absence of sentimentality characterize the book. The factual information is well laid out and sufficient, though the author might have further stressed one or two points. These include the dangers of intrauterine infection, her conception, and the dangers to life and health of self-induced abortion, whether performed by the woman or by a husband or by an unskilled accomplice. The author's justification of the method of vaginal douching, which she advocates, would appear more appropriate in a book on birth control.

...and would appear more appropriately
...from that on pregnancy. The present
...a woman with little medical know-
...with pregnancy. This book will
...of all ages and will appeal
...will find it interesting, and
...information to pass on to
...and produce
...The illustrations
...by Dr. Guyton Jones

BOOKS RECEIVED

Review is not precluded by notice here of books recently received

Diabetes Mellitus in General Practice. By Arthur R. Colwell, M.D. (Pp. 336. 39s.) Chicago: The Year Book Publishers, 1947. A practical account intended primarily for the general practitioner.

Rehabilitation of the Physically Handicapped. By Henry H. Kessler, M.D., Ph.D. (Pp. 274. 20s.) London: Geoffrey Cumberlege. 1947.

A general account of the organization and methods of rehabilitation in the U.S.A.

The Psychology of the Adolescent. By Leta S. Hollingworth, Ph.D. (Pp. 188. 10s. 6d.) London: Staples Press. 1947.

A practical account for parents and teachers.

Aids to Gynaecology. By W. R. Winterton, M.A., M.B., B.Ch., F.R.C.S., M.R.C.O.G. 10th ed. (Pp. 184. 5s.) London: Baillière, Tindall and Cox. 1947.

This booklet has been revised and new material on chemotherapy added.

Chemical and Physical Investigations on Dairy Products. By H. Eilers et al. (Pp. 215, 21s.) New York and Amsterdam: Elsevier Publishing Company, 1947.

A variety of papers on research into dairy products, carried out in Holland.

Eskimo Doctor. By Aage Gilberg. Translated by Karin Elliott. (Pp. 150. 15s.) London: George Allen and Unwin. 1948.

A doctor's life in North Greenland.

Ernaering og Folkelshelse. By Sir Robert McCarrison. (Pp. 94. No price.) Oslo: Kjempe Mot Krefst Med Kunnskap. 1947.

¹Norwegian translation of Sir Robert McCarrison's Cantor lectures (1936) on "Nutrition and National Health."

The Almoner. By I. F. Beck, A.M.I.A. (Pp. 66. 3s. 6d.)
London: Council of the Institute of Almoners. 1948.

A short account of social service and the almoner.

A Picture-Book of Evolution. By Surgeon Rear-Admiral C. M. Beadnell, C.B., K.H.P., M.R.C.S. 4th ed. (Pp. 284. 15s.) London: Watts, 1948.

An account of evolution for the layman, with many illustrations.

Feeding Under Fives. By Nell Heaton. (Pp. 106. 5s.) London: Faber and Faber, 1948.

A practical book for the busy mother.

Remedial Exercises for Certain Diseases of the Heart and Lungs. By Hester S. Angove, M.C.S.P. (Pp. 181. 10s. 6d.) London: Faber and Faber. 1946.

A manual for students and practitioners of physiotherapy.

Principles and Practice of the Rorschach Personality Test. By W. Mons. (Pp. 164. 12s. 6d.) London: Faber and Faber. 1947.

An exposition of the test; intended for psychiatrists.

Practical Food Inspection. Vol. I. Meat Inspection. By C. R. A. Martin. 3rd ed. (Pp. 316, 18s.) London: H. K. Lewis 1947.

A practical account intended for inspectors of food.

Why Not English? By Peter D. Ridge-Beedle. (Pp. 118. 10s. 6d.) Glasgow: The Strainford Press. 1947.

A new alphabet to simplify the spelling of English.

Wege, Ziele und Grenzen der Operativen Chirurgie. By Eduard Melchior. (Pp. 161. 6.80 Swiss francs.) Verlag, Berne: A. Francke. 1947.

An introduction to the principles of operative surgery.

The Philosophy of a Scientist. By R. G. Gordon, M.D., DSc
F.R.C.P.Ed. (Pp. 206, 16s.) London: Hutchinson. 1947.

The author discusses such topics as free will, deity, values, and immortal life.

Chronic Ill-Health. By Rosa Ford, M.B., D.O. (Pp. 104. 6s)
London: Henry Kimpton. 1948.

The relief of certain disorders by eradicating sepsis from the rat oral cavity.

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PUBLIC OPINION

An American journalist recently observed that there were at the moment three great powers—the U.S.A., the U.S.S.R., and public opinion. In our smaller world of medicine the three powers are the British Medical Association, the Ministry of Health, and, again, public opinion. Since the beginning of December the public has been bemused by the controversy energetically joined on both sides by the medical profession and Mr. Aneurin Bevan. The results of the plebiscite, to judge from the reaction to it of the national and provincial press, have convinced the public that the medical profession has serious grounds for disquiet about the National Health Service Act in its present form. The overwhelming vote of disapproval by whole-time Government medical officers, whole-time medical officers of health, and the young men working whole-time in the voluntary hospitals has convinced lay opinion that the opposition is not the result of political agitation or the result only of B.M.A. propaganda. As Professor J. H. Dible so well put it in a letter to *The Times*: "The medical profession has a deeply rooted tradition of freedom, and it is the experience of many of us that whole-time medical service removes this and with it many of those things, tangible and intangible, which the profession cherishes dearly." *The Times*,¹ in a leading article commenting on the plebiscite, erred in stating that "the British Medical Association had already virtually committed itself to organizing a boycott of the entire service if three main groups concerned . . . voted by a majority against entering the service. . . ." The opposition of the B.M.A., it is evidently necessary to reiterate, is not against the Service as such, but against those features of the Act and those proposals of the Minister which lead towards a whole-time salaried State medical service. Opposition is aimed at continuing and securing "a deeply rooted tradition of freedom."

The first reaction of the Ministry of Health to the plebiscite was in the form of a statement to the Press Association by a Ministry official, who said: "The Act will come into operation on July 5 in accordance with Parliament's decision." In reply to a question in the House of Commons,² Mr. Bevan himself observed, "I remain ready to co-operate closely with any professional spokesmen who want, with me, to make the new service a success," adding later that he "would not be entitled to go behind the back of the House and suggest that Parliament can surrender any position it has taken up." Comments by political correspondents suggest that the Government is more

than perturbed by the results of the plebiscite, and some papers suggest the names of possible mediators, among them Mr. Attlee. In an article in the *Sunday Times*,³ for example, Lord Horder writes: "The occasion merits his [Mr. Attlee's] direct intervention, for the issue is a vital one in the life of the nation." Lord Horder sees two ways in which "the present impasse may be resolved. One is for the Government to force the position on its economic basis, the other is to change the present atmosphere universally recognized as thoroughly bad and restore our confidence." He observes that the first alternative seems to determine the Government's present attitude. We consider that the last thing the medical profession will tolerate is financial coercion, and it is ironical that a Socialist Government should contemplate using such an ugly weapon. In asking the question, "How can confidence be restored?" Lord Horder gives this answer: "By doing something (no: making promises) which will allay the doctor's present fear that the Act, as it now stands, enables the Government to make him a whole-time salaried servant of the State." Mr. Bevan has unfortunately made it extremely difficult—and in the eyes of some impossible—for this confidence to be restored. The *Glasgow Herald*,⁴ for example, considers that "a workable health service will be forthcoming only at the cost of concessions of a more definite nature than they [the Government] have seen their way to make so far. The achievement thereby of a workable health service would be a victory for common sense. If in the eyes of Mr. Bevan such an achievement now represents only a personal defeat, then it is time for his replacement." The *Scotsman*⁵ writes: "The result of the plebiscite demonstrates that the doctors are in earnest in their stand for professional freedom, and it must be hoped that the Government will . . . make further efforts to remove the causes of disagreement." The *Yorkshire Post*⁶ hopes "that this impressive demonstration of feeling . . . will convince the Minister of Health of the need to seek a settlement by compromise." *The Times*⁷ writes, "The Minister of Health must give due weight to this remarkable expression of doctors' feelings. . . . The results of the ballot inevitably require the B.M.A. to make the next move, and to flout an Act of Parliament sets an ugly precedent. But Mr. Bevan has an essential part to play in seeking a fair settlement." The *Daily Telegraph*⁸ states, "Even at this late hour the Minister of Health should earnestly seek lines of agreement . . . the situation is a nationally unpleasant one, but should no change for the better prove possible the responsibility for the tactics, or absence of them, which have brought it about must be placed squarely upon Mr. Bevan's shoulders." The *Manchester Guardian*⁹ writes, "There is one hopeful feature of the situation. Both sides are strong enough to stand firm against each other. But both are, by the same token, strong enough to meet each other. . . . The B.M.A. has had an undeniable success over its plebiscite, and that strengthens its hands in negotiations. But it would be gravely mistaken if it assumed that its success in winning the support of most doctors entitled it to dispense with negotiation." Mr. Francis

¹ *The Times*, Feb. 21, 1948.² *Ibid.*, Feb. 19, 1948.³ *Parliamentary Debates* (Hansard), Feb. 19, 1948, 447, 1308.⁴ *The Sunday Times*, Feb. 22, 1948.⁵ *The Glasgow Herald*, Feb. 20, 1948.⁶ *The Scotsman*, Feb. 19, 1948.⁷ *The Yorkshire Post*, Feb. 19, 1948.⁸ *The Daily Telegraph*, Feb. 19, 1948.⁹ *The Manchester Guardian*, Feb. 19, 1948.¹⁰ *The Sunday Chronicle*, Feb. 22, 1948.¹¹ *The Observer*, Feb. 22, 1948.

Williams,¹⁰ giving the "Socialist viewpoint," says this: "In the dispute on the National Health Service the next move is with the British Medical Association. That, I think, can be taken as the Government's definite opinion." A leading article in the *Observer*¹¹ puts the case of the medical profession in a way no other paper has yet done. "Socialists," the leader-writer says, "have not paid enough attention to the difference between nationalizing an industry and nationalizing a profession with a long and valued tradition of independence." Discussing the approach of State Socialism towards a National Health Service, the *Observer* writes: "In dealing with medicine this may not be the right way: it tends to give planning priority over persons. Yet in a medical service, profoundly influenced by human relationships and qualities of character, success depends far more on persons than on streamlined plans." Mr. Bevan, the *Observer* points out, "has set himself to bring the whole plan into operation—on paper—this year. He wants the credit for all of it to figure—on paper—in his party's books. He accuses the doctors of 'playing politics,' but his own view of the project has always been from a window in Whitehall." The *Observer* considers that the best way out would be an agreement to proceed by stages, and concludes thus: "The Government must speak to the doctors through someone in whom they can feel confidence; Mr. Bevan should ask himself whether he is the right man."

Mr. Aneurin Bevan has said some hard things about the B.M.A., and the plebiscite has shown that all of his observations were wide of the mark. We think it would be a pity if, during the coming weeks, principles continued to degenerate into personalities. To talk in terms of "battle," "victory," "defeat," will not make it any easier to arrive at a just solution of the present problem. The important thing is to realize the existence and nature of the problem and to attempt to solve it not by scoring debating points or by denigrating opponents. The medical profession and the Minister of Health have one important end in common and that is to provide an efficient medical service for the people of this country. This common purpose is so important that it would be a tragedy if the Minister of Health failed to secure the co-operation of the medical profession by refusing to make those adjustments necessary to remove the grave doubts and fears of the 40,000 British medical men and women who have expressed disapproval of the Act in its present form.

NUTRITIONAL REHABILITATION

The provision of sufficient food for the populations of countries which have been devastated or disorganized by war, which therefore have been left behind in the economic and social progress, is one of the first steps necessary for the establishment of peace and prosperity throughout the world. Dr. Macdonald Pyke¹² has outlined the measures he considers to be essential for restoring adequate nutrition in the immediate post-war period. His first necessity is to provide more food, and his second is to improve the quality rather than the quantity of the food. In general vegetable and animal products are the most valuable for health,

which yield fewer calories per acre of land cultivated. It was of course for this reason that pasture was ploughed to grow wheat in Britain during the war. Secondly, the total food supplies of a country should be planned so that the amounts of the various nutrients made available approximate as closely as possible to the calculated requirements for the whole population. Thus in Britain an effort was made during the war to increase the vitamin-A intake by growing more carrots and by conducting a publicity campaign to persuade people to eat more of them. The success of these well-meant endeavours, however, was imperilled by the public's preference for onions, generally considered to have very little nutritive value. The next step is to distribute the foods available among the various groups of the population according to their needs. Thus young children and pregnant and lactating women, who are necessary for the survival of the country's population, should be given extra milk. Manual workers, whose efforts are important for the economic survival of the country, should be given extra meals without coupons at their place of work. The measures taken to effect these improvements should be guided by trustworthy knowledge of the amounts of the various nutrients consumed by the population in question, though it is difficult to estimate correctly the supplies obtained from unofficial sources. In Austria, for example, the official figures for the amount of food eaten suggested at one time that the whole population was suffering from acute starvation. The actual state of the people, however, was much less alarming.

Somewhat different problems faced Dr. D. P. Cuthbertson¹³ in recommending methods for improving nutrition in Newfoundland. The malnutrition of the 320,000 inhabitants of this bleak land cannot be attributed to the war, for it was known to exist previously. When in 1945 Cuthbertson was sent by the Medical Research Council to visit the island on behalf of the Dominions Office he was impressed mainly by the economic depression there and by the apathy of most of the people. He had time to make only a superficial examination of their nutritional state, but the incidence of frank signs of malnutrition seemed to be much lower than previous investigators had reported. There was little or no evidence of beriberi, rickets, scurvy, or gross deficiency of vitamin A. Possibly the introduction of vitaminized flour had caused some improvement since previous surveys. The general poverty of the diet was beyond dispute, but it was difficult to distinguish whether the prevailing apathy was due to malnutrition or the diet was poor because more vigorous efforts were not made to procure better food.

Though unable to answer this question Cuthbertson made many practical suggestions for bettering both nutrition and the general economy. Since the cod-fish is the main source of food in Newfoundland better methods should be adopted for preserving its flesh and extracting oil from its liver. More efficient processing of these valuable products would improve nutrition in the island and increase the value of its exports. Consumption of more cod-liver oil at home would eliminate the danger of vitamin-A deficiency. No less

¹⁰ *J. Amer. diet. Ass.*, 1947, 23, 90.

¹¹ Cuthbertson D. P., *Report on Nutrition in Newfoundland*, 1947. London: H.M.S.O.

¹² *British Medical Journal*, 1946, 2, 835.

¹³ *Ibid.*, 1947, 2, 244.

important is the need to increase supplies of vegetables and dairy products and to overcome the difficulties in transport caused by a rugged and indented coast-line. A publicity campaign should be launched to encourage the production of vegetables in smallholdings and gardens and to teach the conservation of food in cooking. The low-extraction flour which is now used should be replaced by flour of 78-80% extraction, fortified with calcium and iron. Other suggestions remind us of the primitive conditions prevailing in the interior of the island and of the cold winter climate. Cuthbertson recommends that in the regions unsuitable for agriculture herds of caribou should be allowed to roam protected against unauthorized slaughter. Husky dogs, between their seasons of hauling sledges, should not be allowed to run wild among grazing animals.

The application of scientific principles to the production and distribution of foodstuffs has already helped Britain and other countries to avoid the grosser effects of malnutrition. Recently further privations have threatened us, but our knowledge of the biochemistry and physiology of nutrition has increased. We now understand better the interrelations between requirements for various nutrients, the vitamin-B₂ complex, and—so far as experimental animals are concerned—the various functions of vitamin E. Mellanby's^{3,4} important experiments have raised grave doubts about the wisdom of "improving" flour. The time is past when scientific advice on nutrition consisted merely in prescribing larger amounts of milk, meat, vegetables, and other protective foods. In order to exert his full influence in future either the dietitian may have to follow Cuthbertson's example and, turning agriculturist, consider how the necessary foodstuffs may be obtained, or he must emulate Pyke and indicate how health may best be sustained on such little food as is available. When it is necessary to resort to the second unhappy alternative prompt action in applying the results of recent research may well be of the utmost importance.

STREPTOMYCIN BACTERICIDAL

Streptomycin isolated by Schatz, Bugie, and Waksman¹ in 1944 from *Actinomyces griseus* has come into prominence largely because it is the only antibiotic which so far has been proved to influence tuberculous infections in man. In addition streptomycin is far superior to any other known drug in the treatment of tularaemia and of meningitis due to *Haemophilus influenzae*, and in infections due to pleuropneumonia-like organisms it appears to act specifically, being more effective and less toxic than gold salts.

In a paper that appears at p. 382 of this issue L. P. Garrod suggests that streptomycin may have a wider application, particularly in infections due to Gram-negative organisms. It is curious that up to the present there has been little evidence to prove that streptomycin is actually bactericidal, though the tendency in the U.S.A. to administer the drug only twice daily for the treatment of tuberculosis can hardly be explained solely on bacteriostasis, for one or two daily injections will not maintain a constantly bacteriostatic concentration in the blood. Garrod's important experiments show conclusively that

streptomycin undoubtedly has a bactericidal action and that a single dose of the drug may produce a blood concentration which exceeds 30 µg. per ml. This may well be bactericidal *in vivo*. The finding that high concentrations of streptomycin are rapidly bactericidal *in vitro* has an extremely important application in local treatment, whether this is applied to infected surfaces, the inflamed meninges, or the infected urinary tract. It seems possible that streptomycin may prove an invaluable drug in the treatment of infections of the urinary tract, for streptomycin, like penicillin, is excreted in the urine, where it is found in high concentrations which are now shown to be quite high enough to be bactericidal. *Bact. aerogenes*, *Bact. coli*, and *Pyocyanus pyocyanus* in long-established and otherwise resistant urinary tract infections have been rapidly killed. If treatment is going to succeed, a count of several hundred millions per ml. before treatment is reduced to one of a few hundreds or thousands per ml. within 24 hours or less. It seems also that a very brief period of treatment is successful, for permanent cures of long-standing infections have been obtained after six, four, or even three doses of 0.5 g. There is, however, one drawback to the use of streptomycin, and that is the rapidity with which resistant strains of bacteria develop whenever the bacterial population exposed to streptomycin is large. It would seem as if in a large population some members are almost always naturally resistant, so that when their more susceptible brothers are killed by streptomycin they can flourish.

In the treatment of long-standing urinary infections there are now two drugs which are superior to sulphathiazole or sulphadiazine—they are streptomycin and mandelamine (methenamine mandelate). The sulphonamides have the disadvantage that in acid urine they may deposit as crystals in the urinary tubules. It remains to be seen whether streptomycin or mandelamine is the more satisfactory. According to a recent report by Duca and Seudi² mandelamine does not readily give rise to resistant strains.

FREEDOM TO PUBLISH

Fears that censorship might hamper the free publication of opinion by doctors employed in the National Health Service have been allayed for the time being by Mr. Bevan, and we welcome his reply to a Parliamentary question on Feb. 12.

Col. Stoddard-Scott asked the Minister of Health whether those doctors and dentists who entered the National Health Service would have freedom to publish articles and books with regard to the organization and administration of the Health Service and freedom to publish such articles without having to seek permission of individuals or authorities. Mr. Bevan replied: "So far as I am concerned, yes, Sir."

This amplifies his reply to the question that Col. Stoddard-Scott put on Jan. 29. He then inquired whether doctors and dentists who entered the National Health Service would have complete freedom to publish articles and books without having to seek permission, and he asked for an assurance that there would be no attempt to suppress freedom of publication. Mr. Bevan replied that so far as he was concerned there would be no restriction whatsoever in the National Health Service on the publication of scientific or clinical writings. Mr. Bevan's saying in the debate on Feb. 9 that there was no doubt about his intentions hardly clarified the issue, and his remark that

¹ Schatz, A., Bugie, E., and Waksman, S. A. (1944). *Proc. Soc. exp. Biol., N.Y.*, 55, 66.
² Duca, C. J., and Seudi, J. V. (1947). *Ibid.*, 65, 123.

Mr. Butler in expressing his doubts was "leaving a trail of slime behind him" showed a singular unawareness of the value that educated men attach to their freedom to express their minds on all professional matters, administrative as well as scientific.

Some of the letters that we publish at present appear over pseudonyms. In nearly every case they do so for the reason that the writer is employed by a local authority or is in the armed Forces and is therefore prevented from criticizing his employing body, either because a superior officer would refuse to allow publication, or because publication might jeopardize the writer's chances of promotion. Mr. Bevan assures us that censorship will not occur, and we accept his word. But what of future Ministers of Health? We have no assurance that they will take the same view, and they will not be bound by a predecessor's reply to a question in Parliament. In view of the restrictions prevailing at present in State medical services it is highly desirable that complete freedom to publish opinions on any professional matter be a condition incorporated in the Act. No authority should have the arbitrary power to conceal criticism of itself. A health service especially is likely to require fundamental changes if it is to provide satisfactory conditions for the practice of such a swiftly changing science as medicine; unless these can be freely proposed and discussed by critics within the service, its life will become choked in a jungle of precedents.

ANTI-RH SERUM NOMENCLATURE

It is natural and common that when a new phenomenon has been discovered and as yet is only partly understood a system of nomenclature should be introduced which is proved by later work to be either inconsistent with the facts or inconvenient in practical use. It had been hoped by some that such a position would now be recognized in the case of the anti-Rh sera, and that the Review Board appointed by the Surgeon General of the United States Public Health Service to advise on nomenclature might have adopted without reservation the Fisher-Race system, as opposed to the earlier Wiener system, in favour of which priority is the chief argument. Reading only a little between the lines of the Review Board's report,¹ it can be assumed that its members would have liked to follow the above suggestion, but it seems they felt unable to go further for the present than to recommend the use of both systems in parallel, the Wiener nomenclature being given first on any label, and the Fisher-Race designation following in brackets. There is certainly no lack of candour in the Board's comments. In favour of the Wiener theory it is stated that it has priority and "is used by nearly all workers in the western hemisphere." Against it are listed its specifications, changed rapidly from year to year; its complications, both typographical and genetic; its arbitrary superscripts, numbers, primes and other symbols; and "the doubtful assumption of multiple alleles and a single gene." It is recalled also that the supporters of the Fisher-Race theory and proponents of the earlier Wiener not only denied the linkage of the two theories but stated that the existence of the two additional systems was proved by Fisher, whereas in fact it was proved by Fisher and by Morant and anti-d. The Review Board's recommendation to the Board recommends the use of both systems in parallel, the Wiener nomenclature being given first on any label, and the Fisher-Race designation following in brackets.

usage in the western hemisphere, and hence may become the international standard." Against it only two objections are raised—its lack of priority, already mentioned, and that it "is based on a genetic hypothesis which is unproved." In the strictest sense of the words that is a correct statement of the position, though a theory which makes a correct prediction is normally regarded as having been "confirmed" to that extent. "Proof" in these matters is a relative term, and the real question confronting the Board was what degree of proof was necessary to justify the abandonment of the prior, and in the United States the most widely used, system of nomenclature. While the immediate effect of the report in the United States will be to ensure the temporary confinement within brackets of the Fisher-Race descriptions, the Board's comments must none the less have gone a long way to encouraging its wider use by United States and other workers and thus rendering the present compromise transitional.

PASSAGE OF VITAMIN E TO THE HUMAN FOETUS

The discovery of vitamin E, some twenty years ago, was the outcome of observations by Evans and Burr¹ on the fertility of rats. Subsequent research has shown that this vitamin is needed for purposes other than reproduction, and particularly for the prevention of muscular degeneration.² Descriptions such as the "reproductive vitamin" or "anti-infertility" vitamin, however, have passed into general use, and the name "tocopherol," given to the vitamin after its isolation, indicates its connexion with childbirth. The most interesting chemical characteristic of the vitamin is its ability as an antioxidant to prevent the auto-oxidation of fats.³ The results of intensive studies in this country⁴ and in the U.S.A.⁵ have indicated that its role in metabolism is to protect various unstable substances from untimely oxidation.

Although so much is known of the chemistry of vitamin E, and of the effects of its deficiency in various animals, evidence that it is required by human beings is still inconclusive. It has repeatedly been claimed that vitamin E is of use in the treatment of habitual abortion,⁶ but sceptics have pointed out that abortions are often followed by full-term gestation even without special treatment.⁷ Tocopherol, supplemented by inositol to aid its absorption, has been considered effective in the treatment of certain muscular disorders, but this observation has not yet been confirmed.⁸ The report that the vitamin is beneficial in heart diseases⁹ has not gained general acceptance.¹⁰ We must, therefore, fall back on evidence of the presence and distribution of the vitamin in human blood and tissues in order to obtain some indication of its essential physiological purpose.

The first tests on human tissues were made by Evans and Burr. Using their original biological method they found that the placenta, the only organ examined, contained moderate amounts of the vitamin. More recently many workers have applied the convenient chemical method

- ¹ *Mem. Univ. Calif.*, 1927, 8, 1.
- ² *J. Nutrit.*, 1936, 2, 573; *Biochem. J.*, 1935, 29, 788; *J. Hyg.*, 1939, 39, 641.
- ³ *J. Biol. Chem.*, 1944, 154, 317.
- ⁴ *Biochem. J.*, 1945, 34, 1231.
- ⁵ *Adams, Enzymol.*, 1946, 6, 469.
- ⁶ *Acta Obstet. gynec. Scand.*, 1933, 13, 219; *Klin. Wochs.*, 1936, 13, 1853.
- ⁷ *Brit. Medical Journal*, 1937, 2, 1218.
- ⁸ *Vitamin E, a Symposium*, p. 83, 1939, Haffers, Cambridge.
- ⁹ *Science*, 1945, 101, 91.
- ¹⁰ *Nature*, 1946, 157, 772.
- ¹¹ *Lancet*, 1945, 1, 192, 116.
- ¹² *Proc. Soc. exp. Biol. Med.*, 1939, 57, 1351.
- ¹³ *Proc. Soc. exp. Biol. Med.*, 1946, 61, 369.
- ¹⁴ *Klin. Wochs.*, 1947, 24, 342.
- ¹⁵ *Z. Geburtsh. Gynäk.*, 1946, 177, 149.

devised by Emmerie and Engel,¹¹ particularly to blood plasma. By this means Straumfjord and Quaife¹² have studied the transfer of vitamin from the mother to the foetus. They found in a survey of more than 50 women that the average level of tocopherol in the plasma during the first 24 weeks of pregnancy was 1.17 mg. per 100 ml., as against 1.04 mg. in normal adults. During the last 12 weeks of pregnancy a sharp rise to 1.62 mg. was observed, while at parturition the plasma from the umbilical cord contained only 0.34 mg. They remark that an increase in the tocopherol content of the plasma in the later stages of pregnancy is consistent with the well-established rise in the plasma lipoids. Similarly the lower level in the cord plasma is consistent with its lower lipid content, and also with the action of the placenta in restricting the passage of other nutrients, including vitamin K.

More detailed investigations by Athanassiou,¹³ which were, however, carried out on only 6 patients, offer an alternative explanation. He found that at the time of parturition the maternal serum contained 1.0–2.0 mg. of tocopherol per 100 ml., while the placental tissues contained 0.56–1.07 mg. He examined both venous and arterial serum from the cord, the former containing 1.25–2.0 mg. and the latter only 0.2–0.55 mg. per 100 ml. This suggests that the placenta does not obstruct the transfer of tocopherol from the maternal arterial circulation to the foetal venous circulation, but that the foetus absorbs the vitamin and so reduces its concentration in the arterial blood of the cord. It seems probable, therefore, that vitamin E is needed by the foetus, though it would be interesting to know whether the difference between the arterial and venous blood is peculiar to vitamin E or applies indiscriminately to all fatty constituents of the plasma. Athanassiou¹⁴ found further evidence of the importance of vitamin E for human reproduction in the examination of blood serum from 90 women who had recently aborted. In 58 of these subjects values of under 0.3 mg. of tocopherol per 100 ml. were found, which suggests that hypovitaminosis E is a common feature in abortion. Confirmation of Athanassiou's observations will be awaited with interest, since they appear to add considerably to our knowledge of both the physiology and clinical importance of vitamin E.

BODY TEMPERATURE

Evidence suggesting that acetylcholine may be concerned with the mechanism which controls body temperature has lately been examined by Burn and Dutta at Oxford.¹ The apparently unrelated observation of Glauback and Pick² in 1931 that procaine causes a fall in body temperature acted as the starting point. Early last year Peczenik³ reported that in mice the fall of temperature produced by procaine was greatly increased by adrenalectomy. A fall of 2.3° F. (1.25° C.), controllable with the adrenal glands working, became in the absence of adrenaline a "collapse"—with a fall in temperature averaging more than 8° F. (4.44° C.). The average survival time of these mice was about three and a half days. It thus appeared that adrenaline played some part in the maintenance of temperature, but there was a complication that Peczenik's mice had been subjected to the further operation of castration, and that an additional object of his research was to find out the part played, if any, by the various members of the steroid group of substances. He concluded that desoxycorticosterone, progesterone, and methyltestosterone all had a significant effect in reducing the fall in temperature induced by procaine.

A year earlier Dawes⁴ at Oxford had noted that quinine, quinidine, and procaine counteracted the effect of acetylcholine on many types of tissue—particularly on the heart, intestine, and skeletal muscle. Later, de Elie, also at Oxford, showed that the action of acetylcholine could also be counteracted by atropine and "pethidine." This suggested, by one of those guesses which when successful are described as inspired, that it might be worth investigating whether any of these other substances also shared with procaine the property of reducing body temperature. The results of such an investigation are now reported by Burns and Dutta. It appears that atropine, "benadryl," pethidine, and quinidine all have the same effect as procaine on the body temperature of mice, and, further, that this effect is increased by adrenalectomy. These workers suggest, therefore, that since it is a common property of all these substances to depress the action of acetylcholine "it becomes probable that the maintenance of body temperature depends on a mechanism in which acetylcholine plays a part, and that the adrenal glands support such a mechanism." Tentative as it still is, this hypothesis must command respect. It should be noted, however, that the complications introduced by Peczenik's earlier work on steroid substances still remain, and also that temperature may be controlled not only by a depressant action on the one hand but also by a positive resistance to depression on the other—final adjustment being the result of a balance between the two. Such a mechanism is common in the control of other metabolic processes.

U.N. MEDICAL RELIEF

The International Children's Emergency Fund was set up by the United Nations in December, 1946, and it is among the most potentially beneficent organizations established since the war to combat the effects of famine and disease in the devastated areas of the world. The fund is now operating in 12 countries in Europe and also in China. It provides supplementary food—such as dried milk, oils, and vitamins—and medical supplies and assistance to children, as well as help for pregnant and lactating mothers. The medical programme envisaged includes extensive campaigns against tuberculosis by means of B.C.G. vaccination and against venereal disease, particularly in Poland, Italy, Rumania, and Hungary.

Unfortunately the British Government has been unable to contribute to the Fund the £1,000,000 requested, to which the United States Government, we are informed, is pledged to provide an additional 5½ million dollars, which would not be made available if the British contribution came from voluntary sources. But this may not now hold good in view of the appeal for contributions to the United Nations Appeal for Children launched by the Lord Mayor of London on Feb. 23. The proceeds from this appeal will be divided between the International Children's Emergency Fund, Unesco, and certain voluntary societies working on behalf of children. The Government has agreed to allocate £100,000, part of which will go to the International Children's Emergency Fund, when £500,000 has been raised from voluntary sources in this country. Donations may be sent to the Lord Mayor, Mansion House, London.

Dr. J. F. Wilkinson, F.R.C.P., will deliver the Oliver-Sharpey Lectures before the Royal College of Physicians of London (Pall Mall East, S.W.) on Tuesday and Thursday, March 9 and 11, at 5 p.m. Subject: Concerning Megalocytic Anaemias.

¹ *Nature*, Lond., 1948, 161, 18.

² *Arch. exp. Path. Pharmacol.*, 1931, 162, 551.

³ *Proc. roy. Soc. B.*, 1947, 134, 218.

⁴ *Brit. J. Pharmacol.*, 1946, 1, 90.

ROCKEFELLER FOUNDATION YELLOW FEVER INVESTIGATION

The latest report from the International Health Division of the Rockefeller Foundation shows that the Division is actively continuing its programme, which in the main has a threefold objective—research on certain specific diseases, with control work in the field; the building up of efficient State and local health services; and the support of public health education.

Many pages of this report are devoted to the control and investigation of yellow fever. During the past few years a study of epidemiological developments in South America has pointed strongly to the conclusion that there is a permanent jungle reservoir in that continent. All the localities in which jungle yellow fever is endemic or epidemic are situated at some head-water of the huge Orinoco-Amazon hydrographic system. Every one of the places where, at one time or another, yellow fever has occurred in half a dozen South American countries is precisely at a point of contact between the great jungle expanse and the outposts of human colonization. It seems reasonable to conclude that the Orinoco-Amazon jungle system constitutes a permanent reservoir of yellow fever; that the virus manifests itself constantly by human eases at the system's periphery; and that from several of these points epidemic waves may start, to invade non-immune or slightly immune regions where conditions still permit its transmission and propagation.

The report contains a detailed account of work done on yellow fever in Brazil and Colombia. In Africa, again, some investigations have been made on the epidemiology of yellow fever, the identification of the principal insect vectors and vertebrate hosts, and the means by which the virus is maintained between epidemic periods. Research is being carried out in six East and West African countries.

Malaria has also been the subject of study, and especially the action of anti-malarial agents. In certain parts of Peru the incidence of malaria is believed to be as high as, or higher than, anywhere else in the world. Spraying operations with D.D.T. have been carried out effectively there and elsewhere. Venezuela is a meeting place for some 32 species of anopheline fauna, including the chief malaria vectors, and presents an ideal field for research in endemic malaria. Here again D.D.T. has proved such a powerful weapon that according to the latest accounts the disease was retreating to a marked degree all through the northern parts of the country, and spraying squadrons, working full time, promised to keep malaria off the list of serious public health problems.

Much other work aided by the Division is reported concerning influenza and other respiratory diseases, rickettsial diseases, and nutrition.

Medical Care Surveys

The staff of the Division have visited health care projects in various parts of the world. Sweden was found to be the most advanced country in this respect. With regard to the National Health Service Act in Great Britain the report has this to say:

The Act accepts the recommendation of the Goodenough Report that medical schools and their hospitals become part of the national health service. Special importance in the development of medicine is laid on the prevention of disease and on appreciation of the part played by social environment in the causation of disease. Because the preventive and social aspects of medicine can be given only in the community, the health service is to be provided as an integral part of the community's general medical education. This increasing emphasis on the social aspects of medicine with the health needs and the health service of the community was found to be the basis of the health service at the level of health."

The report also states that the U.S. Government might have been expected to have established a programme of research on the health of the people, but that the health of the people is not a subject of interest to the U.S. Government. The report also states that the U.S. Government might have been expected to have established a programme of research on the health of the people, but that the health of the people is not a subject of interest to the U.S. Government.

Europe for three months to observe the operation of health insurance systems in the United Kingdom, France, Switzerland, Denmark, and Holland.

A long account is given of "Group Health Insurance Incorporated," a non-profit organization in New York, providing doctors' services on a prepayment basis, and of the establishment of a health insurance plan for Greater New York. The governing body of this latter includes representatives of medicine, labour, city government, social welfare, and business. The services afforded include general medical, specialist, surgical, and obstetrical care at the home, consulting room, or hospital, diagnostic procedure, periodical health examinations, preventive measures, and various therapeutic services. All persons employed in New York City earning a basic wage of not more than 5,000 dollars are eligible for membership, which covers their dependants. Employer and employee share the cost. It is estimated that 25 full-time doctors are required for 20,000 insured persons, this making it possible for each doctor to furnish the needed service without haste in a 2,000-hour working year. The fee of 19.20 dollars per insured person is expected to yield an average net income of about 10,000 dollars a year for a full-time doctor, but the remuneration is left to the decision of each medical group. The medical group includes a balanced number of general practitioners and specialists in various fields, assisted by qualified technical personnel. When this report was issued 444 doctors, organized into 20 groups, were ready to begin service, and about 5,000 unattached doctors had expressed a desire to affiliate with the groups.

Finally, the report gives an account of 119 International Health Division Fellowships in 24 countries in the year under review.

A HUNTERIAN CELEBRATION

Austerity conditions compelled the Hunterian Society to substitute an informal evening party for the usual dinner in celebration of the birth of John Hunter. Mr. A. E. Roche, the president, who, with Mrs. Roche, received the guests, mentioned that there was some doubt about the exact date of Hunter's birth. Hunter himself gave it as St. Valentine's day, but the register of the Lanarkshire parish in which he was born gave it as Feb. 13; probably the truth is, as the late Stephen Paget suggested, that he was born on the night of Feb. 13-14, 1722. Mr. Roche permitted himself an Irishism when he said that had Hunter lived to-day he would probably not have been born at all. He was the youngest of ten children, and families of ten in these days are hard to find. Mr. Roche speculated on the likely impressions of John Hunter on attending a cocktail party in his honour 150 years after his death. Until the temperance of his later life he was accustomed to drink his bottle, and Mr. Roche suggested that his reaction to the strange concoctions apparently necessary to modern social intercourse would be expressed by one of his favourite sayings: "Don't think; try it." Another matter for speculation was how Hunter would have approached some of the medical problems of to-day. He did not mince his words, and in a letter to his brother William he spoke of some with whom he was associated as "no more fit for their office than the devil to reign in heaven." In the right spirit of a clinician he regarded the earning of a living as an unfortunate if necessary distraction from his researches. "Well," he said, "I must go and earn this damned guinea, or I shall be sure to want it to-morrow."

In honour of the occasion the Society brought forth its Hunterian treasures, which are under the jealous guardianship of Mr. C. R. Rudolf, the Society's librarian, at 60, Wimpole Street. All the objects shown were the property of the Society with two interesting exceptions, namely, a charming miniature of William Hunter, done in 1783, the year of his death, by John Boyle, miniaturist, and a shagreen case containing various small articles which belonged to and were used by John Hunter. These are the possessions of Dr. T. B. Jobson, whose son, Dr. Patrick Hunter Jobson, an honorary fellow of the Society, was present as representing the Hunter family. Dr. Patrick Jobson is a descendant, through his mother, from Matthew

Baillie, nephew of Hunter. Other articles of interest were watches, balances, a pair of spectacles with silver rims, some brass dispensing instruments, and a walking-stick (the ivory handle lost in the blitz), all of which had belonged to John Hunter. One large repeater watch was described as having been presented to Hunter by the staff of St. George's, presumably before the quarrels, and on the back of the inner case were the words: "Left to my friend Charles J. Fox, 1793." There is no contemporary record of Hunter's friendship with Fox, but Hunter was one of Fox's constituents in Westminster, and the statesman was a governor of St. George's.

Among the books and manuscripts on view were letters from William Clift, Hunter's last assistant, from William Cullen, and from Matthew Baillie. The collected works of John Hunter, in four volumes, published in 1835, were included, also the first edition of Hunter's work on venereal disease, dated 1786, notes of lectures by both John and William, and a French translation, published at Ostend in 1799, of Hunter's work on blood, inflammation, and gunshot wounds (there is no record of another copy of this work in England or America). Of hardly less interest were the volumes containing the minutes of the Society itself from its inception in 1819 to the present time. Successive secretaries have seasoned the minutes with wit and humour, and the reading of the minutes is still one of the most interesting items of a Hunterian evening. The first volume, recording the proceedings to 1827, incorporates the Society's rules, one of which lays it down that physicians, surgeons, and apothecaries actually in practice and persons of distinguished talents in other sciences connected with medicine are eligible for ordinary membership. Another tradition of the Society is to hold its ordinary meetings within the boundaries of the City of London—occasionally at the Mansion House or in the hall of one of the City companies, but most frequently from the very beginning in a tavern. But on this social occasion the Society came to the West End, to within 200 yards of St. George's Hospital, to drink to "The Immortal Memory."

Preparations and Appliances

A NEW GENERAL ANAESTHETIC APPARATUS

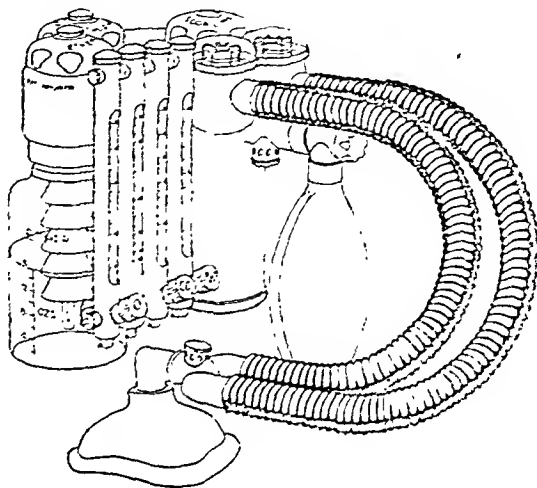
Dr. H. REX MARRETT, visiting anaesthetist, Coventry and Warwickshire Hospital, writes: In designing this new machine I have tried to satisfy the requirements of the occasional and specialist anaesthetist, and to make it suitable for use in hospitals and private practice. This new apparatus embodies in unitary structure a soda-lime absorber, ether and chloroform vaporizers, a rebreathing reservoir, and flowmeters for the admission of basal gases. Its height is 9½ in. (24 cm.), width 8½ in. (22 cm.), depth 8 in. (20 cm.). It weighs only 9½ lb. (4.3 kg.), and can either be supported by the extended tube from a cylinder stand or be fixed by means of a simple bracket to any existing hospital anaesthetic table. The three proportioning valves over the ether, chloroform, and soda-lime are of leak-proof design. All ports and passageways through which the patient breathes are such that resistance to respiration is minimal. The apparatus is gas-tight at a pressure of at least 12 cm. of water. A simple automatic locking device to safeguard the patient from possible decomposition of "trilene" has been designed whereby the trilene control cannot be rotated when the soda-lime is in the circuit. Similarly the soda-lime cannot be brought into the circuit if the trilene control is not in the "off" position.

The illustration shows the front view of the machine with the flowmeters, bag, and directional valves readily visible in one field of vision. The flowmeters and bag can be illuminated by a new flame-proof torch fixed to the central support for use in a darkened theatre. The bank of flowmeters can comprise any desired number of tubes as each has been made a separate unit. A very compact type of bayonet-catch non-interchangeable connexion is employed. These connexions are inserted into the base on the under surface.

A one-gallon bag is used instead of a concertina type reservoir, because I consider the former has two major advantages: First, inspiratory and expiratory movements can be

more easily observed however full the bag may be; secondly, pressure variations during manipulations in controlled respiration can be more easily appreciated. The bag mount is secured to the head by a taper joint with a bayonet catch. A control is situated on the end of the bag mount, and this can be turned in one direction to close the bag gradually for insufflation, and in the other to open progressively an air-inlet aperture whilst closing the bag at the same time for partial rebreathing and the draw-over principle.

The outer canister of the absorber is fixed to the head and is provided with a thread at the lower end on to which the base is



screwed. To this base the inner canister is fixed by means of a rustless spring. This arrangement enables the anaesthetist to remove the absorber with one hand in one operation. Both the inspired and the exhaled breath pass through the soda-lime.

Rotation of the ether control to the mid-point between the "off" and "on" positions regulates only the patient's breath entering the bottle via the cone. Further rotation of the control towards the "on" position regulates the additional admission of basal gases to the vaporizer via a central perforated tube. With the closed circuit only the inspirations pass through the vaporizer, but with the semi-open circuit both inspirations and expirations contact the ether. The basal gases alone vaporize the chloroform or trilene. The control above the absorber is graduated for partial absorption.

I have had the full co-operation of the manufacturers, Airmed, Ltd., 20-24, Park Way, Camden Town, N.W.1, in arriving at the final design of this apparatus.

The first International Poliomyelitis Conference will be held at the Waldorf-Astoria Hotel, New York, on July 12 to 17, under the auspices of the National Foundation for Infantile Paralysis. Dr. Hart E. van Riper, Medical Director of the National Foundation for Infantile Paralysis, will preside over the conference. Invitations have been sent to more than sixty nations for official delegates to attend the conference and present papers. We are informed that Prof. H. J. Seddon, of the Wingfield-Morris Orthopaedic Hospital, Oxford, will participate. In addition some twenty other medical and scientific authorities outside the U.S.A. will send delegates. The delegates will be divided into 3 categories: (1) official government delegates; (2) institutional delegates representing universities and societies; (3) member delegates, which category includes physicians and other duly qualified scientific and professional people. Dr. van Riper has said that the collection of local epidemiological and immunological data from all parts of the world and their correlation have never been accomplished on the necessary scale before; it is intended that the conference should serve to expedite distribution of vital knowledge on a world-wide basis. The plenary sessions will be preceded by the opening meeting, to be presided over by Prof. Irvin Abell, of Louisville University. Dr. Basil O'Connor, President of the National Foundation, will welcome delegates, and foreign delegates will be introduced by Dr. Morris Fishbein, editor of the *Journal of the American Medical Association*.

Reports of Societies

SWINE ERYSIPELAS INFECTION IN MAN AND ANIMALS

A meeting of the Section of Comparative Medicine of the Royal Society of Medicine was held on Feb. 18, when the subject for discussion was swine erysipelas infection (*Erysipelothrix rhusiopathiae*) in man and animals.

Veterinary Problems

Mr. A. W. GLEDHILL said that this disease of pigs was almost world-wide, though it varied in seriousness from country to country and even from region to region. In Britain its prevalence had been most marked in East Anglia. Susceptibility to infection was not confined to pigs and the disease occurred commonly in birds of most species. The organism was also a common cause of arthritis in lambs, and it had been described as causing endocarditis in horses. There was a good deal of evidence to indicate that it might lead to a saprophytic existence. In areas where the disease appeared subclinical infections were common. Pigs between the ages of three months and one year were most susceptible. No doubt sucking-pigs received protective antibodies from the sow, and pigs over one year might have acquired sufficient immunity to resist infection. Lowered host resistance might play a dominant part in determining the conditions necessary for the onset of a severe outbreak. There were three forms of swine erysipelas: mild, acute septicæmic, and chronic. Immune serum acted by neutralizing the toxic effect of the organisms rather than by promoting their destruction. As curative agents the sulphonamides were not of value; the organism was sensitive to penicillin *in vitro*, and to a less extent to streptomycin.

Human Infections

Dr. MARY BARBER, of the British Postgraduate Medical School, gave a survey of the history and literature of infection in man. Compared with swine, she said, man was relatively immune to infection with this organism. Three types of human infection occurred, namely, cutaneous, intestinal, and generalized. The first was by far the commonest, and to this she devoted most of her remarks. A case of cutaneous infection of this nature was described in the *British Medical Journal* as long ago as 1870. It was the case of a foreman in a sheepskin bootshop on whose hands lesions developed; the recurrence of the disease was ultimately prevented by the wearing of gloves. [This patient, a man aged 28, was in the care of Dr. Tilbury Fox at University College Hospital, who described the case in our issue of Feb. 5, 1970, at page 132.] In 1873 a worker at St. Bartholomew's Hospital reported 16 cases of a similar condition, in several of which the lesion appeared to have originated as a scratch from a bone while handling meat. The disease was established as a clinical entity in the late 19th century and its causal relation with swine erysipelas was worked out. The condition was met with fairly frequently in a large urban area. Infection occurred mainly by accidental transmission to those who were brought into contact with pig manure, such as cooks, kitchen workers, and butchers, also to persons who handled fish. Nearly always there was a localized lesion. The period of incubation was from one to ten days. The disease was confined almost exclusively to the hands, appearing above the wrist, but there were a few cases in which lesions occurred on the sole of the feet or on the face. The patient complained of burning, itching, and pain. The lesions were of a purplish red colour, with definite swelling. Infection of the face was very rare, and suppurative infection was extremely rare. Fever and constitutional symptoms were absent. The lesions might disappear spontaneously, but recurrence was not infrequently observed.

was evidence that this had some effect. In one case, with two days of starting treatment with penicillin there was almost nothing to be seen on the hand.

Dr. Barber showed figures illustrating the experiences of various investigators and also described some cases of generalized infection. One of these was a case of septicaemia associated with endocarditis. The patient died a month after admission to hospital, the whole course of the disease having lasted four months. At necropsy the heart size was found to be nearly twice normal, and vegetations adhered to the anterior cusp of the mitral valve. One case was recorded in which infection was via the alimentary tract. In this case the patient developed malaise, anorexia, and fever, with the eruption of red spots on the trunk and limbs, later a painful swelling of the knee-joint and severe anaemia and leucopenia. He improved after the administration of immune serum but relapsed and died; no post-mortem examination was carried out.

Effectiveness of Chemotherapy

Mr. MALCOLM WOODBINE, of the Wellcome Laboratories, Beckenham, reported some observations on the effectiveness of the new chemotherapeutic agent upon *Erysipelothrix rhusiopathiae* infections in mice. The now substantial literature on the ineffectiveness of sulphonamide compounds owing to the mode of action, as in the case of sulphathiazole, sulphadiazine, sulphapyrazine, sulphanilylguanidine, phthalylsulphathiazole and sulphathione, had been confirmed *in vitro* and *in vivo* but it was of interest to note that "tarfanil," or benzamine-4-sulphonamide, which owed its activity to a different mechanism, was active *in vitro*.

Results with penicillin indicated that very large doses were necessary. The optimal dose was 1,000 units twice daily for mouse (20 g.) for ten days or more, and this might be compared with the total dosage of the order of 30 units per 20 mouse for complete protection in streptococcal, staphylococcal and pneumococcal infections. The necessity of parenteral administration of relatively large doses appeared to preclude the use of penicillin in swine erysipelas. Recent work in the United States, in which turkeys had been used and doses of 20,000 units once daily over four days had been given, showed a reduction of mortality from 100% in controls to 10%. Pigeons had been cured with penicillin, and the use of penicillin successfully in man had been recorded not only by Dr. Bart and her colleagues (1946), but by Hodgson (1945), Jenni (1946), and Stiles (1947).

The reported activity of streptomycin *in vitro* against this organism encouraged the laboratories at Beckenham to examine this antibiotic when supplies became available. Streptomycin was active *in vitro* and *in vivo* in mice, but less active than penicillin weight for weight. There was, however, a synergistic action in mouse infections when penicillin and streptomycin were administered together in equal doses, and this might be of some potential value. Aerosporin showed little activity *in vitro* and no activity at all in infections in mice. The related antibiotic polymyxin was reported to be inactive *in vitro*. It appeared that a still more effective chemotherapeutic agent suitable for oral administration, was required, particularly in the veterinary field.

In some further discussion a veterinary surgeon said that fatal cases in man were very rare, but a case came under his notice in Colombo, in a laboratory assistant, whose illness was first described as malaria, from which he had previously suffered. But it did not respond to quinine, and he became steadily worse. The symptoms were intermittent fever, weakness, and loss of weight. Typhoid, brucellosis, and malaria were excluded. The patient died, and at necropsy nothing characteristic was found except some enlargement of the spleen, from which, however, the organism was cultured.

Dr. BARBER said that in describing man as relatively immune she meant that it was rare to see the disease in a severe form. The lesions were slight and healed up quickly, so that few cases did not come into the hands of the bacteriologist.

The President said that swine erysipelas had always been a serious problem in veterinary medicine. Before the war a good deal of vaccination was done, and up to a point was satisfactory. During the war, with the decline in pig population, the disease tended to die out, but with the building up of herds there was

be a recrudescence. He wondered whether the susceptibility of man to this disease might not be much higher than was commonly thought.

CLINICAL PATHOLOGY LETTISOMIAN LECTURE

The first of three Lettisman Lectures on "Clinical Pathology in Relation to Medical Practice" was delivered by Dr. CUTHBERT E. DUKES before the Medical Society of London on Feb. 16. The President of the Society, Mr. W. E. TANNER, was in the chair.

Dr. Dukes began by saying that one reason why clinical pathology deserved consideration at the present time was because of the intention of the Health Service Act to extend laboratory facilities to the whole of the community. Up to the present, in most districts, only hospital patients had enjoyed the benefit of a free comprehensive service. Now the door of the laboratory was to be opened to all—a prospect which the clinical pathologist might regard with some satisfaction not unmingled with apprehension. Increased facilities for clinical pathology would be welcomed by the profession, especially by general practitioners, but a service of this sort could not be started in a few weeks. Laboratories had to be built and equipped, and pathologists and technicians had to be trained.

Definition

Clinical pathology might be defined as the application of pathology and pathological method in clinical practice. Much of the diagnosis and treatment of disease had come to depend on team work, and an essential member of the team was the pathologist. The mastery of laboratory technique was neither easily nor quickly acquired, and it was in order to meet the need for co-ordination between clinical medicine and laboratory science that the clinical pathologist was evolved. The difference between academic and clinical pathology was no greater than between pure and applied chemistry or pure and applied mathematics. Academic pathology was a pure science, clinical pathology the application of science to the diagnosis and treatment of disease in the individual patient.

The development of clinical pathology in the past had gone through three phases. When hospitals first recognized the need for a pathological department it was usual for the physician with a liking for the microscope or for chemistry to be asked to "look after" pathology. The next phase of development was for the post of pathologist to be regarded as a stepping stone to the staff. The third stage, the result of the rapid extension of the subject during the last twenty or thirty years, was that in universities and medical schools the pathologists continued to specialize still further, thereby creating difficulties in the application of pathology to clinical medicine. A single pathological specimen sent to a departmentalized laboratory tended to be passed from one department to another. This piecemeal analysis, though occasionally necessary in obscure cases, was not desirable in the ordinary case. A specimen such as cerebrospinal fluid should be examined as a whole by a pathologist who understood something of the clinical side of the case.

In the smaller provincial hospitals the evolution of clinical pathology proceeded along different lines. Many curious devices were adopted by some voluntary hospitals to raise funds for laboratories. Some turned themselves into trading concerns and offered to examine all specimens sent in by general practitioners. Pathology had often been described as a science ancillary to medicine, but some pathologists came to think of themselves not as handmaids but as household drudges. Until recently very few facilities existed outside the hospitals. Diagnostic laboratories established by public health authorities, research institutions, and commercial firms catered only for certain sections. One of the defects of National Health Insurance was the lack of facilities for clinical pathology. The Act made provision for any drug, remedy, or therapeutic agent to be prescribed by the insurance practitioner, but it did not enable him to find out whether the agent prescribed was really needed. In pernicious anaemia he was allowed to prescribe liver extract, but he had no facilities for taking blood counts.

To-day and To-morrow

In the Emergency Medical Service in 1939 provision was at once made for laboratory diagnosis and clinical pathology as an integral part of wartime hospital organization. At the moment facilities for pathological services varied greatly in different parts of the country, and pathologists themselves were scattered about in a haphazard fashion. The survey recently undertaken by the Ministry of Health drew attention to the unequal distribution of facilities for pathological tests and to lack of co-ordination and failure to make use of the facilities which existed.

It was difficult to foresee how clinical pathology would develop in the future. The only certain thing about the future, as Lord Keynes said, was that it would be different from the past. Plans were in preparation for a considerable extension of hospital and public health laboratory work, but were handicapped by shortage of personnel and equipment. On the appointed day hospital pathological laboratories would come under the control of the Regional Hospital Boards. It was not yet clear how the hospital services would be co-ordinated with those at present organized separately by the public health services. The investigation and control of epidemics was obviously the task of the public health epidemiologist, but the diagnosis in the case of an individual patient might depend on tests carried out by a hospital pathologist. It was anticipated that in the future the public health service would provide free diagnostic facilities for all infectious diseases, together with central reference laboratories. It remained to be seen whether it would be best to run the two services separately or in combination.

The efficiency of the pathological services provided under the new Act would depend largely on the supply of well-trained clinical pathologists, and on the spirit in which they did their work. Up to the present clinical pathologists holding teaching appointments or attached to voluntary hospitals had enjoyed a large measure of independence. They had been answerable to committees or governing bodies, but these had very seldom interfered with arrangements made for running the laboratories. Under the new Act the pathologist might not enjoy as much freedom as in the past, but he hoped to gain other advantages in return. They would all have to be on their guard lest the new control resulted in a shifting of attention from the patient to some other objective. The art of managing and manipulating other people had now been carried to an extraordinary level of efficiency, but the more they exercised social control over their fellows the more they tended to lose sight of the real needs of the individual.

Training the Clinical Pathologist

The clinical pathologist should be well trained clinically as well as technically. It had been recommended by the Consulting Pathologists Group of the B.M.A. that future entrants should not be recognized as specialists in clinical pathology until after five years' postgraduate experience and the attainment of a higher qualification, and that no assistant should be admitted to the staff of a department of clinical pathology until he or she had done at least one year in a house appointment. The sound way of acquiring training was in a general hospital under a good all-round clinical pathologist. In universities and colleges where specialization had led to the formation of a number of separate departments there was a tendency for the budding pathologist to bud out too luxuriously in one direction to the detriment of others.

Certain personal characteristics were necessary for success in any profession. For the clinical pathologist one of the most important qualifications was the capacity for working with other people, especially medical and surgical colleagues, fellow pathologists, and laboratory technicians. Team work was essential for good clinical pathology. Next in importance was a capacity to direct the activities of others. The chief pathologist in a laboratory was not unlike the conductor of an orchestra. Ideally the conductor should be able to play every instrument; but that was too much to ask, and all that was essential was that he should know each instrument's capabilities and limitations. So with the pathologist and the various laboratory procedures.

It was often erroneously assumed that personal relationships were of less importance in pathology than in other branches of medicine. The extent to which a pathologist entered into any sort of personal relationship with patients varied greatly according to the nature of his work, but whether he met the patient personally or only a bit of the patient, the existence of the patient as a living individual must never be overlooked. Their patients were not the objects but the subjects of their skill. The public in general adopted a foolish attitude to pathologists, just as they did to all scientists. Patients either took the view that nothing of value would come from the pathologist's activities, or else they looked with childlike faith upon laboratory mysteries as their only hope.

The personal relationship of the pathologist and the laboratory technicians affected the working of the laboratory much more than an outsider might suppose. The whole atmosphere of the laboratory might easily be poisoned by one discontented assistant. Trained laboratory assistants should always be made to feel that they were in responsible positions.

Finally, with regard to the relationship of the pathologist to his professional colleagues, doctors in general differed to a remarkable degree in their attitude to pathological services and in the confidence they reposed in a pathologist's report. Some referred to the laboratory as if it were an inspired oracle; others suppressed all laboratory emanations as irrelevant or misleading. The great majority resorted to the laboratory only for an occasional Wassermann or pregnancy test. It would be a disaster, of course, if laboratory tests led to the neglect of the clinical examination. They should be regarded not as a substitute for but only as an extension of the clinical findings.

THE FILMSTRIP IN MEDICAL TEACHING

A joint meeting of the Royal Society of Medicine and the Scientific Film Association was held, under the chairmanship of Mr. ZACHARY COPE, on Feb. 12 to discuss medical filmstrips. A filmstrip is a length of cine film on which a series of pictures is printed in a desired sequence and projected on a screen, very much in the same way as a series of lantern slides. The pictures may be reproductions of printed material, such as illustrations or book text, original drawings or paintings, and, of course, photographs and radiographs.

Dr R. M. TATTERSALL said that on seeing filmstrip for the first time a year ago he was so impressed by its possibilities in medical teaching that he set to work at the medical school at Leeds to apply it to instruction in such techniques as lumbar puncture, the taking of the blood sedimentation rate, catheterization, and other simple procedures. In making the filmstrips they endeavoured to be as elementary and detailed as possible, the first frame, perhaps, reproducing the initial request for the procedure, and the last of the thirty or more the written-up case-notes. They had no special department of medical photography at Leeds, but one of the registrars had a Leica camera, and with this the negatives had been obtained, the processing being given out to a trade house. The magazine capacity of the Leica imposed the limitation of about 34 frames in one strip. In deciding on what was to be shown it had to be borne in mind that no two people carried out, for example, lumbar puncture in exactly the same way. Therefore the filmstrips were produced on a committee basis, three or four people sitting round a table, working out their differences, and agreeing on points to be emphasized in the successive pictures. The first frame, therefore, also decided, and, in addition to the actual procedure, charts, diagrams of the instruments to be used, and illustrations of anatomical specimens might be included. One or two frames might be used to remind the student pictorially of the steps in the procedure. The last frame might illustrate the labelling of the specimen, and perhaps a diagram of the procedure. At least five people were involved in the making of the filmstrips, namely, the person who decided on the procedure, the person who took the photographs, the person who processed the negatives, the person who made the filmstrips, and the person who projected them.

who must be co-operative. It was as well to have a rehearsal. In projecting the filmstrip it was first taken slowly through the lantern, then quickly to give the illusion of continuity to the photographs of the actual procedure. A group of students should first be shown the filmstrip, then see the actual procedure, and after that they should observe the filmstrip again.

Dr. BRIAN STANFORD reminded the meeting that 35-mm. film was inflammable, whereas 16-mm. substandard film was safe for projection in places not specially protected. A positive filmstrip could be made straight from the camera by reversal but that was not to be recommended; it was better to make negatives and print from them. If diagrams only were wanted they could be drawn in white ink on black paper, photographed and developed, and projected on the screen as black on white and this was perfectly satisfactory for many purposes but of course was applicable only to line drawings or printed matter.

Various technical points were brought out in further discussion, such as density, tone range, and screen brightness. It was stated that the average cost of a filmstrip was about 12s. 6d. At the close of the meeting a number of filmstrips illustrating medical subjects were shown.

THE LESSONS OF WAR SURGERY

At a meeting of the Manchester Medical Society on Feb. 4 Sir HENEAGE OGILVIE read a paper on "The Lessons of the War for Civil Surgery."

During the recent war much was learned about transport organization of forward surgery, segregation of special cases and methods of wound treatment applicable only to the forces of a victorious alliance in the concluding stages of a campaign. The outstanding problems of war surgery throughout the ages were those of shock and infection. These problems had not been solved, but their treatment had been brought to a very satisfactory level, the first by the elaboration of methods of storing blood and plasma and the organization of a resuscitation service, the second by chemotherapy. The same methods were available in civil practice, and would be applied so much the better if the simple outlook and sharp distinction between theory and practice that characterized Service units in the field were translated to the treatment of industrial accidents. The general lessons of wound treatment, excision, drainage, two-stage closure, and, later, of skin cover all had their civil applications.

In addition to progress in the treatment of these fundamental problems of trauma, the level of surgical technique advanced to a remarkable extent, aided by the development of resuscitation and chemotherapy, but above all by the parallel advances in anaesthesia. The most striking example of technical advance was the change from the conservative attitude of war surgeons towards chest wounds in 1941 to the radical thoracic surgery of 1945. The freedom of the open thorax was the outstanding new feature in post-war surgery. Whereas formerly only extrapleural approaches to the heart were considered, and little was undertaken beyond embolectomy and pericardiectomy, to-day incisions were chosen to give the most direct approach to the chamber or vessel concerned. Removal of the lung or oesophagus, daring feats before the war, was now undertaken every week. Total gastrectomy by the abdominal route was a difficult and dangerous operation; now the trans-diaphragmatic approach had made the operation reasonably straightforward. The war surgery of head injuries and vascular lesions had also left its legacy of advance to the planned surgery of peace.

In more general terms, war brought to all Service surgeons periods of rest and opportunities for discussion in which many traditional ideas were weighed and found wanting. In particular the principles of rest and rehabilitation had been radically revised for the good of surgery and the surgical patient.

The fifth dinner meeting of the 1948 session of the Chelsea Clinical Society was held on Feb. 10 at the South Kensington Hotel, with the president, Dr. Neil Maclean, in the chair. There was a large attendance of members and visitors to hear a discussion on "Some Aspects in the Science of Crime Detection" opened by Dr. K. S. Symonds. The discussion was continued by Dr. Donald Tennant, Mr. A. Le Moine, Dr. Sundell, Mr. Ivor Buck, Dr. MacMurtrei, and Dr. Clive Shield.

Correspondence

The Commonplace Mind

SIR.—Any one of us who seeks to grasp first things first amidst the clamour of voices contending on the merits of the National Health Act, and to preserve his equanimity under the buzz of curtain lectures, prosy and splenetic, which *The Times* newspaper presumes to give us, may well feel that we are in danger of concentrating unduly upon details and of omitting a general diagnosis of the situation which confronts our profession.

Details our negotiators had perforce to attend to, but those of us who have not been thus thanklessly engaged are at leisure to take a more general view and to look beyond the apparently hostile figure of the Minister of Health, who is after all an ephemeral phenomenon, to the state of affairs of which he is symptomatic. What does this import in our disturbed society? I think the Spanish writer Ortega y Gasset sums up the situation in his well-known book *The Revolt of the Masses* with a harsh candour we shall do well to ponder. He says:

"The characteristic of the hour is that the commonplace mind, knowing itself to be commonplace, has the assurance to proclaim the rights of the commonplace and to impose them wherever it will. . . . The mass crushes beneath it everything that is different, everything that is excellent, qualified and select. Anybody who is not like everybody, who does not think like everybody, runs the risk of being eliminated. And it is clear, of course, that this 'everybody' is not 'everybody.' 'Everybody' was normally the complex unity of the mass and the divergent specialized minorities. Nowadays, 'everybody' is the mass alone. Here we have the formidable fact of our times, described without any concealment of the brutality of its features."

Where, indeed, could we look for a more manifest expression of the coarse ferocity of the power of mere numbers when challenged than in the speech of the Minister of Health in last week's Commons debate, or in the proposal to abolish the university representation in Parliament? What good, in the Greek sense of that word, can the community hope for from government carried on in such a spirit? Do men gather figs of thistles?

There are, I believe, qualities of rare excellence in our profession, though like every human institution it has its imperfections. I submit that this excellence and an unworthy envy of it are the basis of much of the odium to which we are now being subjected in the hope of bending us and our profession to the ends of a retrograde political ideology. We should be too guileless to deserve to survive as a free profession serving the State through the community if we supposed that the nationalization of medicine is the pure expression of a burning and altruistic desire to see a wider measure of social justice, or that the forces now mustered against us are anything but levelling and intellectually and morally destructive in their essence under whatever sophistries and platitudes they hide themselves.

It is, I believe, now given to our profession to have the place of honour and to stand in the gate against ruthless and levelling forces that will, if not resisted in time, crush yet other excellences than ours and make the word "democracy" as nauseating and as compact of cynical falsehood in Western as it is in Eastern Europe. This is the real issue before us.—I am, etc.,

London, W.1.

F. M. R. WALSH.

Cable from A.M.A.

The officers and Board of Trustees of the American Medical Association meeting in Chicago congratulate the British Medical profession, with the leadership of the officers and Council of the British Medical Association, on the overwhelming approval of its firm stand on behalf of professional integrity, medical ideals, and the right to care for the sick without political domination.—E. L. HENDERSON, M.D., Chairman, Board of Trustees, American Medical Association.

Debate on the Act

SIR.—Mr. Butler was in a difficult position in the House of Commons in putting forward an amendment to the National Health Service Act, which a Coalition Government had

originally sponsored and which is, actually, very little different from the present one. In spite of this I feel that, if the Opposition could do no better than they did in Monday's debate, they will be in opposition for a very long time.

The arguments which were put forward against the Act and which are the arguments put forward by the B.M.A., although important from our point of view, mean little or nothing to Members of Parliament or to the lay public and are difficulties which could easily have been got over by any other Minister of Health. The doctors have complained that they have a bad press, and this is little to be wondered at, because the average member of the public has no idea what the trouble is between the B.M.A. and the Minister.

The real reason why I am saying "No" personally and probably why the majority of doctors are saying "No" is that the Government are about to take a large sum of money each week out of every member of the public for a service which they know, and which we know, cannot possibly be fulfilled on July 5 of this year. The public have been definitely promised a service of general practitioners and specialists working reasonable hours in well-equipped health centres and hospitals, and that every person in the country should have the services of a general practitioner and, if necessary, of specialists whenever he requires them.

We know that building has not started on a single health centre or on a single 500-bedded hospital as yet for this Service which is to start in four months' time. When the public do not get what they expect it is the doctors who will have the blame and not the Government.

It has also been said that this controversy between the B.M.A. and the Government is not financial, and Mr. Butler said that the general-practitioner terms were generous. Any doctor who has studied these terms and has any business acumen at all knows that they are far from generous for the general practitioner, and it is not possible to offer any opinion on the terms for specialists, which, we understand, are to be made known about six months after they have joined the Service.

I give below the reasons why I think most doctors are saying "No," first from a general practitioner's and secondly from a specialist's point of view:

The General Practitioner.—(1) The general practitioner is asked to sign a contract for a 24-hour day seven days a week and 365 days a year with no provision for holidays or for illness. This is not the comprehensive health service which the supporters of the Act have put before the public, where the doctor was to have plenty of leisure, time for postgraduate study, and proper holidays.

(2) No provision is made for any secretarial assistance for the doctor, but it must all be done by his wife or his domestic servant, if he has one. The terms of remuneration do not allow for the payment of a secretary, and if they did it would be necessary for the doctor to have two secretaries, as I am sure no secretary could be asked to work 24 hours a day, particularly in view of the large masses of forms and certificates which will be added to the doctor's burden. The modern domestic servant is not usually capable of taking a correct telephone message, and so it is the doctor's wife who will suffer, and I am afraid the only remedy is polygamy.

(3) The remuneration is quite inadequate. A well-qualified practitioner in a good-class area can only earn £1,000 a year gross, as it is impossible with this type of patient living in a scattered area to look after more than 1,000 patients properly. In a poor-class area a doctor may be able to earn £3,000 or even £4,000 a year, provided always that he does not examine his patients.

The Specialist.—(1) The public have been told that under the new Service they will all get attention in well-equipped hospitals. So far from any attempt to build and equip any new hospitals, the Minister has refused to allow many existing hospitals to make extensions and improvements which were held up owing to the war and which they were quite prepared to do out of their own funds.

(2) No attempt has been made to increase the number of nurses, but the training of new nurses has, on the other hand, been curtailed by the Minister's condemnation of the smaller hospitals.

(3) It is impossible to discuss the question of remuneration, as this is not known until six months after the Service starts, and this is bound to deter even the most trusting.

(4) There is no compensation for the goodwill of specialists' practices. While the goodwill of practices in the Harley Street area may not be a saleable asset, it is on the other hand a very valuable asset in the country, and many provincial specialists have paid large sums for their present practices.

I am sure if these few facts were put clearly before the public they would agree that the Minister should postpone the intro-

LESLIE HARTLEY.

Freedom Based on Ownership

J. FAYLE SEAL.

Ownership of Goodwill

RUDOLF NUSSBAUM.

Young Doctors

J. S. CLARK.

Suggested Compromise

A. S. HATCH.
F. H. HERRARD

Practice under N.H.S.

SIR,—We have not yet been informed what measures have been taken to ensure that patients will sign on with their chosen doctors on or before July 5. All panel practitioners know from experience that most panel patients do not present their medical cards for signing until they require treatment, and it is no unusual occurrence to find a patient who has had his card for three, four, or even five years before handing it to his doctor. We must realize at once the absolute necessity of preventing this happening in the new Service, as the sole means of livelihood of the majority of doctors will be the N.H.S. cheque, for our private patients, who since the commencement of the N.H.I. have subsidized the panel, will have all been absorbed into the N.H.S. We will have virtually to commence building up a panel again from scratch, and to build up to 3,000 or 4,000 will take several years unless some form of compulsory registration is adopted by the Ministry. The doctors cannot do this, as the G.M.C. would regard it as canvassing, and quite rightly so. We cannot accept a scheme under which there is no guarantee that our income from the commencement is going to be not less than at present, as our expenses will not be correspondingly reduced in the interim.

There is no reason why our present panel should not be transferred to our list in the new Service as from July 5, giving us a nucleus on which to build our new list and also to make sure of a small cheque on Jan. 1 to meet practice expenses, as I presume that all cards accepted between July 5 and Sept. 30 will be the basis of the fees paid on Jan. 1, 1949. During the October to December quarter we will be expected to live and run our practice on our savings, even although during the previous quarter we have been attending and have had the responsibility for the welfare of all our potential patients, including our private patients whose fees have all these years subsidized the panel. Unless more attention is given to this matter we are going to work for three months absolutely, and for some years partially, for Mr. Bevan and love. What a thrilling prospect!

Having argued about all the ethical and idealistic aspects for months let us now get down to the materialistic and bread-and-butter side of the business and get an immediate understanding on this matter, remembering that every labourer is worthy of his hire, even if he is only a general practitioner.—I am, etc.,

Wetherby, Yorks

S. T. PYBUS

Inducement to Good Work

SIR,—The principal argument against the N.H.S. which has been advanced by the dental profession is the inevitable lowering of the standard of work by the introduction of cheap mass-production methods. The same argument applies to the general practitioners, and it is a point that has been entirely neglected by the B.M.A. The N.H.S. seeks to perpetuate the worst features of the panel system.

No inducement exists for the G.P. to take higher degrees or to interest himself in any particular branch of medicine, and no contribution is made towards the provision of efficient apparatus or surgery accommodation. Payment depends entirely upon quantity rather than quality, and the doctor whose main article of equipment is a pack of visiting cards by means of which every case presenting difficulty is referred to the local hospital is to be paid at the same rate as the doctor who is prepared to spend time, trouble, and skill in curing his patients. Are we all to be converted into drudges with vast visiting lists and overflowing surgeries, but whose examinations become more and more perfunctory and whose treatment is confined to the scribbling of prescriptions?

In this district the voluntary hospitals are staffed by G.P.s, and thanks to the facilities provided for good work and to the association with consultants and fellow practitioners the standard of medicine is very high. The provision of hospital beds acts as a continued postgraduate course, and all consultants are agreed that the G.P.s who are so fortunate as to be attached to such hospitals gain very considerably in efficiency and experience. Under the N.H.S. it appears likely that such hospitals will disappear or be put to other purposes.

Little inducement appears to exist for the G.P. to do good work, and his main function would seem to be that of a medical

clerk occupied in filling in certificates. At present it is claimed with justification that we have the best medical profession in the world. What are we likely to have in the future?—I am, etc.,

Kington-on-Thames.

A. C. RILEY.

The Independence Fund

SIR,—There are three comments I would like to make. (1) The lay public do not know that if the modifications proposed by the B.M.A. were adopted they would still have "free" doctoring with everything "laid on," with the difference that their doctor would also be free to treat them as he thought best and to support them in matters of dispute. I feel that more publicity could well be given to this essential aspect. (2) The B.M.A. has been criticized for having no alternative scheme to the Act. I have understood that the B.M.A. would support the Act if it were altered in regard to the four cardinal points which mean freedom. If this is so, can we have a positive assurance on this point? (3) It is essential that we, and the younger practitioners in particular, should have a definite statement as to how the fighting fund is to be administered. If it is not sufficient I am sure that many, including myself, would gladly increase their guarantees.—I am, etc.,

Sunbury-on-Thames

J. MURRAY SCOTT.

Tell the Public

SIR,—I feel confident that I shall be found to have correctly anticipated the result of the plebiscite when I say that the features which make the present Health Act generally unacceptable are by now sufficiently appreciated by the profession—and for this our thanks and congratulations are due to the Chairman and Council of the B.M.A.—but we all know, by the bemused utterances of both friends and patients, that the position is by no means so clearly understood by the general public. Nor should we expect that the finer details should ever be as clearly understood by the general number. My gross impression is that the public trusts the doctors; but if we are to gain their active support in the second stage of the campaign as we must, there is one fact that I believe it is absolutely crucial should be forced home to them immediately, repeatedly, with the utmost vigour, and by every means of publicity available (Parliament, Press, public speaking, and private discussions—and not forgetting, I hope, if at all possible, those two best methods of all, screen and the B.B.C.)—namely, that the profession is not, and never has been, averse to a comprehensive health service; but, on the contrary, positively and wholeheartedly does want, and has wanted, a comprehensive health service just as much as, and for far longer than, the present Government has wanted it. In short, that the medical profession is determined that the public shall have available to them a comprehensive health service, and that there need be no doubt on that matter whatsoever.

I agree wholly with the correspondent, Dr. E. Cronin Lowe (Feb. 14, p. 310), who suggests an "alternative scheme which the profession could and would unanimously operate to the advantage and satisfaction of all those of the community who desire to avail themselves of such a National Health Service," and that "such an alternative scheme should be published as soon as possible, discussed, advertised, and if necessary voted upon before July"; and partly with Dr. R. A. Murray Scott (p. 310) when he considered it a great opportunity lost that we were not already presented with an alternative scheme to vote for at the time of the plebiscite. On both matters there is no time to be wasted.—I am, etc.,

London, S.W.10.

P. N. WALKER-TAYLOR.

SIR,—I discussed our problems this morning with a well-known broadcaster and journalist, and he considered that we had neglected our "public relations," with the result that most people did not realize why we oppose the present Act.

He suggested that we should arrange a series of radio talks and debates; and I am sure a radio discussion in "Friday Forum," the speakers including Dr. Hill, Dr. Guy Dain, Dr. Somerville Hastings, and a member of the M.P.U., would have a very large listening audience and help us considerably in bringing our views before the public.—I am, etc.,

Wetherby, Yorks.

WARREN A. BARNES.

Goodwill is an indefinable and intangible asset which is ~~not~~ often a matter of opinion in the mind of an accountant. Issues regarding the question of goodwill, law of property, law of trusts and the law of partnership have always been decided by the Chancery Division of the High Court, presided over by judges with particularly legal acumen and experience regarding the rules of equity. As

individual, if aggrieved by any decision, has the right of appeal to the Court of Appeal and to the House of Lords. By Clause 35 these civil matters relating to the practice of a doctor will be transferred, after the appointed day in July, 1948, to a lower criminal court presided over by a bench of lay magistrates or by a stipendiary magistrate, who will have to decide issues which, in my opinion, they will not be competent to decide.

Although a prosecution for an offence under Section 35 can only be instituted by or with the consent of the Director of Public Prosecutions, the position is intolerable, as many innocent or unwitting transgressors may find themselves the victims of criminal proceedings. Doctors will be in jeopardy if after the appointed day they seek to honour their existing partnership agreements. A conflict may arise between a decision of a High Court judge, who may for example decree specific performance of a deed, and the decision of a criminal court in proceedings instituted at a later date under this burdensome section. Under Subsections (6) (b) and (8) it may well be that a son who succeeds his father may be precluded from giving any financial support to his father or mother both before and after he succeeds to the practice. Under Subsection (3) a doctor's widow or children may be involved unwittingly in criminal proceedings as the result of the sale of a house to another doctor. This encroachment by the executive on the liberty of doctors and their personal representatives is unjust.

The Minister has promised to set up a legal committee to inquire into the effect of the Act upon partnership agreements only. From what I have stated above the effect of the Act on partnership agreements is only a small issue, and it is obvious that unless Section 35 is deleted or amended the profession will be involved in a morass of litigation through no fault of its own.

Mr. Bevan stated in the course of the debate that "as a general rule when Parliament passes a Bill and it becomes law, it is left for the courts to construe it." The protagonists of the Act assert that it is now on the Statute Book as law and that we should loyally accept its provisions. If after the Act comes into operation it is found that the courts, *at our expense*, construe certain sections in our favour, amending legislation can then be introduced. This form of argument is nonsensical. If an Act of the legislature is unworkable in whole or in part then the obvious just action to take is to amend the unworkable sections before the Act comes into force and great injustice is done to individuals.

There are several precedents which support my argument. I quote one where an Act which was found unworkable was in fact amended twice. I refer to the Law of Property Act. A Law of Property Act was passed in 1922 to come into operation on Jan. 1, 1925. The lawyers examining it closely found that it was unworkable and that the result of its operation would be chaotic. This was followed by the Law of Property (Amendment) Act, 1924, which had as one of its objects "to correct errors and supply omissions in the Act of 1922." A further Law of Property Act was passed in 1925 to come into operation on Jan. 1, 1926. Even then further amending Acts were passed in 1926, 1929, and 1932 "in order to remove certain difficulties that arose in practice when the Statutes came into force" (*Cheshire on Real Property*).

While I appreciate that legislation is the vehicle by means of which the executive enforces policy, yet in my submission "the law should be the master of policy and not be the medium whereby the Government enforces an unjust policy infringing the two most precious things in life—justice and liberty." I quote from the Earl of Chatham's speech on the Wilkes case in the House of Lords, Jan. 9, 1770: "We all know what the Constitution is. We all know that the first principle of it is that the subject shall not be governed by the *arbitrium* of any one man or body of men (less than the whole Legislature), but by certain laws, to which he has virtually given his consent, which are open to him to examine, which are not beyond his ability to understand." The powers given to the Minister in the Act give him this *arbitrium* and therefore violate the spirit of the Constitution. It makes no difference to me whether it is 1770 or 1948; the principles of English law are the same.

I would stress another very important implication of the Penal Clause which offends the rule of law. If a doctor is convicted under this section, the General Medical Council may erase his name from the Register merely on proof of the conviction, and the doctor may not go behind the conviction and try to show that he should have been acquitted by the criminal court. The Council may erase without "due inquiry" in a criminal conviction. The doctor is therefore placed in peril twice for the same offence and runs the risk of two penalties for the same offence. This is an intolerable burden to place upon a general practitioner.

It would be an act of great statesmanship if Clause 35 was deleted or very materially amended. To remove the penal sanctions from this section and to substitute for them the equitable remedies of the civil courts is surely not beyond the wisdom of the law officers of the Crown. The profession will otherwise become the unwitting instrument of an attempt by the legislature to introduce a new and disturbing element into the laws

of this country whereby the equitable jurisdiction of the Chancery Division of the High Court is considerably restricted and replaced in a great measure by the jurisdiction of a criminal court, and new crimes may be committed by a doctor and his personal representatives of which they need not have a *mens rea* or guilty mind.—I am, etc.,

London, W.8

J. ARTHUR GORSEY.

Freedom to Publish

SIR,—The gloomy forebodings of your editorial note to my letter on freedom of publication (Feb. 14, p. 312) are contradicted in the same issue at p. 325. Mr. Bevan, in fact, answered that "there never was any doubt whatsoever" that "a doctor would be able to write and publish in scientific journals what he liked without any prohibition whatever." This wording obviously implies that medico-political and medical administrative matters would also be a matter for free controversy in the medical press.—I am, etc.,

London, N.21.

E. MONTUSCHI.

* This topic is referred to in an annotation at p. 399 of this issue.—Ed., B.M.J.

Advertisements for Administrative Officers

SIR,—I have been very concerned by the frequent advertisements for an Assistant Senior Medical Officer to various Regional Boards. The senior referred to is the Senior Administrative Medical Officer. By the suppression of the word administrative the inference is that the doctor appointed will assist the "Senior Medical Officer."

At the discussion with the Ministry officials the Negotiating Committee was expressly informed that no title—to use the official's own words—"suggesting that he was in any way head boy" would be used for this administrative, yet our own journal is helping to establish the undesirable inference that there is a Senior Medical Officer in the Region. If the title must be condensed I suggest that the title Assistant Administrative Medical Officer is more suitable, even if it contains eight more letters.—I am, etc.,

Here, Surrey

H. J. McCUPRICK

Liberty of Patient

SIR,—Amidst all the dust and fury of the present battle I have not observed that the true interests of the patient, in particular his capacity to develop as a whole person, receive much consideration. Social security and Beveridge plans and other methods for controlling and supposedly safeguarding the citizen must inevitably bring with them restrictions on his capacity to develop. If this is a political opinion it is also a medical one with an ethical aspect.

Is it not true that if you give a man something you take something away from him also? The citizen who receives his doctoring or his children's schooling through some obscure method of taxation cannot possibly feel the same pride in his responsibilities as one who pays in more obvious and direct fashion. We know that the word "free" is bandied about as part of the political humbug associated with democracy and other forms of government, but it is surprising that psychologists have paid so little attention to the cramping and thwarting of personality inherent in the massive schemes of the planners. Their activities in interfering with people's lives are loudly acclaimed, even by their potential victims. If there is no need to think, no need to develop foresight or initiative, no need to do more than be born, to breed, and to die, what scope is left for the fashioning of fully developed individuals?

Not long ago I asked three youths between the ages of 17 and 25 the yearly total for a daily outlay of 2s. Not one could tell me, despite State education and much help. They never thought beyond the week because they never had to. They were not called upon to save to pay for the term's schooling or to develop any kind of foresight. It was all done for them. One does not know whether to be angry or sorry. But there is a good deal to be said against schemes described as part of social welfare which deprive people of the necessity of thinking ahead and doing their own planning for a rainy day. What do the psychologists think?—I am, etc.,

Barnet, Herts

G. C. PETHER.

Free Choice of Doctor

SIR,—May I crave the hospitality of your columns to ventilate a point I was unable to thrash out owing to limited time at a recent meeting of the Cornwall Division? I asked Dr. D. P. Stevenson: "Has the question of the patient's right to contract out from the Service been dropped, and, if so, why? If we object, as rightly we do object, to being placed under the thumb of a dictator, are we not laying ourselves open to a charge of hypocrisy if at the same time we acquiesce in our patients' being subjected to totalitarian regimentation?" Dr. Stevenson's reply was to the effect that the question was difficult, because of the patient's contribution of some 5s. towards the State insurance only 10d. actually went to the medical service. This seems to me to amount to acquiescence in the State insurance, excusing the medical proportion of it as did the errant servant girl on the grounds that "it was only a little one."

Qui s'excuse s'accuse. Surely, Sir, the point at issue is not the question of saving the patient 10d. a week (or even 10s. as it could be made at the whim of the Minister without power of redress by the patient) but the patient's freedom of choice of doctor. The effect of the State insurance (the invention of Bismarck, who described it as a golden chain around the necks of the workers) is to compel every patient to accept and act upon (whether he approves of it or not) the advice of a State doctor subject to directives from Whitehall. Is this "free choice of doctor"?

I hold no brief for homoeopathy, nature cure, osteopathy, etc., as such, but I do most vehemently uphold the right of any patient to be free to choose a doctor practising those cults if he wishes to do so. What is the negation of this right but totalitarian regimentation?—I am, etc.,

St. Germans, Cornwall

W. H. SPOOR.

Freedom in a State Service

SIR.—Mr. Bevan asks us to enter the National Health Service and try to make it work. He even offers to alter the Act, in due course, as parts of it are found to be unworkable. These are surely "honeyed" words to entice a proportion of the profession who are wavering to accept service, and are the spearhead of the war of nerves upon which he is now embarking.

We have seen in the last few days the supreme example of what can happen to a person employed in a State service who dares to write to the Press and state a frank opinion. Air Vice-Marshal Bennett (one of our leading aviators of the day, with 20 years' experience behind him) criticizes the Minister under whom he serves, and finds himself dismissed—not because of incompetence but for an expression of opinion. Surely this is a precedent which should convince everyone that once they become servants of the State they are no longer to be allowed freedom of speech. They are not to be judged by the work they do, however efficient, but by their qualities as "Yes" men. Let this incident of Air Vice-Marshal Bennett serve as a warning to us all and harden our resolve to unite against this new National Health Act of 1946 until the omnipotence of the Minister is curtailed. I am, etc.,

R. A. TREVETHICK.

Pound Value and Compensation

We have seen recently in France a devaluation of the franc which has an immediate loss of purchasing power of 100 per cent. A similar devaluation of the pound should occur after the war. The value of the pound had been fixed it would be a disaster to the nation if it were to fall to 50 per cent of our compensation. On the other hand, its value in terms of goods and services is a very remote danger. I am, etc.,

P. J. McINTOSH.

Dismissed from Service

I am, etc.,

not be retained in the Service," while Dr. Taylor criticized "a service from which the Minister of Health may dismiss them (the doctors) with no such right of appeal." You, Sir, must know that these statements are untrue, and I would have thought it more helpful to doctors in trying to come to a decision if you had added your own footnote or, alternatively, had refrained from publishing the letters. It is quite clear from the Act that the Minister can only intervene in favour of a doctor whose dismissal has already been recommended by others. May I anticipate some of your more hasty readers by saying that I am not objecting to free speech, for this should not include the monotonous repetition of untruths.—I am, etc.,

London, N.22.

E. J. SAMUEL.

* Dr. Samuel misses the point that the ultimate authority is the Minister of Health. This is what he said in his reply to the Negotiating Committee (*Suppl.*, Dec. 20, 1947, p. 154): "Parliament have accepted the view, embodied in the Act, that as the ultimate responsibility for the service is placed by Parliament on the Minister, it must be left to him to decide in the last resort whether it is possible for him to retain in the public service in any particular area, or even at all, a practitioner whose retention, in the Tribunal's view, 'would be prejudicial to the efficiency of the service' . . . It would be impossible to combine this responsibility [i.e. for the new service] with any lack of ultimate jurisdiction as to the nature and quality of the service provided."—ED., *B.M.J.*

Defiance of Dictatorship

SIR.—It is 35 years since I laid down the pen I had wielded in your columns in support of our own N.H.I. scheme, ashamed of our pusillanimous surrender to Lloyd George's threatening fist, nor have I since felt any interest in medical policy. But I have been moved to write a letter which appears in the *Scotsman* (Feb. 11) to put a little courage into the hearts of my friends, because I feel that not only is the outlook for success brighter than it was in 1912-13, but our action now is of importance far transcending that of 1912. It may prove to be the turning-point in our internal political history—the first successful defiance of a dictatorial Parliament that robs us of freedom and justice. I urge all medical men to think what is their duty not only to the art of medicine and the physical welfare of the nation but to its spiritual health, and act on principle, not on expediency or personal benefit.—I am, etc.,

Edinburgh.

HARRY GREY.

The Fight for Freedom

SIR.—I called at a garage for petrol, and while they were ticking off the coupons the boss came and talked about Monday's debate in the House of Commons on the National Health Service Act. "It's up to you doctors now," he said; "if you fail now the fight for freedom in England is lost." My own thoughts had been running on much the same lines, and his remark struck a bell so loudly that it has echoed in my head all day.

It is a useful, and often sobering, mental exercise to try and project one's mind into the future, say 100 years ahead, and then look back at the happenings of to-day and try to picture them as part of the pageant of history. Some eight years ago a great Englishman told us that we were entering upon our "finest hour"; and at his words Britannia threw off the last vestiges of middle-aged somnolence and stood erect, rejuvenated. Who can doubt that the verdict of history will uphold Mr. Churchill's estimate?

But what will it say of this age? War-worn and exhausted England has slumped into a strange phase of apathy, docility, readiness to be regimented—strange indeed, for these are the characteristics of the Germans—almost incredible (the historian will say) of the British, whose solid claim to greatness rest upon a thousand years of sturdy independence and individualism. Yet there it is, explain it who can. Years of personal self-abnegation in the national cause have led us to forget that each man is master of his own fate. Little by little we Britons are bowing our necks to the encroachments of bureaucracy, allowing our wrists and ankles to be bound with stifled threads. Each thread is so thin and delicate as to be barely noticed, but you can immobilize an elephant with it.

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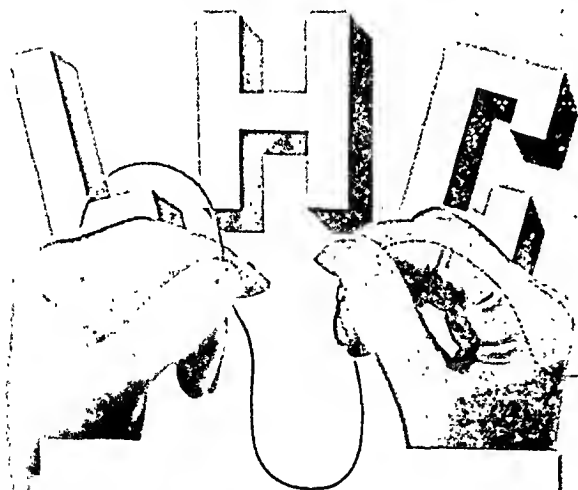
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References: Lancet, 1944, 247, pp. 175 and 176. British Medical Journal: 1946, 1, p. 50. Pharmaceutical Journal: 1945, 155, p. 245.

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threads (or even pink tape) provided that we have enough silk and that the elephant is asleep or drugged.

Will England awake in time from her stupor? The danger is less obvious than in 1940, but it is likewise deadly, and our England that has given the world so much is rather elderly and very tired. She may slip into sleep as the aged do so easily, or she may swallow some neatly disguised narcotic, and wake to find her freedom gone. Was my friend right this morning? Is it up to the doctors to take up the challenge of those that seek to tamper with freedom? Will the historians date the reversal of Britain's unnatural trend to this year of grace when the united medical profession, impervious to abuse and misrepresentation, dared to say an absolute "No" to the threats and blandishments of politicians. Our ancient profession bears an enormous responsibility, but it is used to that. Perhaps this is its finest hour.—I am, etc.,

Drington, Kent

A. C. F. BEECH

Northern Ireland Act

SIR,—I see very little correspondence about the Irish Health Service Act in the *Journal*, which is streets ahead of the British Act, with plenty of room for voluntary effort. The Act at first rather closely resembled the English Act, but a lot of hammering out in committee and by direct negotiation of the friendliest type and about 400 amendments have been effected. Much hard work and thought have been put into the Act, and it should work very well, for the Ulster doctors are pleased with it and will show every readiness to co-operate with the Ministry for Health and the Government, who have shown themselves to be reasonable and ready to compromise for the common good. This too could have been done in England had Mr. Bevan only been less headstrong and stubborn. He is getting nowhere except deeper and deeper into the mire, and the profession is rapidly getting out of the "slough of despond."—I am, etc.,

Bournemouth.

S. ALEXANDER MONTGOMERY

Retired G.P. Comments

SIR,—May a retired G.P. express an opinion?

Surgeons should be paid a salary for hospital and operative work according to their experience, technical judgment, and ability—not easy but possible. All good surgeons hate fee-hunting and its loathsome necessity.

Physicians should treat their patients as individuals and not as robots in a State-controlled economy. This is the foundation of the doctor-patient relationship and a psychological necessity.

Midwifery is a matter for unerring skill, patience, and decision. Responsibility must lie with one doctor and with one doctor only. A long apprenticeship should be served. Apprentices should be numerous.

Gynaecologists: (1) operative—see *Surgeons*; (2) consultative—see *Physicians*.

Psychologists, if State-controlled and paid by the State, should be confined to gaol as dangerous to the patient. Their approach should be absolutely unbiased—and they know it.

Concentration on the supply of accommodation in hospitals and adequate staffing is a paramount and urgent necessity, and all connected with the medical profession know that it can be done but that political considerations are hindering and delaying progress. Payment is a minor consideration. With inflation or deflation all standards will collapse. Cut the cackle.—I am, etc.,

Oxford.

A. W. D. COVENTON

Mutual Consent

SIR,—It is by the toil of the doctors that this service must be carried on. Unless care is taken confusion, frustration, and discontent are going to be created, and the doctors, however willing to give harmonious co-operation, will be the target of the people's anger, because everyone will blame them for attempting an impossible task. We must show the people by a limited demonstration that we wish to produce a constructive health scheme, but this can only be done bit by bit. The time is ripe for a big expansion on the principles of the National Health Insurance Act, but definitely designed for health and only for the treatment of disease.

Real health (physical, mental, and spiritual) can only exist where free will for all has full play, subject to the limits of social needs. Flexibility and variety of choice are essential for this. Administration may be a bit more difficult but more interesting and allow for progress, not stagnation. Some of the millions which were going to be spent should be used for hopeful experiment and to assist young men to set up in practice. Progress in healing means a deeper adjustment to the wants of human nature. To lay foundations we must all give and take. Politicians must realize that they may sometimes be mistaken. No one must make party capital out of the situation, and all political pressure such as the undemocratic demand for everyone to join on July 5 on pain of losing their claim to compensation should be withdrawn. This demand is significant of the pressure which a Government can put on, and seriously interferes with the free choice of many doctors. The ideal would be to work out a scheme by mutual consent, freely given, of both government and medical profession. Is this impossible for such a great object?—I am, etc.,

Leichworth, Here

NORMAN MACFADYEN

Pressure Points

SIR,—I gather that some medical men have already been approached by individuals on their panels inquiring whether they are opposing the Health Service Act or contemplating refusal to serve under the scheme, because if so they propose to change their doctor. It seems possible that this sort of impudence may increase a good deal during the next few months on the principle that every little bit of extra pressure helps to tilt the scale. May I suggest that the best way to deal with it is to write to the clerk of the local insurance committee forthwith asking him to remove the offender from one's list and to inform the latter that one is doing so.—I am, etc.,

Portsmouth

R. W. DEWY

Secret Ballot

SIR,—In your issue of Feb. 14 (p. 326) you report Dr. S. Jeger's question in the House of Commons. The Minister is asked whether he knew the B.M.A. plebiscite required doctors to disclose their identity on the ballot papers and whether this violation of voting secrecy, interpreted by many doctors as an attempt at intimidation, would justify him in seeking a more accurate expression of medical opinion.

Surely Dr. Jeger realizes that when he casts his vote at a General Election he discloses his identity to the poll clerk, that the voting paper handed to him is numbered, that the number corresponds to the number on the counterfoil whereon particulars of his identity are recorded, and that precautions of this kind are necessary to protect the ballot from any sort of chicanery, impersonation, and the like. Is there any difference in principle between this and the B.M.A. plebiscite? Of all the charges levelled against the B.M.A. that of intimidation is the most ridiculous.—I am, etc.,

Leigh-on-Sea

H. M. HOLI

SIR,—On Feb. 5 Dr. Jeger asked the Minister of Health whether he knew that in the plebiscite of doctors held by the B.M.A. each doctor was required to disclose his identity on the ballot paper; and whether, in view of the fact that many doctors interpreted this violation of voting secrecy as an attempt to intimidate individual doctors, he would take steps to get a more accurate expression of the opinion of doctors on the question of their co-operation in the new National Health Service.

I should like to say that when I recorded my vote on the ballot paper I had not the slightest feeling that the B.M.A. or any of my medical confrères here would resort to intimidation as a result of my vote. I felt in precisely the same matter-of-fact state of mind as I feel when I fill in and sign a voting paper sent to me at election times by my university. In this plebiscite I am confident that no official of the B.M.A. knows how I voted, neither do my medical confrères in this locality. The fact that I believe our local vote was unanimous is beside the point.—I am, etc.,

Leamington Spa.

CHARLES E. S. HARRIS

Mr. Bevan Confuted

Sir.—Two years ago, in the early spring of 1946, I attended a meeting of practitioners of the Birmingham area at the Queen Elizabeth Hospital; there were about 600 present, and Dr. Dain was in the chair. I painted a picture of the political career of Aneurin Bevan, and I put forward a resolution worded thus, "That in the opinion of this meeting negotiations with the present Minister of Health are not possible." Dr. Dain was on his feet immediately; he remonstrated with me for proposing this, and he pointed out that if this resolution was carried it would embarrass him and other members of the Negotiating Committee who were on the platform. He moved that we pass on to the next business, and this was done. I am not writing this to prove how right I was in 1946 but because I feel very strongly that Dr. Dain's action that night gives the lie to the accusations that the Minister made about the B.M.A. "clique" in the Commons on Feb. 9.—I am, etc.,

Buddy, Word.

L. H. G. MOORE.

No Certification

SIR.—May I endorse the suggestion put forward by correspondents in your issue of Feb. 7 that in the event of a majority against entering the Service in its present form we do not wait for the appointed day but take immediate action by refusal of certification? Such action would bring matters to a head and necessitate amendment of the Act before the appointed day. This would nullify the Minister's main weapon—that of refusing compensation to doctors refusing to enter the Service.—I am, etc.,

Edinburgh

G. S. M. WILSON.

SIR,—I agree with the various correspondents who have written to the *Journal* recently expressing the opinion that action should be taken at once before the National Health scheme becomes operative in July. I suggest that the Association should organize a scheme for the non-issue of medical certificates commencing, say, in April rather than leave the matter until concerted action may be too late. I understand that many doctors are in agreement with some such policy and only require a lead from some organization such as you represent.—I am, etc.,

Parfoul, Ken:

F. S. D. THOMPSON.

Test of Death

Six.—The interesting phenomenon of segmentation or "railway track" appearance of the blood column visible in the retinal vessels occurs when the blood flow is sufficiently reduced either in death, on account of the absence of the cardiac impulse, or in obstruction of the retinal artery from various causes. In the latter type of case the condition is temporary. This segmentation was noted by Bouchut in 1874—possibly before there—and has been reported several times since (Kahn, 1913; Sabin and Melvin, 1936), often as a new observation. Presumably, the same process occurs in other parts of the body under similar conditions.—I am, etc.,

7.0 - 10.0

H. M. TRAQUAIR.

ПРИЛОЖЕНИЕ

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Katz, M. H. (1975). *Mol. Cell. Phys. N.Y.*, 83, 801.
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living animal. They conclude that segmentation in the retina vessels is not necessarily a sign of death. "Granted that in the large majority of cases it is a sign of death," the writers add "we would suggest there must be exceptions."—I am, etc.,

The University, Aberdeen.

ROBERT RICHARDS.

SIR.—Bouchut in 1869 was the first to describe fragmentation of the blood stream and since then it has generally been looked on as a sign of death. In 1928, however, Francis Davies and I (*Trans. Ophthalm. Soc. U.K.*, 1928, 48, 143) showed that by clamping the vessels to the head and neck in the cat we could produce and, by removing the clamps, abolish this phenomenon at will. I hope this answers Dr. F. Parker Weber's query (Feb. 14, p. 315) as to what would happen if the heart was successfully induced to contract normally again. Fragmentation of the blood stream is thus a reversible phenomenon, and though it is a presumptive sign of death cannot be regarded as an absolute one. We suggested that the fragmentation was due to an aggregation of the red corpuscles—that is a rouleaux formation such as occurs in shed blood. This is made possible by the slowing of the blood stream.—I am, etc.

London, W.1

EUGENE WOLFF.

Canine Hysteria and Agenized Flour

STR.—We have recently had the opportunity for the first time of being present when Sir Edward Mellanby exhibited his film entitled "Canine Hysteria." In view of the prominence which has been given in the medical press (leading article *British Medical Journal*, 1946, 2, 903; *Lancet*, 1948, 1, 27) to Sir Edward's reports on the role of agenzized flour and wheat products in the causation of canine hysteria (*British Medical Journal*, 1946, 2, 885; *Ibid.*, 1947, 2, 288) and the widespread deductions concerning the importance of agenzized flours in the aetiology of canine hysteria which have been based on these reports, we feel that as clinicians closely concerned with canine disorders in our professional duties the attention of your readers should be drawn to certain matters relating to the diagnosis.

1. In several cases shown in the film the clinical signs were not typical of the condition which we have recognized clinically as caniac hysteria for many years.

2. The disorder was not similar to the form of canine hysteria that we have observed in the London area and the provinces during the war years, when it has been markedly less common than formerly.

3. In particular, certain animals appeared to exhibit neurological signs, such as severe clonic choreic movements of the jaws and head, complete loss of vision, incoordination of gait, and hyperflexion of the hind limbs, strongly suggestive of localized nervous defects which are more usually associated with the infective encephalomyelitides and are certainly not seen in natural cases of uncomplicated canine hysteria. Furthermore, in the naturally occurring disease the severe epileptiform convulsion is not a common feature.

If the film is truly representative of the syndrome that Sir Edward observed—and we can only suppose that it is so—then there would appear to be grave doubts as to the precise nature of the disorder that Sir Edward was observing, and indeed whether it was in fact a single aetiological entity.

While this possibility does not detract from the interest in the action of the agene process on wheat proteins we would suggest that the term "canine hysteria" should not be applied to this condition until the disorder has been investigated more fully. For the present, therefore, perhaps the term "agene intoxication" might be a more suitable diagnosis for the disorder produced by feeding agenzized proteins to dogs.—We are, etc.,

M. HARVEY CLARK HERBERT PARRY

M. HARVEY CLARK.

HERBERT PARRY.

JOAN O. JOSHUA.

OLGA UVAROV.

S. F. J. HODGMAN.

Newmarket, Suffolk.

Curare in Spastic Conditions

STP.—I read with interest the article on the above subject by Drs. C. Astley Clarke and R. D. Hotston (Feb. 14, p. 289).

In May, 1947, I treated with the same oily drug a woman aged 61, suffering from paralysis agitans of over four years' duration. There was generalized muscular rigidity in flexed position, the head and neck were moving together, the face was a typical Parkinsonian.

mask with wrinkled forehead, there were tremors of the hands, the right worse than the left. She was walking with short shuffling steps, holding on to furniture indoors, and with a sick and the assistance of her daughter out of doors. Pro-, retro-, and lateropulsion were marked. She suffered from insomnia, and had great difficulty in turning over in bed. Her deep reflexes were increased. She was of high intelligence and spoke with a monotonous voice.

I began with intramuscular injections of 15 mg. of *d*-tubocurarine chloride in oil (30 mg. in 1 ml.), and worked up to 45 mg. On 15 mg. she had no reaction, apart from slight weakness which lasted for a day or two. On 45 mg. she had very severe side-effects, lasting up to seven days, when she was confined to bed, unable to get up owing to weakness, with a feeling of impending death, after which her condition was exactly as before the injection. On 30 mg. there was at times no reaction, but at others it was as severe as that obtained with 45 mg. The injections were always given in the same manner and into the same muscle. When the reaction was favourable (usually on 30 mg.) the clinical picture was as follows.

Four to five hours after injection her face became relaxed, she developed a bilateral ptosis and diplopia and a feeling of drunkenness which lasted from thirty minutes to two hours. Gradually a generalized weakness developed in all her limbs, which made it difficult for her to walk about even with assistance, so that she had to be confined to bed. She was off food, very drowsy, and slept well, and felt dispirited. This usually lasted for two days. At the end of this time her strength gradually returned and her walking improved. She felt better, started eating, and on the fourth day after injection she walked without support both in the house and out of doors, much to the amazement and wonder of her neighbours, who had not seen her walk without assistance for over four years. The pro-, retro- and lateropulsion phenomena were absent. I actually pushed her in various directions while she was walking and she did not lose her balance. She could turn over in bed with ease. There was, however, no change in her tremors. She was so delighted with herself that she walked about all day just for the sake of using her legs, like a child who for the first time discovers that it can perform some action and keeps on repeating it. This improvement lasted two to seven days.

I used the drug for three months, and at the end of that time the patient, although she had derived great benefit at times, refused the treatment, owing to the occasional severe side-effects.

I also treated a woman of 40 who had a residual right hemiplegia of four years' duration. Apart from walking better on the third day after injection, there was no change. Her side-effects were not as severe as those of the woman with Parkinsonism.

In both these cases my experience did not quite coincide with the findings of Drs. Clarke and Hotston in the following respects. (1) There was no diminution of side-effects after repeated injections. (2) The side-effects usually started within four to five hours, with one exception where severe reaction occurred in the Parkinsonian case within ten minutes. She developed bilateral ptosis and collapsed, remaining in that state for over two hours. (3) Both the unpleasant reactions and the beneficial effects lasted for days rather than hours. (4) Finally, I was impressed with the apparent unstableness of the drug, and with the unevenness of the reactions in intensity and duration both in the unpleasant and the beneficial effects obtained from an identical dosage, bottle, and technique.—I am, etc.,

Sheffield.

I. GOTTLIEB.

Louse-borne Relapsing Fever in Persia

SIR.—Drs. R. I. Bodman and I. S. Stewart (Feb. 14, p. 291) state that louse-borne relapsing fever has not previously been described in Persia. Actually louse-borne relapsing fever was described in Persia after the war of 1914-18 and the epidemic occurred about the same time as the then epidemic of typhus, also louse-borne. It is more than a coincidence that the first and second World Wars were followed by epidemic typhus and relapsing fever in that particularly lousy quarter of the globe. There was an epidemic of louse-borne relapsing fever in Shuster in 1942, which was diagnosed by my assistant Ali Hassan Assidi from blood films sent to Fields and later forwarded to me for confirmation.

In the case of tick-borne relapsing fever the tick—a species of *Ornithodoros*—lives in the dusty floors and cracked walls of mud dwellings and not on the person. Ticks are common mouch in Abadan. The older medical missionaries—such as Dr. Shafter, of Isphahan—must have seen many cases of louse-borne relapsing fever in addition to the more common "Mianeh fever" the usual vector for which is *O. papillipes*.

Prof. Charles Oberling—author of the *Riddle of Cancer*—found cases of tick-borne relapsing fever in Tehran about 1942.

Generally the infective forms are numerous in blood films from louse-borne cases and are very scanty indeed in preparations from patients with the tick-borne disease. Blood films carefully stained with Leishman or Giemsa were adequate for diagnosis. It would be interesting to try the effect of penicillin on some of these cases.—I am, etc.,

Epplaz. Esst.

FRANK MARSH

Injection Errors

SIR.—Mr. Harold Dodd (Feb. 14, p. 320) raises some interesting points regarding safety measures to be adopted with injection preparations. Undoubtedly much can be done to avoid errors by a rational and unambiguous system of labelling, and a committee set up by the Ministry of Health has recently published recommendations for the labelling of ampoules of anaesthetic drugs.

It appears to be generally agreed that it is desirable to avoid gummed labels on ampoules, and machines which will satisfactorily print directly on to glass are now available at reasonable cost. Use of this method would avoid the danger of labels becoming detached. A further advance would be made if commercial firms could be persuaded to use pharmacopoeia names in their labelling instead of coining new names for established preparations.

The suggestion of tinting a large number of injection preparations with different colours does not appear to be very practicable, since it would lead to the surgeon having to learn the colour of each preparation, and the method could not be applied to substances which have to be protected from the light by the use of amber bottles. Also, since the range of colour in suitable dyes is limited, the use of different shades might lead to confusion with those whose colour perception is not acute.

With regard to the labelling of rubber-capped multiple-dose containers I suggest that the label should be headed "Injection Solution" or "Intravenous Solution" as the case may be, followed by the B.P. name in large letters. Solutions not intended for injection should never be placed in similar bottles to injection solutions, and local anaesthetics intended for topical use should be clearly marked "Topical Solution—Not for Injection." In both the above cases the use of different coloured labels might be an additional safeguard.

I consider that the final essential in the avoidance of error is to acquire the habit of deliberately checking the label of any drug used rather than relying on its appearance, and to discard any preparation when there is the slightest doubt about its identity.—I am, etc.,

University College Hospital,
London, W.C.1.T. D. WHITTY
Chief Pharmacist

J. Pharm. J., 1948, 165, 54

Pulmonary Embolism

SIR.—I have read the article by Mr. Norman C. Lake on "The Aftermath of Gastrectomy" (Feb. 14, p. 285) with considerable interest, but I must join issue with him on the problem of pulmonary embolism. The author disposes of this matter in less than six short lines and he shows an extraordinary disregard for all modern knowledge of the subject. He states that embolism "remains a bugbear" and that he knows no effective method of preventing it. This, I submit, is an astonishing statement in 1948, when one would hardly have felt it necessary to commend the work of our Swedish and American colleagues to his notice.

Mr. Lake states that "thrombosis usually arises in the abdominal wall or, as in two of these cases, from extension of thrombosis of haemorrhoids possibly produced by the administration of an enema pre-operatively." These suggestions are surely preposterous, and it is not surprising that anyone believing them remains unaware of any effective method of preventing embolism. I understand that the late Lord Moynehan used to teach that emboli originated from vessels in the abdominal wall, although, so far as I am aware, he never offered any evidence in support of this view. Such hypotheses should now be condemned to the scrap-heap, where their arrival is long overdue; and to those who still favour these views I would suggest a few visits to the necropsy room, where, with the aid of a scalpel, they can soon dispel any remaining scepticism about the paramount importance of the deep veins of the lower limb as a source of post-operative embolism.

Active movements, early rising, prompt recognition of thrombosis in the calves, and abortive treatment with heparin

and dicoumarol should eradicate more than 90% of our yearly toll of deaths from embolism, besides reducing the other morbid effects of thrombosis. Although there are occasional cases where even the most expert may fail to detect deep venous thrombosis, a daily scrutiny of the temperature and pulse charts and examination of the patient's calves should be our ideal. With extension of this practice I trust that the day is not far distant when all surgeons will regard a fatal embolism as a reflection on their standard of post-operative care.

Finally, may I quote from a letter I received only a few days ago from a foreign authority with an international reputation on this subject? "In fact, I have for a long time expected that Britain should awake to conviction of the usefulness of anticoagulant therapy, but your people, which I like more than other nations, are stubborn and conservative."—I am, etc.,

Radlett, Herts.

REGINALD S. MURLEY.

Tuberculosis of the Great Trochanter

SIR,—In Mr. B. McMurray's article on "Tuberculosis of the Great Trochanter" (Sept. 27, 1947, p. 492) the author suggests that "where there is radiological evidence of peripheral erosion in tuberculosis of the great trochanter the bony lesion is secondary to tuberculous infection of the trochanteric bursa, and begins only after secondary infection has taken place." Two of the reasons which he produces in support of this are: (1) the five patients in his series who showed no erosion of the bone radiologically were the only ones (except the one with the encysted form) who had not yet developed sinuses and were therefore free from secondary infection; (2) in all the radiographs of peripheral erosion there is definite evidence of sclerosis, and this is undoubtedly due to the secondary infection which is present.

As the total number of cases reported in the literature is so small the following case is of interest as it disproves Mr. McMurray's suggestion that secondary infection must be present before erosion of the bone takes place. It does not of course affect his conclusion that the original site of the tuberculous lesion is the trochanteric bursa.

The case history was as follows. The patient was a stoker in the Royal Navy, aged 18, who was running after a football on Sept. 18, 1947, when he first noticed that he could not flex his right hip properly owing to a pain on the outer side of the hip-joint. He had previously noticed no trouble in the joint; there was no history of injury and no other relevant medical history.

He was admitted to the Royal Naval Hospital, Chatham, on Sept. 25 and examination revealed a cystic swelling 2-3 inches (5.75 cm.) in diameter situated just anteriorly and above the right greater trochanter. When he stood up the swelling disappeared behind the tensor fascia lata and iliotibial tract. X-ray showed a softness of the upper surface of the greater trochanter, but no sclerosis. There was no evidence of tuberculosis elsewhere. E.S.R. was 20 mm. in 1 hour (Wintrobe), W.B.C. 7,800 cells per c.mm., and the skin over the swelling was intact. A provisional diagnosis of tuberculous subgluteal bursa was made.

On Oct. 10, 50 ml. of viscid straw-coloured fluid was aspirated from the bursa and sent to the laboratory. It was found to contain 4-5 lymphocytes per c.mm., of which 55% were lymphocytes and the rest polymorphs. No tubercle bacilli were found in a direct film and no organisms seen with Gram stain. Agar culture was sterile after 24 hours.

On Oct. 21, nearly five weeks after the onset of symptoms, the patient was operated upon and the bursa with all its ramifications excised. It was found to contain numerous melon-seed cysts. A circular area of bone at the upper end of the greater trochanter was curetted out. The wound was closed with catgut and a fortnight later it had healed by first intention. The E.S.R. had fallen to 2 mm. in 1 hour, and the patient was placed in a plaster-of-Paris hip spica.—I am, etc.,

C. G. MARTIN,
Surg. Lieut. R.N.

Brachial Neuralgia

SIR,—I have read with interest Dr. Martin's article on Brachial Neuralgia in the *British Medical Journal* of Feb. 14, 1948, p. 317. The author states that "the brachial plexus is the most common site of the lesion in the peripheral nervous system." This statement is based on the fact that the brachial plexus is the most common site of the lesion in the peripheral nervous system. This statement is based on the fact that the brachial plexus is the most common site of the lesion in the peripheral nervous system.

mechanism by which pressure or tension might be generated. For long the theory of the cervical rib held sway; and, while this proved inadequate, the "pseudo-cervical rib," or fibrous band that could not be revealed by x-ray. Later, spasm of the scalene muscles was suggested, and more recently abnormal approximation of clavicle to first rib. Higher up, osteophyte outgrowths or intervertebral disks have been supposed to press on nerve roots.

When pressure on nerve trunks was found inadequate to explain the symptoms, pressure on arterial trunks or on sympathetic fibres was advanced to take its place. From France recently two new explanations of the pain have come: (1) excitation of sympathetic fibres by venous stasis in the scalene tunnel; (2) spasm of the subclavius muscle.

From the advent of the cervical rib theory its inadequacy has been admitted by even its strongest advocates. Thus the signs often extend beyond the field of the root or trunk that is pressed upon. To meet this Oppenheim³ invoked a genetic deficiency; skeletal and neuropathic defects, he said, are both stigmata of degeneration and may occur in the same subject. Many authors have reported cervical ribs combined with syringomyelia or with disseminated sclerosis.

Before agreeing that pain means pressure on nerves we should ask if pain is prominent in disorders known to cause pressure on nerves. The following evidence is available.

1. Experimental. Pressure on the ulnar nerve causes numbness and tingling, but no pain, in its distribution. "The excitation of a skin nerve in its course (e.g., faradization of ulnar trunk at elbow) it was at one time taught evoked pain only, not sensations of touch. To refute the teaching, the experiment has only to be repeated. The sensation obtained is usually not painful, though always strange."⁴

2. Injury. (a) Excluding a small number of causalgic cases gunshot wounds involving nerve trunks are not especially painful. (b) Paralysis of nerves by external compression often is painless—e.g., "Saturday night paralysis," tourniquet paralyses, etc.

3. Tumours. (a) Pain is not especially characteristic of tumour of nerves, malignant,⁵ or benign.⁶⁻⁸ (b) Of 47 benign tumours arising from nerve roots 25 were painless.⁹ Dumb-bell tumours of the cord which grow through the intervertebral foramina and press on nerve roots are often completely painless.¹⁰⁻¹² (c) Of 53 extramedullary meningiomas pain was felt in only 22.¹³ A meningioma that compressed the first dorsal and the lower cervical roots, producing a triplegia, was painless.¹⁴ Extradural cysts that enlarge the spinal canal by erosion usually cause no pain.¹⁵⁻¹⁸ (d) Of spinal cord tumours in general Lambert Rogers¹⁹ wrote: "Although for many years pain has been regarded as one of the characteristic features of spinal tumour, several of our cases have run an almost painless course." Of 42 neoplasms reported by Spurling and Mayfield²⁰ pain was entirely absent in 11 and was an early symptom in only 21.

We shall have to look elsewhere than to pressure on nerves to explain pain in the arm.—I am, etc.,

Melbourne, Australia.

MICHAEL KELLY.

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Treatment of Subacute Bacterial Endocarditis

SIR,—Dr. Florence M. E. Davies (Feb. 14, p. 317) discusses the use of penicillin in this condition and states that she thinks that "penicillin merely clears off invaders for the time being," due to the fact that insufficient penicillin may have been given for the numbers of bacteria present. Were this statement in fact true, all that would be necessary to effect a complete and final cure (with the proviso that penicillin cannot restore an injured valve to normal anatomy) in all cases of subacute bacterial endocarditis due to penicillin-sensitive organisms

would be to give sufficiently large doses of the drug for a sufficiently long time.

Surely a more plausible explanation for the failure of penicillin to cure all cases of the disease can be found. With the humility proper in a medical student I suggest that it is because penicillin cannot always reach the causative organisms. In those cases where the blood culture is positive the bacteria may be found on the surface of the vegetations, and it is probably these cases which have the best chance of responding to penicillin therapy.

In those cases, however, where the blood culture is negative, the organisms are found buried beneath a mass of platelets and fibrin, and it is surely these cases that are likely to prove insusceptible to penicillin. It thus appears to be an unfortunate truth that the very defence mechanisms of the body that tend to wall off and localize an infected area also tend to render that area inaccessible to chemotherapeutic agents.

In the particular case of subacute bacterial endocarditis the causative organism is usually the *Streptococcus viridans*, and this bacterium is said to produce a fibrinolysin which is capable of dissolving fibrin. Were this not so it is probable that more cases of the disease would prove resistant to penicillin than actually do so.

Dr. Davies also suggests that the "sulpha" drugs, and perhaps even penicillin, may cause agranulocytosis. She does not support this suggestion with any evidence. While it is true that the "sulpha" drugs may damage the bone marrow and cause a sharp reduction in the number of granulocytes in the blood, I can find no evidence to show that penicillin in therapeutic doses has ever caused agranulocytosis. It therefore seems clear that penicillin, in massive dosage, has a great part to play in the treatment of subacute bacterial endocarditis.—I am, etc.,

London, W.11.

B. WATERS.

Relief of Pain in Midwifery

SIR,—As a result of my experience of midwifery in general practice I would like to support Dr. H. Thistlethwaite's contention (Feb. 14, p. 318) that the intermittent use of pure nitrous oxide is more effective in relieving the pains of parturition than a gas-air mixture. However, even this method will fail unless the parturient woman is able to "anticipate" her pains. Using the Wembley gas-oxygen apparatus my patients found that their labour pains were insufficiently relieved if they started to inhale the pure nitrous oxide only when a pain was imminent.

One patient explained that, with her second baby, in the second stage of labour (having learnt the technique from the experience of her first baby) she inhaled the gas whenever she was conscious enough to do so, and in this way she managed to achieve a very satisfactory level of anaesthesia, and I have noticed other patients do the same thing.

In only one case was the slightest alarm experienced. This was in the case of a woman who was having her third baby with the aid of nitrous oxide. I was allowing her to inhale pure gas, and so avidly did she inhale it that she became markedly cyanosed and developed a mild tonic spasm, so that though satisfactorily anaesthetized she clutched the face-piece over her mouth and nose. However the face-piece was readily removed and the cyanosis rapidly disappeared.—I am, etc.,

Ilkley, Yorks.

R. JOHN GOURLAY.

Extensive Resection of Small Intestine

SIR,—I was much interested in the extensive resection described by Mr. Leon Gillis and Dr. Michael Newton (Feb. 7, p. 254). Last July I removed rather more than twenty feet of small gut from a very obese patient of 41 years. She had suffered from a large hernia in the umbilical region for the previous 10 years. Two weeks prior to admission there had been a sudden onset of great swelling, tenderness, and vomiting. Such was the tension that the skin overlying the hernia had split open.

At operation, as soon as the sac was touched with the knife huge coils of imprisoned gut shot out of the opening with quite a loud report. Almost the whole of the small gut was found to be gangrenous, and much of the omentum was also strangulated, and was pale green, gangrenous, and foul. Two feet of grossly dilated jejunum remained above the strangulation, whilst distally gangrene extended to within two and a half inches of the ileocaecal junction. As a desperate bid the gangrenous gut was resected and the remaining two feet of upper jejunum was anastomosed to the stump of terminal ileum.

Post-operatively she was given continuous drip saline with "soda thiazole" for four days, then fluids by mouth, and a more solid diet seven days after operation. Frequent bowel actions were troublesome about this time but settled down to a regular action twice daily. Faecal fat content after two months was found to be 50%. Ten weeks after the resection she was readmitted to hospital with an attack of colic, vomiting, and pyrexia, which settled in a few days. At that time there was an obvious loss of weight, which she could well afford. Since then she has remained remarkably well.

One might surmise that in such an obese patient the evident reserve in her powers of assimilation from the gut may well have made for recovery where such would have been impossible in a normal type of person.—I am, etc.,

Redhill, Surrey.

N. E. PILL

Oral Intubation and the Davis Gag

SIR,—Mr. J. S. C. Monro's article on this subject (Feb. 7, p. 267) is of particular interest to me as I have in my possession a standard pattern Davis gag modified some years ago for oral intubation. The modification consists of a deep notch in the distal part of the tongue-piece. The anaesthetic tube is made of thin-walled metal tubing slightly flattened and suitably bent to lie snugly between the tongue-piece and the tongue. The end of the anaesthetic tube is held by the notch. The distal part of the tube is made of rubber.

No originality is claimed by me for this device. A similar piece of apparatus designed for use in cleft-palate operation has been described in the *Journal* by Humby.

While the advantages of intubation in cleft-palate operations are quite clear, particularly in pharyngoplasty, the necessity for the method for the dissection of tonsils in children is open to question. Many experienced surgeons and anaesthetists will agree that a capable anaesthetist should be able to provide adequate facilities for a capable surgeon for this operation, and protection for the patient, without intubation.—I am, etc.,

London, W 1

I. W. MAGILL.

Severe Reaction to Penicillin

SIR,—The following case presents some difference from those reported by Dr. D. Heffernan (Feb. 7, p. 277) and Dr. J. F. L. Walley (Jan. 24, p. 150).

The patient was a male aged about 65. Apart from some heartburn, rheumatism, and intermittent claudication due to atheroma of the leg arteries, he had no complaints. Five intramuscular injections of penicillin (calcium salt in oil-wax) were given into the right buttock for a boil in the neck. The first injection was given on the evening of Jan. 6 and consisted of 260,000 units (1.6 ml.). This was followed by 125,000 units (1 ml.) night and morning on Jan. 7 and 8.

The boil, which was surrounded by considerable induration, did well. But for the next three weeks the patient felt easily exhausted and tired, and later inquiry elicited that he had had a slight nagging discomfort in the hypogastric region and in a localized spot in the chest where the 5th left costal cartilage joined the sternum. These were not influenced by rest or food. He also mentioned that on Jan. 11 at 11.30 p.m. he had "a ghastly sensation of the head and neck swelling and appearing to extend to the height of 3 feet and returning to normal in about 10 seconds."

On Jan. 29 began a severe reaction to penicillin consisting of urticaria, chest pain, and vomiting, which prostrated him and made him feel extremely ill. Urticaria began about 5 a.m. and, gradually extending, affected the body from scalp to toes, the itching being extreme. This condition, with exacerbations, lasted for several days and then gradually improved under treatment though present to a certain extent for a further week.

Chest pain began about 3 p.m. and was situated right across both sides of the lower sternum. It increased and by 5.30 p.m. had become severe and was accompanied by a feeling as of a tight band and was followed by sickness. Severe pain lasted about 14 hours before it passed. A second attack lasting 1 hour came on at 8.30 p.m. and a third about 8.30 a.m. the following morning. Thereafter no pain occurred for five days, when there was a short return in the early hours of the morning for 2 or 3 days. Vomiting began after the first attack of chest pain and continued at intervals for two days. The patient could keep nothing down and bile-stained mucus was vomited.

In view of the patient's known atheromatous condition it was thought advisable to exclude coronary thrombosis. Dr. W. A. Bourne was called in and kindly took an electrocardiogram. This showed no signs of coronary occlusion but revealed old myocardial damage, particularly a markedly long P-R interval.

"Anistin" injections (2 c.c.) b.d. were given for three injections until the stomach settled down, then "benadryl," 50 mg. capsules,

were given by mouth for 7 days. By this time the patient was much better though still weak. Temperature was subnormal throughout and there were no joint pains or joint involvement. The pulse was not much affected. There was no special skin reaction at the site of the injections. Trinitrin did not seem to relieve the chest pain. The bowels were not affected. No previous penicillin either by mouth or injection had been administered.

Although the chest pain strongly suggested a cardiac origin, particularly the first attack (position of pain, sense of constriction, some radiation to the neck), yet I am not at all certain that it might not be due to an allergic reaction in the upper abdomen in the region of the diaphragm. Which organ caused continuous pain in this case must, however, be a matter of conjecture. It is noteworthy that in the last 20 years the patient has had three attacks of severe epigastric pain lasting about 1-2 hours, probably allergic in origin.

This case differs from the two others recently reported in the absence of a raised temperature and of joint involvement. Also it differs in the presence of chest pain and of greater gastric disturbance. The onset of severe symptoms took place 22½ days after the first injection.—I am, etc.,

HOVE, SUSSEX.

WILLIAM CORNER.

Photosensitivity to Sunlight from Use of Sulphonamides

SIR.—In the article by Squadron-Leader Geoffrey Watkinson and Flight-Lieut. Barclay R. Hillis (Oct. 18, 1947, p. 609) the striking observation of appearance of a photosensitive skin reaction from the use of sulphonamides simultaneous with the height of reaction to vaccination was reported. The drug was being used as a prophylactic against tonsillitis—in the month of April—and the reaction to sun-exposed parts was greatest on the tenth day following vaccination. The 470 men treated were divided into four groups. In group A, 213 men were given "sulfa" from the first to the tenth day following vaccination, and in this group 50% "rashes" occurred with "an explosive outbreak," the severity of the rash being related to the severity of the pustule. There was a proportionate decrease of "rashes" in the other groups treated after the tenth day of vaccination. In group D, no "rashes" occurred in the 71 men who were not vaccinated (refused or non-reactive). The authors believe that the vaccination pustule may have acted as an inflammatory focus from which toxins were liberated by the sulphonamide causing photosensitivity. They therefore warn against the use of sulphonamide therapy even in small dosage in the presence of an active vaccination pustule—and its use in recently vaccinated ambulatory personnel is not advocated.

These conclusions appear justifiable and with them I am in complete accord. However, it would seem that if one could look upon these results from an entirely different viewpoint there might appear some new highlights upon the subject of vaccination and its possible dangers. Since the authors believe that "sulfa" should not be used in those recently vaccinated, conversely those who are receiving "sulfa," too, should certainly not be vaccinated.

In this opportune group of exposed human experimental animals there is luckily adequate control—group D. The sudden appearance of an "explosive" cutaneous reaction on the tenth day after vaccination is certainly mindful of experimental post-vaccinal encephalitis and an "explosive" type of reaction occurs in the brain on the tenth or eleventh day after vaccination. Even the use of the word "explosive" by the authors is choice. It seems that the appearance of a type of reaction ten to eleven days after vaccination could be observed in all organs, tissues, or specialties. In other words, a vaccination period is the important thing whether we are dealing with post-vaccinal encephalitis, a post-vaccinal eruption, or a post-vaccinal dermatologic problem.

In the dermatologic problem confronting these authors the reaction may have been solar or chemical or both, but the authors have prepared certain specific cutaneous areas to receive the reaction. The reaction of vaccinia reached its height on the tenth day. This very same sensitization reaction has been observed in other organs such as the brain and in other systems. I have often pointed out in ophthalmologic literature the danger of this problem, for no control is possible in the eye. In fact, as regards his past experience, the author is correct in his immediate follow-up. The reaction is a type of reaction for vaccination and the reaction is a type of reaction for vaccination and the reaction is a type of reaction for vaccination.

FRANK PEARCE.

POINTS FROM LETTERS

Civil Service Control

Dr. N. C. HYPHER (Slough, Bucks) writes: In Mr. Bevan's State medical service all doctors will be at the mercy of permanent Civil Servants. They will keep a tally on our prescriptions, watching for over-prescribing and high average cost. Arguments concerning individual cases of certification will be framed by these clerks with plenty of time on their hands, and the very busy doctor will be tempted to give up the wordy battle. The doctor who is unhappy in a State medical service will be well advised to use all his powers of persuasion with the lesser officials if he wants a transfer to a better area. This may involve another doctor being pushed around. . . .

Plebscite and Foreign Doctors

Dr. I. PLAKANS (Askern, Yorks) writes: As there appears to be a divergence of opinion as to the attitude to be adopted by the foreign doctors—namely, at the meeting held at B.M.A. House on the evening of New Year's Day it was stated: "It is not to be assumed that alien practitioners would not stand in with the British profession," whereas at the meeting of doctors called by the M.P.U. in Manchester it was assumed that these aliens would prove to be "blacklegs"—may I please be allowed to state our case, as I see it? To defy the Government responsible for our being allowed to be in England, and to whom we are more than grateful, would be ridiculous; to disagree with the majority of the members of the British profession, with whom we wish to work, would be equally fatuous. I think, therefore, there remains only one course open to us—that of strict neutrality.

Make the Best of It

Dr. J. J. ROTTAN (Biggin Hill, Kent) writes: Why not make the best of it and try to render the Service first class? If we all go with good intentions into this coming Health Service (which after all is for the benefit of our own people) we will be a very strong union—so strong that if the Minister of Health should ever get it into his head that he could dictate terms to us as regards work and payments we would be in a position to lay down our arms—to a man all together.

Smallpox and Chicken-pox

Dr. A. J. AMBROSE (Beckenham, Kent) writes: Dr. C. Simpson Smith's interesting article on smallpox in Staffordshire (Jan 24 p. 139) must have been of great interest to medical men who have had difficulty in differentiating smallpox from chicken-pox. But though the pundits attach much importance to umbilication, shotty papules, etc., the most important sign in my experience has been the greater number of pocks on the head and face area as compared with the chest, trunk, and limbs. In the 1914-18 period I saw three patients in whom the rash was indistinguishable from chicken-pox, but whose pocks gave this numerical preponderance in the head and face region, and their prompt isolation prevented an epidemic of smallpox.

Relief of Pain in Midwifery

Dr. ELIZABETH A. NETTELL (Exmouth, Devon) writes: To my mind what is needed is re-education of the midwife. Even to-day many midwives seem incapable of dissociating themselves from the idea that analgesia slows down labour and makes it more difficult. Many times, having visited a patient during the first stage and left her with Minnitt's or triline apparatus rigged up and ready for use, I have returned later to find the face-piece slung aside and a pushing, groaning patient—a roller towel her only analgesia. The midwife's triumphant, "She thinks she can push better on her own, Doctor," leads me to suspect that the patient is only doing what is suggested to her.

Until the midwife has a change of heart or unless the doctor can be present throughout labour I feel that analgesia for the whole of the second stage will never be adequate.

Dressing of Finger-tips

Dr. C. R. B. VINCENT (Walthamstow, E.) writes: Finger-tips dressed with routine firm bandaging for bleeding due to nail avulsion, "slice injury," or removal of warts often reappear several hours later with a saturated dressing and continued oozing.

The following method of treatment has been applied successfully in many cases. It is simple and rapid, and obviates the blood-stained bandage and the necessity for a sling. The wound is cleaned and a penicillin tablet or powder applied. The raw area is covered by a small square of tulle gras, and a rubber rectal finger-stall is fitted over this without displacing the dressing and is rolled down as far as the centre of the middle phalanx. A small gauze dressing encircles the finger-stall and is bandaged firmly and left for 48 hours.

A.T.S., penicillin, and analgesics are given as indicated. No shot is needed, and the smallness of the dressing allows early finger movement. The dressing is easily removed without any sticking.

Obituary

V. S. HODSON, M.V.O., D.M., F.R.C.P.

Dr. Vincent Sutherland Hodson, who died suddenly on Feb. 9 from coronary occlusion, was born in 1874. He was educated at Christ's Hospital and at Oxford, where he took his B.A. in 1895. He began his medical education at St. Thomas's Hospital and graduated B.M., B.Ch. in 1900. He acted as house-physician to Dr. Theodore Dyke Acland, thus initiating a lifelong friendship, and also held the post of resident accoucheur. In 1902 he was appointed R.M.O. at the Kasr-el-Aini Hospital in Cairo, and in 1904 he joined the Sudan Government Medical Department, which was then being constituted on a civilian basis five years after the reoccupation of the country.

Dr. Hodson obtained his M.R.C.P. in 1905 and he helped to build up the traditions of his service. As medical inspector and later as senior medical inspector he was stationed mainly at Atbara, and during these years a modern hospital was built there and public health work was established on efficient lines. In 1916 he was appointed assistant director of the service, later refusing the directorship and preferring a clinical appointment as director of Khartum Hospital, which post he held till his retirement in 1924. The Kitchener School of Medicine had not then been opened, but Hodson did much valuable preparatory work in the training of subordinate medical staff.

In 1924 he was appointed assistant physician to the Victoria Park Hospital, and in 1928 he succeeded Dr. Acland as medical representative of the Sudan Government in London. In the same year he was elected F.R.C.P., and he also became a member of the Egyptian Medical Board. He was a governor of St. Paul's School and a liveryman of the Mercers' Company, serving as master of the Company in 1932-3. For some years he was Gresham Lecturer in Physic. He retired from practice in 1938 and lived thereafter at Southwater, near Horsham.

Hodson had suffered from a chronic illness in childhood but had grown up sturdy and strong though short in stature. He lived an active life, being a keen golfer and tennis player. He was also a good bridge player. He was very quick and energetic and would make up his mind without hesitation—sometimes possibly without sufficient thought. He was apt at times to give offence by his somewhat brusque manner and sharp tongue, but he was a most loyal and considerate friend who was always ready and anxious to do all he could for those who stood in need of his help and advice. The large attendance at the memorial service in Southwater Church was a recognition of the affection and regard in which he was held by those among whom he had lived for the last nine years.

Dr. GERALD WEBB, who died recently, in Colorado Springs, was born in Cheltenham in 1871. A student of Guy's Hospital, he graduated in London and in Denver, and spent some time as a postgraduate student in Vienna. He settled in America towards the end of the last century and soon became well-known for his work on tuberculosis. In 1917-18, as a colonel with the American Forces, he was adviser on tuberculosis to the American Expeditionary Force. On more than one occasion he represented the United States as an official observer at International Conferences, notably those which were held in Rome in 1912 and in Paris in 1920. Dr. Webb was also well known as a sportsman and particularly as a polo player. For his work on tuberculosis he was granted the honorary degree of D.Sc. by the University of Colorado, and in 1939 he was awarded the Trudeau Medal for research by the National Tuberculosis Association of America, of which he was at one time president. Dr. Webb married a grand-daughter of Jefferson Davis. She predeceased him, and he leaves four children and a brother in England.

Dr. JOHN TEARE died at the Royal Infirmary, Liverpool, where he was once a house-physician, on Jan. 26 at the age of 82. Dr. Teare was a student at Liverpool and graduated there in

1904, taking the D.P.H. in 1909 and proceeding M.D. in 1912. He had served as a major in the R.A.M.C. during the 1914-18 war, and he had spent many years in New Zealand. He was at one time port medical officer at Wellington and medical officer for the militia and police there; he also served as a J.P. in New Zealand before returning to this country and going into practice in the Isle of Man. At different times he worked in the Fever Hospital at Fazakerley, Liverpool, the Myrtle Street Eye Hospital, Liverpool, and the Children's Infirmary, Birkenhead. Subsequently he became interested in public health work and was assistant medical officer of health for Hampshire, tuberculosis officer for Nottinghamshire, and finally assistant medical officer of health for the West Riding of Yorkshire. He celebrated his retirement from active practice by attending the Melbourne Annual Meeting of the British Medical Association, and since then he had toured India. He was an honorary life member of the St. John Ambulance Association, a fellow of the Society of Medical Officers of Health, and a member of the Royal Sanitary Institute.

Dr. THOMAS DAVID COLLTHARD ROSS died at his home in Oldham on Feb. 2 at the age of 63. Dr. Ross, who graduated at Glasgow University in 1907, came to Oldham first as assistant and subsequently as partner to the late Dr. Dobie. By hard work, ability, and kindly understanding he built up one of the largest and busiest practices in the Oldham area. As is often the case with busy men, Dr. Ross found time for recreation and for serving his colleagues. He was a keen if not brilliant golfer and an enthusiastic member of a local bridge club. He was the senior member of the Local Medical and Panel Committee and a member of the Local Executive Committee of the British Medical Association. At the inception of the Local Medical War Committee in 1939 Dr. Ross was elected secretary, and no better choice could have been made. This arduous task became a real joy to him, and his work for the committee carried the hall-mark of efficiency and tact. The praise he earned from colleagues returning from the Forces for the excellent manner in which the Protection of Practices Scheme had been carried out in Oldham was to him sufficient recognition. However, a more tangible reward followed, when on the occasion of his retirement from active practice in 1946 he was presented with a handsome canteen of cutlery for the great service he had rendered to the profession locally during the war years. Unfortunately the illness which had caused him to give up his work did not respond to the rest which he so badly needed, and for two years he was a sick man. During his illness, when at all possible, he continued to show his usual interest in the welfare of his colleagues and would make a special effort to attend any meeting where he thought his advice would be helpful. He is survived by his wife and three daughters. His only son was killed while on active service with the R.A.F. during the war. His patients and his colleagues will certainly be the poorer for the passing of Tom Ross.—C. H. S.

Dr. JOHN HERBERT PORTER, who died suddenly on Feb. 10 at the early age of 50, was born in Preston, Lancashire, and at the time of his death was chief assistant medical officer of health for his native county. Educated at Preston Grammar School, he won a scholarship and an open entrance exhibition in mathematics at Downing College, Cambridge, in 1916. He secured a second class in the natural science tripos in 1918, and later won the Goldsmith Entrance Exhibition in anatomy and physiology at University College Hospital, London. During the 1914-18 war he volunteered for active service on several occasions, but was not accepted. He obtained the conjoint diploma in 1921 and took the Cambridge M.B. in 1924. After holding a number of hospital appointments he obtained a diploma in public health, and in 1925 was for a time acting deputy medical officer of health for the Metropolitan Borough of Bethnal Green. Later in the same year he was appointed assistant school medical officer to the London County Council. In 1927 he joined the staff of the Lancashire County Council as assistant county medical officer. It was in the south-eastern part of the county that Porter spent the earlier part of his career in Lancashire, working in Royton and Crompton until 1935. He was then seconded as medical superintendent to Park Hospital, Davyhulme, where his outstanding work led inevitably to his promotion to the position of chief assistant county medical officer when that post became vacant. The high promise of his early academic career was maintained in his later clinical work, and an investigation he undertook on congenital and developmental abnormalities, published in 1933, was a model of first-class research.

Quiet and unassuming in character, his judgment was sound, and despite a never very robust physique he never spared himself. The last few months of his life were marred by illness, and just when he appeared to have regained his health he was

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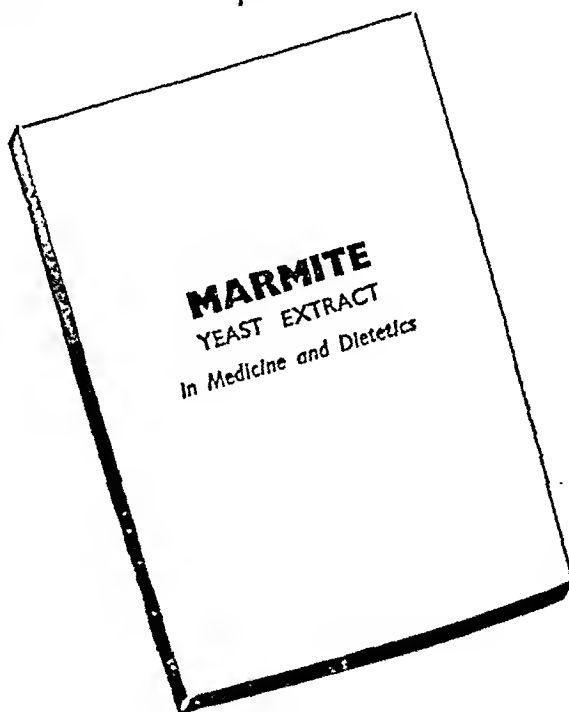


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Boards of Governors and, in the case of non-teaching hospitals, to the Hospital Endowments Fund for use at the discretion of the hospital bodies for hospital purposes or research. They will not pass to the Exchequer. This assurance was given by Mr. J. EDWARDS on Feb. 10.

N.H.S. Buildings.—Mr. BEVAN informed Sir ERNEST GRAHAM-LITTLE on Feb. 10 that no immediate substantial increase of building work under the National Health Service Act had ever been promised or regarded as feasible. Building developments in all fields of the Act would be carried on as fast as conditions allowed.

Dental Spens.—Mr. BEVAN hopes to receive during March the Spens Committee recommendations in regard to the remuneration of dental practitioners under the new Health Service.

Service Medical Histories.—Mr. A. V. ALEXANDER is considering with the Service Ministers whether the medical history of a demobilized man can at his request be made available for life assurance purposes.

Medico-Legal

ARTIFICIAL INSEMINATION AND LEGITIMACY

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

American legal thought is related closely enough to our own to make our courts pay respectful attention to American decisions. Weighty opinion in this country has declared that a child born of an artificial insemination with semen not the husband's is illegitimate.¹ As the question has not yet come before one of our courts, that view is not supported by authority. Now Mr. Justice Greenberg, of the Supreme Court of New York State, has pronounced in the opposite sense.² A wife obtained a separation decree with principal custody of the child, a girl of 4. Desiring to prevent the husband from seeing the child, she testified that he was not the father but that she had been artificially impregnated with a donor's seed. The judge, assuming the truth of this statement, still allowed the husband his previous Sunday visits. He held that the child had been adopted or semi-adopted by the husband, who was thus entitled to the same rights as those acquired by a foster parent who has formally adopted a child, if not the same rights as those to which a natural parent would in the circumstances be entitled. Moreover, the child was not an illegitimate child. Logically and realistically the situation was not different from that of a child born out of wedlock and made legitimate on the marriage of the interested parties. He expressly declined to discuss either property rights or the propriety of artificial insemination.

Even if this decision were binding here, its authority would, of course, be limited to cases involving similar circumstances. It says no more than that husbands who have allowed their wives to be impregnated with the semen of a donor ought to be regarded for certain limited purposes as fathers. The judge's attention was primarily directed to the best interests of the child, as was shown by his remark in the course of the hearing that the court would not lend itself to making any child illegitimate. If he had been trying a case involving, for instance, succession to property, or registration, or a charge of adultery, other considerations would have arisen which might have affected his conclusion. Nevertheless, his view was based on common sense, and is bound to carry weight in all future discussion of this difficult problem.

¹ *British Medical Journal*, 1947, 1, 605.

² *Strnad v. Strnad*, 1948 (see also *News of the World*, Jan. 18).

The Services

Brigadier (local) R. A. Broderick, D.S.O., M.C., M.B., Ch.B., R.A.D.C., Emergency Commission, has been appointed Honorary Dental Surgeon to the King.

The Efficiency Decoration has been conferred upon the following officers of the Territorial Army: Colonel G. D. Kersley, Lieutenant-Colonel L. P. Marshall, M.C. (T.A.R.O.), and Major H. Hall-Tomkin, R.A.M.C.

Universities and Colleges

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

At a quarterly meeting of the College, held on Feb. 3, with the President, Dr. W. D. D. Small, in the chair, Drs. J. C. R. Greig (Kirkcaldy), I. N. Sutherland (Edinburgh), R. O. Gillespie (Birmingham), J. G. Macleod (Edinburgh), and T. G. Brown (Hamilton) were introduced and took their seats as Fellows of the College.

Drs. E. W. Frecker (Sydney, N.S.W.), D. N. Dobbie (Bromley, Kent), and S. F. Oosthuizen (Pretoria) were elected Fellows of the College.

Drs. J. G. Dathan (Stoke-on-Trent), S. G. Nelson (Sydney, N.S.W.), F. J. Booth (Brisbane, Queensland), J. Adler (Clarkston, Renfrewshire), J. J. Tillie (Edinburgh), W. E. MacLean (Aberdeen, Inverness-shire), J. Leckie (Pitcairnie, Aberdeenshire), A. K. S. Ahmed (Dacca, Bengal), G. Comay (Capetown), W. R. N. Friel (Birmingham), D. E. Ross (Edinburgh), M. Beaton (Edinburgh), W. H. Galloway (Edinburgh), A. B. Hegarty (Edinburgh), T. G. Fox (London), G. M. Carstairs (Edinburgh), Elsie C. Gibbons (Wellington, N.Z.), J. S. Calnan (Eastbourne), S. B. Roy (Rangoon), J. Buch (Johannesburg), A. H. Banion (Edinburgh), R. McK. Fulton (Edinburgh), J. N. Swanson (Edinburgh), P. J. J. Barnard (Gwelo, S. Rhodesia), S. Jacobson (Johannesburg), D. H. Clark (Edinburgh), Marjory A. Keith (Edinburgh), and Hilary F. H. Hamilton (London) were elected Members of the College.

Medical News

Plymouth Hoe

In a broadcast on Saturday, Feb. 21, Mr. Hugh Dalton, M.P., stated that on Plymouth's new housing estates were a number of doctors, ex-Servicemen, who were signing on for the new Health Service. "These young doctors," he stated, "are not following the lead of the old gentlemen who run the B.M.A." Dr. George Deery informs us that on the new housing estates at Plymouth there are only three doctors, only one of whom is an ex-Serviceman.

Congratulations from Australia

As we went to press we received the following telegram from Sir Henry Newland: "Federal Council warmly congratulate profession on its action to maintain professional freedom."

Good Wishes from Belgium

The Brussels College of Medicine sends its sincere good wishes to the British Medical Association for success in its fight to maintain the liberty of the medical profession in Great Britain.—President F. Bremer, Professor of the Free University of Brussels; General Secretary, Dr. J. Lederer, University of Louvain.

Royal Melbourne Hospital Centenary

Dr. William Evans, F.R.C.P., has left London to attend by invitation the Centenary Meetings of the Royal Melbourne Hospital. He will also lecture at Adelaide and Sydney. Sir Hugh Cairns, who is representing surgery, has already arrived in Australia.

World Health Assembly

The first World Health Assembly will be held in Geneva in June. Subjects tabled for early discussion by the World Health Organization include such tropical communicable diseases as cholera, yellow fever, and malaria, and more general topics such as child health, standardization of biological products, and rural hygiene.

Personal Support for Hospitals

The British Hospitals Association has issued a memorandum on personal support for hospitals in the National Health Service. It emphasizes the need for continuing personal interest in, and voluntary service for, the hospital patient. Gifts can be made after July 5 to a particular hospital and will be retained by that hospital for its own particular use, thus preserving in the future that intimate association between hospital and supporter which is of such importance to both. These gifts need not be earmarked for a special purpose and will in no circumstances be taken away from the hospital by the State, either for redistribution or for relieving the Treasury of meeting the full costs of the ordinary maintenance of the hospitals and their services. The memorandum can be obtained from the British Hospitals Association, 52, Green Street, London, W.1.

Medical Certificates for Diabetics

The Minister of Food has decided on the advice of the Food Rationing (Special Diets) Advisory Committee of the Medical Research Council that doctors may in future certify patients suffering from diabetes mellitus for extra allowances of food on form R.G. 50 instead of on the special form which required a statement of the insulin dosage. A statement of the insulin dosage need no longer be given. Form R.G. 50 will qualify the holder for extra allowances of meat, cheese, butter, and margarine until the end of the rationing year. These allowances can be renewed at the end of the rationing year without a further medical certificate. If a doctor wishes a diabetic patient to receive also a priority allowance of milk, he should state on the R.G. 50 both that the patient is suffering from diabetes mellitus and the appropriate classification for milk as set out in Med. 2. The milk allowance will be granted up to the end of the rationing year and will be renewed only against a further medical certificate.

Cost of Health Service

A Vote on Account published by the Government recently shows that the National Health Service for England, Wales, and Scotland will require £149,675,000, as compared with the present cost, £2,981,905.

Scilly Isles in N.H.S.

The Isles of Scilly (National Health Service) Order, 1948, extends to the Scilly Isles the provisions of the National Health Service Act, 1946, with certain modifications. The Council of the Isles will be the local health authority for the purposes of the Act. The Executive Council for the Isles will consist of a chairman appointed by the Minister of Health and the following: (a) such members of the Council of the Isles as have notified the chairman in writing of their desire to serve in the Service; (b) such medical and dental practitioners and registered pharmacists as, in the opinion of the Council of the Isles, are permanently resident or are practising in the Isles, and have notified the chairman of their wish to serve as members; (c) two members appointed by the Minister.

Order of Orange Nassau

The Queen of the Netherlands has conferred the following appointments to the Order of Orange Nassau in recognition of services to Netherlands interests during the war:

As Grand Officer: Major-General Sir Henry Lethby Tidy, K.B.E., M.D., F.R.C.P. *As Commanders:* Prof. H. P. Himsforth, M.D., F.R.C.P.; Sir Jack C. Drummond, D.Sc., F.R.S.; and Sir Francis R. Fraser, M.D., F.R.C.P. *As Officers:* Charles F. Harris, M.D., F.R.C.P.; Maurice Mitman, M.D., F.R.C.P.; and C. Bowdler Henry, M.B.C.S., F.R.C.P. *As Chevaliers:* J. Nairn Dobbie, M.B., Ch.B.

Recruitment and Training of Nurses

The Nuffield Provincial Hospitals Trust has submitted to the Ministry of Health some observations on the Working Party's Report on the Recruitment and Training of Nurses. The Trust maintains that in order to obtain the necessary data a complete abandonment of the nurse's work should be carried out. It agrees that full student status should be accorded to nurses in training; therefore the training of nurses should be entrusted to educational bodies. An interesting recommendation is that the General Nursing Council should be reconstituted as an educational organization, the disciplinary work of the Council being delegated to a statutory penal committee.

COMING EVENTS**South Wales Medical Ex-Service Association**

The South Wales Medical Ex-Service Association was formed last year with the object of holding an annual reunion dinner. All medical men who have served in either great war are eligible to attend. Owing to the current food restrictions the reunion this year will take the form of a buffet supper, which will be held at the Royal Hotel, Cardiff, on Sunday, March 6, at 7 p.m. Tickets, which may be obtained from the honorary secretary, Dr. A. J. V. Jones, Anatomy Department, University College, Newport.

Literary Service

A literary service will be held in the Parish Church of St. Bartholomew, Newport, on Sunday, March 25, 1948, at 11.30 a.m. The service will be in memory of the birth of the late Sir John Thomas, M.A., D.M., F.R.C.P., Vice-President of the Association of Medical Officers of the Army and Air Force, Hon. Fellow of the Royal Society, and Chairman of the Central Board of Health, who died on March 2, 1947. The service will be addressed to by the Rev. Canon J. H. Jones, Rector of the church.

Medical Society of London

The Medical Society of London will hold its annual general meeting on Saturday, March 28, at 5 p.m., at the Royal Society, Burlington House, Piccadilly, London, W.1.

International Congress on Mental Health

A meeting to discuss the aims of the International Congress on Mental Health, to be held in London in August, and to receive a report of the progress made towards the success of the congress, will be held at the Royal Society of Medicine (1, Wimpole Street, London, W.) on Thursday, March 4, at 8 p.m., when Dr. J. R. Rees, president of the congress, and Prof. J. C. Flugel will speak. Admission to the meeting is free.

Kent and Canterbury Hospital

The next monthly clinical meeting at the Kent and Canterbury Hospital, Canterbury, will be held to-day (Friday, Feb. 27), at 5 p.m.

SOCIETIES AND LECTURES**Monday**

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—March 1, 9 p.m. "Clinical Pathology in Relation to Medical Practice." Third Lettsomian Lecture by Dr. C. E. Dukes. (Change of date.)

WESTMINSTER HOSPITAL SCHOOL OF MEDICINE: MEYERSTEIN LECTURE THEATRE, Horseferry Road, S.W.—March 1, 5.30 p.m. Clinicopathological demonstration. "Treatment of Chronic Peptic Ulcers." Discussion.

Tuesday

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—March 2, 5 p.m. Pathological demonstration, by Dr. I. Muende.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHYSIOLOGY, Gower Street, W.C.—March 2, 5 p.m. "Some Aspects of General Physiology," by L. E. Bayliss, Ph.D.

Wednesday

BRITISH INSTITUTE OF PHILOSOPHY.—At Eugenics Theatre, University College, Gower Street, London, W.C., March 3, 7.30 p.m. "Philosophy and Religion," by Dr. J. Hartland-Swann.

EDINBURGH CLINICAL CLUB.—At Edinburgh Royal Infirmary, March 3, 4 p.m. "X-ray Therapy," by Dr. R. McWhirter.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE, 28, Portland Place, London, W.—March 3, 3.30 p.m. "The Planning of a Modern Hospital in Relation to the Public Health" (Illustrated), by Mr. S. E. T. Cusdin, A.R.I.B.A.

Thursday

FACULTY OF HOMOEOPATHY.—At London Homoeopathic Hospital, Great Ormond Street, London, W.C., March 4, 5 p.m. "The Art of Diagnosis," by Dr. A. P. Cawadias.

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C., March 4, 5 p.m. "Diseases Affecting the Lips and Mucous Membranes," by Dr. B. Russell.

INSTITUTE OF LARYNGOLOGY AND OTOTOLOGY, 330, Gray's Inn Road, London, W.C. March 4, 5.30 p.m. "The Treatment of Acute Otitis Media," by Mr. G. Ewart Martin.

LONDON JEWISH HOSPITAL MEDICAL SOCIETY.—At London Jewish Hospital, Stepney Green, E., March 4, 3 p.m. Clinical meeting.

MEDICAL SOCIETY OF THE L.C.C. SERVICE.—At County Hall, Westminster Bridge, London, S.E., March 4, 4.15 p.m. Papers: "Blood Transfusion with Special Reference to the Rhesus Factor," by Dr. E. N. Allott; "Transfusion of Infants with Erythroblastosis Foetalis," by Dr. C. A. Holman; "Jaundice Following Blood Transfusion," by Dr. A. G. Signy. A general discussion will follow.

ROYAL PHOTOGRAPHIC SOCIETY.—At 16, Prince's Gate, London, S.W.—March 4, 7 p.m. Annual general meeting. "The Application of Medical Photography to Venereal Disease." Lecture by Dr. C. Hamilton Wilkie.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, S.W.—March 4, 4.30 p.m. Neurological lecture-demonstration, by Dr. A. Feiling.

Friday

ATOMIC SCIENTISTS ASSOCIATION: LONDON BRANCH.—At Royal Society of Arts, John Adam Street, Adelphi, W.C., March 5, 7 p.m. "Medical and Biological Applications of Atomic Energy," by Dr. W. J. Arrol.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—At Leeds General Infirmary, March 5, 8.30 p.m. Clinical meeting.

LONDON CHEST HOSPITAL, Victoria Park, E.—March 5, 5 p.m. "Sinus Infection in Chest Diseases," by Mr. J. W. S. Lindahl.

ROYAL MEDICAL SOCIETY, 7, Melbourne Place, Edinburgh.—March 5, 8 p.m. Valedictory Address by the Senior President.

SOCIETY OF PUBLIC ANALYSTS.—At Royal Society, Burlington House, Piccadilly, London, W., March 5, 5 p.m. Annual general meeting. "The Proximate Analysis of Mixtures by Methods depending on Differential Solubility and Saturation," by G. M. Bennett, Ph.D. Sc.D., F.R.I.C., F.R.S.

Saturday

ROYAL SANITARY INSTITUTE.—At the Modern Secondary School, St. H.R. Newport, March 6, 10 a.m. "The Hospital Service of South Wales." Paper by Dr. A. Trevor Jones.

APPOINTMENTS

Frank F. Main, M.B., Ch.B., D.P.H., Medical Officer of Health for the City of Perth, has been appointed Senior Administrative Medical Officer to the Scottish Eastern Regional Hospital Board.

J. L. le C. Walker, M.R.C.S., L.R.C.P., has been appointed medical officer at Leeds prison in succession to Dr. F. H. Brisby.

Fanning, James, M.D., D.P.H., Deputy County Medical Officer for Surrey. Jacoby, M. G., M.B., B.S., Government Medical Officer, Newfoundland.

Middlesex County Council.—The following senior appointments are announced: A. C. T. Perkins, M.D., D.P.H., to be County Medical Officer of Health; J. G. Bonning, F.R.C.S., M.R.C.O.G., to be Surgeon to Central Middlesex County Hospital; K. S. Mullard, F.R.C.S.Ed., to be Thoracic Surgeon to Hillingdon and Harefield County Hospitals.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Eastes.—On Feb. 14, 1948, at The Bank House, Marshfield, Glos., to Dr. Zeta Eastes (née Matthews), wife of Dr. Henry J. Eastes, a sister for Martin and Janet—Cherry.

Edwards.—On Feb. 8, 1948, at Sutton, Surrey, to Joan (née Shepherd), wife of Dr. F. Hately Edwards, a son.

Hylton.—On Feb. 19, 1948, at Clevedon, to Dr. Lorna, wife of Dr. William Hylton, a third daughter.

Time.—On Jan. 30, 1948, to Moyra, wife of Lieutenant David G. Sime R.A.M.C., Hannover, a son—Michael Jeremy.

MARRIAGES

Gillmore—Mulr.—On Feb. 20, 1948, at South Woodford, Haldane Carson Gillmore, L.R.C.P.&S.I., to Margaret MacIntosh Mulr (née Archibald), M.B., Ch.B.

Krafft—Johnston.—On Feb. 3, 1948, at St. Mary's Church, Prittlewell, Essex, Dr. Gerard Krafft and Dr. Catherine Vallance Johnston.

Stein—Rachwalsky.—On Feb. 22, 1948, Major G. E. Stein, R.A.M.C. to Miss E. L. Rachwalsky, M.B., B.S.

DEATHS

Brathwaite.—Recently, John Brathwaite, M.B.

Creasy.—On Feb. 20, 1948, at Dolphin Square, Rolf Creasy, M.R.C.S., L.R.C.P.

Dalziel.—On Feb. 21, 1948, at 63, Park Road, Chiswick, W., John McEwen Dalziel, M.D., late West African Medical Service.

Deans.—Recently, John Campbell Deans, M.B., Ch.B.Glas., of Glasgow.

Drop.—On Feb. 15, 1948, at Corra, Sandy Lane, Tilford, Surrey, Charles Edward Drop, M.B., B.Ch., formerly of Newton-on-Trent, Lincoln, aged 70.

Fairlie-Clarke.—On Feb. 16, 1948, Allan Johnston Fairlie-Clarke, F.R.C.S., of The Oaks, Graham Road, Mahem, aged 70.

France.—On Feb. 7, 1948, at 38, Darby Crescent, Sunbury-on-Thames, Middlesex, James Hassall France, M.R.C.S., L.R.C.P.

Hamilton.—On Dec. 16, 1947, at Q.A. Military Hospital, Horley, Surrey, William Bruce Hamilton, M.D., Major R.A.M.C.

Harris.—On Feb. 16, 1948, at Eden Hall, Minster, Ramsgate, Robert James Harris, M.R.C.S., L.R.C.P.

Healey.—Recently, John Edridge Healey, M.B.E., M.B., Ch.B., of Preston, Lancs.

Henderson.—At 28, Glendale Avenue, Whitley Bay, Percival Henderson, M.D., late of Sehill, Northumberland.

Henery.—On Feb. 16, 1948, at 73, Warwick Road, London, S.W., John Philip Edmund Henery, L.M.S.S.A.

King.—On Feb. 10, 1948, Ralph De Vell King, M.R.C.S., L.R.C.P., of 1, Moor Court Close, Sidmouth, Devon.

Lewis.—Recently, Frederick Charles Lewis, M.R.C.S., L.R.C.P., of Birmingham.

Lowe.—On Jan. 31, 1948, at Ramore, The Avenue, Middlebrough, George Harold Lowe, M.D.

McCandlish.—On Feb. 14, 1948, at the Londn Hospital, Whitechapel, E., Alexander Henry McCandlish, M.R.C.S., L.R.C.P.

McGowan.—On Feb. 16, 1948, collapsed and died while waiting for a bus in Glasgow, Thomas McGowan, M.B., Ch.B.Glas.

Odulate.—On Jan. 31, 1948 killed in an accident in Nigeria, Albert Olukoya Odulate, M.B., B.S., aged 29.

Orr.—On Feb. 7, 1948, at 39c, Northside, Clapham Common, S.W., Henry Scott Orr, M.B., B.Ch., aged 81.

Pool.—On Feb. 7, 1948, John Copeland Pool, M.R.C.S., L.R.C.P., of Mayfield, Sussex, aged 78.

Porter.—On Feb. 10, 1948, at 1, Ansdell Road North, Ansdell, Lytham St. Anne's, John Herbert Porter, M.B., B.Ch., aged 50.

Riddoch.—On Jan. 30, 1948, in air liner reported missing near Bermuda, George Keith Riddoch, F.R.C.S.Ed., aged 30.

Ross.—On Feb. 2, 1948, at 327, Park Road, Oldham, Thomas David Coultard Ross, M.B., Ch.B., aged 63.

St. John.—Recently, Fredere Azar St. John, M.D., F.R.C.S.Ed., of Manchester.

Solly.—On Feb. 19, 1948, at 13, Howell Road, Exeter, Reginald Vaughan Solly, M.D., F.R.C.S., aged 83.

Swan.—At Wine Street, Silso, Eire, Harold John Swan, M.B., B.Ch.

Teare.—On Jan. 26, 1948, at Liverpool, John Teare, M.D., aged 82.

Wales.—On Feb. 16, 1948, at The Marjorie, Billington, Blackburn, Lancs., Herbert Wales, M.B., B.Ch., aged 70.

Walker.—On Feb. 18, 1948, at Fairfield House, Bradford-on-Avon, Henry Secker Walker, M.Sc., F.R.C.S., aged 84.

Wilson.—On Feb. 9, 1948, at Kingston, Nairn, George Wilson, M.B., C.M.

Wilson-Smith.—William Arthur Wilson-Smith, M.D.Ed., of Whiteparish, near Salisbury, Wilts.

Winckworth.—On Feb. 20, 1948, at a nursing home, Wadhwa Bruce Winckworth, M.R.C.S., L.R.C.P., of 18, Mount Street, Taunton, Somerset, aged 79.

Winfield.—Recently, Arthur Winfield, M.R.C.S., L.R.C.P., of New Ferry, Birkenhead.

Wynn-Williams.—On Feb. 6, 1948, at "Clevedon," Middlebrough, William Wynn-Williams, M.R.C.S., L.R.C.P.

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Feb. 7.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included), (b) London (administrative county), (c) Scotland, (d) Eire, (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 125 great towns in England and Wales (including London), (b) London (administrative county), (c) The 16 principal towns in Scotland, (d) The 13 principal towns in Eire, (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	56	6	20	2	2	94	8	19	10	2
Deaths ..	—	—	—	—	—	—	—	—	—	—
Diphtheria ..	223	19	55	7	8	233	23	63	29	—
Deaths ..	4	2	2	—	1	4	1	—	1	—
Dysentery ..	160	28	39	1	—	47	6	25	4	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica, acute ..	—	—	2	—	—	1	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Erysipelas ..	—	—	45	11	1	—	—	45	6	2
Deaths ..	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years ..	—	—	—	—	—	—	—	—	—	—
Deaths ..	35	3	9	5	1	105	13	29	2	1
Measles* ..	5,596	511	831	121	17	17,258	583	326	67	74
Deaths† ..	—	—	—	2	—	20	1	—	—	2
Ophthalmia neonatorum ..	63	5	11	—	—	59	3	17	—	1
Paratyphoid fever ..	6	—	—	—	—	3	—	—	—	1 (B)
Deaths ..	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenza ..	1,012	64	14	18	7	1,593	111	13	35	12
Deaths (from influenza) ..	25	1	3	—	—	211	30	12	4	7
Pneumonia, primary ..	273	64	279	31	11	—	—	235	49	—
Deaths ..	—	—	—	—	—	143	—	—	—	14
Polio-encephalitis, acute ..	6	3	—	—	—	1	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Polio-myelitis, acute ..	25	1	6	—	1	10	2	1	7	—
Deaths ..	3	1	—	—	—	—	—	—	—	—
Puerperal fever ..	—	7	—	—	—	1	6	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia; ..	118	14	12	2	—	115	11	18	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Relapsing fever ..	—	—	—	—	—	—	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Scarlet fever ..	1,943	110	322	28	42	1,130	65	244	21	31
Deaths ..	—	—	—	—	—	—	—	—	—	—
Smallpox ..	—	—	—	—	—	—	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Typhoid fever ..	12	2	—	8	1	7	—	—	6	—
Deaths ..	2	—	—	—	—	—	—	—	—	—
Typhus fever ..	—	—	—	—	—	—	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Whooping-cough* ..	2,572	172	45	36	10	1,842	161	384	66	34
Deaths ..	11	—	—	1	—	16	4	2	7	—
Deaths (0-1 year) ..	379	53	69	32	22	672	79	79	44	14
Infant mortality rate (per 1,000 live births) ..	—	—	—	—	—	—	—	—	—	—
Deaths (excluding stillbirths) ..	5,191	844	635	224	145	8,303	1515	834	405	209
Annual death rate (per 1,000 persons living) ..	—	—	13.8	14.0	—	—	—	17.3	—	—
Live births ..	7,999	1320	954	418	229	9,547	1534	1191	361	331
Annual rate per 1,000 persons living ..	—	—	19.3	25.1	—	—	—	24.0	—	—
Stillbirths ..	240	21	25	—	—	303	35	39	—	—
Rate per 1,000 total births (including stillbirths) ..	—	—	26	—	—	—	—	32	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

¶ Includes puerperal fever for England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Tuberculosis in the British Zone

Recent reports from the Control Commission for Germany suggest that the present incidence of deaths from tuberculosis is stationary. In September, 1946, the German public health authorities changed the method of notifying cases of tuberculosis (except in Hamburg, where the change was made in June, 1947) with the result that cases which were neither active nor infectious were included in the returns. This resulted in the incidence of cases being recorded as many times the death rate, and the Medical Research Council sent a team to the British Zone to investigate this disparity. Investigation confirmed that the rise in the reported incidence was almost entirely due to the different methods of notification. We reproduce in the following table some figures supplied by the Control Commission showing the apparently increased incidence of cases reported after the change in the method of notification.

	1946				1947		
	1st Quarter	2nd Quarter	3rd Quarter	Whole Year	1st Quarter	2nd Quarter	3rd Quarter
Lung and larynx:							
Cases reported ..	9,317	11,031	11,041	46,651	17,803	22,822	23,903
Deaths ..	3,478	3,364	2,380	11,985	3,489	3,287	2,594
Other cases:							
Cases reported ..	1,498	1,858	2,230	8,433	2,590	3,097	2,874
Deaths ..	410	481	386	1,698	444	574	434

Discussion of Table

In England and Wales increases were recorded in the notifications of measles 1,363, acute pneumonia 162, diphtheria 23, and scarlet fever 17, while a decrease was recorded in the incidence of whooping-cough 153 and of dysentery 48.

The largest rises in the notifications of measles were those of London 171, Lancashire 146, Kent 127, and Lincolnshire 111. The only variation of any size in the incidence of acute pneumonia was an increase of 41 in Lancashire. Only small fluctuations occurred in the local incidence of scarlet fever, except for a decrease of 43 in Warwickshire and an increase of 54 in Lancashire.

The chief feature of the returns of diphtheria was an increase in Lancashire of 13. The fall in the incidence of whooping-cough, which has been at the highest level since notification began, was mainly due to the experience of two counties, Yorkshire West Riding and Lincolnshire, where the notifications were 105 and 47 fewer than in the preceding week.

A fresh outbreak of dysentery involving 18 persons was reported from Bournemouth C.B., and the notifications in London rose from 15 to 28. In Lancashire the notifications of dysentery fell from 103 to 43 and in Middlesex from 21 to 5.

In Scotland decreases were recorded in the incidence of scarlet fever 33 and measles 54, while increases were reported for acute primary pneumonia 19, whooping-cough 13, and dysentery 10. The largest returns of dysentery were Edinburgh 18 and Aberdeen 11.

In Eire the notifications of measles increased by 33 while a decrease occurred in the incidence of whooping-cough 29 and scarlet fever 8. Only 14 cases of diarrhoea and enteritis were notified during the week, the lowest level for two years. The increase in the notifications of measles was mainly due to an outbreak of 38 cases in Mayo, Belmullet R.D.

In Northern Ireland the largest fluctuations in the trends of infectious diseases were an increase of 6 in diphtheria and a decrease of 6 in scarlet fever.

Week Ending February 14

The principal infectious diseases in England and Wales during the week ending February 14, 1948, were: scarlet fever 1925, whooping-cough 211, measles 617, acute pneumonia 871, diphtheria 12, and dysentery 164.

The following table shows the number of cases of the principal infectious diseases in England and Wales during the week ending February 14, 1948, and the corresponding figures for the week ending February 14, 1947. The figures for 1947 are based on the notifications received by the Medical Research Council during the week ending February 14, 1947.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Pathology of Lumbago

Q.—What is the pathology of lumbago? Is it always due to dislocation of the lowest intervertebral disk? I know that sciatica is in many cases due to that cause, but it is not the only cause. I know of a case treated for sciatica which was found later to be due to osteomyelitis of the upper part of the ilium.

A.—It is now accepted fairly widely that acute lumbago, especially if recurrent, is caused in a high proportion of cases by backward bulging or prolapse of a lumbar intervertebral disk. The disk affected is usually that between L4 and L5 or that between L5 and S1, though less commonly the disk at other levels may be responsible. When lumbago is present without sciatica it is probable that the bulging of the disk is so placed, or is of such slight degree, that the root components of the sciatic nerve escape pressure or stretching. This conception of the pathology is supported by the clinical observation that acute lumbago is very commonly followed after an interval by sciatica, with the usual signs of nerve-root irritation and by the fact that a prolapsed disk has often been found at operation in cases of recurrent lumbago.

While the majority of cases of lumbago can probably be accounted for in this manner it is important to realize that the symptoms of lumbago and of sciatica may be due to a variety of other conditions, including spondylolisthesis, intra spinal tumour, pelvic tumour, ankylosing spondylitis, and tuberculous or pyogenic infection of the spine or sacro-iliac region. It is therefore clearly essential that a full orthopaedic examination, including skiagrams of the spine and pelvis, be undertaken before a diagnosis of prolapsed intervertebral disk is made. A useful clinical point to remember is that a history of recurrent attacks of pain, with intervals of relief or freedom from symptoms, is suggestive of a disk protrusion; symptoms which are continuous and of progressively increasing intensity suggest that some more serious pathological process may be present.

Choice of Sulphonamides

Q.—In the Medical Research Council's booklet on the use of sulphonamides it is stated that these drugs have no specific action but their efficiency varies with their potency. If this is the case, surely the simplest scheme would be to use only the latest and best—i.e., sulphamezathine, a drug from the use of which anuria has never been recorded and which can be given six-hourly?

A.—The choice of a sulphonamide for the treatment of any particular condition may be influenced by several considerations: the duration of effect of a single dose, freedom from toxicity, and liability to deposition in the urinary tract vary in relative importance from case to case. Apart from this, and despite the statement quoted, clinical experience suggests that the order of activity of different sulphonamides against individual species of bacteria is not always the same. To take the important example of gonorrhoea, it is explicitly stated in the publication quoted (M.R.C. War Memo No. 10, "The Medical Use of the Sulphonamides," 2nd ed., 1945) that sulphadimethylpyrimidine (sulphamezathine) has been found inferior to sulphathiazole or sulphadiazine in treating this disease although, for other reasons, its use is recommended for treating urinary tract infections in general. Other observations of the superior effect of a particular drug in the treatment of a particular infection are numerous and doubtless often well founded. It is not suggested that these differences are specific—they are simply quantitative. It is a common and useful practice to test the sensitivity of the patient's own organism *in vitro* to several different sulphonamides before beginning treatment, in order to determine which is likely to be most effective.

Pessaries for Prolapse

Q.—Can you advise me on (a) the choice of pessary in prolapse, (b) the method of estimating the size required, (c) the mode of introduction?

A.—The choice of pessary depends to some extent on the type of prolapse which is present. Rigid vulcanite appliances, although cleaner, are satisfactory only for minor degrees of prolapse associated with a strong perineum, and the ordinary rubber-ring pessary is probably the best for general use. The size is assessed according to the length of the vagina and its width at both upper and lower ends. The pessary must be so large that it will not fall through the introitus, yet it must be small enough to fit well into the upper vagina without undue tension and not compress the urethra. With the pessary in place the distance between its lower edge and the external urethral meatus should be at least one fingerbreadth. Several sizes of pessary may need to be tried before the best fit is obtained, but with increasing experience it is usually possible to get very near to the correct size at the first attempt. After sterilizing the pessary by boiling, it is gripped between the thumb and second finger to decrease its width and is inserted with the widest diameter in the long axis of the vulva, avoiding pressure on the sensitive vestibule and urethra. The first finger is used to steady the pessary. When the ring is well within the vagina it is released, whereupon it naturally makes a right-angled turn to lie across the vagina. If necessary it is then manipulated to encircle the cervix. If the new "sorbo" rubber pessary is used there is no difficulty in compressing it to such an extent that it enters the vagina with a minimum of discomfort. The older watchspring pessaries are more resistant, although boiling increases their suppleness. For these there is, or used to be, on the market an instrument (little used) which grips the pessary for insertion and can then be withdrawn, leaving the pessary to expand in the vagina.

If the perineum is so deficient that it will not support a pessary within the vagina some sort of stem pessary (supported by straps attached to a waistband) may be required. There are many kinds; none is completely satisfactory, and the Napier rubber cup and stem is probably as good as any. The cup, which is saucer-shaped, is, like ring pessaries, sized according to its overall diameter. Before ordering such a pessary a ring pessary can be used to estimate the size required. However, it is a good plan to choose a comparatively small cup, because it is not very dependent on its size for its stability, and if it is small the patient can easily learn to insert and remove it herself. If she can do this then she should be told to remove it each night on going to bed and to wear it only during the day.

Vitamin D in Virus Diseases

Q.—Some years ago I found that vitamin D, 50,000 units a day in divided doses, turned off catarrh of mucous membranes in 30 minutes and was an effective remedy for colds. A small dose of 4,000 units has to be taken at first to eliminate toxic reactions. I have read of certain virus complaints being improved with adrenaline and calcium. What experiments have been done with regard to vitamin D in virus diseases such as poliomyelitis?

A.—There have been isolated reports stating that vitamin D is of value in the treatment of colds, but they are based on clinical impressions and not on controlled observations. Vitamin A has often been given as well. So far as the writer knows, no work has been done on the use of vitamin D in poliomyelitis. In the present state of our knowledge there is no rationale for its use in virus infections.

Aseptic Inoculation Technique

Q.—What is the most expeditious aseptic technique for inoculating large numbers of men against cholera, assuming that no facilities for sterilization are available?

A.—It is now generally recognized that no inoculation technique is entitled to be described as aseptic unless a separate needle is used for each injection. Thus the only possible answer to the question is that there should be as many needles as men, previously sterilized by dry heat. A suitable metal container

for large numbers of needles used in this way is illustrated in Medical Research Council War Memorandum No. 15 ("The Sterilization, Use, and Care of Syringes"). The only alternative is to provide the means for boiling a limited number of needles for repeated re-use; surely a sterilizer, some distilled water, and a spirit-lamp or "meta" fuel could be taken even to the most primitive and outlandish place?

Thorium X for Treatment of Baldness

Q.—I should be grateful for details of the treatment of baldness by thorium X. What are the risks and dangers, if any?

A.—It has been a fashion to treat alopecia with thorium X, but there is little evidence of its value except on a psychological plane. An alcoholic solution (1,500 electrostatic units per ml.) is painted on the scalp at monthly intervals. It should not be continued beyond twenty or so applications. Telangiectasis and atrophy have been observed where treatments have been continued over several years.

Heparin and Dicoumarol in Thrombosis

Q.—(a) What is the correct treatment for a patient with severe thrombophlebitis in the leg and thigh who is treated at home? Can heparin be used in general practice with safety?

(b) Can you suggest some scheme for the treatment of femoral thrombosis by means of heparin and dicoumarol? What is the appropriate dosage, and for how long should the treatment be continued? How is the dosage controlled by the prothrombin index?

A.—(a) If the phlebitis is superficial the treatment should be ambulatory, the legs being strapped from above the thrombus down to the toes after sponge-rubber or adhesive-felt strips are placed over the inflamed veins. Heparin and dicoumarol treatment is as follows: On the first two days of the illness heparin injections should be given thus: 12,500 units at 8 a.m., 10,000 at 1 p.m., 10,000 at 6 p.m., and 12,500 at 11 p.m. Dicoumarol 250 mg. should be given each day for the first three days and 200 mg. on the 10th, 11th, 12th, 20th, 21st, and 22nd days of the illness. Prothrombin times should be slightly more than doubled, and can be taken as often as possible after the fifth day. The doses mentioned are increased or diminished according to the prothrombin time. If the phlebitis is deep the patient is kept in bed for 7 to 14 days, the lumbar ganglia are blocked with "novocain" at the onset, heparin and dicoumarol therapy is given as for the superficial type, and when the patient gets up supporting bandages are used to control the oedema.

(b) Treatment by means of heparin and dicoumarol should be as in (a). Lumbar sympathetic block should never be omitted at the onset of femoral thrombosis.

Castration or Stilboestrol for Prostatic Cancer

Q.—It is well known that oestrogens (especially stilboestrol) are effective in some cases of carcinoma of the prostate. The exact mode of action is so far unknown, but the theory is that the oestrogens inhibit secretion of anterior pituitary gonadotrophin, thus decreasing the secretion of testosterone by the interstitial cells of the testes; this disturbs the metabolism of normal prostatic tissue but also of the malignant tissue, and improvement occurs. Now castration produces marked prostatic atrophy with degeneration in the glandular cells by stopping the supply of testicular androgen. In this case the metabolism of the prostatic tissue is even more violently upset than by the administration of oestrogens. Would castration, therefore, not be a more potent weapon to attack prostatic cancer than oestrogen therapy?

A.—Castration, or surgical castration, is effective in retarding prostatic carcinoma and has been used for many years. Oestrogen therapy, as the questioner points out, is a form of effective physiological castration which, however, does not seem to help relapses after surgical castration. Unfortunately, most patients tend to relapse after a period, whether the castration is surgical or physiological. It has been postulated that the adrenal cortex continues to secrete androgens, or secretes them in greater quantities than previously, and that this is the explanation of the relapses. Although the former supposition has proved correct, the latter does not appear to be true because such cases have had bilateral adrenalectomy performed without

arresting the progress of the prostatic carcinoma. Therefore there seem to be two factors—hormone and intrinsic neoplastic stimulus—the nature and control of which still require elucidation.

Surveillance after Treatment of Syphilis

Q.—My queries are, first, does giving "ameto" and arsenic mixed in the one injection inactivate the arsenic? I have always thought it did, but have heard this contested. Secondly, what is the latest advice about the duration of surveillance after penicillin therapy and the advisability of any further treatment?

A.—Ametox does not inactivate arsenic, if by "inactivate" is meant neutralize its therapeutic properties. Few syphilologists nowadays regard ameto as of any value in reducing the toxic effects of arsphenamines.

After penicillin therapy of early syphilis it is usual to test the patient's blood serum monthly for six months and thereafter twice at three months' and twice at six months' intervals, making a total surveillance period of two years. The cerebrospinal fluid should be examined six and 24 months after completion of treatment, and, of course, a careful clinical examination should be carried out each time the blood is tested.

Calcium by Mouth

Q.—In what form is calcium best absorbed when given by mouth?

A.—Calcium is best absorbed when given by mouth as calcium lactate, or as a mixture of calcium lactate and sodium lactate. This statement is based on the results recorded by Wokes (*J. Pharmacol.*, 1931, 43, 531).

Phosphaturia and Oxaluria

Q.—Are phosphaturia and oxaluria the same condition? What relation, if any, have they to acne rosacea, fibrositis, insomnia, cyclic insanity, or other nervous disorders? What is the treatment of frequent micturition in these conditions? Are bladder sedatives, such as ol. santali, ol. cubeba, etc., advisable in addition to standard treatment? Can you give details of diet for treatment of oxaluria? The textbooks are rather contradictory.

A.—Phosphaturia and oxaluria are separate and unrelated conditions: in the first there is a precipitation of phosphates in the urine due to a change in reaction to the alkaline side, and often to an excessive excretion of phosphate; in the latter undue quantities of oxalate are present, and crystals of the calcium salt are deposited. There is no good reason to suppose that either of these urinary anomalies is in any way related to the conditions mentioned. Increased frequency of micturition can seldom be attributed direct to oxaluria or phosphaturia; more often both have a common cause. Phosphaturia frequently accompanies *Proteus* infections of the urinary tract. Calculus may declare itself by frequent micturition combined with either oxaluria or phosphaturia. Rational management requires consideration of all these possibilities. The indications for treatment of oxaluria are to facilitate the excretion of oxalates by increasing the acidity of the urine, and to decrease the intake, and thus the excretion, of oxalate. Potatoes, spinach, gooseberries, and carrots are rich in oxalates.

Absence of Orgasm

Q.—A married middle-class housewife aged 39, with one child, has been married 10 years but has hitherto failed to achieve orgasm during sexual intercourse. The preliminary part of the intercourse is satisfactory, but she feels frustrated at the end of the intercourse. She has been told that the clitoris produces orgasm, but she feels that the clitoris seems to be entirely devoid of sensation. She has been told that the clitoris is confirmed by the fact that the clitoris is the cause of this lack of sensation.

A.—The clitoris is a small, sensitive organ, and its stimulation from the outside is not necessary for the production of orgasm. The clitoris is a small, sensitive organ, and its stimulation from the outside is not necessary for the production of orgasm. The clitoris is a small, sensitive organ, and its stimulation from the outside is not necessary for the production of orgasm.

are most responsive to erotic stimulation are the clitoris and the vagina, and as a rule sexual pleasure is more easily aroused and developed in the former, although it is less intense. Women vary a good deal, but it is common to find that in the early days of marriage pleasure and orgasm are dependent mostly on stimulation of the clitoris, whereas with increasing experience the more satisfying vaginal orgasm is developed. The two orgasms are said to differ in type and degree. The history of this case suggests that the woman's education in sex has never developed beyond the early stages, and it is most unlikely that there is any local organic cause for it. Sensitivity of the vagina to touch and pain is usually low. One possibility, however, which should be excluded is an overstretched and gaping vagina dating from childbirth. It may be difficult to change matters now the marriage has gone on so long, but if it is impossible to arouse a vaginal orgasm, more satisfactory stimulation of the clitoris might be achieved by varying the posture during coitus. This couple might benefit by reading *Ideal Marriage*, by Th. H. Van de Velde, 1944, London, in which these matters are discussed in detail.

NOTES AND COMMENTS

Enuresis In Young Adults.—Dr. ROBERT BAUER (Cardiff) writes: With reference to Dr. J. K. Pameijer's letter (Jan. 31, p. 238) the epidural injection of "novocain" for enuresis (nocturnal and diurnal), but in a concentration of 0.25% and dosage of 10-30 ml (and more), has been used in Vienna for several decades. One precaution seems indicated—to ascertain the absence of epilepsy. Years ago in Vienna I treated a patient of about 45 years with no other neurological signs except urinary incontinence, and observed after the third injection a fit of grand mal immediately after the injection. There was, however, no further attack though I continued to keep the patient under observation for another 12 months. No further injections were given and the incontinence was much improved.

Lower Cervical Spondylarthrosis.—Dr. J. B. BENNETT (Bath) writes: In answer to the question on osteoarthritis of the cervical spine ("Any Questions?" Feb. 14, p. 330) mention was not made of a common aetiological factor. In my experience osteoarthritis confined to the cervical vertebrae is nearly always associated with trauma. In most cases the patient has forgotten the incident, which is commonly a throw from a horse or similar accident involving the head and neck. The injury results in such a slight degree of concussion that an x ray was not thought essential at the time, but the patient recalls a stiff neck which persisted for some time. Simple manual extension of the neck with the patient in a sitting position, and accompanied by gentle manipulation of the neck usually affords at least temporary relief.

Laurel Berries.—Lieut.-Col. H. S. ANDERSON, R.A.M.C.(ret.), writes from Parkstone, Dorset: The answer under the above heading ("Any Questions?" Feb. 14, p. 330) recalled a non-fatal poisoning case of long ago. About "Laurel"—viz., the spurge- or wood-laurel, *Daphn. laureola*—George Nicholson, sometime curator at Kew, wrote in his *Encyclopaedia of Horticulture*: "The berry of this species is very poisonous." I suggest the safe rule of regarding the berries of *Rosaceae* as harmless and those of *Thymelaeaceae* as dangerous. The true laurel belongs to the latter natural order, and *Prunus lauro-cerasus* to the former.

Disclaimer.—Lord HORDER (London, W.1) writes: An article entitled "The Doctor," accompanied by a photograph of myself appeared in the Feb. 8 issue of the *Leader*. I shall be grateful if you will allow me to say, through your columns, that the article appeared without my knowledge or concurrence. On being approached the Hulton Press declines to state this fact in the journal where the article was printed.

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SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY FEBRUARY 28 1948

British Medical Association PROCEEDINGS OF COUNCIL

Wednesday, Feb. 18, 1948

ANNOUNCEMENT OF PLEBISCITE RESULT

A special meeting of the Council of the Association was held on Feb. 18. Dr. H. Guy Dain was in the chair. As members assembled copies of the plebiscite return were distributed among them. The figures were published in the *Journal* of Feb. 21 (p. 352).

It was pointed out that over 17,000 general practitioners had answered that they were not in favour of accepting service under the Act in its present form. This figure had to be taken in relation to the 13,000 which the Council had decided to be the minimum upon which it should act. The analysis gave some astonishing results. Some had asked whether the consultants were going to part company from the general practitioners, but in fact the consultants had voted "No" even more strongly than their general-practitioner colleagues. Of consultants not holding whole-time salaried posts only 269 had expressed approval of the Act, against 4,087 who had expressed disapproval. Of members of the whole-time public health service only 316 said "Yes" and 1,928 said "No." Even more remarkable, members of the whole-time Government service had expressed disapproval in the proportion of five to one. Even among whole-time research workers the majority disapproving was two to one. In no one of the 18 groups was there a majority for approval. Only 16% of those circularized did not reply. The poll was thus 84%—75% of the "universe" replied "No," and 9% "Yes." Of those actually voting 90% replied "No," and 10% "Yes." It was a 9 to 1 vote against approval. (Applause.)

The voting papers had been destroyed the previous afternoon by the firm which undertook the destruction of State papers.

Dr. J. A. Pridham said that the Council was indebted to the Chairman, the Secretary, the Editor and other members of the staff for the work they had done in giving expression to the Association's policy.

The Chairman said that what he himself had done was no more than had been done by several other members of the Council.

The Secretary said that the whole staff, from top to bottom, had worked extremely hard in carrying out the Association's policy. The work of the Editor in the leader columns of the *Journal* had been a tremendous help. Wherever he had gone he had heard about the inspiration of those leading articles. The Assistant Secretaries had travelled as never before. Incidentally the experience had justified the form of organization recently adopted whereby an Assistant Secretary worked a particular "parish" but was at Headquarters sufficiently to acquire an intimate knowledge of central affairs. Exceptional service had been put in by the Public Relations Officer, whose staff, with the authority of the Public Relations Committee, had been enlarged. The clerical staff had done wonders, not only in regard to the plebiscite but to the dispatching of the successive publications which had gone out to all members of the

profession. The Secretary said that the official staff had done no more than their duty, adding that this was no time for bouquets—there were stern tasks ahead. But the clerical staff which had laboured mightily, deserved an expression of the Council's appreciation.

On the motion of the Chairman, a special vote of thanks was accorded to the clerical staff for the enthusiastic and untiring way in which they had worked during this period.

The Debate in Parliament

The Council proceeded to discuss the report of the debate in the House of Commons on Feb. 9, which they had before them. The Chairman said he imagined that the debate was initiated by the Minister with some idea of influencing the plebiscite. Well, the figures of the plebiscite were before them. The Minister had not said anything which had hurt them. Indeed, he had been more helpful than perhaps any other individual in solidifying medical opinion against the Act.

Dr. F. Gray said that on reading the *Hansard* report there was one conclusion, of some value for the future, which was inescapable. It was evident that the profession could not rely on any political party. The fight was their own, and they had to convince the public of their case. It had been very disturbing to him that Mr. Bevan should have almost forced them into party politics; but the Conservative Party had checked his attempt, and it was a source of strength to the profession that it should have happened so. It had made their position *vis-à-vis* the public very much better. They had no party. This was the fight of a profession.

The Chairman remarked that he had been saying for some time at the various meetings he had addressed that they were not interested in party politics.

The Special Representative Meeting

On the motion of the Chairman it was agreed that a Special Representative Meeting should be called for March 17. After discussion it was unanimously decided to put forward to that meeting the following resolution:

That the Representative Body, reaffirming the whole-hearted desire of the medical profession for a comprehensive health service available to everyone, urges that in the public interest such changes should be made in the Acts of 1946 and 1947 as are necessary to maintain the integrity of medicine and to prevent doctors being turned into State servants, with harmful consequences to patient and doctor alike. The Representative Body therefore expresses the hope that the Government will make it possible for the profession to co-operate by making such changes, and states its view that it is not in the best interests of the public or of medicine for members of the profession to enter the Service until such changes are made.

**The Act of 1947 is the Scottish Act.*

The Next Step

The Chairman said that he thought the figures of the plebiscite should be left to make their impression on the public mind and on the mind of the Government. At some time or other the Government must decide whether it wanted a service on July 5 or not. On the figures of the plebiscite it was not going to get that service in its present form, and it was for the Government to say what it would do. When the opportunity was offered to them and the Government nominated someone to talk with them on its behalf, they should say that they were concerned first of all to ensure the establishment of a very big principle. The profession wanted to co-operate in a comprehensive service. Given such changes as would preserve essential freedoms, their co-operation would not be lacking.

Emergency Guarantee Fund

The Council went on to consider future steps, including the position of the Emergency Guarantee Fund. Guarantees given to this Fund some two years ago expire on March 1.

The Chairman said that the Council could advise the Trustees to call in the guarantees at once without waiting for the Special Representative Meeting. On the other hand, it could advise the Trustees not to call in the guarantees and recommend the Special Representative Meeting to authorize the immediate establishment of a new fund, inviting contributions forthwith. The Executive Committee favoured the latter course. It was clear that there was now an even greater spirit of unity and solidarity inside the ranks of the profession. There was no need to rely on guarantees given some two years ago when the position was still obscure. Rather would they see the establishment of a new fund open to all, including the thousands who had given guarantees and those who had not done so. We were in a new situation with a new strength.

The Council decided to recommend the Trustees not to call in the old guarantees and to recommend the Special Representative Meeting to authorize the establishment of a new fund to be called the "Independence Fund" to provide additional sinews of war in any conflict which might lie ahead, including financial aid to practitioners who might suffer loss as the result of their loyalty to the profession as a whole. The National Insurance Defence Trust would consider its contribution the next day.

Other N.H.S. Business

It was reported that the Ministry of Health had communicated with the Negotiating Committee, asking for its views on draft general medical and pharmaceutical service regulations, on proposals for remuneration for maternity service and the constitution and functions of local obstetric committees, and on other administrative details. No comment was made on these proposals at the present time.

The Council agreed to a recommendation that the Marylebone Division be invited to set up a London Consultants Liaison Committee to maintain liaison between the consultant and specialist staffs of the London hospitals and with the B.M.A. in order to unify and consolidate consultant and specialist opinion on the National Health Service Act within the policy of the profession as a whole.

The Council endorsed the action of its Legal Actions Committee in issuing a writ for libel against the *Daily Mirror* for a statement which appeared to impugn the good faith of the Association concerning the secrecy of the voting in the plebiscite. Correspondence had also taken place between the Association's solicitors and the writers of a letter appearing in the *Mirror* on 15th January and containing, *inter alia*, a similar statement. It is stated that the writ had not yet been issued and the Council authorized the solicitors to proceed with the case.

The Council decided that the *Evening Standard* should be asked to publish a statement of the B.M.A.'s statement of 15th January. The statement had been published in the *Standard* on 16th January and it was considered that it was an opportunity to the Association to make a statement of its position. The *Evening Standard* has

ever, had got in front of its contemporaries by breaking the embargo on the excuse that the embargo was imposed for the Association's convenience. The Council deplored this breach of journalistic manners, but felt that it was a matter for action by the journalistic profession and not by the Association.

The Medical Curriculum

Dr. R. G. Gordon introduced the report of the special Medical Curriculum Committee. This report was in the form of a volume under the title of "The Training of a Doctor," and it was expected that it would be published in the middle of May. He said that if he might speak of it objectively, although he himself was a member of the Committee, it was a very fine and important piece of work. Its production would have been quite impossible had it not been for the extreme erudition, diligence, and devotion of its chairman, Prof. Henry Cohen, to whom, he hoped, the Council would send a special letter of thanks. The Committee had worked extremely hard, and the chairman and several members had presented memoranda, a list of which would be given in the appendix. He also acknowledged the outstanding services of Dr. Agnes Kelynak as secretary of the Committee.

The Chairman said that, as a member of the Committee who had attended more or less regularly, he had been impressed by the whole atmosphere in which the problem of medical education had been discussed. The programme which Prof. Cohen laid down and the suggestions for modifications in the curriculum were dealt with in a masterly manner, and he was sure that the report was without parallel on its subject. It did not set out, as General Medical Council reports had done, the bare curriculum, but it went thoroughly into the attitude of teachers towards the subjects they taught. It would furnish the standard by which medical education would be measured in a year or two's time.

Dr. J. G. M. Hamilton, speaking as one who had had nothing to do with this monumental work, but had lived in the atmosphere of medical teaching for the past fifteen years, said that they were all aware of the present ferment in medical education, the self-criticism, and the deep analysis of problems in relation to both undergraduate and postgraduate education. The report before them, he felt satisfied, would offer a most important foundation for further improvements in the direction, and he hoped the content, of medical training. He desired to thank the Committee for a most valuable piece of work.

Dr. G. MacFeat suggested that the Public Relations Department might well make some statement on the work which the B.M.A. had done in medical education and medical services. It would correct the popular idea that they were a political body. Dr. W. V. Howells asked whether there was any hope that this would be followed by a document on postgraduate education. Dr. Gordon replied that there was a Postgraduate Committee of the Science Committee, and if the Council wished to do anything like that the initiative could be taken by that subcommittee. Dr. Gordon added that a very useful member of the Curriculum Committee had been the representative of the British Medical Students' Association, Miss Jocelyn Ransom, and her deputy, Mr. T. H. Lawson.

The report was approved for publication as the report of a Special Committee of the Association, and the Chairman was asked to send an appropriate letter to Prof. Henry Cohen.

The Working Party Report on Nursing

Dr. Mary Esslemont, chairman of the Committee on Nursing, said that her Committee had been studying the report of the Working Party on the Recruitment and Training of Nurses, and thought it desirable that certain comments on the Working Party's conclusions, as distinct from the constructive proposals of the Committee on an alternative scheme for the training of nurses, should be submitted to the Ministry with the least possible delay. She therefore brought forward a statement in which comments were made on the main conclusions of the Working Party.

The only comment to which exception was taken in the Council concerned the discipline of nurses in training. The proposed comment of the Committee was that while the hospital

might give parental advice calculated to assist the student nurse in maintaining a good state of health it should allow the utmost freedom during off-duty hours "and should not regard itself as responsible for the moral welfare of the trainee."

Dr. R. W. Cockshut and Mr. Dickson Wright took exception to this last phrase. On the other side Mr. A. S. Gough and Dr. S. Wand argued that the nurse should have the same freedom as the girl student in medicine or in any other profession. The younger generation must be trusted, and too much restraint would encourage revolt. Dr. Janet Aitken agreed, and said that the more these young women were trusted the more they would prove trustworthy. Dr. J. G. Thwaites agreed with Dr. Cockshut and Mr. Dickson Wright. To say that the hospital was responsible for the moral welfare of its student nurses did not mean their seclusion, but if a nurse was in hospital the hospital authorities were *in loco parentis*. Dr. G. MacFeat said that the modern girl would not accept an irksome discipline, but the right type of supervisor nevertheless would get the desired result.

Eventually the following amended comment was agreed to on the proposal of Mr. Lawrence Abel :

The hospital should give parental advice calculated to assist the student nurse in maintaining a good state of health, and it should allow the utmost freedom during off-duty hours compatible with the moral welfare of the trainee. It should encourage community life by providing such comforts and amenities as will make it unnecessary for the trainee to seek all her recreation outside.

With this amendment the comments were approved.

On the motion of Dr. O. C. Carter, chairman of the Journal Committee, it was agreed that the Association, provided difficulties could be overcome, should undertake the publication of the programme and the proceedings of the International Congress of Otolaryngology to be held in England in May, 1949.

The Council sent a message of good wishes to the Chairman of Representative Body, Dr J. B. Miller, who is recovering after an operation.

ONE HUNDRED AND SIXTEENTH ANNUAL MEETING. CAMBRIDGE, JUNE 25 TO JULY 2, 1948

President-Elect: SIR LIONEL WHITBY, C.V.O., M.C., M.A., M.D., F.R.C.P., Regius Professor of Physic, University of Cambridge; Master of Downing College, Cambridge

PROVISIONAL PROGRAMME

The Annual Representative Meeting will begin at the Large Examination Hall, Bene't Street, on Friday, June 25, at 9.30 a.m., and be continued on the following three weekdays.

The statutory Annual General Meeting will be held in the Large Examination Hall at 12.30 p.m. on Tuesday, June 29; the adjourned Annual General Meeting and President's Address will be held in the Senate House at 8 p.m. on the same day, followed by the President's Reception in the Old Schools.

The Annual Dinner of the Association will take place on Thursday, July 1, at the Dorothy Café at 7 p.m., followed by a Dance.

The Popular Lecture will be given in the Large Examination Hall at 8 p.m. on Friday, July 2.

The Official Religious Service will be held in the Church of St. Mary the Great at 3 p.m., and Catholic Mass will be held in the Roman Catholic Church, Hills Road, on the morning of Thursday, July 1.

The Reception Room for registration, on the platform of the Large Hall in the Guildhall, will be opened on Monday, June 28, at 2 p.m. The Ladies' Club will be at the English-speaking Union, Trinity Street.

The Annual Exhibition of Surgical Appliances, Foods, Drugs, and Books will be held in the Large Hall, Guildhall. The official opening will take place on Tuesday, June 29, at 9 a.m.; it will remain open on June 30 and July 1 and 2 from 9 a.m. to 6 p.m.

The Pathological Museum in the Department of Pathology, Tennis Court Road, will be opened on Tuesday, June 29, at 11 a.m.

It is hoped to hold a Civic Reception in the Old Schools in the evening of Wednesday, June 30.

Afternoon Garden Parties have been arranged for Wednesday, June 30, by kind invitation of Trinity College, and on Thursday, July 1, by kind invitation of the Lord-Lieutenant of Cambridgeshire.

The Fellows' Gardens of Christ's, King's, Emmanuel, and Pembroke Colleges will be open to members of the B.M.A. on certain evenings.

A concert is being arranged in the Arts Theatre on Sunday evening, June 27, for the Representatives and their wives.

It is hoped to hold the usual Golf and Chess Competitions. Other arrangements for the entertainment of visitors include visits to Ely Cathedral, Hinchingsbrooke, Papworth, conducted tours of the Colleges and Museums, and river trips.

The Vice-Chancellor has kindly offered to hold a Reception in Christ's College on Tuesday, June 29, following the Official Religious Service.

There will be no Graduation Ceremony.

HOTEL, COLLEGE, AND LODGING ACCOMMODATION

Accommodation in Cambridge in June will be extremely limited; practically none is available in any of the hotels, owing to Newmarket race meetings, school celebrations, and an abnormal influx of Ministry personnel.

Accommodation for those wishing to visit Cambridge during the Annual Meeting is, therefore, confined to Colleges and Lodgings. Thanks to the extremely generous response by the College authorities extensive accommodation has been offered, but it is confined, with the exception of Newnham and Girton, to men only. Accommodation for men and women is confined to a proportion of the Lodgings.

In order to reserve accommodation it is necessary to book it in advance. Arrangements are being made to retain any available accommodation, and full particulars will be published shortly in the *Supplement*.

It is hoped to provide private hospitality for official and overseas visitors.

SCIENTIFIC SECTIONS

The clinical and scientific work will be divided among nineteen Sections, meeting on Wednesday, Thursday, and Friday, June 30 and July 1 and 2. The Sections will be held in various University Departments and at Addenbrooke's Hospital.

Below is a list of the names of the Sections and the officers appointed to each, together with provisional programmes.

The following Sections will meet on Three Days:

MEDICINE

President: L. B. COLE, M.D., F.R.C.P. (Cambridge).

Vice-Presidents: BRANFORD MORGAN, M.D., F.R.C.P. (Norwich); WILLIAM EVANS, M.D., D.Sc., F.R.C.P. (London); Prof. JOHN McMICHAEL, F.R.S.Ed., M.D., F.R.C.P.Ed. (London); R. BODLEY SCOTT, D.M., F.R.C.P. (London).

Hon. Secretaries: L. C. MARTIN, M.D., F.R.C.P., Campden, Trumpington Road, Cambridge; K. M. A. PERRY, M.D., M.R.C.P., London Hospital, E.1.

The following subjects for discussion have been chosen:

(1) Thiouracil in the Treatment of Thyrotoxicosis. (2) The Modern Management of Macrocytic Anaemias. (3) Surgery in Hypertension (Joint Meeting with Section of Surgery). (Days and speakers not yet settled.)

SURGERY

President: VERNON C. PENNELL, F.R.C.S. (Cambridge).

Vice-Presidents: P. H. R. GHEY, M.Ch., F.R.C.S. (Cambridge); A. M. A. MOORE, F.R.C.S. (London); Prof. IAN AIRD, Ch.M., F.R.C.S. (London).

Hon. Secretaries: B. MCN. TRUSCOTT, F.R.C.S., 1, Shaftesbury Road, Brooklands Avenue, Cambridge; R. SAMPSON HANDLEY, O.B.E., F.R.C.S., 55, Harley Street, W.1.

The following subjects for discussion have been chosen:

Wednesday, June 30.—10 a.m. Tuberculous Adenitis.

Thursday, July 1 (Combined Meeting with Section of Medicine).—10 a.m., Surgery in Hypertension.

Friday July 2.—10 a.m., Cancer of the Breast.

OBSTETRICS AND GYNAECOLOGY

President: J. R. CAMPBELL CANNEY, M.D., F.R.C.O.G. (Cambridge)

Vice-Presidents: F. R. STANSFIELD, M.D., F.R.C.S., F.R.C.O.G. (Ipswich); Prof. HILDA N. LLOYD, F.R.C.S., F.R.C.O.G. (Birmingham); DONALD McINTYRE, M.B.E., F.R.S.Ed., M.D., F.R.C.S.Ed., F.R.F.P.S., F.R.C.O.G. (Glasgow).

Hon. Secretaries: O. LLOYD, M.D., F.R.C.S., M.R.C.O.G., 4, Lensfield Road, Cambridge; J. H. PEEL, F.R.C.S., F.R.C.O.G., 86, Harley Street, W.1.

The following programme has been arranged.

Wednesday, June 30—10 a.m., *Discussion:* The Problem of infertility and its Treatment. To be opened by Dr. BETHEL STUBBS (Dublin), Mr. ALBERT SHARMAN (Glasgow), a Legal Expert, and others.

Thursday, July 1 (Combined Meeting with Section of Anaesthetics).—10 a.m., *Discussion:* Analgesia in Midwifery. Speakers not yet settled. Afternoon: Demonstration of 177 films, and Edm.

Friday, July 2—10 a.m., *Discussion:* The Management of the Third Stage of Labour and its Complications. To be opened by Prof. CHASSAIG MOIR (Oxford), followed by Dr. T. (London), Prof. H. L. SMITH (Liverpool), and others. Afternoon: Films on Obstetrics, including Eclampsia.

The following Sections will meet on Two Days.

ANAESTHETICS

President: T. MESSER, M.B., D.A. (Peworth).

Vice-Presidents: C. H. BOND, M.B., B.Ch., D.A. (Cambridge); A. M. A. MOORE, M.B., B.S., D.A. (London); T. C. (London).

Hon. Secretaries: P. H. R. GHEY, D.Sc., M.R.C.S., L.R.C.P., 4, Lensfield Road, Cambridge; W. L. H. R. YOUNG, M.D., 1, Shaftesbury Road, Cambridge.

The following subjects for discussion have been chosen:

(1) The Management of the Third Stage of Labour and its Complications. (2) The Management of the Third Stage of Labour and its Complications. (3) The Management of the Third Stage of Labour and its Complications.

CHILD HEALTH

President: Prof. Sir LEONARD PARSONS, M.D., F.R.C.P., F.R.C.O.G. (Birmingham).

Vice-Presidents: Prof. R. W. B. ELLIS, O.B.E., M.D., F.R.C.P. (Edinburgh); JEAN M. MACKINTOSH, M.D., D.P.H. (Birmingham); Prof. N. B. CAPON, M.D., F.R.C.P. (Liverpool).

Hon. Secretaries: JANET D. ROSCOE, M.B., B.S., D.C.H., 8, Selwyn Gardens, Cambridge; R. M. MAYON-WHITE, M.B., B.S., Department of Experimental Medicine, University of Cambridge.

The following programme has been arranged:

Thursday, July 1.—10 a.m., *Discussion:* Neonatal Mortality and Morbidity. Afternoon, *Demonstration:* The Cambridge Premature Infant Unit.

Friday, July 2 (Combined Meeting with Section of Radiology).—10 a.m., *Discussion:* Malignant Disease in Infancy and Childhood. Afternoon, *Demonstration:* Work in progress on the weights of normal neonates in the first ten days of life.

DISEASES OF THE CHEST

President: R. R. TRAIL, M.C., M.D., F.R.C.P. (London).

Vice-Presidents: W. PATON PHILIP, M.B., Ch.B., D.M.R.E., D.P.H. (Cambridge); F. H. YOUNG, O.B.E., M.D., F.R.C.P. (London); R. C. BROCK, M.S., F.R.C.S. (London).

Hon. Secretaries: L. B. STOTT, J.P., M.C., M.B., Ch.B., D.P.H., Papworth Village Settlement, Cambridge; A. MARGARET C. MACPHERSON, M.D., F.R.C.P., 41, Devonshire Street, W.1.

The following programme has been arranged:

Wednesday, June 30.—10 a.m., *Discussion:* Bronchial Carcinoma. To be opened by Mr. R. C. BROCK (London), followed by Mr. G. A. MASON (Newcastle-upon-Tyne) and Mrs. E. L. G. HILTON (London). *Discussion:* The Relationship between Upper Respiratory Infection and Radiological Infection and Radiological Appearances in the Lungs. To be opened by Dr. W. PATON PHILIP (Cambridge). Afternoon: Visit to Papworth.

Thursday, July 1.—10 a.m., *Discussions:* (1) Surgery of Congenital Heart Disease. To be opened by Dr. J. M. H. CAMPBELL (London), followed by Mr. T. HOLMES SELLORS (London) and Mr. O. S. TUBBS (London); (2) The Present-day Treatment of Pneumonia. To be opened by Dr. LINDSEY W. BATTEN (London) (under title "Modern Pneumonia"). Afternoon: Demonstration of Films.

OCCUPATIONAL HEALTH

President: DONALD STEWART, M.D., F.R.C.P.Ed. (Birmingham).

Vice-Presidents: J. A. L. VAUGHAN JONES, M.B., Ch.B. (Leeds); Prof. R. E. LANE, F.R.C.P. (Manchester); W. E. CHIESMAN, M.D., F.R.C.P. (London).

Honorary Secretaries: C. H. HOSKYN, O.B.E., M.B., B.Chir., Health Department, Austin Motor Co., Ltd., Longbridge, Birmingham; P. PRINGLE, LL.B., M.R.C.S., L.R.C.P., Standard Telephones and Cables, Ltd., Oakleigh Road, New Southgate, N.11; MILICENT NOURSE, M.R.C.S., L.R.C.P., 1, Grange Road, Cambridge.

The following programme has been arranged:

Thursday, July 1.—10 a.m., *Discussion:* Human Relations in Industry. To be opened by Dr. G. R. HARGREAVES (London), followed by Dr. ROGER TREGOLD (Roffey Park) and Mr. JEROME F. SCOTT (Harvard, U.S.A.). Afternoon: Visit to Papworth Village Settlement and Pye Radio, Ltd.

Friday, July 2.—10 a.m., *Discussion:* Aviation Medicine. To be opened by Air-Marshal Sir HAROLD WHITTINGHAM (Director of Medical Services, B.O.A.C.).

OPHTHALMOLOGY

President: O. GAYE MORGAN, M.Ch., F.R.C.S. (London).

Vice-Presidents: E. G. RECORDON, M.D. (Cambridge); O. M. DUNN, M.D. (Manchester); J. H. DOUGART, M.D., F.R.C.S. (London).

Honorary Secretaries: G. F. WRIGHT, M.B., B.Chir., D.O.M.S., 22, Parkside, Cambridge; A. G. CROSS, M.D., F.R.C.S., 27, Harley Street, W.1.

The following programme has been arranged:

Discussions: (1) Ophthalmic Problems Associated with Gynaecological and Obstetric Conditions. To be opened by Mr. F. A. JULER (London), followed by Mr. A. B. NUTT (Sheffield) and Mr. E. C. ZORAB (Southampton); (2) The Significance and Interpretation of Refraction. To be opened by Dr. E. G. RECORDON (Cambridge). **Occasional Papers:** Contact Lenses—the Present-day Position, by Mr. A. G. CROSS (London); Optical Aids to the Other Man's Job, by Mr. J. G. DRUMMOND CURRIE (Cheltenham); The Heredity of Eye Diseases, by Dr. P. H. BEATTIE (Aberdeen); Nutritional Eye Diseases, by Dr. HUGH RYAN (London).

Thursday, July 1.—Afternoon: Clinical Meeting at Addenbrooke's Hospital Eye Department.

ORTHOPAEDICS

President: Prof. T. P. McMURRAY, M.Ch., F.R.C.S. (Liverpool).

Vice-Presidents: N. ROSS SMITH, Ch.M., F.R.C.S. (Bournemouth); R. W. BUTLER, M.D., M.Ch., F.R.C.S. (Cambridge); H. A. BRITTAI, O.B.E., M.Ch., F.R.C.S. (Norwich).

Honorary Secretaries: J. F. BOURDILLON, F.R.C.S., Addenbrooke's Hospital, Cambridge; H. H. LANGSTON, F.R.C.S., Gifford House, St. Giles Hill, Winchester.

The following programme has been arranged:

Discussions: (1) The Clinical Significance and Treatment of Lesions of the Intervertebral Disk. To be opened jointly by Mr. GEOFFREY JEFFERSON (Manchester) and Mr. NORMAN CAPENER (Exeter); (2) The Operative Treatment of Fractures. **Occasional Papers:** (1) The Injection Treatment of Osteoarthritis, by Mr. GRANT WAUGH (Sunderland); (2) The Treatment of Osteomyelitis.

PATHOLOGY AND BACTERIOLOGY

President: Prof. H. R. DEAN, LL.D., M.D., F.R.C.P. (Cambridge).

Vice-Presidents: Prof. DOROTHY RUSSELL, M.D., M.R.C.P. (London); R. I. N. GREAVES, M.D. (Cambridge); Prof. W. G. BARNARD, M.C., F.R.C.P. (London).

Honorary Secretaries: G. P. McCULLAGH, N.D., 282, Hills Road, Cambridge; C. J. C. BRITTON, M.D., 121, Harley Street, W.1.

The following programme has been arranged:

Wednesday, June 30.—10–11.30 a.m., Discussion: Recent Advances in our Knowledge of the Rhesus Factor. 11.30 a.m.–1 p.m., **Occasional Papers:** The Electrophoretic Fractionation of the Serum Proteins and its Relationship to Immunity and Treatment, by Dr. NICHOLAS MARTIN (London).

Thursday, July 1.—10–11.30 a.m., Discussion: Acute and Subacute Hepatitis. To be opened by Prof. H. P. HIMSWORTH (London). 11.30 a.m.–1 p.m., **Discussion:** The Prophylaxis of Virus Infections, with Special Reference to the Use of Vaccines.

PHYSIOLOGY, INCLUDING BIOCHEMISTRY

President: Prof. A. C. CHIBNALL, F.R.S. (Cambridge).

Vice-Presidents: Sir PERCIVAL HARTLEY, C.B.E., M.C., F.R.S. (London); E. E. POCHIN, M.D., F.R.C.P. (London); Prof. J. N. DAVIDSON, M.D., D.Sc., F.R.S.E. (Glasgow); Prof. E. C. DODDS, M.V.O., F.R.S., F.R.C.P. (London); Prof. HENRY BARCROFT, M.D. (Belfast).

Honorary Secretaries: R. H. WINFIELD, D.F.C., M.B., Ch.B., St. John's College, Cambridge; Prof. F. DICKENS, F.R.S., Courtauld Institute of Biochemistry, Middlesex Hospital, W.1.

The following programme has been arranged:

Wednesday, June 30.—10 a.m., Discussion: Recent Work on Proteins and its Medical Applications. To be opened by Prof. A. C. CHIBNALL, Ph.D., Sc.D., F.R.S. **Invited Speakers:**—Dr. J. A. V. BUTLER, D.Sc., F.R.I.C.; Methods of Isolation and Characterization of Individual Proteins; Dr. L. COLEBROOK, F.R.C.O.G., F.R.S.; Plasma and Blood Derivatives in the Treatment of

Burns; Prof. E. C. DODDS, M.V.O., D.Sc., M.D., F.R.C.P., F.R.S.; Protein Hormones; Prof. G. PICKERING, M.B., F.R.C.P.; Hypertension; Prof. N. F. MACLAGAN, M.Sc., M.D., M.R.C.P. **Diagnostic Tests Based on Changes in the Serum Proteins.**

Thursday, July 1.—10 a.m., Discussion: The Physiological Basis of Neuromuscular Disorders. Chairman: Dr. E. E. POCHIN, M.R.C.P. **Opener:** Sir HENRY DALE, O.M., G.B.E., F.R.C.P., F.R.S. **Invited Speakers:** Dr. W. S. FIELDS, F.R.S.; Formation of Acetylcholine and Neuromuscular Transmission; Dr. BERNARD KATZ, D.Sc.; Excitation at the Myo-neural Junction; Dr. ANDREW WILSON, Ph.D.; Myasthenia Gravis and Di-iso-propyl Fluorophosphate; Dr. C. A. KEENE, M.R.C.P.; Tetraethylpyrophosphate in Myasthenia Gravis; Prof. SAMSON WRIGHT, F.R.C.P.; Central Effect of Anticholinesterases; Dr. G. L. BROWN, M.Sc., F.R.S.; Recent Work on Myotonia.

Afternoons: Exhibits and/or Films.

PREVENTIVE MEDICINE

President: G. F. BECHAN, M.D., F.R.C.P., D.P.H. (London).

Vice-Presidents: ROBERT FREYCH, M.D., D.P.H. (Cambridge); F. HALL, C.B.E., M.D., D.P.H. (St. Ann's-on-Sea); H. C. MAURICE WILLIAMS, O.B.E., M.R.C.S., L.R.C.P., D.P.H. (Southampton).

Honorary Secretaries: G. HAMILTON HOBBS, M.R.C.S., D.P.H., 19, Pine Grove, Totteridge, N.20; E. H. R. SMITHARD, M.D., D.P.H., Lewisham Town Hall, S.E.6; J. F. CANNINGS, M.B., Ch.B., D.P.H., The Guildhall, Cambridge.

The following programme has been arranged:

Wednesday, June 30.—10 a.m., Symposium on Preventive Medicine under the National Health Service Act, 1946. Opening Speakers: Mr. H. J. McCURRICH (Hove); Dr. F. GRAY (London); and Prof. R. H. PARRY (Bristol). (1) Role of the Hospital, by Dr. H. JOULES (London); (2) Role of the General Practitioner, by Dr. W. N. PICKLES (Ayr); (3) Role of the M.O.H., by Dr. E. D. IRVINE (Dewsbury).

Thursday, July 1.—10 a.m., Occasional Papers: (1) Poliomyelitis, by Dr. W. GUNN (London), with Dr. F. W. BUNTING (St. Helens) to start the discussion; (2) Ascertainment and Use of Morbidity Statistics, by Dr. P. STOCKS (London), with Dr. J. MADDISON (Twickenham) to start the discussion.

RADIOLOGY

President: S. COCHRANE SHANKS, M.D., F.R.C.P., F.F.R. (London).

Vice-Presidents: Prof. J. S. MITCHELL, M.B., B.Chir., D.M.R. (Cambridge); C. G. TEALL, M.D., F.F.R. (Birmingham); ERIC D. GRAY, M.D., D.M.R.E., F.F.R. (Manchester); F. ELLIS, M.D., D.M.R.E., F.F.R. (London).

Honorary Secretaries: F. R. BERRIDGE, M.B., B.Chir., D.M.R., 22, Parkside, Cambridge; J. A. C. FLEMING, F.R.C.S. (Ed.), D.R., F.F.R., X-ray Department, St. Thomas's Hospital, S.W.1.

The following programme has been arranged:

Thursday, July 1. DIAGNOSIS.—The Small Intestine in Nutritional Disorders. Morning: (a) The Radiological Aspects, by Dr. F. R. BERRIDGE (Cambridge); (b) Coeliac Disease, by Dr. WILFRID SHELDON (London); (c) Sprue, by Dr. D. A. K. BLACK (Manchester). Afternoon: (d) The Pancreas, by Dr. KEMP HARPER (London); (e) Bullous Emphysema, by Dr. C. J. C. G. HODGSON (London). **Radiotherapy.—Radioactive Isotopes:** Morning: The Physical Aspects, to be opened by Prof. O. R. FRISCH (Cambridge); Radioactive Isotopes as Tracers, by Dr. A. S. McFARLANE (Hampstead); The Radiotherapeutic Aspect of Radioactive Isotopes, by Prof. J. S. MITCHELL (Cambridge).

Friday, July 2 (Combined meeting with Section of Child Health).—(1) Malignant Diseases in Children, to be opened by a Paediatrician; (2) The Radiological Diagnosis of Malignant Tumours in Children, by Dr. C. G. TEALL (Birmingham); (3) The Pathology of Malignant Disease in Children, by Dr. BARRETT (Cambridge); (4) Radiotherapy of Malignant Disease in Children, by Prof. J. S. MITCHELL (Cambridge).

Afternoon Demonstrations in the Radiotherapeutic Centre, Addenbrooke's Hospital and the University Department of Radiotherapy on both days.

The following Sections will meet on One Day:

ANATOMY AND ANTHROPOLOGY

President: Prof. H. A. HARRIS, M.D., M.R.C.P. (Cambridge).
Vice-Presidents: Prof. F. WOOD-JONES, F.R.S., F.R.C.S., F.R.A.C.S. (London); W. L. H. DUCKWORTH, M.D. (Cambridge); Prof. W. C. OSMAN HILL, M.D. (Edinburgh).
Honorary Secretaries: D. V. DAVIES, M.B., B.S., 42A, Newnham Road, Cambridge; ALBERT PEACOCK, M.B., B.S., 157, Denmark Hill, S.E.5.

The following programme has been arranged:

Friday, July 2.—Discussion: The Present Position of Primate Anatomy.

DERMATOLOGY

President: C. H. WHITTLE, M.D., F.R.C.P. (Cambridge).
Vice-Presidents: A. G. SMITH, M.D., F.R.C.S. (Norwich); R. M. B. MACKENNA, M.D., F.R.C.P. (London); G. B. MITCHELL-HEGGS, O.B.E., M.D., F.R.C.P. (London).
Honorary Secretaries: ALAN LYLE, M.B., B.Ch., 44, Tenison Road, Cambridge; ERIC C. RITTER, M.R.C.P., 34, Queensway, Lincoln.

The following programme has been arranged:

Wednesday, June 30.—10 a.m., Discussion: Occupational Dermatitis. To be opened by Dr. J. T. INGRAM (Leeds), followed by Dr. W. J. O'DONOVAN (London), Dr. G. A. HOPKINSON (Cardiff), and others. *Afternoon:* Cases.

NEUROLOGY AND PSYCHIATRY

President: Prof. E. D. ADRIAN, O.M., F.R.S., M.D., F.R.C.P. (Cambridge).
Vice-Presidents: Prof. AUBREY LEWIS, M.D., F.R.C.P. (London); REDVERS N. IRONSIDE, M.B., F.R.C.P. (London); F. B. PARSONS, M.D., F.R.C.P. (Cambridge).
Honorary Secretaries: R. A. NOBLE, M.B., M.R.C.P., 17, Brooklands Avenue, Cambridge; T. ROWLAND HILL, M.D., M.R.C.P., 14, Wimpole Street, W.1.

The following programme has been arranged:

Friday, July 2.—10 a.m., Discussion: The Investigation and Treatment of Epilepsy of Late Onset. To be opened by Sir CHARLES SYMONDS (London), followed by Mr. D. W. C. NORTHFIELD (London) and Dr. JAMES BULL (London). *Afternoon, Discussion:* The Early Recognition and Management of Senile Deterioration. To be opened by Dr. G. H. SHELTON (Wolverhampton), followed by Dr. MACDONALD CRITCHLEY (London), Dr. IFFOR H. HOWELL (Purley), and Dr. FELIX POST (Edinburgh).

NUTRITION

President: Prof. R. A. McCANCE, M.D., F.R.C.P. (Cambridge).
Vice-Presidents: L. J. HARRIS, Sc.D., D.Sc., F.R.I.C. (Cambridge); D. P. CUTHBERTSON, M.D. (Bucksburn); H. S. STANNUS, M.D., F.R.C.P. (London).
Honorary Secretaries: THOMAS MOORE, D.Sc., Ph.D., Dunn Nutritional Research Institute, Milton Road Fields Laboratory, Cambridge; F. PRESCOTT, M.R.C.S., L.R.C.P., Wellcome Institute of Scientific Research, 183, Euston Road, N.W.1.

The programme of this Section is not yet available. It will be published in July 2.

OTO-RHINO-LARYNGOLOGY

President: V. L. NOLAN, M.S., F.R.C.S. (London).
Vice-Presidents: A. S. H. WATSON, F.R.C.S. (Cambridge); J. W. MACKENZIE, F.R.C.S. (Bradford); GAVIN YOUNG, M.C., F.R.C.S. (London).
Honorary Secretaries: GEORGE H. BAUMAN, F.R.C.S., 10, St. James's Place, London; K. F. WILSON, F.R.C.S. Ed., 9, Brunswick Square, London.

The following programme has been arranged:

Friday, July 2.—10 a.m., Discussion: On Affections of the Larynx and its Treatment. To be opened by Dr. J. W. MACKENZIE, F.R.C.S. (Bradford). *Afternoon, Discussion:* On the Treatment of the Nose. To be opened by Dr. ALAN LYLE, M.B., B.Ch., 44, Tenison Road, Cambridge. *Dr. G. H. BAUMAN, F.R.C.S., 10, St. James's Place, London.*

PHARMACOLOGY

President: Prof. E. B. VERNEY, F.R.S., F.R.C.P. (Cambridge).
Vice-Presidents: Prof. J. H. BURN, F.R.S., M.D. (Oxford); Prof. F. R. WINTON, M.D. (London); Prof. A. C. FRAZER, M.D. (Birmingham).

Honorary Secretaries: W. J. O'CONNOR, M.D., Pharmacological Laboratory, Cambridge; C. A. KEELE, M.D., M.R.C.P., Department of Pharmacology, Middlesex Hospital Medical School, W.1.

This Section will meet on Friday, July 2. The following subjects for discussion have been chosen: (1) Antihistamine Substances, to be opened by Sir Henry Dale (London); (2) Agents Determining and Influencing the Functions of the Pars Nervosa of the Pituitary, to be opened by Prof. E. B. VERNEY (Cambridge).

HEARD AT HEADQUARTERS

G.M.C. Awake

In the debate of Feb. 9 it was not only the B.M.A. which came in for criticism, for the General Medical Council was belaboured. One Government supporter said, "I have actually seen them (the G.M.C.) asleep and snoring during the trial of a case." The honourable member is more fortunate than the writer of this note, who has attended every session of the Council for over thirty years and has never had the pleasure of witnessing that remarkable spectacle. But the same member had a word of encouragement for the G.M.C.; he said that "they have improved a great deal in the last six months." Since they have held only one brief session during the last six months, lasting two or three days, the improvement must have been quite dramatic.

Non-medical Certificates

The inclusion of doctors among the persons qualified to countersign applications for the tobacco concession for old-age pensioners has been a small but none the less irritating grievance among doctors already overwhelmed with certification. To some representations on the subject a reply has been received from the Treasury to the effect that their lordships do not feel able to act upon the request made to them from the B.M.A. The letter goes on in true Civil Service style: "I am to point out that an attestor is not called upon to certify that the applicant is in fact an habitual smoker, but merely that to the best of his knowledge and belief the applicant is an habitual user of tobacco or snuff." That is rather a choice specimen of official correspondence, and, after all, are not all certificates given to the best of the certifier's knowledge and belief? This is not a medical question, any more than certification to the effect that somebody was accustomed to leave his house at nine in the morning. It was suggested that the production of the pension book should entitle the pensioner to the concession, but it was pointed out that this would not indicate whether he or she was a habitual user of tobacco or snuff. Perhaps the book might be appropriately fumigated to give the necessary evidence. The doctors should never have been bothered with this matter, and renewed representations are being made to the Treasury on their behalf.

A Question of Furniture

The furnishing of the doctor's house and the equipment of his surgery is one of the worries of practitioners at the present time—curtains, for instance. Many practitioners on taking over a new practice find themselves in an old-fashioned house with those large heavy windows which early- and mid-Victorian architects specially devised for the discomfort of housewives and to get curtain material for them is a problem. They have no permits to purchase such materials within the utility ranges and, although certain material is obtainable without dockets, this is mostly very inferior stuff or else very expensive fabric. Another matter is the allowance of soap. If a practitioner has no extra money he may have an additional allowance

but if he practises at home it is assumed that he does not need it. Again, what little god in Whitehall has determined that coupons shall be obtainable for operating-gowns but not for white coats? All these points, along with that of utility furniture in general, have been raised with the Board of Trade, and it is hoped to have a general discussion with that department.

EX-I.M.S. OFFICERS AND THE COLONIAL SERVICE

As was reported in the *Supplement* on Dec. 27, 1947 (p. 167), the Armed Forces Committee of the Association was seeking an assurance from the Commonwealth Relations Office that ex-I.M.S. officers who are appointed to other Crown services should be given full credit for all their service in the I.M.S. It is now learned from the Commonwealth Relations Office that the following concession has been agreed to in respect of Nigeria, Gold Coast, Sierra Leone, the Gambia, Malaya, and Hong Kong:

Service since appointment to the I.M.S. will be regarded as the equivalent of service in the Colonial Medical Service for the purposes of starting salary. Officers will enter the salary scale of Medical Officer in the Colony to which they are appointed at the point they would have reached if they had been appointed to the Colony at the time of entering the I.M.S. If such service exceeds the time required to reach the maximum of the Medical Officers' scale, they will enter at the maximum.

The matter is still under consideration so far as the East African colonies are concerned.

Correspondence

N.W. Metropolitan Regional Tuberculosis Society

SIR,—Various tuberculosis societies are at present operating in what will after the appointed day form the North-west Metropolitan Region, and a meeting of representatives of these bodies has recently been held with a view to forming one regional society to be known as the North-west Metropolitan Regional Tuberculosis Society.

The objects of the Society will be:

(a) To promote the advancement of the tuberculosis services, not only by intercourse among the members, but by practical and theoretical study of all questions connected therewith; and with a view to carrying these objects into operation, and for the purpose of diffusing knowledge relating thereto, to hold meetings, lectures, etc.

(b) To promote the study of diseases of the chest in general, but with special reference to various aspects of the work of practitioners dealing with tuberculosis.

(c) To do all lawful acts, matters, and things incidental or conducive to the attainment of the above objects as may from time to time be considered necessary.

(d) To provide a council able to act as an advisory body on behalf of the society.

The annual subscription will be nominal, and membership will be open to all registered medical practitioners engaged in the tuberculosis services (whole-time) in the North-west Metropolitan Region. Associate membership will be open to medical men working in the tuberculosis services of the region who are not so engaged whole-time.

Further information can be obtained from the undersigned, together with details of a meeting of those interested which will be held at the Kensington Town Hall, Kensington High Street, W.8, on Tuesday, March 16 next, at 7 p.m.

C. P. HAY.

Tuberculosis Officer, Kensington

"Doctor" Sign on Cars

SIR,—The "Doctor" label on cars would seem to be no longer desirable or necessary and to have fallen into disrepute. It is now mentioned in a jocular way that anyone may put up this notice and use it for any occasion when it may deter the police from making inquiries. It was suggested to me last week that all the doctors in London seemed to have been at some football match, and it would therefore appear that misuse of

the sign is taking place. Surely now, especially as the war is over, there is no need for the sign at all, indeed no more than for any other profession, trade, or calling to display to the public that the occupant of the vehicle is a tinker, tailor, or candlestick-maker.—I am, etc..

London, S.W.1

G. T. CREGAN

Stolen Drugs

SIR,—The problem of protecting the contents of motor-cars against "spivs" is, as you suggest in the paragraph under the above heading (Nov. 29, 1947, p. 125), a growing one. After considerable experiment I have devised several methods of preventing these individuals from smashing the door handles of my car. A simple normally closed push-button pressing against the door and connected to the horn will prevent the door being opened but not the handle being removed by force, while a capacity-operated relay needs a ground chain and cannot be switched off from outside without a good deal of apparatus.

In the enclosed drawing a small box is fixed to the door. It contains a spiral clock-spring carrying a contact which passes through a ring. When the door is shaken the trembler brushes the ring and closes a relay, blowing the horn and continuing to blow it until switched off. The switch is suitably concealed outside the car. The more sadistically minded, if they possess good memories, can recess two contacts in the door handle and connect them to a neon-condenser stimulator and a 120 V dry battery. By adjusting the trembler any monkeying with the door or the vehicle can be made to set off the booby-trap.—I am, etc..

London, S.E.23.

ALEX. COMFORT.

H.M. Forces Appointments

ROYAL NAVY

Acting Surgeon Lieutenants E. H. P. Warburton and E. MacSween to be Surgeon Lieutenants.

Temporary Surgeon Lieutenants (R.N.V.R.) G. R. Wheldon, D. G. Dalgliesh, and W. D. MacKenzie have been transferred to the R.N.

ROYAL NAVAL VOLUNTEER RESERVE

Surgeon Commanders D. M. Craig, D.S.O., V.R.D., S. C. Suggitt, V.R.D., R. S. Allison, V.R.D., H. E. Hall, V.R.D., J. F. Carr, and E. A. Gerrard, V.R.D., have been placed on the Retired List.

Surgeon Lieutenant-Commanders W. H. Osborn, T. D. G. Wilson, J. D. Lendrum, V.R.D., H. G. Rees, O.B.E., W. G. Campbell, and D. R. Maitland have been placed on the Retired List.

Temporary Acting Surgeon Lieutenant-Commander F. R. Badenoch, M.B.E., has been transferred to List I of the permanent R.N.V.R., in the rank of Surgeon Lieutenant-Commander.

Temporary Acting Surgeon Lieutenant-Commander R. J. L. Macbean has been transferred to List II of the permanent R.N.V.R., in the rank of Surgeon Lieutenant-Commander.

Temporary Surgeon Lieutenant W. E. A. Buchanan has been transferred to List I of the permanent R.N.V.R.

Temporary Surgeon Lieutenant I. Miskelly, D.S.C., has been transferred to List II of the permanent R.N.V.R.

Temporary Acting Surgeon Lieutenant D. S. Cooke to be Temporary Surgeon Lieutenant.

Probationary Temporary Acting Surgeon Lieutenant W. A. Heaton-Ward to be Temporary Surgeon Lieutenant.

ROYAL ARMY MEDICAL CORPS

Lieutenant-Colonels M. Morris, O.B.E., and W. Millerick, M.C., have retired on retired pay and have been granted the honorary rank of Colonel.

Major C. B. R. Pollock to be Lieutenant-Colonel.

Major T. G. S. James has retired receiving a gratuity.

Major D. R. Cattanch, from I.M.S./I.A.M.C., to be Major.

Captains F. J. W. Hooper, W. R. Lamb, and A. S. Beare to be Majors.

Short Service Commissions.—War Substantive Captain R. S. McClelland has relinquished his commission and has been granted the honorary rank of Major. Lieutenants D. S. Cranston, P. M. Bretland, D. P. North, H. S. Gavourin, and D. R. Patchett to be Captains. Lieutenants E. E. Vella and I. R. Haire, from R.A.M.C., Emergency Commissions, to be Lieutenants.

Association Notices

SPECIAL REPRESENTATIVE MEETING

Notice is hereby given that on the requisition of the Council a Special Representative Meeting of the British Medical Association will be held in the Great Hall, B.M.A. House, London, W.C.1, on Wednesday, March 17, at 10 a.m., and on succeeding days if necessary. The business of the meeting is to consider:

(1) The result of the plebiscite.

(2) The following recommendations of the Council:

(a) That the Representative Body, reaffirming the whole-hearted desire of the medical profession for a comprehensive health service available to everyone, urges that in the public interest such changes should be made in the Acts of 1946 and 1947 as are necessary to maintain the integrity of medicine and to prevent doctors being turned into State servants, with harmful consequences to patient and doctor alike. The Representative Body therefore expresses the hope that the Government will make it possible for the profession to co-operate by making such changes and states its view that it is not in the best interests of the public or of medicine for members of the profession to enter the Service until such changes are made.

(b) That an Independence Fund be established to help to finance the profession's activities during the present dispute with the Government.

(c) That medical members of Regional Hospital Boards and Local Executive Councils be requested to continue their membership of these bodies for the present.

By order of the Chairman of the Representative Body,

CHARLES HILL,
Secretary.

Feb. 28, 1948.

GROUP OF OTOLARYNGOLOGISTS

A meeting of the recently formed Group of Otolaryngologists of the Association will be held at B.M.A. House, Tavistock Square, London, W.C.1, on Friday, March 5, 1948, at 4.30 p.m. The Group consists of all those members of the Association who are engaged predominantly in the practice of otolaryngology. The agenda will consist of (a) the election of chairman; (b) consideration of the size of the Group Committee; and (c) a general discussion on the work of the Group.

CHARLES HILL,
Secretary.

Diary of Central Meetings

MARCH

- 4 Thurs. Publishing Subcommittee, 11 a.m.
- 16 Thurs. Special Conference of Local Medical and Panel Committees, 11 a.m.
- 17 Wed. Special Representative Meeting, 10 a.m.

Branch and Division Meetings to be Held

METROPOLITAN COUNTIES BRANCH.—At B.M.A. House, Tavistock Square, London, W.C.1, Tuesday, March 2, 5 p.m. Dr. Henry Yelland: The Human Approach. Address to senior students and newly qualified medical practitioners.

NEWCASTLE AND TYNWORTH DIVISION.—At Red Lion Hotel, Atherton, Tuesday, March 2, 8.30 p.m. Talk by Mr. H. W. Steele: The Mutual Interest of Common Interest in Human and Veterinary Medicine.

SOUTH LONDON DIVISION.—At Dagenham Civic Centre, Friday, March 4, 8 p.m. Extraordinary general meeting. Instructions to the Council for the Special Representative Meeting on March 17.

THAMES VALLEY DIVISION.—At Stockton and Thornaby Hospital, Bowes, Monday, March 1, 8.30 p.m. Dr. H. W. Steele: The Significance of Acid Phosphatase in Prostatic Cancer.

WEST LONDON DIVISION.—At City Hall, Charing Cross, London, W.C.2, Thursday, March 4, 8 p.m. Instruction to the Council for the Special Representative Meeting on March 17. The names of the members of the Division are invited.

Meetings of Branches and Divisions

Instructions to General Divisions

The following instructions are issued to the General Divisions of the Association for the Special Representative Meeting on March 17.

Secretary. The speakers underlined the features in the N.H.S. Act which the profession are finding unacceptable, stressing the need for the retention of freedom of action and urging the profession to stick together. It was agreed that a whole-time salaried service would leave no room for freedom of choice of doctor. Public support could best be gained by each doctor discussing the Act with his patients. Dr. Christopher Clayson proposed a vote of thanks to Dr. McFeat and Dr. Walker.

EAST YORKSHIRE BRANCH

Prof. Tunbridge, speaking on thyrotoxicosis on Jan. 14, emphasized that enlargement of the thyroid, which occurred in about 5 to 15% of people, associated with an anxiety neurosis, did not of necessity mean thyrotoxicosis. Iodine by the mouth acted by interfering with the stimulating hormone from the pituitary and lessening the formation of thyroxine. It could be given either as Lugol's iodine or potassium iodide. Radioactive iodine, although curative, was a formidable weapon because of its possible toxic effects. X rays did not cure and could cause bad scarring. Surgery was a highly specialized form of treatment. The chance of cure by removing about 7/8 of the gland was about 50%, but the average mortality rate was fairly high, being about 10% even in good hands. He concluded by describing treatment with thiouracil.

Dr. Guy Dain, speaking on Jan. 23, appealed to the profession to understand the present position and the events leading up to it. He said that we were looking forward to a service in which we could participate provided that there was no political element in it. The B.M.A. would never consent to the methods which the Minister proposed to use to deal with this pooled money, whereby the capitation fee would vary with the number of doctors working the scheme. We must have a fixed capitation fee not subject to deductions. The B.M.A. is determined that it will not accept a salary at all, as the implication of this is loss of freedom both for the doctor and the patient.

Discussing compensation, he said that £66 million had been the agreed figure in 1938 for the value of existing practices, but now there should be a betterment factor of 50%, and that there was no provision in the compensation fund to allow for this, so that the present level of compensation was unsatisfactory. It was wrong for the doctor to have no appeal to the courts. Although it was a privilege that was not likely to be needed often there was less likelihood still of its being used if he had the power to use it. Another principle was the question of co-option of medical men on to local health committees. This should be a compulsory order in the same way as teachers were co-opted on to education committees. Dr. Guy Dain answered those people who said we should enter this service for the security offered by saying that security was our own endeavour and our own efficiency, for which the rewards were greater as individuals than in a civil service.

WESTMINSTER AND HOLBORN DIVISION

A British Medical Association Lecture was delivered on Jan. 22 by Mr. Philip Mitchiner. Dr. W. A. Milligan was in the chair.

Mr. Mitchiner took for his subject "Recent Advances in Surgery," and discussed a wide variety of topics. He emphasized the growing importance of bacteriological examination for patients treated by sulphonamides and penicillin, and agreed with Bigger's opinion that the administration of penicillin should be intermittent in order to prevent the growth of resistant organisms. Sir Crisp English proposed the vote of thanks, which was carried with acclamation.

WINCHESTER DIVISION

A meeting of the Winchester Division was held on Jan. 25, when 74 members attended. An address was given by Dr. Stevenson. The meeting adopted the following resolution with only one dissentient vote:

The Winchester Division fully endorses the solemn declaration adopted at the Special Representative Meeting of Jan. 8 (Supplement, Jan. 17, p. 9), and a second resolution was adopted as follows:

"That the Winchester Division requests the B.M.A. to consider the preparation of a document for signature after the plebiscite legally binding members of the profession to adhere to the majority decision."

The meeting concluded with a vote of thanks to the Winchester and Andover Group of Dentists for supporting the B.M.A. in its opposition to the N.H.S. Act in its present form.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Port of London Authority, Wandsworth, Westminster.
Non-County Borough Councils.—Dartford, Radcliffe (limited to future appointments), Tottenham, Wallsend.

Urban District Councils.—Denton, Droylsden, Houghton, Spring, Huyton-with-Roby, Portlisle, Redditch (restricted to new appointments), Stanley (Co. Durham), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

BRITISH MEDICAL JOURNAL

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CHONDROMALACIA PATELLAE*

BY

CHARLES GRAY, F.R.C.S.

Honorary Orthopaedic Surgeon, Royal Free Hospital

[WITH PHOTOGRAPHURE PLATE]

Degenerative changes in the knee-joint are common and often begin at an early age. The degeneration affects first mainly the articular cartilage of the patella, and in young people is an important and common cause of disability.

Incidence

In an admirable thesis Öwre (1936) describes post-mortem examinations of many knee-joints taken from individuals who had died from causes unconnected with a knee-joint. Degenerative changes in the articular cartilage of the patella were very common even in the younger age groups. Thus of 18 cases in the age group under 15 years, 7 (39%) were found to have a degenerative change in the articular cartilage of the patella; of 32 cases in the age group 20-30, 27 (84%), of 26 cases in the age group 40-50, 25 (96%), and every case in the age group over 60, showed a degenerative change.

It appears from these observations that degeneration of the articular cartilage of the patella often begins before growth has ceased and is present in three or four of every five individuals aged between 20 and 30 and in almost every individual over the age of 30.

Öwre's youngest (post-mortem) case was 14 years. Iverskiöld (1938) at necropsy found mild changes in the articular cartilage of the patella in 25% of subjects between the ages of 15 and 20, and he quotes a case in which chondromalacia patellae was found clinically in a boy aged 13. Bennett, Waine, and Bauer (1942) reported a series of post-mortem examinations which fully confirm Öwre's observations. Clinical experience of chondromalacia patellae has been described by many surgeons.

Clinical References

Büdingner (1906) reported 15 cases. He considered it to be of traumatic origin, and mentions the occurrence in some cases of "mirror" lesions in the femoral articular cartilage. He obtained crepitus on moving the patella passively against the femur, and believed this to be an important diagnostic sign. His treatment was excision of degenerate cartilage.

Ludloff (1910) reported a case of a girl aged 15 with pain in the knee-joint, wasting of the quadriceps, and patello-femoral crepitus. He scraped the oedematous cartilage away, and the girl was cured.

Lawen (1925) reported 13 cases, which he treated by excision of the cartilage. He thought the lesion was prob-

ably traumatic. He also performed 44 post-mortem examinations, and found degeneration of the patellar cartilage in 26.

Fründ (1926) reported seven cases. Clinically he noted swelling of the knee-joint, painful limitation of movement, transient locking of the joint, and pain on striking the patella with the knee-joint flexed to 90 degrees but not when the knee was extended.

Aleman (1927-8) examined the articular cartilage of the patella in the course of 220 operations on the knee-joint performed for various purposes. In about one-third of these he found a degenerative lesion of the patellar cartilage, and in 20 cases it appeared to be the cause of the disability. He mentions crepitus and pain on kneeling as the main diagnostic signs.

Slowick (1935) reported two cases. The diagnosis was confirmed by operation in one case (the other patient refused operation). There was a history of injury in both cases, and in each of them x-ray examination revealed an erosion of the articular surfaces of the patella. In the case operated upon Slowick shaved off the degenerate cartilage. Six months later the patient had 70 degrees flexion and no pain.

Kulowski (1933) described the condition as a circumscribed primary degeneration of the articular cartilage of the patella, with fibrillation, fissuring, and erosion of the articular surface. Cartilaginous loose bodies sometimes became detached from the patella. He noted the occasional association with other lesions—e.g., tears of the semilunar cartilages. Pain, intermittent synovitis, tenderness over the patella in acute flexion, and crepitations under the patella were mentioned as the clinical features, the radiograph usually being normal. Kulowski treated his cases by curettage or complete excision of the patellar cartilage. He believed that trauma is the immediate cause of the lesion in chondromalacia of the patella, but that there is an underlying constitutional tendency to degeneration of this cartilage.

Karlson (1939) has similar views about the aetiology. Clinically he noted a feeling of stiffness in the knee, pain, especially on kneeling, "jamming" of the knee-joint, irregular jerky movement ("ratchet" movement), and crepitus from the patello-femoral joint. He operated on 36 cases, excising the degenerate areas of cartilage. Of these, 23 recovered subjectively (but their knee-joints would not tolerate strenuous exertion), 10 improved, and 3 were no better.

*Submitted for publication on Sept. 29, 1947.

Hinrichson (1939) believes that endocrine disturbance or toxæmia may cause the condition. Murstad (1927), Stören (1929), Oberneidermayr (1930), and Heizmaeh (1937) also refer to the condition.

I have found the condition at operation on 10 occasions, and have often diagnosed it in cases where operation was unnecessary or inadvisable. My youngest patient (operated upon) was 11 years old.

This frequent occurrence of degeneration at an early age is a remarkable phenomenon which cannot be completely explained. Cartilage in all situations is particularly susceptible to injury because, being avascular, it is incapable of repair. The patellar cartilage is especially vulnerable because of its thickness, and it is constantly subjected to trauma by movements of the knee-joint, most of all during active extension, when the quadriceps holds the patella tightly against the femur. Because of its shape the inner facet is, of the two, the more likely to be affected (Wiberg, 1941). It has a slightly convex surface opposed to the convex surface of the internal condyle of the femur. The outer facet fits more accurately, having a concave surface which receives the convex femoral surface.

Morbid Anatomy

The degeneration is progressive. The early changes are oedema, alteration of colour, and striation of the cartilage. The oedema is circumscribed and causes a nodular bumpy appearance of the articular surface (Plate, Fig. 1). It affects only a part of the surface, occurring more often on the inner facet than on the outer. If both facets are affected the changes are usually more pronounced on the inner side. The oedematous area feels soft to the touch, in contrast with the firm consistency of normal articular cartilage. The affected cartilage loses its bluish sheen and becomes lacklustre and faintly yellow. In the oedematous area and also above and below it fine vertical striations occur in cartilage which is otherwise apparently normal.

Ulceration of the cartilage is the next stage. A part of the oedematous area is superficially eroded (Figs. 2, 3, and 4). The floor of the ulcerated zone has a velvety appearance. In time the ulcer becomes deeper, and eventually the entire thickness of the cartilage is destroyed, exposing the subchondral bone.

Proliferation of cartilage may occur either alone or in association with ulceration. Tufts and twigs of degenerate cartilage project above the general level of the articular surface (Figs. 5 and 6).

In some instances a part of the articular cartilage is broken into flat laminae which overlap one another like the tiles on a roof (Fig. 7).

Occasionally a single pedunculated lamina is elevated as a flap from the articular surface (Fig. 8). This had occurred in one of my cases, and at operation the flap could be seen to fold back during extension of the joint from the flexed position. It had obviously been responsible for the momentary locking of the joint which had been observed by the patient.

Minor lesions occur on the femoral condyles. As the knee is flexed the friction against the patellar lesions causes some of the cartilage on the internal condyle of the femur to be rubbed off. The remaining cartilage consists of striation and small areas of ulceration. The femoral cartilage in a circumferential band near the anterior margin is normal and unaffected, and the normal cartilage on the posterior half is not affected. At first the lesions are small, but in later life become large. Part of the normal cartilage on the anterior half of the femur is rubbed off.

Radiological Examination: Histology

The x-ray film in many cases (perhaps in the majority) shows no abnormality. This is not surprising, as the bone is involved at a very late stage and then only very superficially. However, a close scrutiny of first-class films may show a characteristic abnormality of the articular surface. The film should be taken in such a way as to bring out the soft shadow of the cartilage. The following abnormalities occur: (a) erosion and indentation of the articular margin (Fig. 10); (b) a localized prominence on the articular surface (Fig. 11); and (c) the appearance of a pedunculated flap of cartilage (Fig. 12).

In normal patellar articular cartilage the superficial cells are arranged parallel to the surface; in the central zone they are arranged in a curved and criss-cross manner; in the deeper layers they lie in rows perpendicular to the line of calcification which separates the cartilage from the subjacent bone. In the intercellular substance fibrils are not seen.

At an early stage of the degeneration, when oedema occurs, the cells appear to be further apart, and in the intercellular substance the fibrils become obvious (Fig. 9). Fissures appear in the intercellular substance, and in some areas extensive splitting occurs. Cells may become clumped together, and individual cells appear swollen and vacuolated.

When the bone is exposed by ulceration of the cartilage absorption of the superficial layers leaves marrow spaces open to the surface, and they fill with fibrous tissue. At the margins of the ulcerated area the deeper layers of the cartilage are invaded by blood vessels, which pierce the line of calcification. Proliferating cartilage cells are grouped around these vessels. Cavities and scattered foci of ossification appear in the cartilage.

Clinical Features

It might be expected that these extensive lesions, proved at necropsy to occur so frequently, would be an important cause of disability during life; in fact, if the condition is known and looked for it is often found. It is a fairly common cause of derangement of the knee-joint.

The degeneration frequently produces no symptoms until gross destruction of the cartilage has occurred, or until imperfect recovery from an injury brings it to light. Öwre (1936) has shown that many individuals who suppose their knee-joints to be normal have some clinical signs of chondromalacia patellae and can recall, when questioned in detail, attacks of pain and effusion and momentary locking. When the condition passes from the latent to the active phase it presents itself clinically as a derangement of the knee-joint. The abnormal patella may cause pain, intermittent effusion, tenderness, derangement of motion, and crepitus. Not all these signs are present in every case.

The *pain* is the presenting feature as a rule, and is felt in or under the knee-cap. It is produced by movements which grind the patella against the femur—i.e., by active extension of the joint as in going up stairs and in rising from the sitting position. The *effusion* is usually slight. *Tenderness* is felt mainly at the edges of the patella and at the lower pole, corresponding to the inflamed synovial membrane and hypertrophied fat pads which are noted at operation and in post-mortem specimens. Tenderness of the patella in kneeling may occur. Occasionally tenderness may be elicited by tapping the patella against the lower end of the femur while the knee-joint is semi-flexed.

Flaps or tags of articular cartilage may project sufficiently to impede the smooth motion of the joint. The case illustrated in Fig. 8 is an example. This may

complained that his knee often became "stuck" during the movement of extension. This semi-locking was painful and momentary. At operation it was seen that the flap of articular cartilage sometimes became folded back upon itself during the movement of extension and subsequently unfolded during flexion. Difficulty in disengaging the fold no doubt accounted for the intermittent stiffness of the joint. A "ratchet" type of motion has been described, but this has not occurred in any of my cases.

The *crepitus* occurs particularly during the movement of extension. It may be produced also by rubbing the patella against the femur while the knee-joint is lying relaxed in the extended position. This friction usually causes a pain of the same quality as that of which the patient complains.

Treatment

For the latent case treatment is unnecessary. When disability is produced physiotherapy or a period of immobilization in plaster may alleviate it but surgical treatment is necessary for many cases. Some writers, as mentioned above, advise paring down the abnormal articular cartilage to produce a smooth surface. I prefer total excision of the patella, because it is so obviously impossible to restore properly the smoothness of the articular surface. By shaving off the degenerate cartilage it is possible in some cases to get a surface which is not grossly irregular, but it must be remembered that anything short of perfection in an articular surface subjected to compression is certain to provoke a mechanical arthritis without much delay.

At operation the patella is inspected through a short internal parapatellar incision and removed if the expected lesion is found. The incision may be extended downwards if necessary for exploration of the knee-joint proper. The result of excision of the patella should theoretically be almost perfect. In practice the cases in which I have removed the patella because of chondromalacia have all eventually had very good knee-joints, but in several instances recovery has been long delayed because of persistent weakness of the quadriceps. The weakness amounted practically to paralysis, seemed to be functional, without any organic basis, lasted several weeks, and eventually disappeared very rapidly.

Case Records

Case 1.—A nurse aged 20 complained of pain under the right knee-cap. There was no history of injury, though she remembered having a transient effusion in the knee-joint many years previously. She was a healthy girl in good general condition. There was slight wasting of the right quadriceps, tenderness over the patella, pain on rubbing the patella against the femur, and fine retropatellar crepitus. X-ray films were negative. The pain continued in spite of prolonged physiotherapy. When the knee-joint was explored an extensive oedema of the articular cartilage of the patella, with a central area of ulceration, was discovered. From the small central ulcer a wart-like button of degenerate cartilage projected and a shallow fissure ran upwards and outwards from the ulcerated area (Fig. 5). The articular cartilage of the femur was normal. The patella was excised, and she made a complete recovery.

At a routine follow-up three years later she stated that her left knee had begun to trouble her, and that she had pain under the knee-cap and in the calf. On examination of the left knee the only physical signs were crepitus and pain produced by rubbing the patella passively against the femur. X-ray films were negative. After three months of physiotherapy and rest had been tried unsuccessfully, the patella was excised. It was strikingly similar to that removed from the right knee-joint. The articular cartilage of the femur was normal. She made a rapid and complete recovery, and the function of both knees is now perfect.

Case 2.—A girl aged 23 complained that for several weeks her right knee had been painful on the inner side. For several

years she had noticed crepitus under the knee-cap. She had injured this knee seven years previously, when the joint had locked and had to be straightened under anaesthesia. There had been six or seven attacks of momentary locking after this, the last time being about a year before I saw her. These incidents were always accompanied by pain on the inner side of the joint and followed by swelling. She was a healthy girl in good general condition. There was slight wasting of the right quadriceps, but no effusion. Tenderness was present over the centre of the internal lateral ligament, and pain and crepitus were produced by rubbing the patella against the femur. X-ray films were negative.

The clinical picture suggested a tear of the internal cartilage, but at operation that cartilage appeared to be normal. A very extensive lesion, however, could be seen in the patella, so the incision was enlarged upwards and the patella removed. There was extensive oedema of the articular cartilage of the patella. In the upper part of this oedematous area fine superficial vertical fissures were observed. At the centre of the articular surface the cartilage was broken up by deep fissures into overlapping laminae, and in the lower part of the articular surface there was an intricate exfoliation of tufts of degenerate cartilage (Fig. 7). On the outer condyle of the femur there was a small "mirror" lesion, with ulceration of the articular cartilage and a few protuberant tufts of cartilage, which were pared off. This patient made a complete recovery.

Case 3.—This patient was a girl aged 19. Five years previously her left knee had given way while she was doing a backward bend during physical training. She was away from school on this account for two weeks, and wore "elastoplast" strapping on the knee for several months. Three months after this injury she fell off her bicycle and bruised the knee. Since these injuries it had been almost constantly painful, and there was occasionally a little swelling after exercise. Physiotherapy and bandaging had produced no improvement. She was a healthy girl in good general condition. There was slight wasting of the left quadriceps, slight painful limitation of flexion and extension of the knee-joint, and pain and crepitus on rubbing the patella against the femur. On x-ray examination there appeared in the lateral view a faint shadow indicating an irregularity of the articular cartilage of the patella.

At operation an extensive lesion of the articular cartilage of the patella was discovered. In the lower part of the medial facet there was a shallow quadrilateral ulcer with a soft velvety floor. The lateral facet was oedematous, and its surface scored by superficial fissures irregularly disposed. At the lower edge of the patella the articular cartilage was heaped up to form an irregular rim. The patella was excised. Her pain was completely relieved, but a feeling of insecurity in the knee persisted for nearly a year. The muscles recovered perfectly, but she was unable to run because she felt that the knee would let her down. This neurosis disappeared eventually. When seen five years after the operation she had made a complete recovery and the knee-joint was perfectly satisfactory.

Case 4.—A soldier aged 31 complained of chronic pain "behind the right knee-cap." The pain had been present for four years. There was no history of injury, no locking, and no instability. The right quadriceps was slightly deficient. There was tenderness over the patella. No other clinical signs were present, but in the lateral x-ray film a slight irregularity suggested an erosion of the articular surface of the patella (Fig. 10).

At operation a gross lesion of the articular surface of the patella was discovered. Running transversely across the lateral facet there was a shallow ulcer 6 mm. wide, with a rough floor, and in the lower part of the articular surface there were two similar but smaller ulcers (Fig. 4). The remainder of the articular surface was unevenly oedematous, and on the upper part there were numerous fine vertical superficial fissures. The patella was excised, and he made a complete recovery.

Case 5.—This patient was a soldier aged 28. Two weeks previously his right knee, formerly apparently normal, had become painful and swollen. The swelling persisted. There was no history of injury. The right quadriceps was slightly deficient. There was a moderate effusion but no tenderness. The range of movement was from 5 to 90 degrees. X-ray films showed a localized irregularity of the articular surface of the patella with some subchondral rarefaction.

At operation an extensive lesion of the articular cartilage of the patella was disclosed. The whole of the articular surface, except a narrow strip along the lower border, was oedematous and covered with fine superficial fissures. The oedema was most pronounced over the medial facet. On the ridge between the middle and lateral facets a deep fissure had undercut a flap of cartilage about 1 cm. square. This flap was pedunculated, being attached by its outer margin. Underneath it the bone was exposed. The synovial membrane around the patella was congested. There was a "mirror" lesion in the intercondylar surface of the femur, with softening of the cartilage and fine vertical fissuring. The patella was excised. The patient made a complete recovery.

Case 6.—A woman aged 20 had pain in her right knee-joint for six months. The pain was "under the knee-cap." The joint swelled at times. There was retropatellar crepitus, and rubbing the patella against the femur caused pain. X-ray films showed no abnormality. Prolonged physiotherapy had given no relief. The patella was removed. There was extensive shallow ulceration of the articular cartilage on the external facet, with fine vertical striations caused by superficial fissures. On the ridge between the facets there was a deep cleft in the cartilage, from which some rod-like pieces of degenerate cartilage projected above the level of the articular surface (Fig. 6). After operation the quadriceps muscle recovered only slowly. It was six months before she had regained the full power of extension. One year later the knee-joint was painless and entirely satisfactory.

Case 7.—A woman aged 22 had for 15 months had pain under the left knee-cap, especially on going up or down stairs and on getting up after sitting for some hours—e.g., in the cinema. The knee swelled occasionally. Passive movements of the patella across the femur caused pain and elicited a fine crepitus. X-ray films were negative. At operation fairly advanced changes were found in the articular cartilage of the patella. There was oedema of both facets, with many superficial fissures in the articular cartilage. On the lower part of the internal facet a small ulcer extended through the whole thickness of the cartilage, exposing the subchondral bone. On the central ridge there were several small rounded excrescences caused by localized proliferation of the cartilage (Fig. 3). The patella was removed. After operation she had great difficulty in regaining control over her quadriceps. For several weeks the muscle appeared to be completely inhibited. It gradually recovered, but the knee became very stiff and was eventually mobilized by repeated manipulations. One year after operation she had a full range of movement, normal power of extension, and no pain.

Case 8.—A woman aged 31 complained of persistent pain on the inner side of the knee and under the knee-cap after an operation for removal of the internal semilunar cartilage, which was said to have been badly torn. There was retropatellar crepitus and pain on passive movements of the patella. An exploratory operation was performed. The internal semilunar cartilage was absent—no regeneration had occurred. The patella showed an early stage of degeneration of the articular cartilage. Over most of the articular surface there was a slight oedema associated with a change in the colour from the normal bluish-ash to a lacklustre yellowish white. Superficial fissures produced fine vertical striations. In places very superficial erosion had occurred, and here the texture of the surface was like that of velvet. The patella was removed. This is a recent case. The patient is making a satisfactory recovery.

Case 9.—A boy aged 11 injured his right knee. The patellar ligament was avulsed from the patella, pulling off a small flake of bone from the lower pole. At operation for repair of this ligament, chondromalacia of the articular cartilage of the patella was observed, with oedema, change of colour, and superficial fissures. The patella was left *in situ* as there was no evidence that it had previously caused any disability. He will be followed up for some time.

Summary

Chondromalacia of the articular surface of the patella is a condition characterized by degeneration of the

The patellar lesion is a degeneration of articular cartilage in a circumscribed area, where oedema, fibrillation, and ulceration occur.

The condition may be latent or may cause pain, effusion, derangement of motion, and crepitus. The differential diagnosis from lesions of the semilunar cartilages may be difficult.

X-ray changes are absent or very slight.

Excision of the patella may be necessary.

A small number of cases are described.

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VITAMIN D IN TREATMENT OF CUTANEOUS TUBERCULOSIS*

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[WITH PHOTOGRAPHIC PLATE]

In England experience in the use of heavy doses of calciferol—vitamin D₂—in the treatment of lupus began in August, 1943, with the observation of Dowling on a severe case in which general light treatment combined with Finster therapy for a number of years had failed. Within three months this patient had improved dramatically. Thereafter Dowling and Prosser Thomas, working in the same department, applied the remedy to every case of lupus that could be mustered. The number was not large, but the results after 2½ years appeared to be striking enough to carry conviction. Accordingly 11 of these cases were presented at meetings of the Section of Dermatology of the Royal Society of Medicine in November and December, 1945. From French literature which became available shortly afterwards it was learned that calciferol had been used on a considerable scale in France following the publication in December, 1943, of M. J. Charpy's original observations which were begun in 1940. Indeed, compared with the mass of observations published in that country, our amount to no more than a drop in the ocean.

Dowling and Prosser Thomas's cases were treated almost entirely with calciferol in the form of dry tablets, each

*A paper read at the Section of Dermatology of the International Conference of Physicians on Sept. 9, 1947.

containing 50,000 international units, in dosage varying from 150,000 to 100,000 i.u. daily—according to tolerance and progress. Eight of these cases showed toxic effects, which, however, came to an end quickly when the drug was stopped or the dosage reduced. Of 39 cases treated up to the end of 1945, 32 were considered suitable for assessment—18 appeared to be free from lupus (i.e., only scars or scars and pigmentation remained), with or without the help of local treatment; nine were greatly improved but not cured; and five had shown but little improvement. In these cases only the effect of calciferol on the disease and the incidence of clinical toxicity were noted.

Present Investigation

To this series we add 44 cases of lupus—34 adults and 10 children, under the care of Macrae at the Morland clinics and of Suzette Gauvain at the Treloar Hospital at Alton—upon whom treatment was begun in 1946, and 70 other cases of tuberculosis; to the latter group a brief reference will be made in due course. These were all institutional cases and were under close daily observation. Among the adult cases of lupus were some of the most severe in the country. Their average age was 38.5 years and the average duration of the disease 18.9 years. To the whole of this group it was decided to apply the following routine pathological investigations before and during the course of treatment: (1) the Mantoux reaction; (2) serum calcium estimations; (3) blood counts; (4) blood sedimentation rates; (5) when possible, histological examination of the disease process at regular intervals; and (6) x-ray examinations of the chest and abdomen. In addition, regular records were kept of weights, blood pressure, and urine.

Clinical Results.—Of the 34 adult cases of lupus at Alton each responded, though unequally: 30 have been discharged free from clinical evidence of lupus, and in the remaining four treatment is being continued. Of the 30 cases which have been discharged, eight at some time showed signs of relapse after previous apparent cure. These relapses have responded well to further treatment, though usually better if the process has been allowed to develop for a while than when the patients have been retreated at the earliest possible moment. The results are shown in Table I.

TABLE I.—Results in 34 Adult Cases of Lupus

Calciferol Given for	No. Cleared	Average Age in Years	Average Duration of Disease in Years	No. Showing Toxicity	No. Recurring but Responded to Further Treatment	No. not Cleared
0-2 months	2	60	4	1	0	—
2-4 "	12	36	16	4	1	—
4-6 "	6	34	21	1	2	—
6-8 "	5	49	33	3	4	2
8-10 "	2	30	16	2	0	1
10-12 "	1	36	14	0	1	—
12 "	2	18	12	1	0	1
Totals	30	38.5	18.9	12	8	4

Early Herxheimer-like Reaction.—During the early weeks of treatment many of the adult cases appeared to be worse, with increase in redness and swelling and occasionally spontaneous ulceration. This was followed by gradual subsidence, pallor, and shrinkage of inflammatory swelling. This Herxheimer-like reaction has occurred also in a patient with Bazin's disease, who developed a haemoptysis during treatment and died, and in a patient with lupus who developed symptoms of pulmonary tuberculosis though radiologically no evidence of that disease had been found before treatment was started. Increase in activity of the tuberculous process early in treatment was also seen last year in a case of lupus presented at the clinical meeting of the British Association of Dermatology and Syphilis. The case developed a striking and extensive lichenoid tuberculide shortly after treatment with calciferol had been instituted. Similar experiences were related by S. Lomholt and M. Grzybowski during the meeting at which the paper here presented was read.

Importance of Local Treatment.—In the great majority of cases it was found that the addition of local treatment greatly accelerated progress, either when the disease had been brought under control by calciferol or, in fungating lupus, near the onset of treatment. It was also observed, particularly in patients with extensive disease, that patches previously treated by local methods were the first to respond to calciferol therapy. The local measures employed were those inherited from long experience in association with Sir Henry Gauvain. They consisted mainly of Finsen therapy, Kromayer-lamp treatment combined with the application of selective caustics, particularly picric brass paste and liquid acid nitrate of mercury; curettage in the case of fungating lesions followed by the application of pure lysol. Finally, operations for the correction of such deformities as extreme narrowing of the oral and nasal orifices, ectropion, and elephantiasis of the upper lip have been performed earlier than would have been possible without treatment by vitamin D. The importance of local treatment must be emphasized, as there may be a tendency to think that treatment with calciferol may have eliminated the need for it. On the contrary, the need for skilled local intervention in a fully equipped institution has hardly been diminished.

Methods of Administration.—In the adult cases calciferol was administered chiefly by mouth in the form of dry tablets, oily capsules, or an emulsion of the oily solution, the daily dosage being 150,000 to 100,000 i.u. A few cases were treated by the injection of 600,000 i.u. (15 mg.) in oily solution twice a week. Response to treatment by injection was notably slower than by mouth, but, on the other hand, no toxic effects were encountered in this small group. The dosage required varied from 9,500,000 to 62,500,000 i.u. Of 10 children with lupus treated with calciferol by mouth, chiefly in the form of dry tablets, clinical evidence of the disease has come to an end in seven, while three remain under treatment. The usual dosage was 100,000 i.u. daily. The period of treatment has varied from 63 to 226 days, the average being 139 days; the average dosage about 18,000,000 units, varying from 4,750,000 to 33,500,000 i.u. An initial flare-up was observed in only a few cases (Table II).

TABLE II.—Results in 10 Cases of Lupus in Children

Calciferol Given for	No. Cleared	Average Age in Years	Average Duration of Disease in Years	No. Showing Toxicity	No. Recurring but Responded to Further Treatment	No. not Cleared
0-2 months	2	9.0	2.6	2	1	—
2-4 "	1	9.0	7.0	1	—	—
4-6 "	1	13.0	3.3	—	—	1
6-8 "	2	10.6	2.0	1	—	1
8-10 "	—	—	—	—	—	—
10-12 "	1	13.0	1.0	—	—	—
Totals	7	11.4	2.10	4	1	3

Non-cutaneous Tuberculosis

Calciferol was given in 31 adult cases of non-cutaneous tuberculosis. Most of them have been tuberculous adenitis of the neck, but in addition tuberculous tenosynovitis, peritonitis, bladder disease, dactylitis, and disease of various joints have been treated. The results on the whole have been extremely good, particularly with the glands, in which calciferol produced in a few some early reaction, followed in all by shrinkage and calcification. Subsequent excision has been made easy, as the glands have been small, discrete, and mobile, and consisted in greater part of calcium salts. Two cases of tuberculous peritonitis have responded in a spectacular manner, and disease in small bones has done well. In the larger joints the results have been rather disappointing. In one case of bladder disease frequency was greatly reduced, though bacilluria persisted.

Among the children there have been 16 cases of tuberculous glands. The results compared very closely with those obtained in the adult group. The average dose received was 7,400,000 units, with a maximum of 18,000,000 and a minimum of 1,800,000 units. Rapid healing of sinuses was one of the features observed among these children. Within recent months 21 cases of tuberculous bones and joints in children have been treated. It is too early to speak of results, but it can be said that they appear to be making good clinical progress, and that

reference to Dawson's work is quoted from notes supplied at the annual meeting of the British Association of Dermatology and Syphilis at Leeds or taken during the reading of his paper, the publication of which is awaited with interest.

Following Dawson's observations, tests for renal efficiency have been performed so far on 27 adults and 22 children at Milton, the greater number of whom either were under treatment or had been until recently. The results of this investigation up to the present time are shown in Tables III and IV. The record is far from complete and does not include a number of

the cases of lupus which have been discharged during the past year. A full account will be published in due course.

At St. Thomas's Hospital urea-clearance tests have been performed on 15 cases of uncomplicated lupus, of which four are under treatment, while 11 have received no treatment for three months to two years. The results are seen in Table V. It is difficult to summarize these tables, but it can be said that: (1) they bear out Dawson's observation that patients under treatment with heavy doses of vitamin D often show impairment of renal function; (2) the degree of impairment seems to be greater in adults than in children; and (3) the rate of recovery of renal efficiency after impairment varies—it appears to be more rapid in children than in adults.

The picture can be completed only by investigation of a series of cases before, during, and at intervals after the completion of treatment.

TABLE III.—Adults

Case	Age	Disease	Treatment Stopped	Dose (million i.u.)	Highest Blood Ca. (mg./100 ml.)	Clinical Toxicity	Blood Urea (mg./100 ml.)	Urea Clearance
A.	64	Lupus	Still on	80	12.2	Nil	40	107.0%
C.	18	"	"	67.35	14.4	Mild	43	95.7%
M.	34	"	"	41.2	12.1	"	34	65.4%
f. T.	33	"	"	15.3	14.4	Mod.	43	35.2%
W.	45	"	"	81.15	13.6	Nil	35	62.5%
B.	20	"	4 mths. ago	37.8	11.0	Mild	20	124.3%
L. B.	30	"	8 1/2 " "	42	11.8	Nil	42	67.0%
C.*	32	"	6 " "	29.1	14.7	Mod.	38	59.6%
F.	50	Lupus, spinal caries, and dacrylitis	6 " "	12.3	16.2	Mild	33	34.0%
G.	41	Lupus	2 " "	13.65	15.0	"	34	78.8%
L.	41	"	4 " "	41.1	11.1	"	29	66.0%
M.	30	"	7 " "	30.5	15.3	"	25	75.5%
R.	22	"	2 1/2 " "	28.2	12.4	Mod.	29	91.0%
S.	31	"	24 mths. ago	44.5	11.6	"	30	191.6%
D.	23	"	11 mths. ago	26	11.7	"	31	193.0%
D.	19	Tb. hip	Still on	36.3	11.8	"	32	76.2%
R.	23	Tb. adenitis	"	27	11.9	"	25	131.9%
t. S.	39	"	"	10.8	11.0	"	35	51.0%
G.	30	"	2 mths. ago	17.85	13.3	Mod.	33	35.5%
L.	21	Bazin's	12 " "	12	10.8	"	27	71.0%
M.	20	Tb. adenitis	1 mth. ago	46	11.6	Nil	33	95.8%
t. R.	50	Tb. wrists	3 mths. ago	36.3	16.1	Mild	33	62.9%
L. S.	46	Tb. peritonitis	1 mth. ago	None	10.9	Nil	40	57.2%
S.†	38	Tb. adenitis	1 mth. ago	2	16.7	Mod.	35	51.0%
			2 mths. ago	—	—	—	56	53.2%

Controls before Treatment

B.	17	Tb. adenitis	—	None	—	—	31	139.0%
B.	47	Tb. peritonitis	—	—	—	—	32	105.6%
S.	38	Tb. adenitis	—	—	—	—	20	150.0%

* This patient has had one kidney removed and has tuberculosis in the other.
† Treated with vitamin D.
‡ Normal = 70% upwards.

TABLE IV.—Children

Case	Age	Treatment Stopped	Highest Ser. Ca. (mg./100 ml.)	Clinical Toxicity	Total Dose (million i.u.)	Blood Urea (mg./100 ml.)	Urea Clearance (Normal 70%)
Lupus Cases							
B.	8	9 months ago	13.5	Severe	5.85	31	79.0%
M.	13	Still on	11.3	Nil	16.5	24	92.3%
W.	10	Still on	13.5	"	8.4	40	63.4%
		6 weeks after	13.5	"	8.4	24	85.5%
Tuberculous Glands							
B.	10	8 months ago	14.2	Mild	5.4	36	89.6%
C.	11	2 " "	13.7	Nil	15.8	50	121.0%
S.	8	" "	16.5	Mild	15.9	40	55.0%
L.	8	" "	11.2	"	3.8	35	112.5%
C.	7	" "	16.5	V. mild	13.5	31	113.5%
H.	9	Still on	11.3	Nil	7.8	28	105.7%
S.	8	5 weeks ago	13.6	"	8.4	34	92.4%
V.	7	Still on	12.4	"	10	35	90.3%
V.	6	Still on	13.0	Mild	9.9	32	105.5%
M.*	15	(Before treat.)	9.8	—	—	21	63.0%
		Still on	11.1	Nil	4.1	36	157.5%
W.*	13	(Before treat.)	11.1	—	—	24	157.5%
		Still on	11.1	Nil	4.1	35	79.5%
G.	10	Still on	11.7	"	7.2	41	56.9%
		2 weeks after	11.7	"	7.2	37	71.3%
H.	6	3 months after then on 3 weeks post-op. course	13.2	Mild	12.6	29	130.0%
			15.2	"	14.1	41	90.0%
Group of Tuberculous Cases Untreated by Calciferol							
ha C.	9	—	11.3	—	—	31	123.0%
D.	5	—	10.4	—	—	33	91.5%
W.	11	—	11.8	—	—	24	105.5%
D.	7	—	11.0	—	—	28	72.5%
F.	8	—	11.8	—	—	31	99.2%
ee C.	11	—	9.6	—	—	24	135.0%

All children were given extra fluids.
* On D, both complained particularly of thirst and polyuria, though they showed no toxic symptoms; many adults also complained of great thirst. These symptoms are not included in the tables under clinical toxicity.

TABLE V.—Lupus Vulgaris

Case	Age	Stopped Treatment	Highest Ser. Ca. (mg./100 ml.)	Lupus	Dawson (million i.u.)	Urea (mg./100 ml.)	Urea Clearance	Arthralgia
P. S.	55	0	13.3	Mild	53	20	73%	Slight
M. M.	62	0	15.4	Mod. severe	24.25	28	41%	Active
L. M.	32	0	14.0	Moderate	19.9	25	70%	—
W. B.	50	0	12.2	Nil	43.1	29	100%	—
C. P.	35	3 months	12.2	"	38.15	41	102%	—
G. E.	9	4 " "	Never done	"	—	—	—	—
C. G.	39	10 " "	Never done	Moderate	72.6	30	77%	—
H. B.	76	14 " "	10.0	"	13.45	45	66%	—
C. S.	32	18 " "	10.8	Nil	29.25	26	91%	—
W. S.	36	22 " "	Never done	"	47.2	22	111%	—
S. B.	32	24 " "	—	"	49.8	27	105%	—
E. H.	32	6 " "	—	"	12.4	37	63%	Slight
G. P.	39	12 " "	Never done	Minimal	18	18	115%	Nil
E. M.	17	4 " "	—	Slight	24	17	93%	—
E. T.	50	3 " "	14	Minimal	71.2	20	96%	Slight

Discussion

From our experience alone it can be said that calciferol has a marked curative effect on lupus vulgaris. For example, Fig. A shows an early stage of treatment and Fig. B the same patient 18 months later; Figs. C and D show the change in another patient treated by a combination of calciferol and local measures. In any case, the great volume of observations published in France, Belgium, and other countries since Charpy introduced the method is too well known to require any emphasis on that point. Published results have certainly varied widely, and it is hard to account for the discrepancies, but it is clear from the weight of evidence that the first observation of the kind—that of Emery in France nearly 100 years ago, on the effect of enormous doses of cod-liver oil in lupus—was one of great interest and importance.

Accepting this simple observation as a starting-point, three questions must occur to everyone: (1) How does calciferol act? (2) How can it be used most effectively? and (3) Can it be made safe or relatively safe?—for perfectly safe remedies are almost non-existent.

So far as effectiveness and safety are concerned Charpy has stated repeatedly that he has found calciferol in solution in alcohol more effective and less toxic than in oil when given by mouth. He has developed a kind of standard course for otherwise healthy adults consisting of a large boosting dose of 1,200,000 i.u. in the first 4 weeks, and 600,000 i.u. in succeeding months. While about 100,000 i.u. daily for an adult appears to be effective, it is probable that no absolute standardization of the remedy is likely to be achieved: the threshold of tolerance is far too variable. One patient, for example, became very toxic on less than 2,000,000 units, with a serum calcium reading of over 15

and marked renal impairment. In this case the tuberculous lesions—widely scattered adenitis—improved rapidly during the toxic period. Rapid involution of the tuberculous process has been seen so often during toxicity that it is difficult to escape from the impression that the most effective dose is somewhat near the limit of tolerance and may occasionally be beyond it.

The first question—How does calciferol act?—is obviously the most important, but it is unlikely that it will be answered by purely clinical and pathological observation.

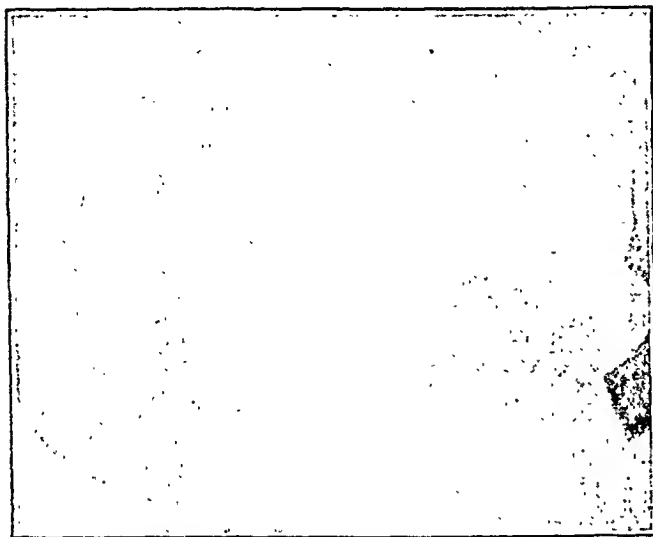


FIG. A.—Patient three months after onset of calciferol therapy, showing extensive active disease but with improvement starting in areas previously treated with local therapy—i.e., back of the shoulder and lumbar regions. Disease still very active on left arm.

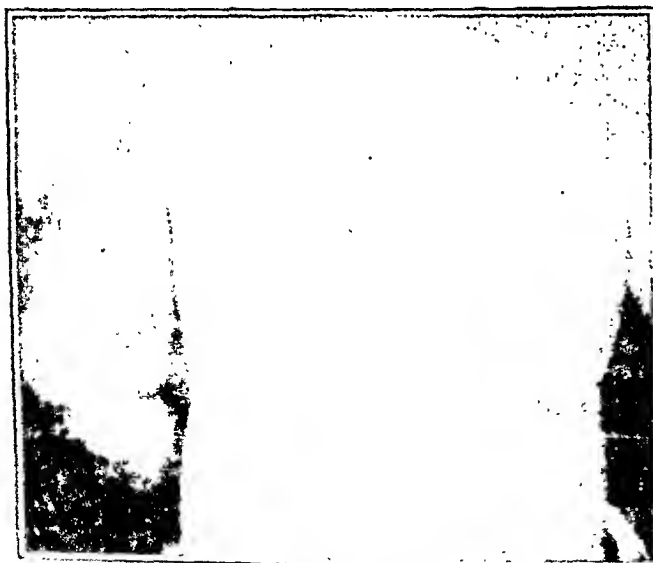


FIG. B.—Same patient as FIG. A 18 months after onset of treatment, with already no evidence of disease in the lumbar regions and marked improvement in left arm.

It must next be decided whether or not calciferol has any direct effect on the tubercle bacillus or on its virulence. Steenken and Baldwin, in 1937, failed to produce any effect either on the growth of the bacillus by the addition of calciferol to culture media or on its virulence in guinea-pigs after such treatment. Wetherley-Mein, working under Bamforth's direction at St. Thomas's Hospital, has been carrying out a similar investigation, impregnating Dorset's egg medium with quantities of calciferol varying from 1,000 to 100,000 i.u. per ml. of the medium. So far calciferol in quantities up to 10,000 i.u. per ml. of the medium has not appeared to interfere with the growth of the cultures.

Dickinson (1947) treated guinea-pigs infected one month previously with tubercle bacilli with 2,000 i.u. daily for 10 weeks without any effect on the development of tuberculosis as compared with controls.

The well-known observation of Levaditi and Po in 1930 on experimental tuberculosis of *gradual evolution* in rabbits and guinea-pigs is more relevant. It was found that the administration of massive doses of calciferol greatly accen-



FIG. C.—Condition of another patient on admission.

FIG. D.—Same patient as FIG. C two months later, after a combination of calciferol and local measures, such as scraping

tuated the calcification and cure of the experimental lesions. This, however, was regarded by the authors as a tissue response.

The evidence, therefore, so far would appear to be that calciferol as such has no effect on the growth of tubercle bacilli or on their virulence.

Does calciferol act as a non-specific stimulus to the defence process? If this is so might it not be expected to have a similar effect in other infective granulomas? On a few cases of tertiary syphilis it has been shown to have an effect. As regards sarcoid, three cases presented at the Royal Society of Medicine in 1946 appeared to have responded well, though slowly. Three other cases of sarcoid presented at Leeds by Ingram last July, had also improved under the treatment, while one had shown no definite signs of improvement. But so far it has not been proved that sarcoid is not a phase of tuberculosis.

At present, therefore, it is possible to say that, although calciferol appears to have no direct action on the tubercle bacillus, it seems to be most effective in granulomatous lesions caused by the tubercle bacillus, and perhaps in the only. It has an effect similar to that of older remedies—the Gerson-Herrmannsdorfer diet, cod-liver oil, heliotherapy, and artificial-light baths—in all of which the common factor is a relative abundance of vitamin D. It produces this effect far more rapidly and as a rule more completely than the older methods. Perhaps the most

At present, therefore, such observations may point to where the next attack of research is to be sought. It is established, for example, that the effect of calciferol is not confined to the skin, but that it is apparently not concerned with the fact that the disease is localized in the skin. Then it is evident that calciferol is not a specific, effective in certain indolent forms of tuberculosis, such as lymphadenitis, tuberculous meningitis, and so on. It is also evident that the kind of response to calciferol is not uniform, and that certain individuals

histological material. The abundant young connective tissue—its invasion of the process breaking it into fragments, sometimes disposing of it altogether—seems to be the principal agent of cure.

Why does this tissue receive so powerful a stimulus? Is it because the tubercle bacillus itself is damaged through some indirect effect of the remedy, thereby allowing such an intense defence reaction to take place? Some by-product of the disturbance of calcium and phosphorus metabolism to which the drug gives rise might be supposed to have such an effect, and the Herxheimer-like action sometimes observed faintly suggests some such possibility. Or, on the other hand, may the reticular tissue itself be made to function with extreme intensity and efficiency by calciferol or by some product of its activity? It has been noted in more than one case at Alton that, while biopsy wounds in lupus generally heal with difficulty, healing under calciferol takes place almost by first intention. In the patient who had 30 biopsies the wounds gaped at first but healed quickly while treatment was in full swing. This patient developed toxic symptoms, and treatment was stopped after 3½ months. From that time his biopsy wounds again healed with difficulty, although improvement had been well maintained.

Much work which lies outside the scope of clinical and clinical-laboratory observation will have to be done on this subject, probably in the field of biochemical research. It is a fascinating problem which, if solved, might throw light on the character of the natural defence mechanism of the organism against tuberculosis. For it would appear that calciferol is not a chemotherapeutic agent in the ordinary sense, but that it may be a catalyst or an accelerator of a normal process.

In the meanwhile those of us who are satisfied that the advantages of the drug outweigh its dangers ought to use it with all the care which observers in the clinical, pathological, and biochemical fields have shown to be necessary.

Finally, it should not be forgotten that the local manifestations of tuberculosis are part of a general disease, and that the patient as a whole requires good food, fresh air, and adequate rest. Lupus requires, in addition, local measures which demand considerable experience and skill. All these can best be given in an institution specially equipped for the purpose.

We acknowledge with gratitude our indebtedness to Dr. E. M. Marland, of the Pathological Department of the Salisbury General Infirmary, who has undertaken all the pathological investigations on the Alton cases, and to Mr. L. E. Davey for pathological work in connexion with cases at St. Thomas's Hospital.

The microphotographs reproduced on the photogravure plate were taken by Mr. A. E. Clark, technician to the Department of Pathology at St. Thomas's Hospital. The other photographs were taken by Dr. Macrae.

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HYPERTENSION—AETIOLOGY AND SURGICAL TREATMENT

BY

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[WITH PHOTOGRAPHIC PLATE]

A large number of patients suffering from hypertension have now been treated surgically in various clinics. A good review of the results up to date is given by James L. Poppen and Charles Lemon (1947) on the surgical side, and by Robert Sterling Palmer (1947) on the medical side. The present communication is founded upon a small number of cases, but certain of the observations made in it, when considered in relation to the recent work of Trueta and his co-workers at Oxford, provided a stimulus for regarding the subject anew from the point of view of aetiology.

Hitherto the cause of hypertension has remained obscure, and the approach to the problem of treatment has been largely empirical. There has indeed been an absence of any comprehensive explanation of why the blood pressure is raised in these cases throughout their whole course, although the work of Goldblatt (1937-8, 1938, 1945, 1947) has added greatly to our knowledge of the subject, particularly when definite renal disease is demonstrable. Renal ischaemia has been shown to produce a pressor substance—renin—which by its action on the plain muscle of the middle arterial coat produces general vasoconstriction in the arterial system, thus raising the blood pressure. There have also been a small number of human cases with renal disease present in only one kidney, the removal of which lowered a previously persistently raised blood pressure. But this sequence—organic renal disease, renin, and hypertension—cannot be adduced to explain why the majority of cases should show a raised blood pressure throughout the earlier and greater part of their course. Biopsy of a large number of kidneys in such cases does not reveal any renal abnormality (Castleman and Smithwick, 1943).

The recent work of Trueta and his fellow workers (1947) has thrown some light on this gap in our knowledge of hypertension. By experimental work on animals they have proved that an extreme degree of cortical renal ischaemia can be temporarily produced by vascular spasm. Furthermore, during this stage of cortical spasm the blood is bypassed through the juxta-medullary glomeruli back into the vasa recta and so into the renal vein. The cortical ischaemia is fairly persistent and is produced by various nervous stimuli, but it also can be brought about by a humoral agency such as a posterior pituitary extract. A short quotation from their conclusions runs as follows: "If when the pressor substance is formed in cells situated in the renal cortex, and if anoxia is an essential condition for its production, it follows that the pressor substance will be formed when the cortex becomes ischaemic. It seems possible, therefore, that excessive diversion of the intrarenal blood-flow from the cortex through the medullary by-pass may be an initiating factor in the production of the pressor substance, and thus in the development of human essential hypertension." A further point which provides a parallel with cases of human hypertension is the fact that these workers found considerable individual variation in their animals.

The remarks concerning aetiology which follow constitute an attempt to apply to the problem of hypertension these recent additions to our knowledge of renal function, and must be regarded in that light and not as a proved and accepted series of facts.

One further number of *Soil and Health*, which was edited by the late Sir Albert Howard, will be issued as a memorial number. These interested should write to Miss E. B. Kirckham, The Rise, Milnthorpe, Westmorland.

Fig. A is an attempt to show the clinical course of an average severe case of hypertension from start to finish. During adolescence the blood pressure is normal, but is subject to considerable transitory increase, chiefly from emotional causes. There is some evidence that hypertension is commoner in later years in these apparently normal young people, who on examination for the Services or for some routine purpose are found to have temporarily an unexpectedly high blood pressure. During rest, and in the absence of emotion, their blood pressure remains normal.

After the age of 20 or 30, the blood pressure starts to increase slightly, but the effect of rest or of sedation is still to bring it down to the normal figure. Emotion during this period will of course also produce a further considerable transitory increase. As years go by the blood pressure increases, the first stage of true disease lasting for a varying period of time into the late thirties and the forties, and, rarely, possibly up to 50 years of age. This first stage of hypertension is not associated with any discoverable change

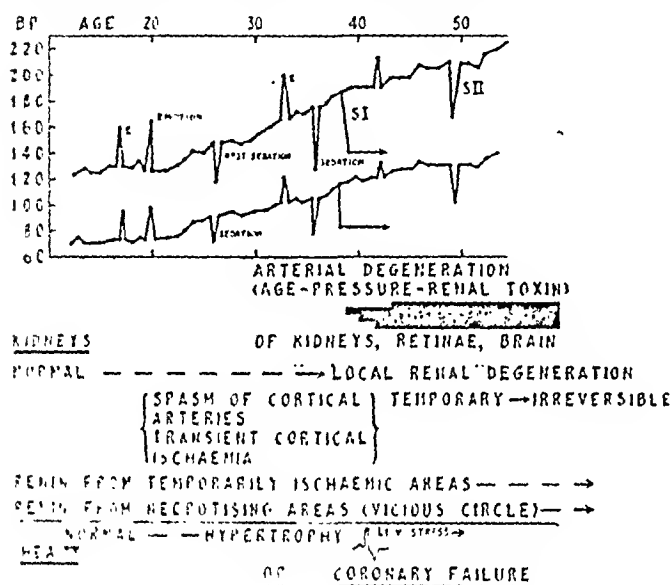


FIG. A. SI indicates sympathectomy done before the onset of permanent renal damage. SII indicates sympathectomy after renal damage has occurred.

in the kidneys, but at the end of this phase arterial degeneration begins. The arterial degeneration is a hyaline medial change, and would seem to be a natural result of senescence, accentuated and rendered premature possibly by the persistently raised blood pressure. Individuals whose arterial structure is of poor quality suffer the degeneration early, whereas those with high-quality arterial tissue suffer the change late, if at all. Moreover, it would seem that nephritis produces a similar softening or degeneration of the arterial middle coat analogous to that produced by a young vessel, but of far more rapid development and at almost any age. The arterial change affects the kidneys and in any other part of the body, but also attacks the vessels of the retina, pancreas, small intestine, testis, and other small blood vessels.

Two Stages

The results of sympathectomy for hypertension (SI and SII in Fig. A) are very greatly according to the stage of the disease and the associated pathological state, which may be considered separately. During the first stage of hypertension, the raised pressure may well be caused by a transient spasm of the renal arteries, at first transitory, but later permanent. This is the first stage of the disease, and is the stage in which the raised pressure is due to arterial

degeneration, and will constitute a permanent source of renal cortical anoxaemia. Thus in each of these two stages the hypertension can be explained on the renin theory; in both stages the renin comes presumably from transitory cortical spasm, and during the second stage it also comes from permanent cortical ischaemia from arteriosclerosis. It is worthy of note that the hyaline degeneration of the media is scattered in a patchy manner throughout the body, for it is not seen in the muscles or in the skin vessels. This freedom from arterial degeneration over such a big area is a sufficient proof that the raised blood pressure must at all times and in both stages be due to vascular spasm and not to organic vascular obstruction resulting from permanent arterial narrowing.

Stage I.—An example of this stage is provided by the case of a man who at the ages of 15 and 17 was found to have a high blood pressure. At 22 the figures were 240/160, at 32 they were 180/140, and at 37 they were 194/124. During the whole of this period he has lived a normal life, playing rugby football as a young man and being busily engaged in business during his later years. In addition he was an active fire-watcher during the war. For the whole period of time, 22 years in all, he has been free from symptoms. This type of case is commonly met with, and the symptoms in such cases often seem to be due more to the anxiety aroused by medical advice, or by apprehension, than by the disease itself. Certain definite deductions would appear to be legitimate from these cases. The long-sustained increase of the arterial pressure as such would seem to have no deleterious effect either on the arteries or on the heart. It is true that hypertrophy of the arterial media occurs, but the lumen of the vessels remains normal. It is also true that hypertrophy of the left ventricle occurs, but there is no evidence of any cardiac disability or failure. During these earlier years of life no degenerative effect intervenes.

Stage II.—The first essential cause of the medial degeneration seems to be a change in the vessel wall produced either by the natural degenerative tendency of advancing years or, in a few young individuals, by nephritis. The second is the trauma produced by the continued high arterial pressure. It would seem, arguing from the type of case described above, that this second factor of trauma is alone not enough to produce the degeneration. It is noteworthy, particularly from the clinical point of view, that the changes produced in the arteries are identical in the retina and in the kidney, but pathological and post-mortem investigations prove that the renal arterial changes are more advanced than are those of the retinal vessels. Although pressure seems to rank second to degeneration it is very important, for the results of sympathectomy show that release of the pressure allows a rapid regression of the retinal changes. And it is therefore legitimate to assume that a similar regression can occur to some extent in the renal arteries.

Hypertension in Nephritis

Two cases are described at this point because, although not cases of primary hypertension, they shed some light upon the effect of sympathectomy on the lesions found in essential hypertension.

These patients were both young men, aged 23 and 21, and in each case the speed of onset of the hypertension was rapid and the renal function poor. They had previously been accepted as fit for the R.A.F. and Army respectively, in which they had served as healthy men. In each at the time of medical investigation retinitis was present of the grade-IV degree—that is with haemorrhages and exudate and papilloedema. In the first case the length of history of symptoms was 12 months and in the second case three months. They were both treated by sympathectomy: bilateral removal of the sympathetic chain D6 to L1, and excision of the greater and lesser splanchnic nerves. Sympathectomy was done in the first case because it was difficult to decide whether it was one of malignant hypertension or of chronic nephritis, and it was felt that since the outlook was hopeless it was right to give him the benefit of the doubt by operation. Subsequent review makes it probable

that the case was in fact one of chronic nephritis and not of primary malignant hypertension. The second case was definitely one of chronic nephritis with a similar clinical picture.

Fig. B shows the effect of sympathectomy in the first case. The blood pressure has been lowered and remains lower six months from the date of the second operation. The renal

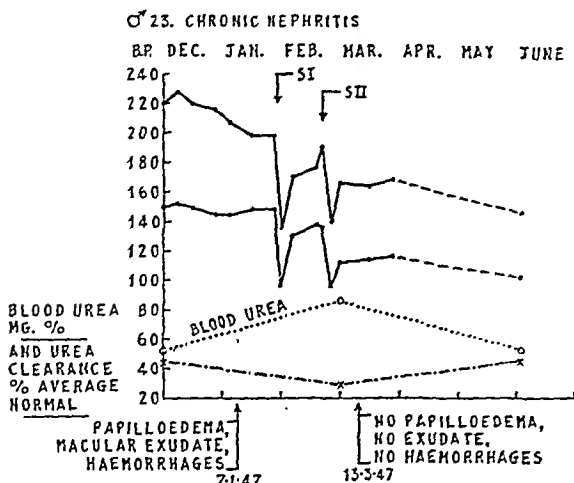


FIG. B.—S.I indicates the first and S.II the second stage of operation.

function has not been diminished, proving that there was no quantitative relationship between the height of the blood pressure and the renal function. The retinitis disappeared to a great extent in three weeks as a result of the lowered blood pressure. This retinal change is most significant, for, as already mentioned, the vascular changes in the kidneys are analogous to those in the retina. Moreover, the clinical improvement after operation suggests that a corresponding improvement has also occurred in the renal arterial system. It is noteworthy that Trueta and his colleagues found that splanchnic sympathectomy caused cortical flushing in their experimental animals and prevented to a great extent the cortical spasm induced by their various experimental measures. Fig. C shows the effect of

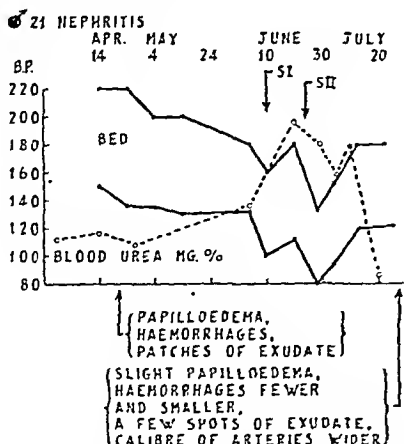


FIG. C.—S.I indicates the first and S.II the second stage of operation.

operation in the second case, the blood urea being lower after operation than it was before. Here too there has been a great improvement in the state of the retinae.

The Heart

The term "hypertensive heart disease" has come into general use, but it would seem as though the label is not quite correct, however useful it is. In the first stage of hypertension the raised blood pressure as such seems to

have no effect upon an otherwise normal heart except by producing hypertrophy. Medial coronary hypertrophy is the only abnormality, the lumen of the coronary vessel remaining normal. Patients with hypertension in this stage who have died from some other cause have been carefully examined, and there is an absence of any hyaline degeneration in the coronary system (personal communication of Prof. W. G. Barnard). The amazing persistent health of the heart after working for years against a much-raised peripheral resistance may perhaps be explained to some extent by the following considerations. First, the coronary flow is diastolic, so that the trauma from the full impact of the hypertensive pulse wave does not directly affect the coronary vessels. Secondly, the effect of adrenaline on the peripheral arteries is to constrict, and on the coronary arteries is to produce dilatation; it is a reasonable hypothesis that this paradoxical mechanism may also occur with other biochemical pressor substances, such as the renin in

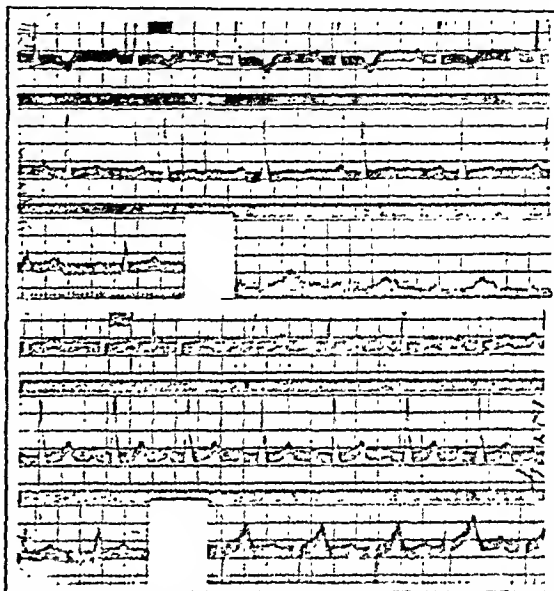


FIG. D.—Electrocardiogram in man with hypertension before and after lumbar sympathectomy, showing disappearance of signs of left ventricular stress. First operation, Jan. 31, 1947; second operation, Feb. 21. Electrocardiograms taken on Jan. 14 and March 3.

hypertension. The electrocardiogram at a later stage of the disease begins to show the typical picture of left ventricular stress (Fig. D).

In those cases investigated at St. Bartholomew's Hospital which showed this change there was a return to the normal picture very quickly after sympathectomy. The time taken for this change back to normal was from ten to fourteen days after sympathectomy. The picture of left ventricular stress would appear to be due to some general functional change of the muscle as a whole rather than to local structural coronary abnormality, for the abnormal cardiogram is often present in the absence of dyspnoea or of undue enlargement, and the pattern of the change is very constant, in contradistinction to the varying appearance produced as a result of local coronary infarction. One case of cardiac disease in a hypertensive patient is worthy of particular mention.

A woman aged 44 had been suffering from increasing shortness of breath and headache for one year. The blood pressure was 198/114, and the electrocardiogram showed a left bundle-branch lesion (Fig. E). The retinae and renal function were both normal. Five months after sympathectomy the blood



FIG. 1.—Widespread oedema of articular cartilage producing nodular appearance. Small central ulcer with protruberant degenerate cartilage.



FIG. 2.—Widespread oedema, extensive ulceration, and some projecting tags of degenerate cartilage.



FIG. 3.—Oedema, striation, and some projecting nodules. Shallow ulcer in lower part of external facet.



FIG. 4.—Extensive shallow ulceration.



FIG. 5.—Widespread oedema, change of colour, central ulcer, cartilage tags.



FIG. 6.—A. Oedema and striation; prominent tags of degenerate cartilage.



B



FIG. 7.—Widespread ulceration, numerous deep clefts splitting the cartilage into overlapping laminae.



FIG. 8.—Striation and superficial ulceration. A pedunculated lamina of cartilage elevated in the form of a flap.

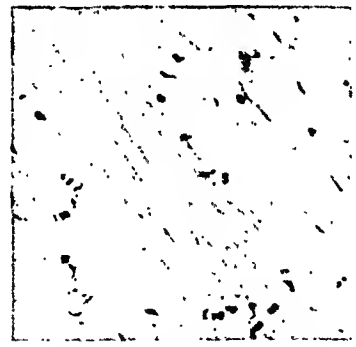


FIG. 9.—Section showing oedema and fibrillation of articular cartilage.



FIG. 10.—Erosion and indentation of articular cartilage.



FIG. 11.—Localized prominence of articular cartilage.

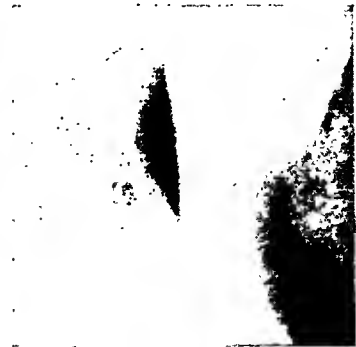


FIG. 12.—Showing an elevated flap of articular cartilage.

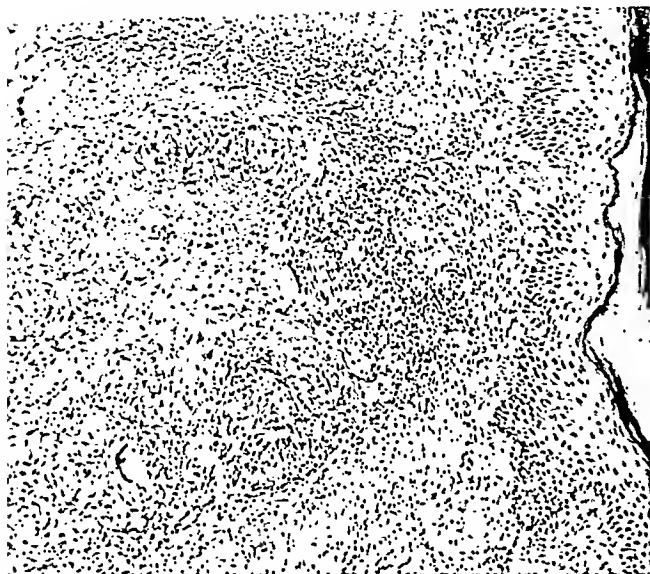


FIG. 1.—Biopsy, Feb. 15, 1947, before starting treatment. A tuberculous focus ($\times 90$).

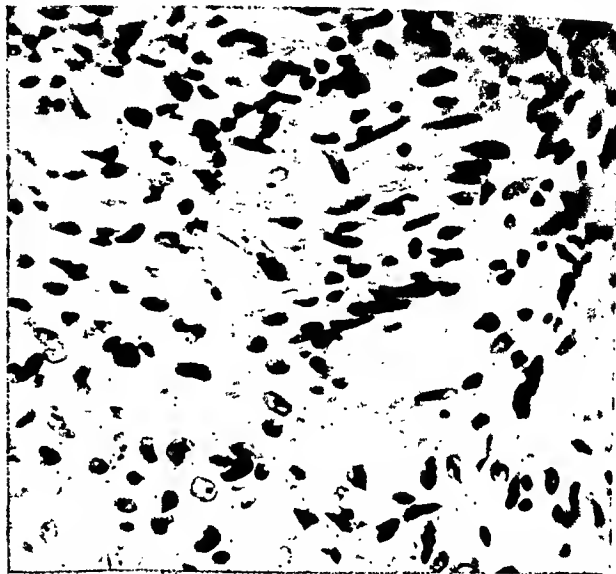


FIG. 2.—Also Feb. 15. Part of the giant-cell system ($\times 420$).

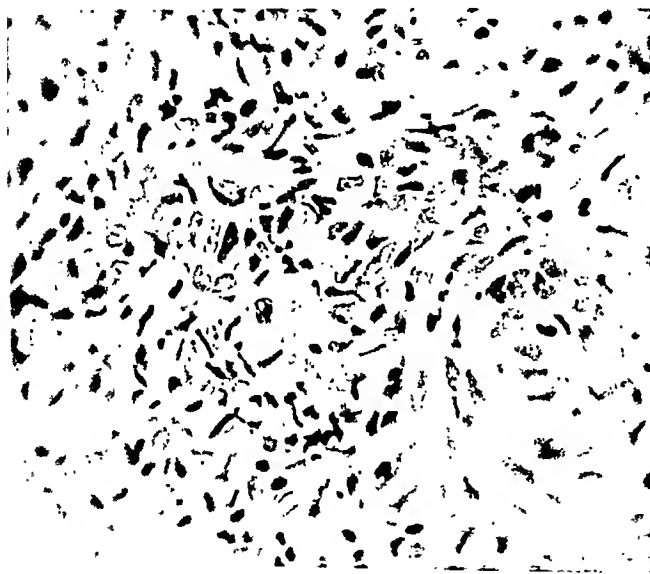


FIG. 3.—April 16. Invasion of the giant-cell system by histiocytes ($\times 420$).

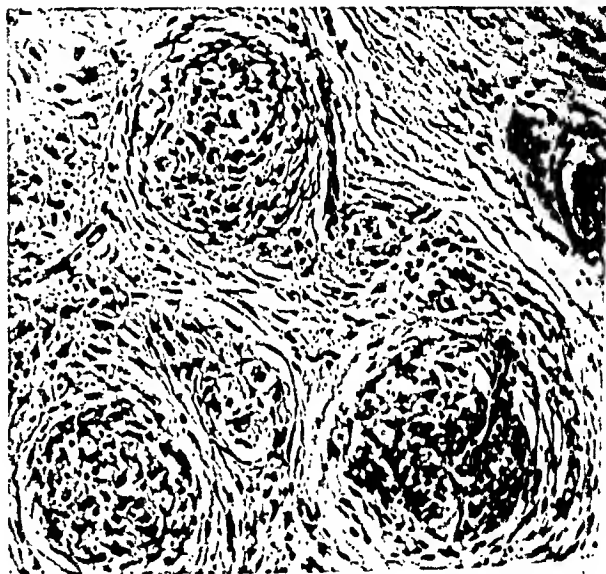


FIG. 4.—April 30. Development of fibrous tissue separating the giant-cell systems one from another ($\times 250$).

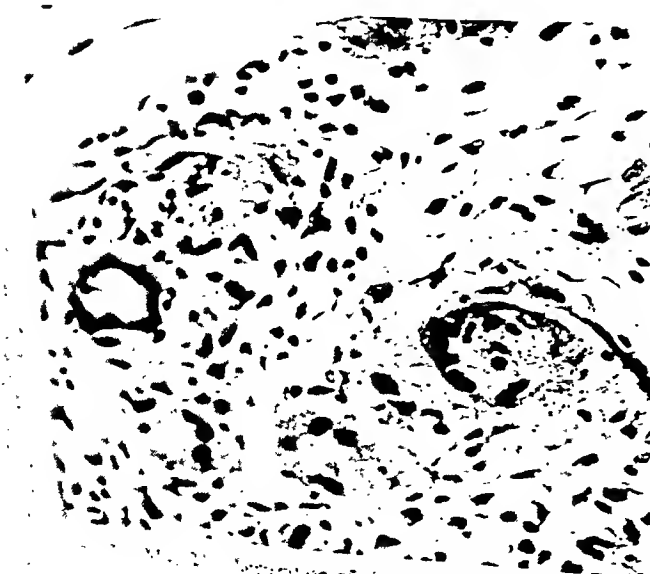


FIG. 5.—May 11. Separation of giant cells by the newly formed fibrous tissue ($\times 420$).

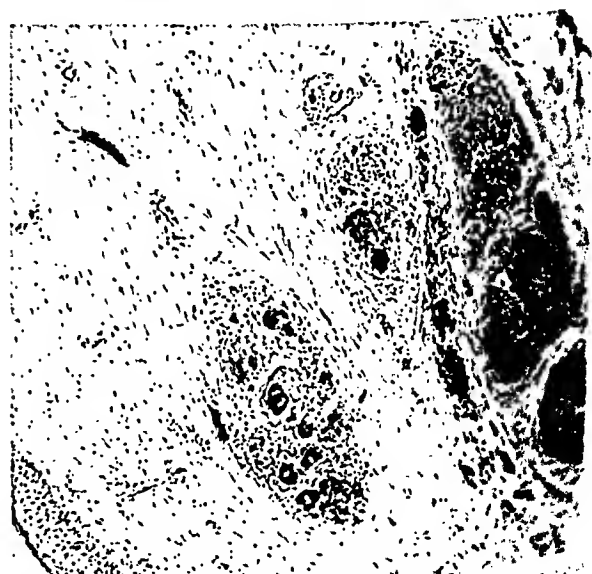


FIG. 6.—Also May 21. Showing disappearance of giant cells and giant cells from the tuberculous lesions ($\times 420$).

HYPERTENSION—AETIOLOGY AND SURGICAL TREATMENT: GEOFFREY BOURNE

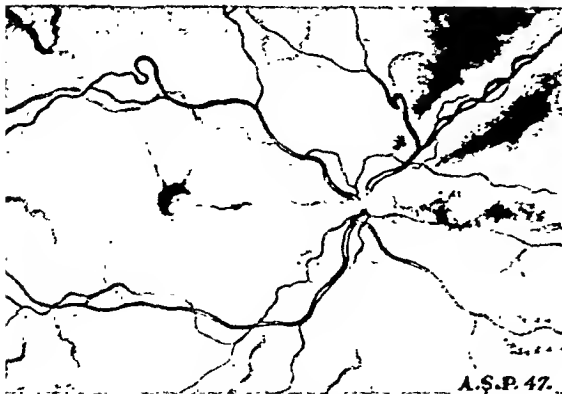


FIG. 1.—Right eye before sympathectomy.

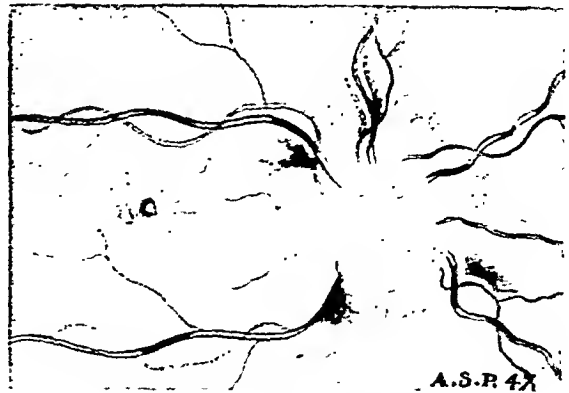


FIG. 3.—Renal retinopathy, pre-sympathectomy.

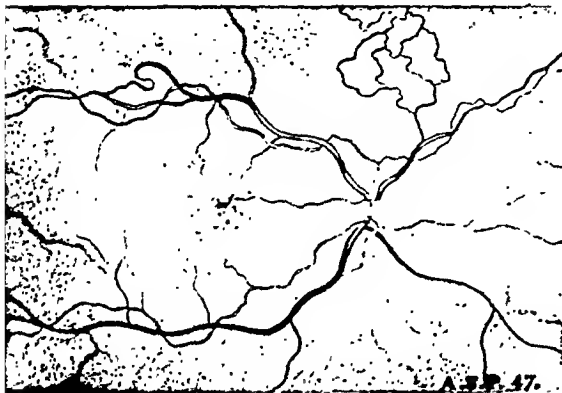


FIG. 2.—Same eye after sympathectomy.

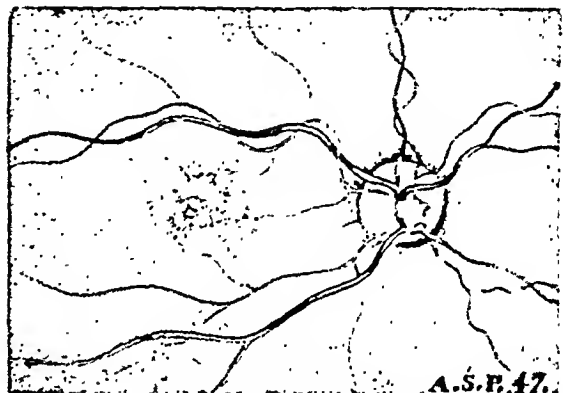


FIG. 4.—Same eye after sympathectomy.

ROLE OF SYMPATHETIC NERVE IN CANCEROUS PAIN: MARCEL DARGENT



FIG. 1.—Cluster of lymphocytes around sympathetic ganglion cells.

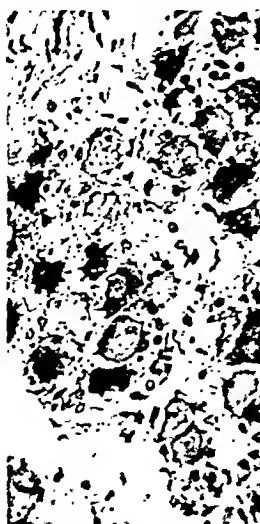


FIG. 2.—Alterations of protoplasm in ganglion cells. Pyknosis of nuclei.



FIG. 3.—Carcinoma tongue. Metastatic node in sympathetic ganglion.



FIG. 4.—Relation between the metastatic node and arteriolar wall.

MARCH 6, 1948

"TEMPORAL ARTERITIS." SOME ASPECTS OF SUBACUTE ARTERITIS IN LATER LIFE: G. H. JENNINGS

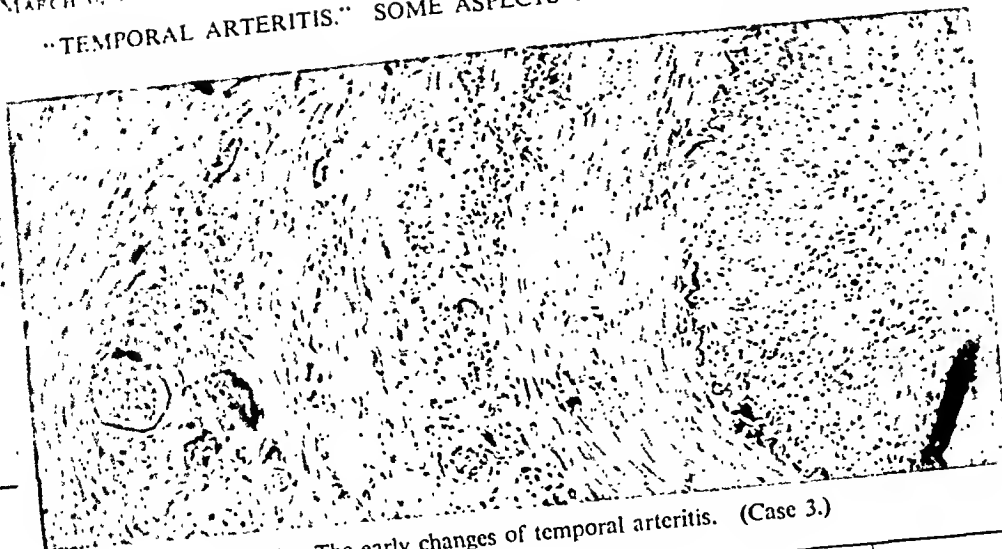


FIG. 1.—The early changes of temporal arteritis. (Case 3.)



FIG. 2.—Fibroblastic and giant-cell reaction in media. (Case 4.)

ASEPTIC NECROSIS OF PANCREAS: WALTER PAGEL AND A. L. WOOLF

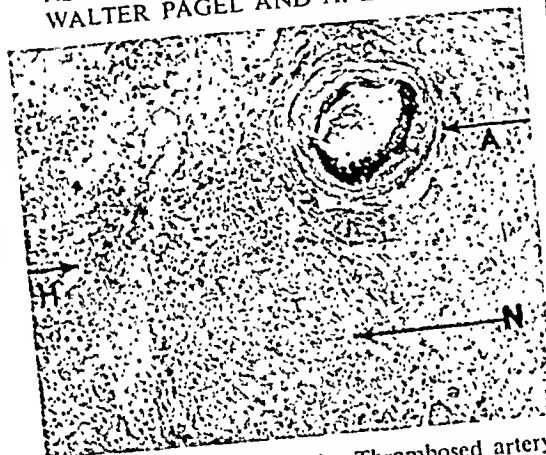


FIG. 2.—Necrotic area (N). Thrombosed artery (A). Zone of haemorrhagic and leucocytic demarcation (H) ($\times 50$).

FIG. 1 Pancreas. Central area between arrows shows confluent anaemic infarction.

BALANTIDIAL DYSENTERY: A. A. MILLER AND C. R. PECK



Balantidia in submucosal space ($\times 150$).

INTRAUTERINE RUPTURE OF CC G. BANCROFT-LIVINGSTON



Gross deficiency of anterior abdominal wall with exteriorization of abdominal contents and a short umbilical cord. (Case 2.)

SYNOVIOMA V. C. J. HARRIS



FIG. 2—Tumour of thigh after amputation. (Case 3.)

even in such a case emotion can send up the blood pressure for the time being, possibly through that part of the sympathetic nervous system which still remains untouched. In this patient a low blood pressure after operation was not merely a result of vascular laking of blood in the splanchnic area, for at the end of three months there was no residual orthostatic hypotension.

Temporary Lowering of Blood Pressure

Fig. H shows a lowering of the blood pressure immediately after operation, partially due to the release of cortical renal spasm, but also to the laking of blood in the abdominal area. The reappearance of hypertension in this case was no doubt due to a resumption of renin formation by the permanently diseased renal tissue. Trueta and his colleagues have found in such patients histological evidence of the permanently established by-pass mechanism already described by which some blood is permanently diverted from the renal cortex; thus a chronic cortical ischaemia may persist to some extent as a purely mechanical effect whether spasm be released or not.

In this second class of case it is still not easy to explain why there should be even a temporary improvement, for at first sight there should be no diminution of renin formation in the permanently damaged kidney. Fig. J is an

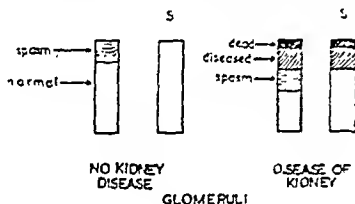


FIG. J.

attempt to offer an explanation for this. The first two rectangles suggest what happens in the satisfactory class of case as a result of sympathectomy (stage I of hypertension). The cortical spasm which has produced the renin is removed by the renal sympathectomy. Splanchnic laking of blood also occurs. The blood pressure is therefore lowered permanently. The other two rectangles diagrammatically show the state of affairs when chronic renal disease is present (stage II of hypertension). Neither the lead nor the normal renal tissues are concerned in the hypertensive process. In this case as well as in the previous one glomerular spasm is present and is beneficially affected by sympathectomy. It is the presence of diseased renal tissue, shown by the oblique lines, that distinguishes this type of case from that in which sympathectomy produces a satisfactory result. Sympathectomy will in both cases lower the blood pressure temporarily and greatly by producing a laking of blood in the splanchnic area, an effect which is additional to the effect on the renal cortex. Such lowering of the blood pressure can cause regression and temporary healing of the diseased blood vessels as shown in the retina.

This improvement may also to some extent benefit the renal arteries, and thus may temporarily reduce the area of tissue advancing renal disease to a degree sufficient to reduce the output of renin to an inconsiderable amount. It within a period of weeks or months the permanently diseased but not dead cortical tissue is enough to produce more an increasing output of renin, which will cause a return of the hypertension with renewed renal spasm. This renewed renal spasm will in its turn manufacture more renin, with a return of the blood pressure to its former high level. The permanent by-pass mechanism of Trueta

is also likely to be a factor in the resumption of cortical ischaemia in chronic renal arterial disease.

Figs 1 and 2 on the Photogravure Plate show water-colour drawings, by Mr. A. Seymour Philips, of the right eye of a man aged 50 before and after sympathectomy. Mr. Philips reports as follows: "There are very great changes, and the improvement after operation is considerable. Fig. 1 shows marked haemorrhages and oedema of the whole retina, especially evident at the macula, which is pushed forward by fluid from behind. In Fig. 2 all signs of haemorrhage and oedema have disappeared. Changes at the macula in this picture are those normally following inflammation or swelling, and are due to pigment disturbance. Venous network above is caused by dilatation of collateral circulation following venous thrombosis. The optic atrophy has developed as a result of the oedema, and so the patient's vision is below 6/60 and will remain so. I could not make out that the retinal arteries had changed at all in calibre between the two examinations, and it will be noted how fine they are, especially near the disk."

In another case Mr. Philips was again responsible for the water-colours (Plate, Figs. 3 and 4), and Mr. Rupert S. Scott reported on Jan. 7, 1947: "In spite of the fact that the retinal changes are present in hypertensive cases I prefer to label this condition renal retinopathy. There is a slight degree of oedema of the disks, and much change in the macular area of the retina in the form of soft patches of exudate and superficial haemorrhages. At the right macula there is seen a well-marked macular fan. The retinal arteries show attenuation." (Fig. 3.)

Mr. Scott saw this patient again on March 13, 1947, after sympathectomy, and wrote: "Apart from some oedema of the lower margin of the left, the optic disks appear physiological. The haemorrhages and patches of soft exudate previously seen in the retinae have now disappeared; the macular fan persists in the right eye, and a less-marked one is present in the left eye. The retinal arteries exhibit a slight increase in brightness of the light reflex but otherwise appear in good condition" (Fig. 4.)

Indications for Sympathectomy

It is interesting and useful to consider the probable indications for sympathectomy in the light of what we know or with what we seem to have learnt, from recent work concerning the factors producing hypertension. During the early years of the disease the blood pressure increases and remains high, often without symptoms and certainly without organic renal disease. If sympathectomy were performed in such a case as the one previously described belonging to this group it is clear that operation would not be effecting any useful purpose so far as symptoms were concerned. Since the condition at this stage may remain symptomless for a number of years it is equally probable that sympathectomy would not be a justifiable measure from the point of view of the underlying pathological process. If a sympathectomy were done too soon regeneration of the sympathetic paths might occur, and a second sympathectomy would be rendered much more difficult later in the disease, when the effect of the operation would be more beneficial. Hypertension may remain symptomless for over 20 years, and so far the experience of the operation extends only to 10 years at the outside. There would thus seem to be no indication for sympathectomy during most of the earlier part of stage I of hypertension. On the other hand if operative treatment is delayed until the time when permanent arterial degeneration has occurred in the kidneys, producing in them a permanent source of renin, it would equally seem to be true that the measure has been delayed too long. It would logically follow that careful investigation and observation of a patient with hypertension should have as their chief aim the determination of the following two points: the previous duration of the disease, and an estimation whether it is in a stationary phase or whether there is the slightest indication of recrudescence or exacerbation.

There is at present no clinical test available which will enable us to judge the position exactly, but it is probable that a periodic thorough and careful investigation of the retinal arteries by a skilled ophthalmologist is likely to provide the best guide to whether the onset of arterial degeneration is beginning to threaten. A periodic careful investigation of the renal function is also desirable in such cases. Finally, every case must be considered on its individual merits—general, cardiological, renal, familial, and psychological.

The author would like to express his great indebtedness to Mr. E. G. Tuckwell for his very helpful and stimulating surgical co-operation.

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ROLE OF SYMPATHETIC NERVE IN CANCEROUS PAIN

AN INQUIRY ON 300 CASES

BY

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(WITH PHOTOGRAVURE PLATE)

The question of pain-relieving operations on the sympathetic nerve in patients with evolutive carcinoma has been widely discussed. Although by experiment we have acquired much information concerning some of the functions of the sympathetic nervous system, a yet clearer view of its sensory functions may be obtained by a study of operative results and the anatomico-pathological findings in relation to this particular cancerous pain. Indeed, some of these operations have been performed in France as an empirical attempt to relieve pain in desperate cases: they have been only partly successful.

Spinal-cord surgery, as advocated by Putnam in the U.S.A. and Leriche and Wertheimer in France, is based on well-defined experimental facts, and consequently holds an important place in "pain surgery," as did radicotomy in the past.

This inquiry, which I started in 1940 under the direction of M. Leriche and have since pursued, has enabled me, first, to gather anatomico-pathological data; secondly, to define the clinical features of sympathetic pain; and, thirdly, to determine the limits of such operations. I do not intend here to describe the anatomical sensory pathways of the sympathetic trunk but simply to record clinical facts gathered from experience.

At first, after a successful cocaine infiltration test, I performed surgical sympathetic-nerve resections—12 on the thoracic trunk and 26 on the cervical. As only temporary results were obtained I gradually gave up this operation, as I have since found. I have performed over 300 infiltrations of the thoracic, cervical, and lumbar parts of the sympathetic trunk, but I shall not describe the technique used, as it is well known. I employ 20 to 40 ml. of a 1% solution of

ganglia that the results may be worse than the initial condition. It seems preferable to use repeated cocaine infiltrations.

Anatomico-pathological Data

Macroscopic and microscopical investigations of ganglia removed at operation have disclosed the existence of actual disease of the ganglion in patients undergoing pain. This fact was revealed in two different areas. First, when removing the lumbar trunk in women suffering from carcinoma of the cervix I found it to be tightly encircled by big lymph nodes extending all along the inferior vena cava or the aorta, just in front of the vertebrae and the anterior part of the psoas muscle. Often after radium therapy these patients were apparently healed as regards their pelvis, and the cancerous extension seemed to originate in the lower part of the lumbar column. The sympathetic ganglia were oedematous, with considerable congestive reactions in the surrounding area. Surgical removal was usually very difficult. Once there even occurred a wound of the inferior vena cava. The small veins passing under the psoas arches would often give rise to troublesome haemorrhages. Secondly, in the neck, when removing the upper sympathetic ganglion, I found it to be closely connected with the big lymph nodes, often suppurative, owing to carcinoma of the tongue, tonsils, or cavum, and lying under the sterno-cleido-mastoid muscle, before the splenius capitis.

I have given up removing the cervico-dorsal ganglion in malignant process due to carcinoma of the breast, having witnessed elsewhere an attempt which proved unsuccessful.

All these oedematous ganglia were submitted to microscopical examination. Arteriolitic lesions were found, with hyalinization of the media. But the most striking fact was the presence of thick clusters of lymphocytes around the sympathetic cells even when no drugs had been previously injected (Plate, Fig. 1). On further examination it was seen that the cells had irregular borders, granulous protoplasm, and a pyknotic nucleus (Fig. 2). These lesions were surrounded by normal areas, thus constituting signs of sympathetic-cell agony.

Examination of the upper sympathetic cervical ganglion revealed in one case a very curious fact:

In a 56-year-old man—in perfect condition after treatment four years earlier for carcinoma of the tongue—a big malignant lymphatic tumour was found to progress in the upper portion of the neck. Pain was intolerable. Microscopical examination of the ganglion removed by sympathectomy showed several carcinomatous areas in the centre (Fig. 3). It was not exactly a direct involvement of nervous tissue but metastatic growth in the lumen of the small vessels of the ganglion (Fig. 4), partially obturated by inflammatory thrombosis.

Further anatomico-pathological data have been supplied by arterial surgery. It is well known that the arterial wall, when irritated, may be the origin of sympathetic pain. Here again we have found evidence of the arterial origin of pain.

Having operated upon a man who three weeks earlier had undergone ligation of the common carotid artery and resection of the upper sympathetic cervical ganglion, which proved ineffective after a three-weeks success, I found a thrombosis of the carotid bifurcation. Arteriotomy of the three carotids was then performed. This patient had cancer of the tonsil, with a large lymphatic node. Microscopical examination showed important lesions of the intima, and an organized clot was adherent to it. The tunica adventitia also was injured. After the operation pain was abolished during the two months that preceded death.

I have since examined arteries of other suffering patients. I have never found any thrombosis (which in the above case could only be explained by the ligature), but I have often

detected inflammatory or neoplastic growths in the tunica adventitia. This was observed especially in the facial and occipital arteries. Also I have always found the primitive iliac artery closely surrounded by hard neoplastic nodes, secondary to carcinoma of the cervix.

Besides these essential anatomico-pathological facts showing evidence of the sympathetic origin of this particular kind of pain two other less important facts may be mentioned. The first is the influence of sympathetic innervation on the conduction of sensibility along the peripheral nerves. On infiltration of the upper cervical ganglion anaesthesia of the cheek is observed to disappear for a few hours in patients with cancer of the upper jaw. These effects last but a short time and are not of enough therapeutic value to justify sympathetic operations for pain by compression of peripheral nerves. The second fact is the participation of periosteal nerve-branches in pain due to certain osteolytic bone metastases. In two instances when x-ray therapy was not available I performed cocaine infiltrations—once on a lumbar vertebra involved by a metastasis from breast carcinoma, and a second time on a similarly involved ischium. The result may be compared to that of an infiltration in the case of a sprain: it does not last long, and x-ray therapy, as an antalgic treatment, is far more reliable. In this case infiltration is but an emergency procedure pending the utilization of x rays.

To sum up, anatomical lesions are to be found in the sympathetic trunk and ganglia, as well as signs of reaction in the arterial wall in contact with cancerous lymph nodes—which explains the sympathetic origin of pain in some cases of evolutive cancer. The participation of the sympathetic nerve in pain due to compression or involvement of peripheral nerves, as also in pain produced by periosteal lesions, is of a much more accessory character.

Some Clinical Features of Sympathetic Pain

Prolonged observation of our patients and a close survey of the effects, whether satisfactory or not, following the infiltrations which I performed, at first as a routine, have led me to consider the features of this type of pain. Two are quite definite. They are as follows.

1. The first is encountered in the evolution of cancer of the cervix. In many cases the primary lesion is healed and the patients suffer from one-sided pain, in the buttock, the lumbar region, the posterior part of the thigh, and often in the leg. They speak, wrongly, of sciatica. But in reality they undergo paroxysmal crises, with a feeling of cold in the leg and numbness of the whole limb. Oscillometric investigations made during the crises showed a curve with a lower level for the injured side than for the opposite one.

This type of pain should be distinguished from other types: (a) By x-ray examination, from osteogenic pain due to involvement of the pelvic skeleton (which is mainly the case in cancer of the prostate). These patients are relieved by x-ray therapy. (b) Pain due to pyosalpinx and pyometritis (as shown by Ducloux, in France). In this case local operations may be successful. (c) Pain from hydronephrosis, caused by a tight stricture of the ureter. Here, too, operations on the urinary tract are advisable. (d) Pain from direct involvement of the obturator nerve, in which paralysis of the maximus adductor muscle is obvious clinically, as is the topography of the pain. (e) Pain due to involvement of the lower part of the pelvis, radiating to the vulva and obviously originating in the internal pudendal nerve.

In the last two instances, and in the event of associated sympathetic pain, posterior commissural myelotomy is recommended, provided the patient is in good general condition. It is generally admitted that this operation acts as a sympathetic operation on higher and more central pathways.

2. A second type of undoubted sympathetic pain may be described in relation to the malignant evolution of cervical lymph nodes secondary to carcinoma of the tongue, tonsils, etc. These patients often indicate with their hand the topo-

graphy of the pain during the crises: one side of the head, the nape, temple, ear, eye, and teeth of the lower jaw. These crises are almost unbearable, especially at night. I have even witnessed in these circumstances a certain degree of enophthalmos and watering of the eye. As Leriche and Fontaine have shown in their book *La Chirurgie de la Douleur*, the dissection and pinching of the external carotid peripheral tunica in patients operated upon under local analgesia will awaken pain in the same area. This type of pain may also occur in the case of limited radionecrosis of the lower jaw after radium therapy.

Here again pain due to involvement of the skull base may be eliminated. It is generally out of the range of therapeutic action, although x-ray therapy may relieve it to some degree.

Pain sometimes will be produced by acute otitis in the course of evolutive cancer of the eardrum. In such a case I have seen paracentesis of the drum bring relief.

Lastly, when continuous pain is localized to the trigeminal nerve and the cervical plexus, direct operations on these nerves should be preferred.

Besides these two syndromes there are others in which the influence of the sympathetic nerve is less obvious. For instance, brachial pain in the course of carcinoma of the breast is relieved in 50% of cases by routine infiltration of the cervico-dorsal chain. Oedema of the arm and hand is frequent. A phlebogram is not easily obtained in such cases. Nevertheless, when these symptoms seem to be produced by chronic phlebitis, infiltration is usually successful. Similarly, a patient had a cancerous node closely connected with the lower portion of the axillary artery, together with radial paralysis. Cervico-dorsal trunk infiltration resulted in the pain being relieved and the paralysis attenuated. This procedure, repeated every two months, was successful for a year and a half. In refractory cases I believe that a high posterior myelotomy, as advocated by Putnam, may give satisfactory results.

Intolerable pain in cancer of the stomach did not appear to be relieved by infiltration of the splanchnic nerve, except for a few hours. Pain in bladder and rectum in evolutive cancer of the cervix is not always abolished by section of the presacral nerve (Cotte, 1932) or by infiltration of the lower lumbar sympathetic trunk. Of three presacral sections one was a failure, one a three-weeks success, and the other relief lasted one year. In the last case resection of both the fifth and fourth sympathetic ganglia of the lumbar trunk was performed simultaneously by transperitoneal approach.

I have noted that some accompanying symptoms may be relieved by infiltration of the cervical sympathetic trunk: (1) a few days' attenuation of dysphagia is obtained in upper pharynx carcinoma in 50% of the cases; (2) dyspnoea in some laryngeal cancers is seen to disappear after infiltration of the middle cervical ganglion; and (3) in the case of trismus due to inflammatory lesions associated with cancer infiltration of the upper cervical ganglion will cause it to yield noticeably.

Selecting the Sympathetic Operation

Most of the patients have already experienced drugs they have got used to them, especially in the case of opium. A careful study should first be made of the actual characteristics of the pain in order to avoid misapplication of treatment. The general condition, cancerous extension, and the migratory nature of pain (as in diffuse cancerous osteitis) should be considered. The psychological condition of the patient must also be taken into account. At all events infiltration of sympathetic trunks is an easy and harmless test. If successful, and the general condition is fairly good, these infiltrations may be repeated over a long period of time.

Should sympathetic operations be recommended in patients whose general condition is very good? I feel less and less convinced that they should. In spite of the

satisfactory results, extending over two years, of lumbar sympathectomy in patients with slowly evolutive cancer of the cervix, I have witnessed recurrence of pain after three weeks and two months respectively. It seems that the lumps of sympathetic trunks that have undergone section soon get irritated by the progressive involvement of lymph nodes and thus bring about recurrence of pain; besides, infiltration on a higher segment may yet be successful, so that operation may well be deemed useless. I still perform, however, under the following circumstances: (1) In the case of left colostomy for very extensive and painful pelvic cancer. Before opening the peritoneum I explore the left sympathetic trunk by subperitoneal approach, and when accessible I remove it. (2) When haemorrhages render operation in the neck necessary I remove the external carotid, together with a considerable portion of the upper thyroïd, facial, and occipital arteries—the most sensitive arteries in this area. In addition, I resect the upper cervical sympathetic ganglion.

Summary

Lesions of the sympathetic ganglia and arterial walls are encountered in cancerous patients undergoing pain.

There are in the lumbar region and in the neck well-defined types of sympathetic pain. These are greatly relieved by cocaine infiltrations of the sympathetic trunks. This procedure, which is simple, should be preferred to operations in the sympathetic nerve, which are difficult and which often lead to recurrences.

I am grateful to Prof. J. F. Martin, pathologist, and Mr. Delaunay, medical photographer, for the photomicrographs reproduced on the photogravure plate.

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ASEPTIC NECROSIS OF PANCREAS DUE TO ARTERIAL THROMBOSIS IN MALIGNANT HYPERTENSION

BY

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AND

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[WITH PHOTOGRAPHURE PLATE]

The possibility of a vascular factor in the production of acute pancreatitis has long been suspected, yet no conclusive evidence has so far been adduced. Gerlei (1930) described two cases of embolic occlusion without any tissue damage. Two other cases with disseminated necroses were observed, but all were incidental findings due to multiple small emboli and were visible only under the microscope: none showed evidence of fat necrosis or haemorrhagic pancreatitis. Lynch (1940) mentioned a case of embolic infarction, the embolus originating in an atheromatous aortic patch. Here "massive haemorrhagic necrosis of the tail of the pancreas" is claimed, but no more exact description of the findings is given. By experimental injection of the pancreatic arteries of dogs with mercury pellets, Smyth (1940) produced anaemic infarcts localized to the infarcted areas in contrast with the spreading tendency of clinically observed acute haemorrhagic pancreatitis.

Of the older cases, those by Chiari (1900) and Rössle (1921) should be mentioned; in these arterial thrombosis was followed by anaemic infarction of considerable extent, but no appreciable fat necrosis or haemorrhagic pancreatitis was observed. Brentano's (1900) case, which is sometimes quoted in this connexion, is actually not concerned with primary vascular changes in the pancreas.

It is therefore still undecided whether multiple small or gross vascular changes and infarction of the pancreas can lead in themselves to acute pancreatitis, and a supplementation of the scarce material available appears to be imperative.

The following is a report of a case recently admitted to the Central Middlesex County Hospital, with the findings at necropsy.

Case Report

The patient, a builder aged 45, was admitted on Aug. 26, 1947, on account of a dull aching pain for two to three weeks in the epigastrium, radiating around the sides of the chest to the shoulder-blades and also over the front of the chest. He had had a similar attack of pain twelve months before, and bouts at intervals in the intervening periods. There was nausea but no vomiting.

Examination revealed several areas of petechiae on the skin particularly around the shoulders and upper chest posteriorly. He was not apparently in severe pain, but had pain localized to the midline of the epigastrium. The abdomen was semi-rigid, and thus there was indefinite tenderness; the percussion note was tympanitic all over. The pulse was 100, and a regular apical systolic murmur was heard. The fundus oculi showed bilateral papilloedema (doubtful in the left eye) and haemorrhages, with exudates in the right eye. Blood count: white cells amounted to 18,400 per c.mm. (neutrophils 86%, lymphocytes 8%, monocytes 6%), with a marked shift to the left.

A clinical diagnosis of malignant hypertension with uraemia was made. The uraemia increased, ending in coma (blood urea, 275 mg. per 100 ml.), with evidence of pericarditis.

Necropsy.—The body was that of a thin man, with petechiae on shoulders, chest, and thighs. Brain: no changes. Uraemic pleurisy and pericarditis with subserous petechiae. Hearts: left ventricular hypertrophy. No parietal or valvular changes.

Many of its functions previously exercised by the Ministry of Health under the Food and Drugs Acts have been transferred to the Ministry of Food in consequence of an Order in Council entitled the Transfer of Functions (Food and Drugs) Order, 1948, made under the Ministers of the Crown (Transfer of Functions) Act, 1946. Briefly, the effect of the transfer is that the Ministry of Health is concerned with the composition, description, and standard of food, while the Ministry of Food continues to be concerned in matters for dealing with infected food or food unfit for human consumption and other matters relating to food. These changes affect only departmental functions. The legislative and executive powers placed by the Acts and Regulations on the department concerned with the Preservatives and Food Additives and Food Milk Regulations and other matters relating to food, and the department concerned with the Meat and Food Hygiene Regulations and other matters relating to food, are unaffected. The Ministry will also become concerned with the appointment of public analysts. The department primarily concerned with the protection of the public from food poisoning and the stoppage of the sale of food unfit for human consumption under the Food and Drugs Act, 1946, remains with the Ministry of Health. The transfer of functions affects

seen. Vessels: no thrombus in portal or splenic veins or splenic artery. Aorta: no changes. Peritoneum: about 1 oz. (28 ml.) of clear yellow fluid in peritoneal cavity (right paracolic gutter). Liver: no changes. Typical old and fresh haemorrhagic cholecystic changes. Large bile ducts: apart from thickening and oedema of the walls, no appreciable changes. The pancreatic duct was neither thickened nor obstructed and appeared quite normal. Spleen: very small and firm, 65 g., 7.5 by 5 by 1 cm. Kidneys: right, 215 g., 12.75 by 5 by 3.5 cm.; left, 230 g., 12.75 by 6 by 3 cm.; cortex, 0.8 cm. thick. Both kidneys appeared swollen and showed the variegated subcapsular surface and appearances typical of "malignant hypertension." The pancreas appeared to be swollen and harder than normal. On the surface and cut surface about ten small anaemic infarcts up to 1.1 by 1.1 cm. could be seen throughout the organ, and in the centre a large area of confluent necrosis 3.2 by 1.2 cm. was present (Plat, Fig. 1). The areas of necrosis were sharply demarcated by narrow haemorrhagic margins. There was no visible fat necrosis or anything in the nature of diffuse haemorrhagic pancreatitis.

Histology.—The pancreas showed extensive but sharply demarcated areas of anaemic necrosis with incipient central liquefaction and narrow peripheral zones of haemorrhage (Fig. 2). In all sections of the pancreas examined, both within and outside the necrotic foci, the small arteries (about 0.2 cm.) showed extreme arteriosclerotic changes, namely, intimal thickening and reduplication of the elastic laminae. Many of these arteries were occluded by thrombi, in some places completely and in others only partially, peripheral sedimentation of platelets and fibrin having occurred, leaving the centre of the lumen patent. There was no hyalinization or other evidence of tryptic digestion of the adventitia or media of the arteries, and no evidence of periarteritis changes. The kidneys showed extensive hyaline fibrinoid infiltration of the afferent vessels of the glomeruli, with tubular atrophy and scattered congestion and haemorrhage in the stroma.

Comment

Clinical Picture.—The underlying condition in the present case was "malignant hypertension" leading to uraemia. In this respect it resembles those observed by Chiari (1900), Rössle (1921), and Klemperer and Otani (1931), but in addition there were attacks of epigastric pain unrelated to meals and radiating to the back. The last attack, beginning three weeks before death, seems to be referable to the arterial changes followed by infarction in the pancreas. Neither the picture of the local condition nor the uraemic process overshadowing it had anything in common with acute haemorrhagic pancreatitis and fat necrosis.

Anatomical Findings.—"Vital reaction" in the margin of the infarcts (haemorrhages and leucocytic demarcation) excluded post-mortem changes. No evidence of periarteritis nodosa or of sources of embolism could be adduced, and in view of the incomplete occlusion of some of the arteries the clots were regarded as thrombi forming in small arteries about 0.2 cm. in diameter, with hypertensive changes. Blockage of many arteries of that size is obviously the cause of the widespread infarction, and it is unnecessary to follow Gerlei (1930) in discarding a vascular aetiology and grasping at a hypothetical pancreatic-duct obstruction from a congested ampulla of Vater. The intact condition of the adventitia and media contrasts with the hyalinization resulting from tryptic digestion and proceeding from without inwards found in pancreatitis (Rich and Duff, 1936). The changes in themselves are similar to those obtained by experimental embolism (Smyth, 1940).

We submit this report with the object of making clear the distinction between infarction of the pancreas and acute haemorrhagic pancreatitis.

Summary and Conclusions

A case is reported of aseptic necrosis (anaemic infarction), chiefly of the central portion of the pancreas, due to arterial thrombosis occurring in "malignant hypertension."

Neither the clinical nor the anatomical picture revealed any relationship to "acute haemorrhagic pancreatitis" and/or "pancreatic fat necrosis." Observations such as that reported cast doubt upon the "vascular factor" as the primary cause of acute pancreatitis.

We are indebted to Dr. J. S. Crowther for the clinical notes, to Mr. L. Spain for technical assistance, and to Mrs. B. Burnett for help with the photography.

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"TEMPORAL ARTERITIS"

SOME ASPECTS OF SUBACUTE ARTERITIS IN LATER LIFE

BY

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[WITH PHOTOGRAPHIC PLATE]

With the present interest in the problems and diseases of old age more attention may well be paid to a complaint which is mainly found in people over 60. Severe protracted headaches and signs of inflammation of the temporal arteries often appear early and facilitate diagnosis, but from the earlier descriptions of the disease both in America (Horton and Magath, 1937) and in England (Jennings, 1938) it was clear that the term "temporal arteritis" was an inadequate title for the disease. Indeed, Gilmour (1941) described three probable cases of the condition which proved fatal but in which temporal arteritis was not seen.

Although inflammation of the temporal arteries has been the hallmark of nearly all the other 38 cases described, the whole aspect has been that of a prolonged general infection with widespread, if patchy, arterial involvement. In a case seen ten years ago there was not only evidence of inflammation of the temporal and occipital arteries but also bilateral retinal arteritis, left brachial arteritis, reduced pulses in the right foot, and some suggestive evidence of slight involvement of renal and mesenteric arteries. In this case (Jennings, 1938) the infection was certainly active for eight months, a duration now recognized as being not unusual.

Retinal arteritis has been observed in about half the cases; Kremer (1946) has shown a case, and in a series of seven cases in Birmingham (Cooke, Cloake, Govan, and Colbeck, 1945) six had not only general arterial involvement but also severe arteritis in the vessels to the optic nerves. Three of these six became quite blind. Gilmour's cases showed chief pathological changes in the aorta and the branches of its arch and in their branches. Cooke and his co-workers, who record three fatalities within two years of the onset of the illness, were twice able to make post-mortem examinations, and in the deeper vessels found involvement of the aorta and of the arteries of the heart, coeliac axis, mesentery, kidneys, limbs, and brain.

Arteritis of the limbs and of the brain gives accessible signs and symptoms, and from the former may result limb pains, muscle-wasting, reduced or absent pulses, and occasionally intermittent claudication. Brain manifestations of great severity—delirium, vertigo, coma, and

cerebral vomiting—have been described by Cook *et al.* in a case in which the small arteries of the brain were inflamed and thrombosed. Kremer's case had a minor left-sided spastic weakness, presumably due to right middle cerebral arteritis, while two of Gilmour's cases had gross cerebral infarction as a result of thrombosis of inflamed and narrowed internal carotid arteries.

Although the cause is unknown the infective nature of this complaint is often emphasized by the onset and course of the illness. Gilmour's three cases had an "influenzal" onset respectively 5, 9, and 26 months before death, and such features of general infection as fever, malaise, anorexia, loss of weight, and raised sedimentation rate are frequent and persistent findings. Early "rheumatic" symptoms and joint pains, with or without swellings, are a not unusual feature (Jennings, 1938; Brown and Hampson, 1944; Cooke *et al.*, 1945); and Case 4, below, showed prolonged activity and a late arthralgia.

Four recent cases of "temporal arteritis" are recorded to illustrate further its variable duration and distribution. One seen in 1942, during a time of bed shortage, was adequately treated as an out-patient; another ran a comparatively rapid fatal course. The predominance of female sufferers (three to one) was in accord with all obtainable previous reports (29 women and 15 men), and so, too, was the consistent negative of the Wassermann tests.

Case 1

The patient, a man aged 69, was a thin, rather arterio-sclerotic subject with previously good health. He had had severe bilateral temporal headaches for about three weeks and showed thickening and tenderness of both temporal arteries, with reduced pulsation. There were a few pink nodular areas on the branches of the artery on the right side, and a week later similar nodules were observed on the left side, the right side being then in subsidence. Two weeks later he developed racking pains at the back of the neck and head, and there was tenderness along the course of the occipital arteries, though these could not be felt. There was great pain on turning the head. The temporal arteries were at this time thick, slightly tender, and pulseless. Although severe the pains were readily controlled in the day by an aspirin-and-phenacetin mixture, and at night small doses of codeine were sometimes also given to ensure sleep. There seemed to be little constitutional upset and there was no visual disturbance or evidence of arterial involvement elsewhere. Other systems showed no marked abnormality for age, though the blood pressure was 170/100. The Wassermann reaction was negative.

At the end of four months the condition appeared to have subsided, and after a gradual diminution the pains had gone. The branches of the temporal arteries had at this stage continued so as to be almost entirely impalpable. They remained pulseless.

Case 2

A woman aged 67 was admitted on Nov. 19, 1946. She had been well apart from thyrotoxicosis with partial thyroidectomy three years before her admission. She complained of severe pains in the head for three months, starting on the right side and then passing to the left. Shortly afterwards severe occipital pains developed and she became conscious of "bumps" in all the scalp areas. There was marked general loss of weight in the three months. For three weeks before admission she had been unable to sleep (fever, anorexia, and vomiting) and severe general head pains, with tenderness of the face and mandibles.

On admission she was a moderately obese old woman with a loss of hair on the scalp and eyebrows. There were no signs of thyrotoxicosis or anaemia. The temperature was 100.4° F. and pulse 94. The temporal arteries were thickened and tender cords. There was a similar tenderness along the course of the frontal branch of the artery on the right side, and some pinkness and induration

Pain and tenderness were less pronounced in the occipital region and the occipital arteries could not be felt. Examination of retinae (Mr. R. C. Williams) revealed some arteriosclerosis, but nothing abnormal for age. The heart was not enlarged. There was slight slurring of first sound but no other abnormality. The blood pressure was 150/80. Electrocardiograms showed slight left axis deviation. White blood cells numbered 6,000 (polymorphs 57%, lymphocytes 30%, monocytes 11%, eosinophils 2%). Blood Wassermann reaction was negative; blood cholesterol 126 mg. per 100 ml. An aspirin and phenacetin mixture, and occasional kaolin poultices to the forehead, gave effective symptomatic relief.

The two pink areas of artery were removed on the fourth day, and though the pain was already less by then it subsequently diminished rapidly. Temperature became normal by the end of one week in hospital and so remained, but on Dec. 5 a small raised red area appeared on the left mastoid region and settled in a few days. By then the temporal arteries were firmly thrombosed and free from tenderness. She was discharged on Dec. 21. Her later history was that she felt weak after discharge from hospital and in the first two months spent much time in bed. There was much giddiness at the time of writing (July 21, 1947) and she was compelled to lead a quiet life.

Report on Arterial Sections (Dr. H. C. Moore).—(1) The adventitia is thickened, with a pronounced cellular reaction at the adventitial-medial junction (Fig. A). There are lymph-

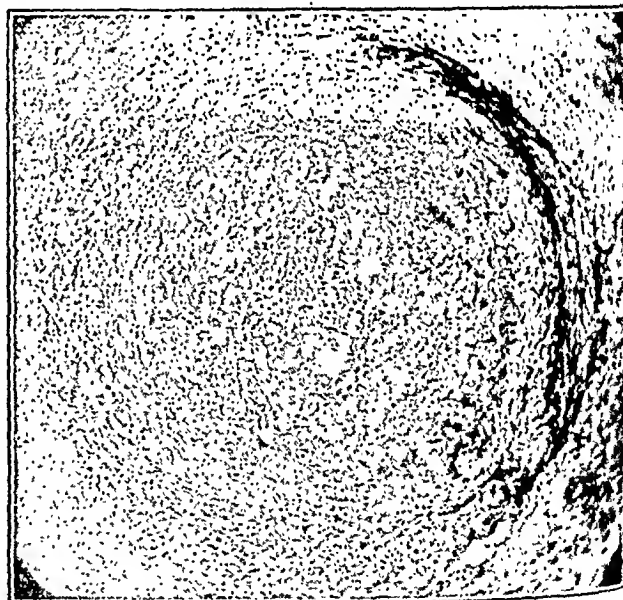


FIG. A.—Case 2. Thickened adventitia with marked cellular reaction at adventitial-medial junction. Thinned media and condensed elastica. Intimal hypertrophy and recent central thrombosis.

cytes, histiocytes, and epithelioid cells, and a marked eosinophilic leucocyte response. (2) The media is thinned by loss of elastic tissue and partial replacement with collagen. Cellular response is similar to that in the adventitia. There is an apparent increase in elastic tissue, but perhaps this is due to condensation of the normal elastica in a thinned media. No giant cells seen. (3) The intima is hypertrophied and shows collagenous and mucoid change with some fibroblastic reaction. The lumen of the other branch is partially occluded by a recent thrombus (Fig. A).

The other two cases showed a more severe and probably more widespread type of disease. In Case 3 the pituitary gland underwent partial necrosis, presumably as a result of local arteritis, and rapid wasting and death ensued. Severe anaemia also developed rapidly at the height of the illness. In this case, in which severe headaches preceded the signs of temporal arteritis by ten weeks, the limited cranial post-mortem examination was sufficient also to show meningeal arteritis and a thickened dura mater as possible causes of this symptom. There was also clear evidence of involvement of the blood supply to the

Case 4, after early signs and symptoms of temporal arteritis, showed a late involvement of the arm arteries and prolonged activity of the condition as revealed by "rheumatic" joint symptoms and a much raised sedimentation rate eleven months from the onset. Such persistent activity is a feature of this condition and for many months makes advisable a guarded prognosis regarding the eventual fate of each patient.

Case 3

A woman aged 73 was admitted on March 16, 1945, with severe frontal and occipital headaches of one week's duration. During the same period she had noticed deafness and tinnitus in the left ear. The headaches were fairly continuous and were worse in the recumbent than in the upright position; they were also made worse by talking and by exertion. She had vomited twice just before admission.

On admission a thin and very arteriosclerotic old woman was seen; she was alert and intelligent, but evidently troubled by severe headache. Temperature was 100° F. (37.8° C.) at first, and subsequently an intermittent low-grade fever; pulse 88; blood pressure 180/100. The heart was not enlarged and was normal apart from marked accentuation of aortic second sound. There was no abnormality in the central nervous system.

Headache was somewhat relieved by phenobarbitone, aspirin, and phenacetin at first, but was very severe by March 28, when he was mentally muddled and seemingly neurotic. Blood pressure was 126/72. Increasing anaemia was evident. Headache was particularly severe on April 3 and 7, but rather better between these days. She had increasing radiating occipital pains after April 7, often of such severity as to cause her to lock to and fro in bed and require heroin tablets for relief; there was some stiffness of the neck. On April 19 she had severe left temporal pain, and the left temporal artery branches were found to be pink and tender. Similar but less marked signs were found in the right temporal artery. Next day she had pain in both temporal regions and marked jaw stiffness; neck still stiff. Throughout the following week both temporal arteries remained pink and tender and there was a rapid decline in the patient's general condition with marked wasting of the body but no visual upset. The anterior frontal branch of the left temporal artery thrombosed on April 25 and that on the right side on April 30; the posterior branches thrombosed on May 6. There was a decrease in the pinkness of the arteries and in the headaches as the temporal pulses faded, but on May 6 the patient became unconscious; she died on May 8.

Investigation Results.—Radiographs of skull, cervical spine, and chest on April 4 were all normal. On March 17 the cerebrospinal fluid showed: protein 20 mg. per 100 ml.; Pandey's test, +; cells, 2. On March 23 the blood Wassermann reaction was negative; urea 38 mg. per 100 ml. The urine was clear on April 26. A blood count on March 21 showed: red cells, 4,020,000; Hb, 62%; colour index, 0.78. On April 18 the Hb was 52%.

Post-mortem Examination (limited to head).—*Macroscopic* (Dr. J. Hamilton Paterson).—"Temporal arteries very thick and very fine capillary lumen throughout. Accompanying veins normal. Middle meningeal arteries show changes similar to temporals. Circle of Willis only shows gross patchy atheroma. Brain substance normal apart from surface oedema and arachnoid thickened. Pituitary gland appears necrotic."

Report on Arterial Sections (Dr. H. C. Moore).—"First section (Plate, Fig. 1): Early changes of temporal arteritis.

(1) *The adventitia* is thickened and shows increased vascularity at the adventitial-medial junction with lymphocytic and histiocytic infiltration. No eosinophilic or giant-cell reaction. Many small vasculature thrombosed. (2) *The media* shows patchy thinning (not shown, Fig. 1) and slight replacement of muscle by collagen, but there is no cellular reaction. The elastic tissue is normal in amount, but in some areas shows fragmentation. (3) *The intima* shows a hypertrophy consisting mainly of reticulated collagen with a secondary layer of fibroblastic reaction.

Second section: (1) *The adventitia* is thickened and shows a cellular reaction of lymphocytes and histiocytes. This inflammatory process is spreading into the media. (2) *The*

media is thinned and some muscle is replaced by collagen. The cellular exudate spreading from the adventitia shows occasional giant cells, lymphocytes, and histiocytes, with a slight eosinophil leucocyte reaction. The internal elastic lamina shows some reduplication and fragmentation in places; elsewhere it is absent. (3) *The intima* shows a very gross collagenous hypertrophy with secondary layers of fibroblastic reaction.

Case 4

A woman aged 73 had for long been subject to attacks of migraine and to post-menopausal arthritis in the knees. She was admitted on Jan. 8, 1947, with temporal-region pain, "not like headache," of between two and three weeks' duration. The sides of the head were painful and tender so that her glasses hurt her. A few days from the onset of the pain her husband noted discoloured swellings below the hairline, "as though she had knocked her forehead." Two weeks before admission she was shaken in a fall, and though her head was not injured she subsequently felt increased throbbing pain in the temporal and occipital regions.

Examination showed a palish, well-developed old lady with slight bagginess below the eyes and evident severe head pain. Temperature was 99.2° F. (37.3° C.) and pulse 80. The temporal arteries on the forehead were both just palpable as pulseless cords, the left showing slight tenderness, with a small pink area on its posterior branch. There was no evident active arteritis elsewhere in any palpable artery. The disks and central nervous system were normal, as was the heart. Blood pressure was 120/70. The knees showed crepitus.

Severe throbbing frontal and retro-ocular pains continued in long bouts with only temporary relief from aspirin and phenacetin, and at times from heroin in full doses. Potassium iodide was later tried without much effect. Temperature rose to 99.5-100° F. (37.5-37.8° C.) in the evenings in the first two weeks and the headaches were then at their severest. Arterial resection was made on Jan. 26, with transient relief. Sweating was at times quite marked, and all through February there were recurrent rises of temperature to 99° F. (37.2° C.), but the headaches were much less severe after the middle of that month. On March 4, without any marked symptoms, she was observed to show no brachial or radial pulses in the right arm, while in the left arm with normal pulses the blood pressure was 100/60. She seemed well, though still weak, at discharge on March 22.

On April 23 she was feeling very well and getting about comfortably, and had had no headache since her discharge. The right brachial pulse was not felt and the left was only just palpable. Left radial pulse was larger than right. Blood pressure in left arm was 125/95 and in right 98/60. The temporal artery branches were neither palpable nor tender. There was no general arteriosclerosis. The E.S.R. (Westergren) was 129 mm. On July 24 further good progress was recorded apart from severe intermittent rheumatic pains and stiffness in knees and shoulders in damp weather. There were no headaches. She showed no sign of active rheumatism; there was crepitus in the knees. The main temporal arteries both had good pulses, but none of the branches were felt. No tenderness was present. All arm pulses had now increased, but those on the left were still fuller than on the right. Foot pulses were all normal. Blood pressure in the left arm was 140/80 and in the right arm 110/85. The E.S.R. was 110 mm. On Nov. 13 she showed marked limitation of shoulder movement on both sides following severe rheumatism in August. Radiographs revealed pronounced osteoarthritis in the right acromio-clavicular joint—nothing else. The right arm and wrist pulses were still reduced, but there had been a rise in blood pressure in the left arm to 184/98 and in the right to 160/100. Urine, n.a.d. Foot pulses were normal; no further headaches; no pulses in temporal branches. E.S.R. 68 mm.

Investigation Results.—E.S.R. (Westergren) on Jan. 17, 120 mm., subsequent readings throughout stay in hospital were at this level. A blood count on Jan. 9 showed: Hb, 80%; red cells, 4,080,000; colour index, 1; white cells, 7,300 (polymorphs 68%, lymphocytes 30%, eosinophils 1%, monocytes 1%). On Jan. 17 the blood Wassermann reaction was negative. On Jan. 13 the cerebrospinal fluid was clear and colourless:

pressure 65 mm.; total protein, 20 mg. per 100 ml.; Pandey's test negative; lymphocytes, 3 per c.mm.

Section of a Frontal Branch of Right Temporal Artery (Dr. H. C. Moore).—The media shows the greatest changes and an increase of collagen has replaced much of the muscle (Fig. B). It is uniformly infiltrated with lymphocytes, histio-

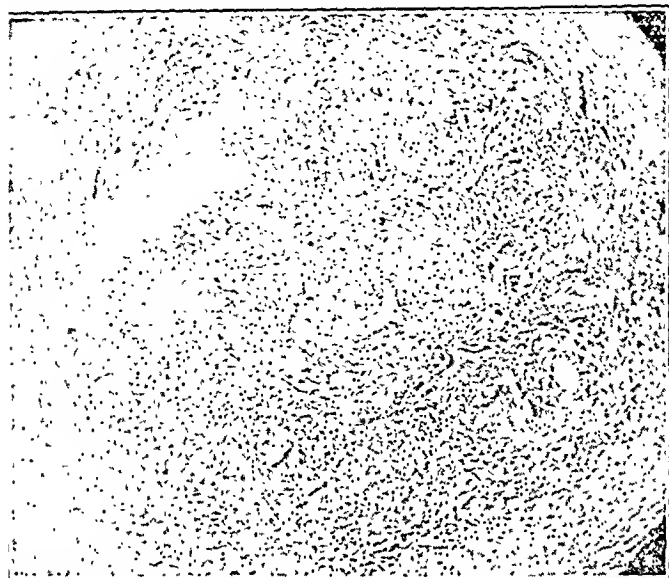


FIG. B.—Case 4. Media infiltrated with many cells and largely replaced by collagen. One area of necrosis (upper left). Lumen almost occluded by intimal proliferation. Adventitia not thickened.

cytes, and epithelioid cells, and shows a fibroblastic and giant-cell reaction (Plate, Fig. 2). There is one area of medial necrosis. The elastic tissue is absent. The adventitia is not thickened, and in one place shows a small area of inflammatory reaction similar to and continuous with the medial reaction. The vasa vasorum are normal. The intima is proliferated and the lumen of the artery almost occluded (Fig. B). The proliferating tissue is mucoid and collagenous, contains some lymphocytes and histiocytes, and is vascularized.

Comment on the Pathology of the Temporal Arteries

Summary (Dr. H. C. Moore).—"Study of these sections suggests that the changes start as an 'inflammatory reaction' at the adventitial-medial junction, which results in partial

destruction and replacement by collagen of the media and leads to fibrous thickening of the adventitia. Intimal hypertrophy follows as a secondary phenomenon. The cellular reaction is constantly lymphocytic and histiocytic; in most sections giant cells were present, and in two cases an eosinophil response was noted. Medial necrosis appears to be secondary to the inflammatory reaction; and in no section was it evident that its elastic tissue had proliferated in the manner described by the Birmingham investigators."

Our findings thus tend to harmonize those of Gilmour, who found the media chiefly involved, with those of Cooke *et al.*, who described an inflammation originating in the adventitia. With their marked medial involvement our sections particularly resemble those examined by Gilmour, but since one of the present cases showed no giant cells we do not consider that author's name for the condition, "giant-cell arteritis," an ideal title. The eosinophil response, noted in two of our cases, has been previously found in temporal arteritis (Bowers, 1940; Hoyt *et al.*, 1941; Scott and Maxwell, 1941), but we did not find the leucocytic infiltration of all the vessel coats mentioned by Gordon and Thurber (1946), and we consider absence of marked intimal cellular infiltration as a characteristic feature of the complaint.

The condition has features in common with both polyarteritis nodosa and thrombo-angiitis obliterans. Some of the chief points of distinction between the three complaints are included in the accompanying Table.

Discussion

The four cases illustrate many of the cardinal features of "temporal arteritis": (1) the occurrence of the condition in old people, more particularly in old women; (2) the extreme persistence and severity of its headaches; (3) the protracted nature of the complaint, only the fatal case being ill for less than four months, and one case being still unwell eleven months after the onset; (4) the general and widespread nature of the arteritis revealed even by the limited examinations open to us—temporal, posterior auricular, occipital, meningeal, pituitary, and brachial arteries all being involved in one case or another; (5) a variable intensity of the infection, with a general tendency to a severe fluctuant illness, and with direct fatalities in a small minority; and (6) a course and a pathology which suggest that the arteries are involved in a low-grade inflammation which is not syphilitic and which differs to some extent from other known forms of arteritis.

Table of Comparison of Forms of Arteritis

	Thrombo-angiitis Obliterans	Polyarteritis Nodosa	Temporal Arteritis
Clinical picture	Occasional early thrombophlebitis. Arterial thrombosis in limbs with intermittent claudication, loss of pulses, trophic changes, and gangrene in extremities. Loss of weight, but little fever or general upset	Very varied. Fever, tachycardia, sweating, loss of weight. Possible infarction of almost any viscus. Polyneuritis; muscular and joint pains. Anaemia and often pronounced leucocytosis	Low fever, sweating, malaise, anorexia, loss of weight often present. Muscular joint pains; joint stiffness and tenderness. Neck and jaw stiffness; painful movements. Tender and inflamed temporal artery
Headache	Not marked	Not marked	Very severe and protracted
Sex and age incidence	Almost entirely in young or middle-aged men	Four times more frequent in men; usually in young adults	Twice as common in females; rarely seen over 60
Type and site of lesion	Chiefly in limb arteries; retinal arteritis rare. No aneurysm formation	Nodular lesions in medium-sized and small muscular arteries (often visceral). Retinal arteritis rare. Aneurysm formation	Patchy arteritis, particularly in arteries to head and limbs. Rarely in visceral arteries. 50% incidence of aneurysm formation. No aneurysm formation
Arterial reaction	1. Acute stage: patchy lesions; all coats involved by polymorphs. 2. Chronic stage: fibrosis in and around vessels; organization and recanalization of the lumen; proliferative endarteritis	1. Acute stage: (a) Severe medial necrosis with fibrinous exudate. (b) Infiltration of all coats with leucocytes, histiocytes, and lymphocytes. Liability to aneurysm and rupture. 2. Chronic stage: Granulation tissue and later fibrosis in all coats	1. Inflammation at adventitial-medial junction. Cellular infiltration of all coats chiefly with lymphocytes and histiocytes. Medial necrosis and giant-cell formation. 2. Granulation tissue in both coats and secondary collagenous hypertrophy of intima
Number of affected arteries	One or two at most; number of affected arteries increases in later stages	Cellular exudate in acute phase	Increased collagen deposition in the arterial connective tissue
Phlebitis	Present	Present	Present in smaller arteries
Phlebitis in veins adjacent to inflamed arteries	Present	Phlebitis in veins adjacent to inflamed arteries	Absent
Course and prognosis	Usually fatal within a year (emaciation, haemorrhage, infarction of heart or kidneys, etc.)	Usually fatal within a year (emaciation, haemorrhage, infarction of heart or kidneys, etc.)	Usual slow recovery with tenderness. Occasionally fatal.

The absence of retinal arteritis in our group is unusual, this has been recorded in about half the cases so far reported.

The C.S.F. examination twice showed no definite increase in protein such as was found thrice by Cooke and his co-workers (1945). Similar negative findings have been recorded in the past (Horton and Magath, 1937; Hoyt, Perera, and Kauvar, 1941).

The three cases examined all showed microscopical evidence of inflammation, and although one had thrombosed vasa vasorum there was no suggestion that the condition could just be due, as was suggested by Horton and Magath, to spontaneous thrombosis of these tiny vessels in senile arteries. Quite apart from the clinical evidence of infection and from the histological evidence of arterial inflammatory reactions the patients were not ill, and in two of them there was neither marked hyperlipidaemia nor marked arteriosclerosis. Possibly the arteries of old age are less resistant to a virus, and this might account for the age incidence of the infection, but the condition is a simple outcome of marked arterial degeneration.

Treatment.—The infective agent being unknown, no specific treatment can be given. Nor does it appear to be related to other local or general infections that can be indicated. A superficial resemblance to rheumatism and syphilitic arteritis has led to the use of salicylates and iodides, but it cannot be said that either of these has a proved value. Penicillin has not yet been used.* The main treatment is palliative; an aspirin-and-phenacetin combination will in all but the most severe cases give hours of relief. The addition of heroin or codeine will be required in the more severe cases to give sleep at night. Removal of a part of an inflamed temporal artery has been found to diminish the headache in some cases, but as this is done in the stage of subsidence in two of our cases it is difficult from them to assess its therapeutic value. Certainly the pain immediately lessened in both, but in one it returned in a modified form after a short interval. A similar effect from resection of a piece of inflamed artery is recorded by Shannon and Solomon (1945), while Dantes (1946) found his case quite unaffected by the procedure. Where intracranial arteries are also involved, as in Case 3, no relief can be expected from such a measure. Nicotinic acid, tried in the Birmingham cases with possible benefit, was not used in our last two cases, as these patients were not willing to be long without their aspirin-and-phenacetin mixture.

Conclusions and Summary

Temporal arteritis is usually, at least, part of a fairly generalized arteritis in old people.

This condition is probably more frequent than is suggested by the 44 or so cases hitherto presented in the literature.

This form of arteritis only rarely occurs without declaring itself by temporal-artery inflammation, but in all suspected cases other palpable pulses should be observed for changes.

The main cause for suspecting the illness is a protracted headache associated with some general malaise in old people, and particularly in women.

In such subjects the tendency to diagnose a functional cause for the pain should be firmly resisted, and a careful watch should be kept on the temporal arteries.

Adequate doses of the coal-tar analgesics give considerable relief. The condition, though lasting many months in most cases, tends towards recovery in the majority. By this fact the nature of the vascular reaction to the infection sometimes can be made between it and polyarteritis nodosa and obliterans.

As this was written a failure with penicillin treatment has been reported by K. Robertson, *British Medical Journal*, 1947, 2, 168.

The cause of the infection remains unknown.

Four recent cases of temporal arteritis are recorded and the condition compared with other forms of arteritis.

I am greatly indebted to Dr. H. C. Moore, who has made the detailed histological reports on the arterial sections, and also to Dr. J. L. Hamilton Paterson for the interest he has taken in this subject and for the help he has given me in its investigation. The photographs reproduced here and on the special plate were taken by Miss M. H. Shaw.

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THREE CASES OF SYNOVIOMA

BY

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[WITH PHOTOGRAPHIC PLATE]

Considerable interest has recently been shown in atypical mesoblastic tumours arising in connexion with joints, bursae, and fascial planes, occurring most often in the lower limbs. The following are three such cases which at present are mainly interesting from the pathological point of view but are here reported from the clinical standpoint.

Case 1

The patient, a married woman aged 61, was first seen in November, 1946. She gave a history of "rheumatism" in many joints for some years and a pain for the past eight months in the left ankle. There was a swelling about the size of a plum on each side of the tendo Achillis posterior to the ankle-joint. This swelling was firm and tense, and was at first

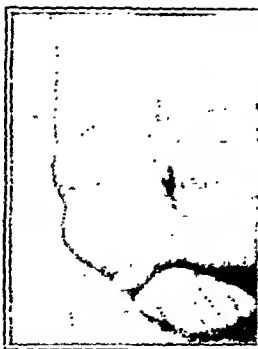


FIG. A.—Case 1. Leg before amputation.



FIG. B.—Case 1. Tumour of ankle after amputation.

thought to contain fluid. Aspiration was attempted, and a very small quantity of blood-stained fluid was recovered. The patient was admitted to hospital in January, 1947, and the swelling was exposed through an incision on the lateral side of the tendo Achillis. It was a firm mass, dumb-bell in shape, about the size of a tangerine orange, in the situation of the bursa. It was apparently encapsulated, and was enucleated with some difficulty.

A preliminary pathological report suggested that it was epiblastic in origin, but after further examination it was considered to be a mesoblastoma, probably synovioma. Radiography of the chest was negative for any secondaries, and that of the ankle negative for bone involvement; there were no palpable enlarged glands. On account of this pathological report operation was decided upon, and in March, 1947, amputation was performed at the junction of the middle and lower thirds of the thigh. The pathological report of the amputated specimen stated: "The specimen is a mesoblastic tumour—i.e., a synovioma—not resembling the original specimen, which is more fibroblastic than endothelial, with little haemosiderosis. It is involving the ankle-joint and tip of the astragalus." (Figs. A and B.)

Case 2

The patient, a married man aged 33, was first seen in March, 1947. He gave a history of a fall on the left leg eight weeks before which was not at the time followed by any symptoms. He stated that one week previously he had noticed a swelling in the left calf, and he walked with a slight limp. There was found to be a tense somewhat fusiform swelling in the left calf muscles. X-ray examination of the leg was negative for any lesion of the bone. The swelling was at first thought to be inflammatory in origin, but a biopsy was performed at the end of April. The pathological report on this was: "Myxosarcoma. If the leg is amputated please send for dissection to see where it is arising." He had a trace of sugar in the urine, but this cleared up. A glucose-tolerance test showed that the glycosuria was renal in origin. A radiograph of the chest was negative, and there were no palpable glands.

At the beginning of May amputation was performed at the junction of the middle and lower thirds of the thigh. The report of the amputated specimen was: "A mesoblastic tumour with cells of different type. Some are endothelial in appearance while others are fibrosarcomatous. This appearance conforms to the characteristics of a synovioma." (Plate, Fig. 1.)

Case 3

The patient, a married man aged 37, was first seen in April, 1947. He gave a history of several months' swelling in the adductor muscles of the right thigh; he also complained of some pain in the back. The swelling, which was hard and tense, was situated high up on the anterior internal aspect of the right thigh. Abduction of the leg was limited and the mass was fixed in the adductor group. A radiograph of the thigh was negative for bone involvement, and radiographs of the spine and lungs were also negative. There were no palpable glands. Biopsy was performed in May, and the pathological report on this was: "The specimen is most unusual, and is undoubtedly malignant. It is an undifferentiated reticulosarcoma, and may have arisen from a fascial plane. Further report will follow." After consultation with Mr. Thurgar, the consultant radiotherapist, it was decided that in view of the nature of the tumour and of its situation it would be best treated by a combination of surgery and radiotherapy, and in order to achieve continuity in this the patient was transferred to the Royal Victoria Infirmary, Newcastle-upon-Tyne.

At first it was thought that it would be necessary to do a wide resection, but it was finally decided that it would be possible to get above the mass by disarticulation at the hip-joint, and this was performed by Mr. McIvor. The pathological report on the amputated specimen was: "The specimen is a large tumour largely composed of undifferentiated cells with no tendency to haemosiderin pigmentation. There are some areas of haemorrhage, anaplastic, and has a few areas of endothelial cells. It is developing in the adductor muscle group and is best classified as a synovioma." (Plate, Fig. 2.)

From the point of view both of treatment and prognosis these cases are necessarily at the moment speculative. There have been no signs of recurrence, but it is interesting that three such cases should occur in a relatively small community in so short a time.

It is of course too early to assess the ultimate prognosis of these cases, but it may be stated that, up to date, Cases 1 and 2 are fit and well, both having put on weight with sign of recurrence, local or otherwise. Case 3 died in November, 1947, the cause of death being multiple generalized recurrences in the lungs and abdominal glands. Unfortunately it was impossible to get permission to do a necropsy, so that the exact nature of these cannot be described.

In addition to Mr. Thurgar and Mr. McIvor, mentioned in the text, my thanks are due to Dr. Faulds, Carlisle, for his most helpful interest and discussions on the pathology of the above cases.

The photographs were taken by the author.

BALANTIDIAL DYSENTERY

REPORT OF A FATAL CASE IN ASSAM

BY

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AND

C. R. PECK, M.B.

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[WITH PHOTOGRAPHURE PLATE]

This form of dysentery is distinctly rare, and has been studied much less than the commoner dysenteries. Cases have been reported from temperate and tropical climates; they have been found in Asia, Africa, Europe, and America. The balantidium commonly found in pigs is regarded as the ciliate responsible for human infections.

Wenyon (1926) cited Malmsten as having in 1857 covered this parasite in two patients suffering from dysentery, and Walker as having stated in 1913 that 137 cases had been recorded in the 56 years following Malmsten's discovery, and of these 57 had been reported from the Philippines. Strong (1942) states that Wenyon, working among prisoners in Manila, found ciliated parasites three times in 4,000 routine examinations of dysenteric stools, that Anderson in the Andaman Islands discovered them five times in 920 dysentery stools, and that he reported seven cases among 142 mental hospital cases in South Carolina.

Mortality figures vary considerably. Strong (1942) gives 29% in 111 Philippine cases, and Walker, cited by Wenyon (1926), gives 7% in 57 Philippine cases and points out that of 40 necropsies recorded in the literature ulceration of the large intestine was present in 36.

Very few cases have been recorded in India. Dasgupta (1944) cited Sinton as having recorded the first case in 1923, and Hermitte, Sen Gupta, and Biswas as having reported balantidial infection as common in the tea gardens in Cachar, Assam, in 1926. Acton and Knowles (1928) state that during many years of work in India they had not encountered the human infection except in one case. They also mention a fatal case which occurred at the Medical College Hospital, Calcutta, in 1926 (Major S. I.M.S.). Das Gupta (1944) states that "about half a dozen cases of balantidiosis, including a fatal infection, have been observed in Calcutta." Claireaux (1945, unpublished observations), working among West African soldiers, found balantidia three times in 2,403 routine examinations of stools.

We present this report mainly because of the occurrence of fatal balantidial dysentery in India, and also to point out the difficulties which

net with in diagnosis. The following case was discovered in the course of routine histological examinations in a military laboratory in Shillong, where large numbers of specimens were sent from units east of the Brahmaputra. Perusal of the laboratory records for a period of almost three years, in which time approximately 260 pieces of intestines had been examined, revealed no other instance of human balantidial ulceration.

Case Report

An Indian sepoy aged 30 was admitted to a military hospital in Assam on Oct. 21, 1944, with a two-day history of diarrhoea, with blood and mucus. On an average there were five or six motions a day. No previous history of dysentery or intestinal infection could be obtained. The patient's general condition was poor. He had slight pyrexia, and was markedly dehydrated. On examination he was tender over the caecum and pelvic colon. Microscopical examination of the faeces showed an indefinite exudate in which no entamoebae, balantidia, cysts, or ova were seen. Bacteriological cultures failed to produce pathogenic organisms.

On Oct. 22 his condition was worse. The diarrhoea was more pronounced, his bowels moving six to seven times in the day. Again the stools were negative for parasites and pathogenic bacteria. The remainder of the history is one of rapid deterioration, ending fatally on Oct. 24—that is, three days after admission to hospital.

Necropsy.—This was carried out seven hours after death. Significant findings were as follows:—Small intestine: as of congestion were seen in the terminal ileum. Large intestine: a few ulcers covered with greenish sloughs were found in the caecum and ascending colon; a large collar of exudation covered with green tenacious sloughs was seen extending over the mucosa of the pelvic colon for 2 to 3 in. (5 to 6 cm.). The other organs showed no gross abnormalities.

Histology—Pelvic Colon.—Sections revealed a large ulcer overhanging margins penetrating well into the submucosa but short of the circular muscle layer; at each side it extended for some distance into the submucosa; the walls and floor were lined by structureless pink-staining hyaline material in which cellular remains and nuclear fragments could be seen. The mucous and submucous layers adjacent to the ulcer and for a considerable distance from the actual margins showed pronounced hyperaemia and oedema and were infiltrated with inflammatory cells: these were mainly lymphocytes and polymorphs, with a proportion of plasma cells and histiocytes. The muscle fibres beneath the floor of the ulcer showed no structure and were infiltrated with round cells and polymorphs. The subserous coat was also hyperaemic and infiltrated with exudative cells. Moderate numbers of parasites were found scattered haphazardly throughout the walls of the floor of the ulcer and also in the subjacent mucous and mucous coats. They were large, round or oval in shape, on an average measured 54.4μ by 37.3μ . Many had ciliated flagella and funnel-shaped depressions at the anterior poles. The cytoplasm was granular and contained ingested red blood cells and showed prominent macronuclei and one or two large oles. These parasites were found single and in small groups in the tissue spaces of the submucous coat (see Photograph Plate) and lying inside and between the mucous glands. All numbers of degenerate forms staining deep purple or brown were seen among the hyaline acidophile debris in the floor of the ulcer. These parasites had the typical morphology of *midium coli*.

Commentary

This was a case of an acute illness, alleged to be of five days' duration, in which the presenting features were abdominal pain, diarrhoea, and dehydration. Repeated microscopic and cultural examinations of the stools failed to reveal the cause of the diarrhoea. One of the (R.P.) who was responsible for these examinations considered it unlikely that parasites so large as balantidia could have been missed.

In the absence of laboratory findings a provisional diagnosis of amoebic dysentery was made. These two forms of dysentery may be similar in their clinical and post-mortem findings. In this case the gross anatomical appearances of the pelvic colon and the histological features of the ulceration were those often found in amoebic dysentery. The discovery of the balantidia, however, suggested an alternative diagnosis.

Summary

Fatal balantidial dysentery is regarded as distinctly uncommon in India.

The clinical, post-mortem, and histological features of a case in an Indian sepoy have been described.

We are indebted to Sergeant D. Canwell, R.A.M.C., for technical assistance and to Professor R. J. Pulvertaft for the photomicrographs.

ADDENDUM.—Since this article was completed Shun-Shin (1947) has reported ten cases of balantidial dysentery, one of which was fatal. He emphasizes the fact that in balantidial dysentery the clinical and pathological features may closely resemble those of amoebic dysentery.

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INTRAUTERINE RUPTURE OF THE UMBILICAL CORD

BY

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[WITH PHOTOGRAPHIC PLATE]

Intrauterine rupture of the umbilical cord is a rare condition, and the recent experience of two cases in the practice of this hospital prompted this brief report. In both cases the rupture was due to absolute shortness of the cord—in one associated with a normal foetus which survived in spite of moderate blood loss; in the other there was a gross exomphalos and deficiency of the anterior abdominal wall, the foetus succumbing soon after delivery.

Case 1

The patient was a primigravida aged 34. The estimated date of delivery was Aug. 15, 1946. In the third month of her pregnancy a mucoid carcinoma of low-grade malignancy was removed from the right axillary tail by local excision. This was followed by dissection of the glands in the right axilla. These showed no naked-eye or microscopic evidence of malignancy. Her antenatal period was otherwise uneventful and she went into labour spontaneously on July 31.

Full dilatation of the cervix was reached after a normal first stage lasting 18 hours. In spite of good uterine contractions during the second stage of labour the foetal head failed to descend. After 2 hours and 20 minutes in the second stage the patient was examined under anaesthesia. The occiput had rotated into the hollow of the sacrum. Manual anterior rotation was carried out without difficulty and Neville's forceps were applied. Moderate traction failed to secure descent of the foetal head. The forceps were removed and the patient was re-examined. The head was in a satisfactory position, with the occiput anteriorly well down in the pelvic cavity.

The diagnosis is considered, and the conclusion is reached that the condition is rarely suspected before the cervix has dilated fully and the head has failed to advance. The umbilical cord is unlikely to withstand moderate traction with obstetric forceps, but, as illustrated by Case 1, provided the

minimized by rapid delivery. Inversion of the uterus must be a very rare accident, and there are few records of placental avulsion due to short cord.

My thanks are due to Dr. E. E. Philipp for his help, and to Mr. S. Searfe for his excellent photograph.

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Medical Memoranda

Pyopericardium

The majority of authors strongly favour surgical drainage. Silverberg (1940) could find only one case of recovery without operation. He regarded paracentesis as dangerous, but allowed that it might conceivably be justified as a diagnostic measure; he then went on to report one case of *Staph. aureus* pyopericardium with recovery after repeated tapping. Whittemore (1921) and Vander Veer and Norris (1939) each reported recovery after tapping only. Applebaum (1945) recorded one case which recovered after aspiration only. Wadsworth (1942) reported two cases, one of which recovered after aspiration. I have not been able to find any record of a considerable series treated by aspiration. Shipley and Winslow (1935) analysed 99 cases treated by surgical drainage; 49 recovered, while 46 died. Norman and Ainsworth (1945) reported one case treated by catheter drainage and penicillin instillation.

CASE REPORT

A prisoner of war in Japanese hands, aged 25, was found to have left-sided tuberculous empyema on his release in September, 1945. Thick pus containing *Mycobacterium tuberculosis* was aspirated. He was evacuated to New Zealand, where aspiration was repeatedly carried out. In April, 1946, he returned by hospital ship to England. He was considered then fit to go on leave. In May, however, he developed low backache and had a continuous fever up to 103° F. (39.4° C.) for over two months. In August the leucocyte count was 10,500, with 68% neutrophils. At the same time pericardial effusion was diagnosed clinically and confirmed by x-ray examination and aspiration of green pus containing *Staph. aureus haemolyticus* which was penicillin-sensitive. Six aspirations, each of about 200 ml. of pus, were carried out over a period of four weeks, and on each occasion 400,000 units of penicillin was introduced. By the middle of September he was afebrile. It was thought at this time that the pericarditis was primarily tuberculous, with a secondary *Staph. aureus* infection superimposed, but Loewenstein culture and direct examination of Ziehl-Neelsen films were negative throughout for *M. tuberculosis*.

In October recurrence of fever was treated without effect by a course of sulphadiazine, and subsequently a parenteral course of 3,000,000 units of penicillin was given, also without effect. Severe and persistent pain in the left shoulder was a prominent symptom.

On Nov. 27 he rapidly became gravely ill with cardiac tamponade and pleuro-pericardial friction. Blood pressure was 95/65 mm. Hg. with pulsus paradoxus. A skiagram showed gross increase in the cardiac shadow. Severe abdominal pain also occurred, and physical examination suggested peritonitis. The aspirations had previously been performed by the subphisternal route, and it was thought that as might be leaking down one of the former needle tracks. On the same day parasternal paracentesis yielded 39 oz. (1.1 litres) of thick pus containing a pure culture of *Staph. aureus haemolyticus* which was again penicillin-sensitive, although the sensitivity was one-third that of the standard Oxford strain. Intramuscular penicillin, 50,000 units three-hourly, was given for nine days, and the critical signs gradually subsided without surgical intervention.

The pericardium was aspirated through a large-bore needle on alternate days for 14 days, and 100,000 units of penicillin was injected into the pericardium through a finer needle twice daily for x days and once daily for a further five days. Cultures of the pus still yielded a pure growth of *Staph. aureus haemolyticus*, and no further penicillin was used. The third to seventh aspirations were

accompanied by pericardial lavage with normal saline, washing being continued until the returning fluid was only slightly turbid.

On Dec. 12 the hospital was closed and the patient was moved 100 miles by ambulance without harm. He has required no further aspiration. Unfortunately an x-ray film taken in July, 1947, shows that a previously static focus of tuberculous infiltration in the right lung has again become active and now requires further treatment. Nevertheless he has been ambulant for about two months, free from symptoms of cardiac disability, and has enjoyed 10 days' leave from hospital.

COMMENT

This case seems to justify a contention that pericardial paracentesis holds out good hope of success in the treatment of pyopericardium, and that the former strong bias towards surgical intervention should now be reviewed. The combination of aspiration with intrapericardial lavage and penicillin presented no great technical difficulties, and there was no evidence of any irritation of the pericardium by penicillin. The final outcome, apart from the tuberculous infection, remains conjectural, but eventual pericardial symphysis appears inevitable, although there are no signs of it at present.

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A Fatal Case of "Malignant" Syphilis

The general and skin manifestations of early syphilis respond quickly to penicillin therapy, and, as Dexter and Tucker (1946) have shown, gummata of the skin can also be expected to improve rapidly with penicillin treatment.

The following case report may be of interest for two reasons: (1) "Malignant" secondary syphilis with profound toxæmia and weakness is very rare; in 857 cases of secondary syphilis Kampmeier (1944) saw only one case. (2) Penicillin therapy produced very little effect on the skin or mouth lesions; it had no effect on the toxæmia, the case ending fatally.

CASE REPORT

The patient, a widower aged 59, was seen on Sept. 18, 1947, at the request of Dr. Veale, who had been called in consultation by the patient's doctor. There was a history of exposure to infection between six and nine months previously. About the end of May, 1947, a rash appeared on the trunk and spread to the limbs and genitals. His voice became hoarse, he started to lose weight, and there was increasing weakness.

On examination he was extremely emaciated, his skin had a dull café au lait colour, the voice was hoarse, and he was so weak that he could scarcely move himself in bed. He had an extensive rupial eruption on the trunk and limbs. There were indurated impetiginous ulcers on the glans penis. Over the shaft of the penis and scrotum moist papules had coalesced to form moist and crusted patches. A few mucous patches were seen on the buccal mucosa. He had an indurated glossitis and ulcers on the margin of the tongue. In the midline of the palate there was gummatous ulceration, but it had not penetrated deeply. Ulceration was also present in both fauces. The inguinal and superficial cervical glands were enlarged. Examination of the blood showed: red cells, 4,800,000 per c.mm.; white cells, 7,500 per c.mm. (differential count normal); Wassermann reaction, positive. The temperature was 93° F. (36.7° C.), pulse 90, and respirations 20.

Treatment.—Penicillin therapy was started on Sept. 18, 10,000 units in saline being given three-hourly for three days, the dosage then being increased to 40,000 units three-hourly. The total penicillin given was 2,650,000 units. With this treatment the moist patches on the penis and scrotum became smaller and drier, and the ulceration of the tongue improved. Penicillin had no effect on the general condition, and the patient gradually became weaker and his mind very confused. General medical measures failed to improve his condition. "Mapharside," 0.03 g. was also given, but the patient was in *extremis*, and died on Sept. 27.

At post-mortem examination a slight hypostatic congestion of the lungs was seen, but no other macroscopic abnormality, and death appeared to have been due to the toxic infection.

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Reviews

INTRACELLULAR MISSIONARIES

Nucleic Acid. Symposia of the Society for Experimental Biology No. 1. (Pp. 290; illustrated, 35s.) Published for the Company of Biologists on behalf of the Society for Experimental Biology by the Cambridge University Press, 1947.

This book, the first of an annual series of reports, contains the 19 papers read in 1946 at the Cambridge meeting of the Society for Experimental Biology. It sets a high standard for the rest of the series, both in the presentation and in the importance of the subject matter. In the words of one of the contributors, C. D. Darlington: "We are now witnessing, after the slow fermentation of fifty years, a concentration of technical power aimed at the essential determinants of heredity, development, and disease. This concentration is made possible by the common function of nucleic acid as the molecular midwife of all reproductive particles. Indeed it is the nucleic acids which, in spite of their chemical obscurity, are giving to biology a unity which has so far been lacking, a chemical unity." The exaltation of nucleic acid to such prominence is due to a series of independent and surprising discoveries. Thus, cytochemical tests have shown that nucleic acid is not restricted to nuclei but occurs also in the cytoplasm of normal and abnormal cells, especially in regions of active protein synthesis. Micro-analysis by ultra-violet absorption enables purines to be located in cell structures. Titration curves indicate that nucleic acids are not uniform polymers of a tetranucleotide unit but are assembled from irregularly distributed mononucleotides, which makes possible the existence of a large number of isomeric nucleic acids, so that variety in gene constructions is provided for. Virus studies have shown that some viruses at least are crystallizable nucleoproteins.

The paradoxical status of nucleic acid in chromosome mechanics is being revealed. Built up by the chromosomes, it is used to build up the chromosomes, each unit being thereby endowed with a set of physiological attributes and the additional attribute of being able to reproduce the set in the daughter cell. Consequently the nucleic acids can be regarded as fertile missionaries, propagating their kind as well as their creed, sometimes to the detriment of the entire community when the agent happens to be a virus. The evidence for these conclusions, and much else, is given and criticized in the several contributions to this stimulating symposium.

W. R. FEARON.

ASPECTS OF GOITRE

On Goitre and Allied Diseases, Especially Thyrotoxicosis. With Particular Reference to the Surgical Treatment. By John Hertz, M.D. Translated from the Danish by Hans Anderson, M.D. (Pp. 501; illustrated, 40s.) Copenhagen: Einar Munksgaard. London: Geoffrey Cumberlege (Oxford University Press), 1943.

The publication date of this book should be noted. In medicine, especially in endocrinology, five years are a very long time. This becomes relatively even longer when half of them are years of war, when the ebb-tide of information across almost impenetrable frontiers is a slow and laborious process. This book is of date through no fault of its own. It contains no references to thyroid and its derivatives, which have revolutionized not only the treatment but the understanding of thyroid disease. The more recent English work on the ophthalmic aspects of Goitre disease seems to be unknown to the author, and the amount of earlier work is commendably international. The discussion of the nodular complications of thyrotoxicosis is a masterpiece of confusion, the thyroid and the thymus; the discussion of the relationship between the thyroid and the parathyroid glands is most inadequate. He does not mention the fact that the thyroid gland is a source of calcium.

The book is a very good one, and it has a certain mood of authority. It is a pity that it is so old, and that the surgeon who wrote it is no longer with us. The book is a very good one, and it has a certain mood of authority. It is a pity that it is so old, and that the surgeon who wrote it is no longer with us.

king's evil, for instance, was scrofula, not goitre, and there is no reason to believe that Dr. Samuel Johnson suffered from thyrotoxicosis. He has not always found it possible to make a critical assessment of his vast reading, which is understandable when one calculates, from internal evidence, that his personal experience was then limited to about 100 cases. It is natural in an author of such small practical experience that he should sometimes have difficulty in making up his mind. He is notably confused on the question of ligation of the inferior thyroid arteries, and it is clear that he had then never split the sternum. He exaggerates the difficulty of operations for relapse and wastes space in discussing various complications of treatment which from time to time have had their day and departed to deserved oblivion.

Despite all this, the book is of very great value, not as a contribution to knowledge, but as a source book. This is especially true of the historical chapter; with a little expansion it is worthy of separate publication. It will be very interesting to read a second edition, which it is to be hoped the author will prepare when he has treated 1,000 cases of thyrotoxicosis.

RAYMOND GREENE.

EYE TREATMENT

Office Treatment of the Eye. By Elias Selinger, M.D. (Pp. 542; 67 figures, 43s.) Chicago: The Year Book Publishers, Inc. London: H. K. Lewis and Co. 1947.

This is a novel type of book in which the author discusses the aetiology, symptomatology, and treatment of those diseases of the eye that can be adequately tackled in the consulting-room and the home. This necessarily results in a somewhat artificial choice of subject matter, and Selinger is certainly courageous in the procedures he carries out without hospital facilities—iridectomy for a prolapsed iris after trauma, the removal of a foreign body penetrating the cornea and into the anterior chamber by pushing it backwards through the cornea with a knife introduced into the anterior chamber under general anaesthesia, plastic operations on the lids, and so on. In fact, the book is a general textbook of ophthalmology which omits description of the major surgical procedure.

The teaching throughout is in general sound and up to date, and one or two suggestions are novel (in the reviewer's experience) and interesting—such as the formation of a new punctum by passing a suture through the everted punctum to emerge on the conjunctival surface of the lid and leaving it for some weeks until epithelization occurs. As is common in America the author advises us to correct errors of refraction up to the age of 50 under homatropine mydriasis and as a routine to measure the intraocular tension tonometrically before and after the pupils are dilated in all patients over 30 and preferably over 25, which seems an elaborate procedure. Despite these precautions the author states that such a routine has precipitated a congestive glaucoma in three cases in his experience. He claims that these patients were better off "because a glaucoma which might otherwise have remained undetected was discovered," but from the social and medico-legal point of view it might be argued that the advent of an acute glaucoma, if it cannot be anticipated, is more happily left to an act of God than ascribed to the ophthalmologist. The book is interesting and instructive, well written, and luxuriously produced.

STEWART DUKE-ELDREDGE

RESTORING FACIAL CONTOUR

Rhinoplasty and Restoration of Facial Contour. With Special Reference to Trauma. By Jacques W. Maliniac, M.D. (Pp. 341; 214 figures, \$7.50.) Philadelphia: F. A. Davis Company, 1947.

Dr. Maliniac has written an interesting book, though its use to the British surgeon is limited. In the first three chapters he discusses a few points of historical and anatomical interest, well illustrated by excellent diagrams. He then considers the aetiology and diagnosis of fractures of the nose. The author stresses the need for reduction soon after injury because these fractures consolidate within fourteen days. There is a detailed account of damage to the nasal septum and of operative measures for correction. The author refers to concomitant fractures of the maxilla but gives the impression that severe fractures of the nasal bones and septum are of greater

importance. He describes a method of local analgesia for all reparative surgery of the nose, but it is not one that would meet the requirements of British surgeons.

The use of proflometers and plaster casts that the author recommends for the planning of reparative operations is of little value and may be described as "window dressing." He gives a summarized account of the types of splint used to maintain reduction; in my opinion the leather headcap illustrated is useless. The author recommends using intranasal splints, which in turn are fixed to extranasal splints; it is the experience of plastic surgeons in Britain that intranasal splints are badly tolerated and usually do more harm than good.

He quotes Brown's work on composite free grafts in detail, and the results fully justify his doing so. A large section of the book comprises illustrations and brief descriptions of well-known methods of repair of nasal defects and injuries of the septum. In the section on radiology he considers simple fractures of the nose; the discussion is a repetition of the elementary anatomy of the nose described earlier in the book.

F. T. MOORE.

HOSPITAL ADMINISTRATION

Secretarial Practice and Office Administration for Hospitals. By Capt. J. E. Stone, C.B.E., M.C., F.S.A.A., F.R.Econ.S., F.S.S., F.H.A. Foreword by Sir Ernest Pooley, K.C.V.O., M.A., LL.B. Introductions by Capt. H. Brierley, O.B.E., M.C., and Mr. S. Clayton Fryers, F.H.A. (Pp. 204. 21s.) London: Faber and Faber. 1947.

All interested in hospital administration will find any contribution by Capt. Stone on a subject connected with it well worthy of careful attention. His new book will serve as a useful companion volume to his *Hospital Organization and Management*, already regarded as a classic. He writes in the same forthright manner, for he knows his subject thoroughly; he is satisfied that there is a right way of doing a job and has no hesitation in saying so. He discusses his subject in a practical way, no space being given up to policy or theory. He shows clearly that the office work of hospitals is not necessarily different from similar work in business, and that there is no more justification for antiquated or slipshod methods in the one than in the other. Indeed business men might well study this book: much of it—particularly the chapter on style of writing, in which he criticizes the approved clichés—ought to reach a wider public. We thoroughly recommend the book to all hospital authorities.

ANDREW TOPPING.

PHARMACOLOGY FOR STUDENTS

The Essentials of Materia Medica, Pharmacology and Therapeutics. By R. H. Micks, M.D., F.R.C.P.I. Fourth edition. (Pp. 399. 18s.) London: J. and A. Churchill. 1947.

This book was first published in 1935, and since it has now reached a fourth edition it must be fairly widely read by medical students, most probably in preparation for examinations in pharmacology. Teaching on the use of drugs can be based either on their action as seen in the animal or on clinical experience. In recent years instruction founded on experimental observations has been increasingly successful, as may be concluded from the growing appreciation of books like that by Goodman and Gilman in America and those by Clark and by Gaddum in Britain. In so far as the medical student can be taught to link up his clinical work with his knowledge of what has been shown by experiment he ceases to belong to the class of doctor who has been obsolescent in the U.S.A. since 1920.

This book represents predominantly the clinical experience of the author, which he presents in many places in a somewhat dogmatic way. For many students this offers the advantage that the subject-matter is easy to learn, and in so far as pharmacology is reduced to a nodding acquaintance with the medical use of a large number of substances the student should find all he needs to know, including accounts of drugs introduced very recently. In this edition the author has revised the section on general anaesthetics and narcotics, but it may be doubted how much wiser the student will be after reading the account of the stages of narcosis. This seems to be an exception to the clarity of presentation which prevails elsewhere.

J. H. BURN.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received.]

British Surgical Practice. Vol. II. Edited by Sir Ernest Rock Carling, F.R.C.S., F.R.C.P., and J. Paterson Ross, M.S., F.R.C.S. (Pp. 540. £3.) London: Butterworth. 1948.

Conditions listed alphabetically from "Backache" to "Burns."

Ächte Äussere Prozesse. By Dr. Josef Riese. (Pp. 326. 40 Swiss francs.) Vienna: Verlag Wilhelm Maudrich. 1948.

A manual of acute external surgical conditions.

Medicine. Essentials for Practitioners and Students. By G. E. Beaumont, M.A., D.M., F.R.C.P., D.P.H. 5th ed. (Pp. 631. 30s.) London: J. and A. Churchill. 1948.

Much new material has been added to this well-known textbook.

Nature's Own Zoo. By C. M. Beadnell, C.B., F.Z.S. (Pp. 141 7s. 6d.) London: Watts. 1948.

Stories of natural history for children.

Medizinische Terminologie. By Dr. Rudolf Abderhalden. (Pp. 1,213. 32 Swiss francs.) Basle: Benno Schwabe. 1948.

A medical dictionary, in German.

Telepathy and Medical Psychology. By Jan Ehrenwald, M.D. (Pp. 209. 12s. 6d.) London: George Allen and Unwin. 1947.

A short account of telepathy occurring in psychotherapy.

Hindu Psychology. By Swami Abhinandana. (Pp. 241. 12s. 6d.) London: George Routledge. 1947.

A criticism of Western psychology and an introduction to Hindu thought.

Fundación Lucas Sierra. First Jornada Clínica, 1947. 1Pp. 304. No price.) Chile: Uña del Mar. 1947.

Papers on various topics, including diabetes, cholecystitis, and jaundice.

Diseases of the Nose, Throat and Ear. By W. L. Ballenger, M.D., F.A.C.S., and H. C. Ballenger, M.D., F.A.C.S. 9th ed.; illustrated. (Pp. 993. 63s.) London: Henry Kimpton. 1947.

A textbook for the specialist: much new material for this edition.

Microscopic Anatomy of Vertebrates. By James I. Kendall, Ph.D., D.Sc. 3rd ed.; illustrated. (Pp. 354. 30s.) London: Henry Kimpton. 1947.

A manual for the student of comparative anatomy.

A Textbook of Mental Deficiency. By A. F. Tredgold, M.D., F.R.C.P., F.R.S.Ed. 7th ed. (Pp. 524. 30s.) London: Baillière, Tindall and Cox. 1947.

Mental deficiency is discussed and types described and illustrated with photographs.

Handbook of the Scientific Instrument Manufacturers' Association of Great Britain, Ltd. (Pp. 219. 10s. 6d.) London: The Secretariat, 26, Russell Square, W.C.1. 1947.

A list of member firms and their products.

Esiste una Vaccinazione Spontanea nella Tuberculosis? By Amanda Sala. (Pp. 55. No price.) Padova: Società Cooperativa Tipografica. 1947.

A monograph on vaccination against tuberculosis by means of dried bacilli taken by mouth.

L'Œuvre de Louis Pasteur. By Henri Simennot. (Pp. 106. 220 francs.) Paris: Masson and Cie. 1947.

A short review of Pasteur's work.

Vaccination par le B.C.G., par Scarifications Cutanées. By L. Nègre and J. Brety. 2nd ed. (Pp. 107. 150 francs.) Paris: Masson et Cie. 1947.

A monograph on B.C.G. vaccination in man.

La Pénicilline en Oto-Rhino-Laryngologie. By J. Terracol and J. Lapouge. (Pp. 150. 220 francs.) Paris: Masson et Cie. 1947.

A monograph on the clinical applications of penicillin.

SATURDAY MARCH 6 1948

Dr. Taylor persuasively examines some of the points at issue and tries to whittle away each one of them. The only positive suggestion he has to make is that those who wish

should be able to pay their basic salary to the superannuation fund—a somewhat ingenuous avoidance of the real objection to the basic salary. Dr. Taylor, in fact, advises the medical profession to come into the Service and then get the Act amended when it is seen to be unworkable in this, that, or the other respect. But what confidence can the medical profession have in their ability to do this once they are all in a State medical service, knowing that when they were independent they failed to secure modifications which would make it possible for them to enter the Service? And Dr. Taylor once more begs the question in his statement that “any attempt to frustrate the law by extra-parliamentary means is bound to end in failure”; and he reminds us of the General Strike of 22 years ago. The position of the medical profession is perfectly clear. It seeks to amend the Act and conditions of service so as to make it possible for doctors to take part in it as willing co-operators with the Government in providing an efficient medical service for the nation. If the medical profession cannot persuade the Government to introduce such modifications it remains free in the terms of the Act itself and in accordance with the utterances of the Minister of Health not to accept service under the Act. The position is quite unambiguous, and Dr. Taylor knows it.

We have asserted over and over again in these columns that it is the intention of the present Government to introduce a full-time salaried medical Service. It is because of this intention that the medical profession resists the payment of the general practitioner partly by salary. Government spokesmen have rubbed in the fact that it is by salary that they will be able to control general practitioners, because of the Treasury's fear that the doctor's certificate will lead to a heavy drain on the social insurance funds. The motive behind basic salary is distrust of the doctor. Dr. Taylor considers that the medical profession is safeguarded by the Government's declaration that it has no intention of introducing a salaried service. Those who recall the Government's promise in 1940 that the E.M.S. was not a step towards the introduction of a State hospital service now know what value to attach to Government promises made, no doubt, in good faith at the time they were made, but quickly forgotten after a lapse of a few years. The fears of the medical profession are endorsed and completely justified by a published statement made by Mr. Somerville Hastings, M.P., in December,¹ in the same month in fact that Mr. Bevan was putting before the Negotiating Committee his proposals for a universal basic salary. “*Before long,*” Mr. Somerville Hastings writes, “*the logic of events will make clear that for a really efficient Service full-time salaried officers are essential*” (our italics). Mr. Somerville Hastings is a very influential medical figure in the Labour Party, and the profession should be grateful to him for giving them this warning and for having the honesty to state what we know to be the intention of the Labour Party. “The National Health Service Act,” he writes in the same article, “makes a beginning of the socialization of one of the learned professions and the conversion of a series of commercial enterprises into a national service run for the public good. Of

course,” he adds, “it is only a beginning. . . .” He observes that the health centres provided for in the Act are an essential part of the new Service. “An inalienable part of the health centre idea,” he observes, “is team work by all who are working in and from these centres”: and then comes another warning which general practitioners should take to heart: “But how can this be possible in the case of doctors paid by capitation and inevitably, therefore, competing with one another for patients?” In the light of these observations it is easy to understand why the Minister of Health ignores the Negotiating Committee's request that the method of remuneration by capitation fee should be embodied in the Act, and why he adheres to the idea of a universal basic salary. The plan behind the present National Health Service Act is plain. It is a State medical service, and if the present Government is given another five years of office in the next election Mr. Somerville Hastings's logic of events will be followed to a logical conclusion.

LUPUS VULGARIS AND VITAMIN D

For many years the management of lupus vulgaris has been a troublesome problem to the dermatologist. Though fortunately not a particularly common disease, its chronicity and resistance to treatment combined with the unsightliness it so often produces have made it one of the most awkward of the problems connected with tuberculosis. It is true that considerable progress has been made during the last half-century, beginning with the discovery by Finsen of the beneficial effect of light, a discovery which was developed by Sequeira with much success at the Queen Alexandra Institute of the London Hospital, for many years the Mecca of sufferers from cutaneous tuberculosis. More recently local treatment by means of concentrated light has been reinforced by general light baths, and this has reduced the percentage of refractory cases very considerably; but it has always been a prolonged and tedious method of treatment, and the great expense involved has discouraged other institutions from emulating the example of the London Hospital in making special provision for Finsen-light treatment. The public conscience was aroused long ago over the treatment of tuberculosis, but lupus, being a non-fatal complaint, has never been taken as seriously as it deserves by the various health authorities concerned. Special centres with an adequate number of beds and staffed by the appropriate specialists have never been provided. All over the country there are ill-equipped outpatient clinics at which patients suffering from lupus attend more or less regularly for many years. Some few are benefited and even cured, but there are many in whom the disease remains stationary or even progresses. Fortunately there is now fresh hope for these patients.

The usefulness of cod-liver oil in the treatment of many forms of tuberculosis has of course long been known, and it appears that it occurred quite independently to Charpy in France and to Dowling in London to try the effect on lupus of treatment with large doses of calciferol. Charpy began his work in 1940, but his results were first published

¹ *Medicine To-day and To-morrow*, Dec., 1947, 6, No. 4, 12.

in 1943 in an extremely short communication to the Lyons branch of the French Society of Dermatology in July of that year, and this was followed in December by another communication to the Paris meeting of the Society. And it may here be remarked that surely there never was a discovery of a new therapeutic method of great importance so modestly announced. Dowling began his observations in 1943, and his first patient was a severe case which had been treated unsuccessfully by Finsen light and general light baths for a number of years, and which after three months' treatment with calciferol improved dramatically. We suspect that in this first instance the calciferol must have been given as a forlorn hope. Thus encouraged, Dowling and his colleague Prosser Thomas collected all the cases they could find, and in November, 1945, were able to demonstrate the value of the new remedy by exhibiting 11 of their patients to the Dermatological Section of the Royal Society of Medicine. A great impression was made on those present, and since then the excellent results they reported have been confirmed by other dermatologists all over the country.

The employment of calciferol in large doses for the treatment of lupus is now recommended in the textbooks, and in the recent edition of Gardiner's well-known handbook Kinnear writes that it is the treatment of choice. But that of course is not the end of the matter. In this issue of the *Journal* we are publishing a report by Dowling containing his observations on a series of 44 cases treated in the Treloar Hospital and the Morland Clinics at Alton, institutions which have for many years been devoted to the treatment of tuberculosis, especially in the young. The patients there are resident and therefore much more easily observed and controlled than if attending a crowded out-patient department. (It is interesting to find that one of his colleagues in this investigation is Dr. Suzette Gauvain, the daughter of the late Sir Henry Gauvain, who was Medical Superintendent of the Treloar Hospital from its foundation until he died.)

Three important questions are now raised by Dowling and his colleagues. First, how does calciferol act? Secondly, how can it be used most effectively? And thirdly, can it be made safe or relatively safe? We are far from being able to answer as yet the first of these questions. We can only say that calciferol certainly does not owe its curative properties to its direct action on the tubercle bacillus, for even *in vitro* it has none. It seems to act in the same way as the older remedies such as cod-liver oil, Finsen light, and ultra-violet light baths, which all depend on vitamin D for their action, but in the massive doses employed—100,000 to 150,000 i.u. per day—calciferol promotes much more rapid healing of tuberculous lesions. It appears that a strong stimulus is given to the tubercle bacillus, which proliferates actively, invading the surrounding tissue and forming a caseation deposit.

It is very remarkable that it is not likely to be free of side-effects. Vitamin D, in doses, for example, are absolutely safe, and the side-effects of calciferol are not infrequent. They are usually of the type which has been observed at Alton, and which has been attributed to the presence in the disease

has often been most marked during the toxic phase. It is probable, therefore, that the most effective therapeutic dose is very near the toxic limit. The signs of calciferol poisoning are pallor, thirst, polyuria, headache, loss of appetite, and sickness. There is always a rise in the blood sedimentation rate, and in children a rise in the blood urea. Results very similar to those of Dowling and his colleagues at Alton were reported in last week's *Journal* by Powell, Pearsall, and Wigley, from the Dermatological Department at Charing Cross Hospital, but the latter workers seem inclined to prefer pure calciferol in alcoholic solution to the high potency "ostelin" tablets used by Dowling and his colleagues. This resembles the method of administration employed by Charpy, and, they state, seems less inclined to produce toxic symptoms than the ostelin tablets.

Valuable as this new method of treatment is, it will certainly not cure all cases of lupus vulgaris. The Charing Cross team estimate that it is safe to assume that about 60% of the cases may be cured by calciferol alone, while the Finsen Institute in Denmark claims about 75% by the employment of actinotherapy, etc. Dowling and others point out that, though calciferol reinforces enormously the effect of local treatment, it does not replace it. In patients whose treatment was begun with calciferol improvement was greatly accelerated when local treatment was added, and it was also found that in patients with extensive disease who had been receiving actinotherapy for long periods the patches so treated were the first to respond to calciferol. A further advantage was that the plastic operations so often required in cases of severe lupus could be undertaken much sooner than was possible when calciferol was not used. In such cases the drug seems to promote the early healing of wounds. It is therefore not likely that the elaborate centres which have been required for the satisfactory treatment of lupus vulgaris can be dispensed with, but obviously much better and more rapid results will be achieved than hitherto.

A further question which must occur to everyone is, Does calciferol prove effective in other forms of tuberculosis? It has already been tried in 31 adult cases of non-cutaneous tuberculosis at Alton, with on the whole extremely good results—especially on tuberculous glands, in which it produced rapid shrinking and calcification. In last week's *British Medical Journal* Ellman and Anderson described the remarkable improvement which followed the administration of calciferol to a patient severely ill with tuberculous peritonitis. In tuberculosis of the larger joints, however, results have been rather disappointing. It is also a disappointment to find that Sandiland and Franklin, trying out the effect of calciferol on pulmonary tuberculosis at the Kettlewell Hospital, Swanley, have met with no success whatever. Bearing in mind that actinotherapy in phthisis has long been known to be unsatisfactory, and indeed often extremely dangerous, it is not surprising that calciferol, the action of which seems to be closely allied to that of actinotherapy, should also prove a failure in this field. Nevertheless there is no doubt that we have here a new therapeutic method of great importance.

CHONDROMALACIA PATELLAE

Chondromalacia patellae is a condition of osteoarthritis of the knee limited to the patello-femoral articulation. The cartilage on the under surface of the patella becomes roughened and fibrillated, and hence the knee grates on movement. Small osteophytes grow on the periphery, and the synovial membrane becomes sensitive where it is attached to the border of the patella. Quite young adults may suffer from chondromalacia patellae, and therefore its aetiology probably differs from ordinary osteoarthritis, which can be regarded as a senile degeneration following faulty nutrition of the articular cartilage. Many of the patients report a previous injury, and it is known that large fragments of bone and cartilage are not infrequently broken off from the back of the patella to become loose bodies in the knee-joint.¹ It seems likely, therefore, that the degeneration results from repeated minor injuries caused by the patella moving on a bed that does not fit it exactly. The patella is constructed to move up and down on the femoral condyles. Nature never meant it to move sideways, but it frequently does when there is a lack of balance between the medial and lateral vasti muscles.² According to some observers chondromalacia is always found on patellae that are subject to recurrent dislocation.³ Excision of the patella in preference to the more orthodox realigning operations is advised by McFarland⁴ in cases of recurrent dislocation, since he believes that chondromalacia will inevitably result in a degenerated painful patello-femoral articulation in later life.

The symptoms of chondromalacia patellae are those of osteoarthritis in general—giving way, pain after use, and stiffness after sitting. The giving way, besides being due to a reflex inhibition of the quadriceps muscle in response to a twinge of pain, may be caused mechanically if, as sometimes happens, the cartilage on the back of the patella is split tangentially to the surface to form a loose flap. The pain, which is more of an ache than a real pain, is located in the knee. Coarse grating can be felt when the patella is pressed down on the femur and moved from side to side, and this manoeuvre causes pain. Movements of the knee, though full, are painful through a small arc. Many knees otherwise normal creak and grate when moved, and the diagnosis of chondromalacia patellae should not be made unless the grating is painful and unless there is a painful arc of movement, particularly since the patient is in danger of having his knee-cap removed once the diagnosis is made.

There seems no doubt that chondromalacia patellae is a clinical entity, but whether it warrants operative treatment is open to question. The condition has been brought into prominence by Swedish surgeons.⁵ They advocated paring off the fibrillated cartilage and removing the peripheral osteophytes. The rationale of the operation did not commend itself to many members of the British Orthopaedic Association on their visit to Scandinavia just before the war. They felt doubtful whether the symptoms warranted

operation, and they thought that if operation was necessary, the patella had better be removed. Elsewhere in this issue Mr. C. Gray reports favourably on the results of removal of the patella for this condition. All his nine patients were relieved of symptoms which in many cases were of long standing, and their knees recovered full range and full power.

Excision of the patella has become popular as a method of treating fractures of the patella ever since Broohol demonstrated that patients could return to work sooner after this than after any other operation. Nevertheless some experienced surgeons are unconvinced of the merits of this procedure. The operation is certainly not fool-proof, for unless the gap left in the quadriceps apparatus after removal of the patella is cobbled together tightly the patient is unable to extend the knee fully against powerful resistance. In several of Gray's cases recovery was long delayed on account of persistent weakness of the quadriceps.

The long-term effects of removal of the patella on the function of the knee are as yet unknown. The medium-term results are good, for once the quadriceps has regained full power the knee appears to function as well as a normal knee. It would seem that excision of the patella, when properly done, is a justifiable and useful operation, and that it is indicated for those patients with chondromalacia patellae whose symptoms persist in spite of treatment with rest and physiotherapy.

SURGICAL TREATMENT OF HYPERTENSION

Experience of the results of lumbo-dorsal sympathectomy (Smithwick's operation) in cases of essential and malignant hypertension is accumulating in this country. A recent discussion at the International Conference of Physicians helped to clarify the present position.

Though the aetiology of hypertension remains obscure important new observations have been recorded in recent years. The experiments of Goldblatt, Wilson and Pickering, Wilson and Byrom, and others, focused attention on the kidneys; but subsequent histological studies on the kidneys of hypertensive patients—the material being obtained both at biopsy and necropsy—revealed no evidence of renal ischaemia in the earlier stages of the disease. The illuminating work of Trueta and his colleagues, however, has indicated that functional renal cortical ischaemia may develop as a result of the juxta-medullary by-pass coming into operation too readily. Those who react excessively to the cold pressor test of Hines may well develop such a shunt too easily. Again, the hereditary factor recently stressed by Platt might determine the sensitivity of this mechanism or the extent of the by-pass. It is now suggested that the success of sympathectomy may depend upon its shunt-preventing effect. Elsewhere in this issue Dr. Geoffrey Bourne discusses these views. He maintains that the ideal time to perform lumbo-dorsal sympathectomy should be at the end of the functional stage of hypertension, before the development of irreversible changes in the renal juxta-medullary and cortical vessels. Few would advise sympathectomy in cases of mild hypertension without degenerative cardiovascular changes, for the prognosis is then good and incapacity nil; yet when these conditions no longer hold good it may be too late. This is the crux of the problem.

¹ Coleman, H. M., *J. Bone Jt. Surg.*, 1945, 30B, 153.

² Duchenne, G., *Physiologie des mouvements déviés de l'axe de l'extrémité inférieure et de l'obliquité du clivage*, 1857, Paris.

³ Wiberg, G., *Acta chir. scand.*, 1941, 85, 421.

⁴ *J. Bone Jt. Surg.*, 1948, 30B, 155.

⁵ Karlson, Stig., *Acta chir. scand.*, 1939, 83, 247.

⁶ *Br. J. Surg.*, 1937, 24, 733.

Bourne thinks that sedation by means of sodium amytal is as good a test as any for attempting to assess the likely result of sympathectomy. One difficulty in predicting the outcome depends on the fact that after sympathectomy the blood pressure may fall for more than one reason—because normal vasoconstrictor tone in the legs and splanchnic area is eliminated; because spasm of the renal cortical vessels is abolished; or because veno-motor tone in the legs is reduced. Post-operative faintness from postural hypotension is probably due to a reduced cardiac output resulting from collapse of the venous pressure in the erect posture and incomplete filling of the heart. Lowering of the blood pressure brought about in this way would not be beneficial, and a reduction of the renal blood flow might well have a directly adverse effect. More work on this aspect of the subject is needed.

SALICYLATES IN RHEUMATIC FEVER

When D. B. Lees popularized the use of sodium salicylate in the treatment of rheumatic fever he recommended large doses (20 g. or more a day), and advised that it should be combined with twice as much sodium bicarbonate. Since his time, however, the value of salicylates in this disease has been much debated, and his advice has been largely forgotten. The usual mixtures of sodium salicylate contain sodium bicarbonate, but as a rule in the same dose. The belief has grown that while salicylates control the fever and joint pains of acute rheumatism they have no influence on the course of the disease and do not prevent the all-important carditis.

In most hospitals the custom is to administer salicylates in doses sufficient to relieve pain and temperature and to stop them when the first signs of salicylism appear—commonly tinnitus, deafness, or vomiting. However, in 1943 Coburn¹ reopened the whole question by claiming that, if given early and in doses large enough to produce a concentration in the blood of 35 mg. per 100 ml., salicylates have a curative action and will prevent the development of carditis. Coburn advised intravenous administration in order to obtain this concentration rapidly and with certainty. It soon became clear that this method of giving the drug was unnecessarily dangerous, because concentration in the blood as high as that recommended by Coburn can easily be obtained if it is given by mouth. Further, Coburn's views on the efficacy of salicylates given in this way were not confirmed. Smull, Wegria, and Leland² investigated what effect the simultaneous administration of sodium bicarbonate had on the salicylate concentration in the blood, and they found that it was decreased. They suggested that this was the reason for the lower incidence of toxic manifestations when alkali was given. Parker³ confirmed this and showed that the decreased level of salicylates in the blood was due to an increased rate of excretion by the kidneys in the presence of the alkali. However, it has been pointed out by Peters⁴ that the increased renal excretion of salicylates when sodium bicarbonate is administered simultaneously does not materially affect the blood concentration. As Lees did, that to obtain the full effect of salicylates they must be given in large doses fatigued with twice as much sodium bicarbonate. This is a specific detoxicating

effect, greatly reducing the symptoms of salicylism despite the large doses given. Furthermore, he believes that salicylates have a curative effect. It is interesting to note that Peters states that he came to his conclusions, which are exactly the same as those of Lees, while unaware of the latter's work or advice.

While there is no doubt about the value of salicylates as analgesics and antipyretics it is plain that their influence on the course of rheumatic fever is still a matter for conjecture and further study. Twenty years ago Derick, Hitchcock, and Swift⁵ suggested that salicylates inhibited antibody formation. Perry,⁶ using acetyl-salicylic acid in doses of 2–3 g. daily, was unable to demonstrate in volunteers any effect on the antibody response following the injection of typhoid vaccine. More recently Jager and Nickerson⁷ have studied the antibody response to typhoid vaccine in a series of patients whose plasma salicylate level was being maintained at from 20–41 mg. per 100 ml. by means of massive doses of the drug. They found that the formation of typhoid H and O antigens was considerably reduced compared with controls, and that other blood changes noted in the controls—leucocytosis, increase in fibrinogen and gamma globulin—were slight or absent in the patients receiving salicylates. These conflicting findings are probably due to differences in dosage of the drug.

COMPLICATIONS OF MUMPS

Mumps is one of the "nuisance" infectious diseases which has never achieved a serious notoriety in this country. Occurring chiefly in children, the complications are few and of minor importance. Smith,¹ whose experience was among boys around the age of puberty, found it a disease of very wayward infectivity and considered it so mild as not to warrant any attempt at prevention by passive immunization. The recent article in our columns by Lawrence and McGavin² is of value in drawing attention to its occasional severity in adults.

Although meningo-encephalitis is the most alarming complication and has great interest to the clinician it is not perhaps the most important. It is rarely fatal and sequelae are uncommon, although it should be noted that they occurred in four of Lawrence and McGavin's cases. Whether mumps is primarily an infection of the central nervous system, as Philibert³ has argued, is not yet clear, but there is considerable variation in the incidence of meningitis recorded by different workers. Candel⁴ found pleocytosis of the cerebrospinal fluid in 30 out of 38 cases. In Lawrence and McGavin's series involvement of the central nervous system could be suspected in 42 out of 235 cases; on the other hand Dermon and Le Hew,⁵ dealing with a similar kind of population, recorded one such case out of 129. Holden, Eagles, and Stevens⁶ performed routine lumbar puncture on the fourth day of illness and found in 33% of their cases some evidence of meningitis, although the cerebrospinal fluid abnormality was slight in a number of instances. Much depends, obviously, on the care with which the abnormality is looked for, for involvement of the central nervous system would not be suspected in many cases.

Although meningo-encephalitis may be disturbing, the prognosis is almost invariably good. It is more difficult to

¹ Smith, R. E., *Guy's Hosp. Rep.*, 1943, 92, 1.

² *British Medical Journal*, 1948, 1, 94.

³ *Proc. roy. Soc. Med.*, 1932, 145.

⁴ *Nat. med. Bull., Wash.*, 1944, 42, 861.

⁵ *Amer. J. med. Sci.*, 1944, 222, 240.

⁶ *J. Amer. med. Ass.*, 1946, 131, 352.

⁷ *New Engl. J. Med.*, 1942, 227, 777.

be dogmatic about the permanent effects of orchitis, and not the least interesting aspect of Lawrence and McGavin's paper lies in the follow-up of patients who suffered from this complication. They found atrophy in some degree in 43%, a total figure not greatly at variance with those of Wesselhoeft,⁷ 55%, and Dermon and Le Hew,⁸ 48%. It must be remembered that both testicles are not usually involved, so that lowered fertility rather than complete sterility might be expected. In Lawrence and McGavin's cases only nine showed a severe degree of atrophy, but from the subsequent history it seemed that sexual activity was not impaired. Whether their evidence on this point can be regarded as evidence of fertility is arguable, for of course an atrophic testicle might not affect sexual activity although the sperm was infertile.

The subject has interest at present because of the conscription of young men in this country for military service. An increased incidence of mumps among these men, with its attendant risk of orchitis, might thus be expected. The information required for a proper appraisal of the results of orchitis is the history of the involved patients after marriage, and it would be of great service if someone with the available facilities could study the problem. Decompression operations have been advised by Wesselhoeft⁷ and others,⁹ but even this does not ensure that atrophy will be avoided. Most writers agree that sterility is uncommon, and Lawrence and McGavin's paper would suggest agreement with such a conclusion. The possible value of gamma globulin prepared from mumps convalescent serum, as suggested by Gellis *et al.*,¹⁰ in preventing orchitis is perhaps worth further study.

INCLUSIONS IN THE RED BLOOD CORPUSCLES

Granules within red blood cells have for long excited interest and speculation. Sometimes these granules seem to indicate the presence of parasites, variously classified as *Bartonella*, *Grahamella*, *Eperythrozoo*, or *Anaplasma*. Some of these parasitic granules appear in large numbers only when splenectomy has been performed. Other granules in red cells—the well-known Schüffner bodies—are seen when certain species of malarial parasite are present. They are presumably formed by the breakdown of cytoplasmic constituents of the red cells. Nuclear remnants, Howell-Jolly bodies, can be differentiated by the fact that they stain with haematoxylin and with methyl green and also give a positive Feulgen reaction for nucleic acid. Heinz granules are eosinophilic; Isaac's granules¹ appear black in unstained preparations and fail to take up the usual stains. Wenyon and Low in 1914² reported that Seidelin's bodies, which are seen in the red cells of young guinea-pigs, stain purplish-blue by Leishman's method, but their significance requires further investigation. Some granular inclusions in red cells are apparently associated with toxins in the body; for example, the basophilic stippling seen in cases of lead poisoning is well known. Mushett and Siegel³ have recently found that administering massive doses of mepacrine to various animal species causes an anaemia and the occurrence within both red cells and lymphocytes of inclusion bodies staining dark blue with Wright's stain but giving no reaction for iron. Pyridoxin deficiency, according to Wintrobe and his colleagues,⁴ also gives rise to bodies within the red cells which stain blue by Wright's stain. In this condition there is excess of iron in

the blood (hyperferreaemia) and marrow hyperplasia, but evidence of excessive haemolysis.

These findings contrast with those of Pappenheimer and others⁵ in 1945 of curious erythrocytic inclusion bodies in man. Two of the patients were women with haemolytic anaemia of the acquired type; the third patient was a young man with anaemia of undetermined type associated with splenomegaly. Splenectomy was performed in all three cases and it was only after this operation that the inclusions were seen. The bodies were coccoid or less common bacillary in form, and stained reddish-purple or purple-blue with Giemsa's method while giving a positive reaction for iron but a negative Feulgen test. The bodies were later found in the reticulo-endothelial cells of the bone marrow, liver, and lymph nodes of the two cases of haemolytic anaemia. In a subsequent search similar bodies were found in the red cells or endothelial cells of the spleen in cases of thrombocytopenic purpura, haemolytic jaundice, sickle-cell anaemia, fatal cases of rheumatic fever, and in four cases of a group of 22 comprising cases of Banti's disease, cirrhosis of the liver, and congestive splenomegaly.

McFadzean and Davis⁶ have recently studied the occurrence and nature of these Pappenheimer bodies; their communication is accompanied by excellent photomicrographs and coloured plates. In addition to those in red cells in the peripheral blood the inclusion bodies have been found in monocytes, reticulum cells, and the bone marrow. In the marrow they may be seen in all members of the red-cell series which show evidence of haemoglobin formation but not in early basophil normoblasts or in early erythroblasts. Material giving similar staining reactions was also seen lying free in the marrow as discrete granules or globulate masses. Presumably such material arises from rupture of affected cells. It does not fluoresce when examined by fluorescent microscopy. While cases with acquired idiopathic haemolytic anaemia show after splenectomy a considerable increase in the number of red cells with inclusions in the peripheral blood stream, this is not the case in congenital acholuric jaundice. McFadzean and Davis have failed to find Pappenheimer bodies in the blood of 62 normal people, but they have noted their occurrence in cases of erythroblastosis foetalis, traumatic rupture of the spleen with splenectomy, blackwater fever, and anaemia associated with chronic infection, carcinomata, and chronic nephritis.

The nature of the Pappenheimer bodies is still not known with certainty. It seems unlikely that they are parasites, and their relationship to the siderotic granules described by Grüneberg⁷ and Doniach *et al.*⁸ in mice with a genetic abnormality is still uncertain, although they are possibly fundamentally similar. For the time being all that can be said is that they develop as a result of interference with haemoglobin anabolism.

THE EDITOR OF "THE TIMES"

We announce with much regret the death at the age of 57 of Mr. R. M. Barrington-Ward, the Editor of *The Times*. He was the fourth son of the Rev. M. J. Barrington-Ward, D.D., and one of five brothers who were all King's (or Queen's) Scholars of Westminster. His brother, Sir Lancelot Barrington-Ward, F.R.C.S., is Consulting Surgeon to the Hospital for Sick Children, Great Ormond Street.

Mr. Barrington-Ward was on the staff of *The Times* from 1913 to 1914 as one of the Editor's secretaries. During the war of 1914-18 he was awarded the M.C. and the D.S.O. After that war he joined the staff of the *Observer*, on which he served as Assistant Editor for eight years. He rejoined the staff of *The Times* in 1927 and succeeded Mr. Geoffrey Dawson as Editor in 1941.

¹ *Arch. Rec.*, 1925, 29, 299.

² *J. trop. Med. Hyg.*, 1914, 17, 369.

³ *Blood*, 1946, 1, 537.

⁴ *Johns Hopk. Hosp. Bull.*, 1943, 72, 1.

⁵ *Quart. J. Med.*, n.s., 1945, 14, 75.

⁶ *Globe, med. J.*, 1947, 23, 237.

⁷ *Nature*, London, 1941, 143, 114, 469.

⁸ *J. Genet.*, 1942, 44, 246.

⁹ *J. Path. Bact.*, 1943, 55, 23.

and RHEUMATISM IN JOHN HUNTER'S TIME

HUNTERIAN ORATION

The annual Hunterian Oration was delivered before the Hunterian Society at the Mansion House, London, on Feb. 23 by Dr. W. S. C. Copeman. Although Hunter made no major contribution to our knowledge of rheumatic diseases, Sir Charles O'Donoghue, writing on rheumatism, said that no more original genius illuminated the horizon.

Dr. Copeman pointed out that the eighteenth century was the age of theorists and system-makers. De Sauvages in his great work *Nosologia Methodica*, published in 1763, made the very first real attempt at a systematic classification of diseases; he

defined the word "rheumatism" as a generic term for many diseases affecting the bones and muscles and accompanied by pain and disability. The humoral theory of the origin of these diseases lasted well into the eighteenth century, and no anatomical distinction between acute and chronic rheumatism was made except for the "scorbutick" type described by Sydenham. A term which seemed to have been designed by him as a generic one for all cases which he found it difficult to classify otherwise.

Lesions of the heart in acute rheumatism were not mentioned until Lettsom reported the result of a necropsy he performed in 1786 on a child aged 6. David Pitcairn (1749-1809) was the first to attribute cardiac disease entirely to acute rheumatism, and William Heberden the elder (1710-1801) was the first to describe and name angina pectoris, which he did in 1768, quoting twenty such cases in his *Commentaries*. The first post-mortem report on a case of rheumatic disease that

Dr. Copeman had been able to discover was one by John Hunter himself in his "Account of the dissection of morbid bodies" (No. 54 in the Hunterian MSS.). The case was evidently one of osteoarthritis in an old woman. Hunter found multiple loose bodies in both knee-joints and one in the ankle.

Very little information was available on the incidence of rheumatism in the eighteenth century. A pamphlet on diseases in the Army, published in 1703 by T. D. Reide, surgeon, stated that rheumatism was common among the men in Chatham barracks and in the West Indies, but "was not attended with such severe symptoms as I have seen in our army in America." In the first month of its opening in 1734 St. George's Hospital, out of a total of 65 cases, received 5 with a diagnosis of rheumatism, and one of these patients died. Sir John Pringle, the Army physician, was the first to make specific reference to the possibility of preventing rheumatism when in 1752 he suggested that, as cold appeared to be the cause, extra clothing and blankets should be issued to the troops in winter, also fuel with which to dry their clothes, but not their bodies, seeing that this was better done by exercise.

Methods of Treatment

The object of treatment was to depress any fever and to draw out "acrid substances," which was done by bleeding, purging, sweating, and locally by blistering. Boerhaave declared that rheumatism "is always cured by bleeding, cooling, and repeated purges, ally'd at night with a narcotic." The same author, in describing other measures, suggested that towards the end of the case "dry hot frictions should be tried, together with the use of antiscorbutics." For bleeding, up to a dozen ounces could be used, and for purging the drugs chiefly employed were scammony, ienna, and Glauber's salt; rhubarb, castor oil, and Jesuit's bark were also prescribed. The treatment was chiefly in the hands of quacks. Vitamin therapy was introduced by Sir R. Blackmore in 1726 in the form of a "rheumatic" remedy consisting of "scurvy grass" and water of ammonia. Heberden in 1768 pointed out the importance of diet and exercise, and later advocated an "exercise cure" for rheumatism. At the end of the century Latham

times a week, with a slight increase of temperature. A curious type of bath treatment was referred to by Latham as being popular on the Continent. This was the marine-acid bath for gouty patients. Exercise on horseback had been advocated by Sydenham, or, if this could not be tolerated, the same effect might be obtained by "riding in a sedan chair." English spas such as Buxton had records which showed them to have been used for the treatment of rheumatic disorders as far back as the sixteenth century. By the end of the eighteenth century most of the leading physicians had adopted some form of "expectant treatment," as it was generally found that patients did as well under this regime as when subjected to the earlier elaborate and exhausting methods.

A vote of thanks to the orator was proposed by Dr. Forestier, of Aix-les-Bains, and seconded by Mr. Mortimer Woolf.

Reports of Societies

FUTURE HOSPITAL SERVICE

A Reply to the Surveys

A meeting of the Epidemiological Section of the Royal Society of Medicine was held on March 1, with Dr. W. S. C. COPEMAN in the chair. Sir ERNEST ROCK CARLING opened a discussion on "The Hospital Service of the Future."

He began by saying that when he criticized the hospital service of the past and present he wanted to make it clear that the defects were due, first and foremost, to a burden too grievous to be borne. Sometimes the difficulty was lack of money, often it was the time-honoured existing system or plurality of systems; in one area it was the rigidity of parochial boundaries, in another it was isolation. Everything he had to say had been known for over a quarter of a century, was stated in the Dawson Report of 1920, and had been restated by responsible bodies in the professional journals.

It was the Surveys instituted by the Ministry of Health to ascertain the facts which put the knowledge on a firm basis. The Surveys were carried out by men of great experience, and quite independently, but the results showed a remarkable degree of similarity. North, south, east, and west, the criticism followed the same general lines. In his view the National Health Service Act, with every feature of which he must not be supposed to be in accord, met the situation in a way calculated to redeem the system and to keep hospital organization in the forefront of progress.

Such system as had existed was a purely haphazard growth. In the great cities the hospital opportunities open to the population were extremely good, and were tending to be better for the lower and lowest-income classes than for those who, though better off, were not by any means in unembarrassed ease. In small towns and rural areas, with some exceptions, there were but meagre arrangements. It was important especially for the Londoner, who was accustomed to think of the famous teaching hospitals, to realize that peripheral voluntary hospitals were severely handicapped, sometimes by their own ambitions. To maintain their prestige they must proclaim their success in providing everything that the advances in the science and art of medicine had suggested, often to the peril of convenient planning. "Almost every urban voluntary general hospital in the country ought to be rebuilt on a new site, from two to ten times the size, on the periphery of the town."

It happened sometimes that healthy rivalry between hospitals led to uneconomic provision of departments for which there were no available specialists, though co-operation, had it superseded rivalry, might well have led to complementary services which would have covered a considerable area satisfactorily. In nearly every town there were small hospitals dealing with special classes of disease, cut off from association with general medicine. There was no justification for such "forlorn spinners." The more particular the specialization the greater the need for integration.

It would serve no purpose to go into the historic reasons for the existing state of affairs whereby the voluntary hospitals had been fully absorbed in the treatment of short-term illness while long-stay cases had been almost entirely confined to Poor Law institutions. The chronic sick were admitted in many

instances without previous investigation, and the most difficult tasks were handed over to the less competent, who were inadequately supplied with the necessities for their work. In 1944, as a result of the Surveys, it was estimated that nearly 100,000 additional beds were required, and there was still an unspecified but serious shortage of well-trained staff.

Problems of Hospital Provision

What, then, were the problems of hospital provision presented to any government? First, an intensive study of the function of the hospital in the modern community should logically have followed the Surveys. Secondly, organization of the existing accommodation on the most economical plan possible was needed. Thirdly, dispersal and distribution of the available medical talent to the greatest advantage. Fourthly, organization of ancillary services to obtain reasonably uniform standards. Fifthly, training facilities, with grants for every class of individual constituting an integrated hospital personnel. Sixthly, a universal transport system. Lastly, a vast building programme, at present impracticable.

In considering the adequacy and appropriateness of the new Act to improve the hospital service it was necessary to take into account the other measures for national assistance and national insurance, the functions of the Universities Grants Committee, and the implications of the Goodenough recommendations, among other matters.

After touching on other aspects of the problem, Sir Ernest Rock Carling went on to refer to the conception of local management committees controlling all the resources of their area irrespective of their boundaries, and the development of these resources to a pitch of autonomous self-reliance which needed to resort to headquarters only for exceptional specialties. The intelligent layman and strong administrator would look to the medical committee for advice, for ideas and plans and advances. It was for the profession to see that the machinery—which he personally believed to be sound—now put into their hands functioned to full capacity.

There were, however, certain defects in the Act which left open a possibility of trouble. The gulf between voluntary and municipal hospitals had been closed, but the division of authority might promote the development of another cleavage. The major preventive services ought to be intimately associated with the hospitals. Industrial medicine in its limited and wider aspects alike would, if so related, enlarge the horizon of surgeons and physicians in the direction of environmental aetiology. The medical officer of health, with all his experience of community services, should have an entry to general hospital councils. Health centres should be the antennae of hospitals, and between the two there should be unimpeded passage. He pleaded for the most active co-operation in order to avoid any hindrance to progress from the division of authority.

A Possible Cleavage

Dr. T. S. McINTOSH expressed the opinion that, great as the need for additional beds might be, the replacement of unsatisfactory accommodation was even more urgent. Most important of all was the provision of a sufficient and properly distributed staff. At the present time the number of beds, and perhaps even the quality of beds, though poor in many cases, was better than the quality of staff in a great many parts of the country away from the centres. The thing that had particularly struck some of those who took part in the Surveys was not only the shortage of accommodation, nor the inferior quality of a great deal of it, but the fact that the best use was not being made of existing resources. With almost monotonous regularity the Surveyors made the recommendation that there ought to be pooling of resources. Where there were two authorities, as there were in some places, namely, the regional hospital board and the board of the teaching hospital, this should not be allowed to interfere with a complete and satisfactory pooling. He saw some danger of a gap being created between teaching hospitals and the hospitals of the region, but given good will and a desire to meet the needs of the community there was no reason why it should appear.

On the subject of the general practitioner and his connexion with the hospital system, it was a difficult but important task to bring him into close relationship with the hospital service.

The treatment of patients ought to be in every case a partnership between the general practitioner and the appropriate specialist.

General Practitioner Hospitals

Prof. J. A. NIXON said that he agreed with practically everything Sir Ernest Rock Carling had said about what the Surveyors—of whom he was one—found in the hospitals. He also found much to praise. In particular he praised the emergency public health laboratories which were attached to hospitals. He had in mind one of the most shocking of the workhouse infirmaries which raised itself into a most efficient E.M.S. hospital largely as a result of having a first-class pathologist who was almost a resident and who was also clinician. This miserable institution, which he would have bombed at atoms, had become a very efficient hospital.

Again, he had been impressed by the work of some of the general practitioner hospitals in the South Wales area. Small district hospitals in those mining areas were doing their work extremely well. This new Act, he believed, was admirable in the opportunities it offered for instruction at the periphery through specialists planted out on the edges of regions. "Do you want to turn me into a travelling circus?" one of them had said to him. But that was exactly what was wanted—a travelling circus pitched on a fair-ground in the neighbourhood of Penzance or out in Pembroke—and that did lie within the framework of the Act.

A defect in the Act was that it opened up the possibility of a gap between the teaching hospital and the regional hospital, though he had not the slightest doubt that any sensible provincial university teaching hospital would throw itself wholeheartedly into the regional work. The regional hospital must be staffed with specialists just as good as those of the teaching hospital. The function of the latter was undergraduate teaching, but the function of the former would have to be post-graduate teaching. He did not know how far that cleavage could be foreseen and avoided. Prof. Nixon concluded by pleading that all nurse-training hospitals in the big towns should be attached to the university, not for educational but for social purposes, in order that all nurses might be given the social facilities of a university.

Cautions and Suggestions

Sir CLAUDE FRANKAU took a view somewhat different from the previous speaker concerning general practitioner hospitals. In the area which he surveyed there were a number of 50- or 100-bed hospitals entirely staffed by general practitioners. They were asked whether they had a consulting staff, and they would produce a list of distinguished people; but apparently these people came only when asked, and major operations were undertaken without reference to them.

Dr. CHARLES MAITLAND spoke of the shortage of nurses, which was not a phenomenon peculiar to this country. It was to be found also in North America and Scandinavia. It was a peculiarity apparently of the modern so-called democracy that there should be shortages of this sort. He also asked the question, "What is a hospital?" The average individual would say that it was a place to which sick people were admitted. He thought the emphasis should be increasingly on treatment and that admittance or residence should be a secondary matter. The medical superintendent of one large county hospital had declared it to be "an out-patient department supported by beds." They might find that if, together with the out-patient department, they put aside beds specifically for the investigation of patients they would get a quicker turnover. Perhaps the aim might be to have fewer beds and better treatment, and he believed this could be done without inhumanity.

Sir WELDON DALRYMPLE-CHAMPNEYS mentioned the danger of the "sausage machine." It was always possible to fall into the habit of saying, "This is a patient with such-and-such a disease. We will now put him through the routine." It was to avoid such a performance that the general practitioner scheme was so important. Someone had spoken about the co-operation of the general practitioner and the specialist. Such co-operation was, of course, obviously desirable, but it was the general practitioner who should be in charge of the patient, not so much for his own sake as for the patient's.

because he was the one person who could protect the patient against mishandling by the specialist. With him in charge there could be some continuity of personal touch in the matter. The patient would be far happier to see his own doctor and to be able to ask him, "Do you think it is all right?" and the general practitioner with his knowledge of the case and of the patient's personality and background would be able to reassure him.

In some further discussion Dr. HORACE JOULES said that Scotland was ahead of the rest of Great Britain in that in Scotland the teaching hospital was included within the region. This was not done in England it would place the regional hospitals at a distinct disadvantage from the start. Dr. ROGERS (Liverpool) pleaded for greater attention to man-management another name for administration. Dr. URSULA BLACKWELL suggested as a means of alleviating the nursing problem that a mother or wife of the patient should be brought into hospital for certain nursing duties. Dr. E. L. STURDEE pointed out the danger arising from divided administration. He knew of one hospital, for example, where they had an excellent arrangement of ambulance service whereby the patient was brought in at a certain particular time for outpatient treatment. But in future the hospital would be under one authority and the ambulance service under another. He so referred to the opportunities for undergraduate teaching in the municipal hospitals.

Dr. COPEMAN from the chair said that a tribute should be paid to the foresight of Lord Dawson's Committee in 1920 which had initiated so many of these ideas. He felt that sufficient credit had never been given to its presence in the matter. Sir Ernest Rock Carling had pointed out that all necessary specialties must be decentralized within the regions, and he had been very pleased to hear him say that the more decentralized the subject the more reason there was to make sure that it remained within the broad stream of general medicine. He realized the importance of this in the specialty in which he was interested—the provision of treatment for chronic rheumatic diseases. Too often these patients were labelled chronic without having been brought within the scope of general medicine.

Sir ERNEST ROCK CARLING, in reply, said that several had spoken about the possibility of severance between the teaching and the regional hospital. He himself believed that within five years England would have followed the example of Scotland. It would be impossible to keep the two classes of hospitals apart, and there were already signs in the provinces—not so much in London—that they could not be kept apart from one another.

He agreed with Sir Claude Frankau that complacency regarding the general practitioner surgeon must not be allowed to creep in. His insulation from criticism might lead to work of a very unsatisfactory nature. Even the most accomplished practitioner could do his best work only in his own unit. He pointed out that the surgeon who had great skill and found himself in a small hospital in a Welsh valley or anywhere else would be given a bigger field in which to exercise his talents. He pointed out that the district nurse ought to be brought more into contact with the hospital. At present she felt isolated, and she could save the hospital a considerable amount of work.

CLINICAL PATHOLOGY IN RENAL DISEASE SECOND LITTONMAN LECTURE

The second Littonman Lecture, delivered before the Medical Society of the City of London on Feb. 24, Dr. CHRISTOPHER E. DUKES concentrated his attention on the pathology of essential haematuria and of renal tuberculosis. In the first of these diseases, he said, the urine contained blood without any other abnormality. This was the starting-point for his lecture. He proposed to show the sort of contribution that could be made to the elucidation of the condition.

Essential Haematuria

Dr. Dukes said that he approached this subject with diffidence, but cases of uncertain character were often met with in which aid from the laboratory was welcome. The discovery of tubercle bacilli in the urine was always proof of the existence of a tuberculous lesion somewhere in the genito-urinary tract. Tubercle bacilli could not be excreted by a healthy

might occur in chronic Bright's disease; it might be the first indication of a tumour in the kidney or renal pelvis; occasionally in renal tuberculosis a sudden haemorrhage might precede all other symptoms; and sometimes a calculus firmly fixed in the renal pelvis might cause painless haematuria. Re-examination after a period of observation generally settled the question, but many examinations and consultations might be necessary.

The pathologist's first duty was to make sure that the urine did contain blood, and it was useful to make an approximate estimate of the blood that was being lost. When blood oozed slowly into the urine a daily leakage of 3 to 5 ml. would keep the urine constantly red, and much less than this would give it a smoky appearance. The benzidine test was still positive when only 0.25 ml. of blood was mixed with a 24-hour sample.

The urine should then be examined microscopically, special search being made for tubercle bacilli. If this was negative a complete blood count should be carried out to see whether any anaemia had developed and to exclude any blood disorder. Cases of renal haematuria due to blood disorders were relatively rare and easily recognized. In most cases of unexplained renal haematuria the blood count was normal except perhaps for a slight secondary anaemia. The diagnosis of "essential haematuria" was eventually reached by a process of exclusion. The term was an unsatisfactory one, and should never be used to an intelligent patient. This diagnosis was resorted to somewhat apologetically by physicians to describe persistent unexplained haematuria in an otherwise healthy person. It was a clinical diagnosis which in the past was used too indiscriminately and therefore fell into disrepute. Hale-White advised that the name should be reserved for bleeding from the kidney in which no evidence of disease could be found either by naked eye or microscopical examination, and suggested that in these patients a poison was formed which, when it reached the kidney, damaged the blood vessels and allowed the blood to escape.

Although there might be such cases of haematuria without discoverable cause, they constituted only a minority of the cases in the literature. More often, when nephrectomy had been performed for persistent unexplained haematuria, examination of the excised kidney revealed an angioma or a capillary naevus of the renal papillae, a small submucous haemorrhage in the renal pelvis, a varicosity of veins, or some unsuspected tuberculous lesion. These reported cases might not be a fair sample, because pathologists who found something were more likely to publish their cases than those who found nothing.

No one was likely to have had an extensive experience of kidneys removed for unexplained haematuria. His own was limited to nine cases, and had convinced him that a demonstrable lesion existed in cases of persistent unilateral haematuria, regarded clinically as "essential haematuria," but that the nature of the lesion varied from case to case. Angioma of the renal papillae was one of the commonest causes. The term was used to describe a tumour-like network of the papillary blood vessels, but there was no proof that the lesion was a neoplasm or even a vascular malformation. His own view was that the lesion was probably not neoplastic but due to vascular reparative tissue secondary to trauma or infection. However, the term "angioma" had long been used and was often applied to similar doubtful lesions in other parts of the body.

In some of the kidneys he had examined the bleeding seemed to be derived from comparatively trivial lesions which, had their existence been known, might have been disregarded. To distinguish these from cases in which haematuria was a symptom of serious disease was always difficult. Sometimes the bleeding ceased as abruptly and unaccountably as it began, and it seemed to him that it was only in such cases that the diagnosis of essential haematuria could be accepted with confidence. A great deal more had to be learned about the pathology, diagnosis, and treatment of the condition.

Renal Tuberculosis

Dr. Dukes said that he approached this subject with diffidence, but cases of uncertain character were often met with in which aid from the laboratory was welcome. The discovery of tubercle bacilli in the urine was always proof of the existence of a tuberculous lesion somewhere in the genito-urinary tract. Tubercle bacilli could not be excreted by a healthy

kidney. It would, of course, be an inestimable advantage if it were possible from examination of the urine alone to foretell not only the existence but also the extent of the disease in the kidney. This was not possible. But in some cases analysis of the urine might help to a greater degree than was usually supposed in deciding whether the renal lesion was large or small, open or closed, or whether the patient should be regarded as a medical or a surgical case.

Of the various tests, the culture test was more delicate than the stained-film test. It might reveal tubercle bacilli when the renal lesion was closed, and was sometimes positive before the urine contained either blood or pus. The culture method was specially useful for the exclusion of tuberculosis. The guinea-pig test had come to be regarded as the final court of appeal in all doubtful cases. There were occasions when it was indispensable, but it was often resorted to unnecessarily. In a case of advanced renal tuberculosis with cavities and open communication with the renal pelvis the tubercle bacillus could generally be found in stained films and was usually accompanied by pus and sometimes by blood cells. If the tuberculous lesion was imbedded in the substance of the kidney and had not broken down, then tubercle bacilli could be excreted only intermittently in the urine and in relatively small numbers, so that they were unlikely to be found except on culture or in guinea-pig tests. Such tests, repeated, were the only means of proving the existence of lesions in the kidney not accompanied by any urinary symptoms.

Looking back on a long experience of the examination of tuberculous kidneys he was struck by the bewildering lesions revealed when these organs were examined. In most nephrectomy cases the tuberculous lesions were obvious. In others at first glance the kidney might look almost normal and only on section was the tuberculous lesion displayed. The lesions observed in the tuberculous kidney were the resultant of two opposing forces acting for a long time, one tending towards destruction and the other towards repair. The extent to which natural healing was possible in renal tuberculosis had been the subject of much argument in the past. There was, of course, no possibility of natural cure in the advanced tuberculous lesions with which the urological surgeon was familiar, but there was plenty of evidence that at an earlier stage of development the disease might heal spontaneously in the kidney as it did in other organs.

He had been struck by the different meaning given by different writers to the word "cure." Most commonly the word was used to describe a clinical cure—relief from urinary symptoms and the disappearance of pus and tubercle bacilli from the urine—but this might indicate only that the disease was in a negative or latent phase. To be certain that a clinical cure was complete required a long period of observation. He preferred to use the word "cure" to describe the process of natural healing in a tuberculous lesion, leading to complete restoration of normal renal function.

The lecturer proceeded to give what he called a bird's-eye view of the pathological process. Not all cases of renal tuberculosis ran exactly the same course, but the closer one looked the deeper were the resemblances and the more superficial the differences. He described four stages of renal tuberculosis:

First stage.—Haemic emboli of tubercle bacilli causing bilateral multiple microscopic lesions.

Second stage.—One or more of the tubercles developing into visible lesions, others having disappeared. Tubercle bacilli occasionally present in the urine.

Third stage.—Discharge of tubercle bacilli down the renal tubules, leading to tuberculous ulcer at the apex of the papillae. Tubercle bacilli now constantly present in urine.

Fourth stage.—Tuberculous cavity communicating with the renal pelvis. Lesions appearing in the ureter and bladder. No hope of natural cure. Nephrectomy indicated.

All this was, of course, a continuous process. Once the lesion had broken down and discharged the symptoms began. So one reached the paradoxical conclusion that natural or spontaneous healing could only be expected in those tuberculous lesions of the kidney which had not yet caused any urinary symptoms. In these complex subjects clinical pathology could perhaps offer little more than the light of a flickering candle, but, as a Chinese proverb had it, "It is better to light the candle than to curse the darkness."

Correspondence

National Health Service

SIR.—May I, as a Labour Member of Parliament, happens also to be a doctor, be permitted to commit a trespass to put the point of view of those of us who support Government over the National Health Service?

The results of the plebiscite have made it clear that a great majority of doctors do not like the Act in its present form. They have not, however, made it plain that there is equal degree of unanimity about which bits of the Act are objected to. In coming to their final conclusions there are certain points which emerged in the House of Commons debate on Feb. 9 which every doctor should bear in mind:

1. The Conservative and Liberal Parties, no less than the Labour Party, accept the decision of Parliament over the National Health Service Act. If the B.M.A. wishes to alter the Act, its duty, as a group of good constitutional democratic reformers, is to try to persuade public opinion of the wisdom of its case, and to gather a sufficiency of Parliamentary support to get the law altered. Those who object to the Act, Parliament has made in the past have followed this course throughout history; and in the long run, where their case has been good, they have been successful. Any attempt to frustrate the law by extra-parliamentary means is bound to end in failure. Without committing myself, I must remind my colleagues of the lesson the Labour movement learnt the General Strike twenty-two years ago; and even that was not directed against an Act of Parliament.

2. On the subject of *sale and purchase of practices* an appeal to the high court, Conservatives and Liberals support the Government. To be quite fair, Mr. Butler, who was leader for the Conservatives, suggested that appeal from the tribunal to the Minister should be dropped, thus making the tribunal the final arbiter. It is therefore quite useless to press the Government to abandon its decision. Even if they were persuaded to do so against their better judgment, of which there is no chance, they would be unable to carry such amendments against a combination of all political parties. Let me add my own view that the real freedom of the individual doctor will be greater with the Act's proposals than it would be if the B.M.A. amendments were accepted.

3. On the subject of *negative direction* (so-called), support for the B.M.A. view from the Conservatives is lukewarm, while Liberals and Labour are united against; and the Liberals regard themselves as keen champions of individual freedom. To the ordinary Labour member of Parliament, concerned primarily with the needs of his constituents for more doctors, the case for non-admittance of extra practitioners in the public sector to over-doctored areas, as long as other areas are under-doctored, seems overwhelming. Particularly is this so when Control of Engagement Orders (far harder in their operation) affect mainly Labour's own supporters, and are accepted in the nation almost without complaint.

I pointed out in the debate that, once under-doctored areas have ceased to exist, the need for even this small measure of restriction will also have gone. Then is the time to press for amendment of the law. Then I certainly, and, I suspect, a my colleagues on the Labour benches, would be only too pleased to see it go.

4. On the subject of *basic salary plus capitation-fee payment*, the profession's objection, as I see it, is not to the proposal itself but to what it may become. Any Government at any time in the future, can alter a decision arrived at now whether embodied in regulation or Act of Parliament. So embodiment of the non-whole-time salary principle in an amending Act would give no protection whatsoever against Government determined to make the alteration.

There are only two safeguards, which I can think of, which will help the profession. The first is a clear declaration of the present Government's intention. The second is to make a success of the alternative to salaried service. The Government has now repeatedly declared it has no intention of introducing

salaries service. The Labour Party has accepted the Act in respect as in others, though it departs considerably from its original policy (and is a great improvement on it). There is nothing inherently unsocialist in payment by capitation fee. Indeed there are great advantages in the combination of capitation fee and basic salary for at any rate a large number of general practitioners. We all want to avoid bureaucracy; two rates of capitation fee, one for doctors with basic salary and other for those without, would increase greatly the difficulties of administration. So I suggest the simple idea that those doctors who do not want it should have the basic salary paid to their superannuation fund. There may be other, and simpler, solutions, but surely this is a matter for real discussion and negotiation.

So much for the facts of the case, as I see them. Unfortunately personal issues have been allowed to cloud these facts. It is difficult not to spring to the defence of a friend, even a close friend, when one thinks he is being unfairly attacked. On this occasion, however, he can look after himself without my assistance. All I want to say is this. I watched the Minister of Health persuade our Labour Party to accept his decision after decision on the National Health Service which turned our ideas upside-down. But for him, we might have had all the hospitals under the Local Authorities. But for him, we might have been no private practice for all general practitioners, and no private wards in the hospitals. But for him, we might have been no tribunal between the executive and the Minister, and no participation of doctors in the executive side of the Service. And, strangely enough, but for him we might well have had a whole-time salaried service. He did not persuade us against our better judgment, but conceded us he was right—as indeed he was. It is just because he is so vigorous a personality that he was able to put these things over. If now his vigour is showing in another direction, it is only fair to add that so also is that of his opponents. In a reasonable attempt to find a solution and make a success of the Health Service, he will play fair; in battle, he will neither give nor ask for quarter.

If the B.M.A. decides to continue the fight, the public will be gravely injured, the chance to start the Health Service with co-operation and good will will be lost, and the ultimate defeat of the B.M.A. is certain. I believe this would be a bad thing for the medical profession. If its main negotiating body is discredited now, it may be many years before it can regain its rightful position. But for the public, defeat of the B.M.A. is certainly preferable to capitulation of Government and filialism to the B.M.A.

I would ask every doctor to think over carefully the issues which he may be called to fight. Are sale and purchase, and to the high court, and so-called negative direction causes of battle? There is everything to be said for an action which is ready to make personal sacrifices. But there is something too valuable to waste on a bad cause.

On the other side, the Act offers the profession greater chances of service than ever before; it offers terms which are generous, full of life, a fuller freedom than in the past; and to the public it offers every asset that medicine has to give, with full capacity as the only limitation.

As one who has no personal animosity to the B.M.A., and who believes in the future of our profession, I want to give my vote to the Government.

Drop the demand for the reversal of the law. You may have the Act later if they are needed; they always have the Act of Parliament when difficulties show up.

I am sure the Minister will be on the subject of basic salaries with constructive proposals.

Let us have the full, useful guarantees of freedom—let us have what is a life, regular public advertisement, let us have the right to let everyone know where we are, let us have the right of all vacancies in general.

Let us have the right of partnership, let us have the right to be a partner in a good practice, let us have the right to be a partner in the practice of the profession, let us have the right to be a partner in the practice of the profession.

sharing of money. But, in any event, there is nothing here which cannot be ironed out round a table.

5. Finally, let me emphasize that the next move is with you. It is for you to declare war or to make a gesture of peace. If you declare war, you will lose. If you make a gesture of peace, you can yet find, in spite of what has passed, the spirit of good will. With such a gesture, if it be genuine, you can gain the sympathy not only of us in the Labour movement, but of the public at large. Labour people are just as keen on liberty as you are. They do not want a servile tribe of doctors, but a strong free profession with whom they can join in the battle for health.—I am, etc.,

House of Commons.

STEPHEN TAYLOR.

Solidarity of Profession

SIR,—Now that the result of the plebiscite is known the Representative Body is to decide what action it will take in advising the profession. It is imperative therefore that every member of the Representative Body should think hard on the value of the plebiscite as a guide to making his decision. He is certainly armed with a mandate to advise rejection of service under the Act if the results of the plebiscite are read at their face value, but can we be sure that the interpretation of the figures is as simple as the enthusiasts would have us believe? How far do the figures reflect the real opinions and, what is still more important, the intention of the voters? Question A was expressed in such a form that scarcely a single doctor—perhaps not even Mr. Bevan himself—could have answered "Yes" without mental reservations.

No one can approve the whole Act in its present form because it is a compromise between conflicting opinions, and therefore the B.M.A. might have assumed around 56,000 "Noes" without troubling to ask the question. The critical question was the third. It was asked in an attempt to measure the solidarity of the profession, in view of the experience of 1911-12. I believe that this question was answered by a large number under a mistaken sense of loyalty to the more vocal and senior members of their Divisions, hospitals, and other corporate bodies, and in some cases under a moral duress. The large number pledging themselves to refuse service under Question C have to take no action yet, but the earnest hope of the majority who put "Yes" to this question was that during the four months before "going over the top" into financial disaster some face-saving concessions will be made which will release them from their bond. Perhaps the figures of answers to Question C would be very different if it were to be asked on July 4.

The question has been put at a time when the profession has been goaded into a state of emotion, heat, and anger, and I submit that the majority is quite worthless as an indication of what even a substantial number of doctors will be ready to do on July 5. When we take into account the general political colour of the profession, opposed for various reasons to the present Government, and the increasing efforts to substitute an emotional dislike of the personality of the Minister for measured discussion of the points at issue, it is clear that the majority figures of the plebiscite represent not an opinion of the Act but the strong feeling against Mr. Bevan personally as Minister of Health. This view is supported by the results of the voting by those employed in public service, though you, Sir, claim that this vote is very significant as a criticism of the Act. But those employed in public service, such as the medical officers of health, have previously approved a National Health Service in the days of the far less acceptable first White Paper. I suggest that the *volte-face* of this group is due less to consideration of the Act on its merits than to active disapproval of Mr. Bevan as Minister.

Now is the time for wisdom, vision, and sense of proportion; not for emotion, heat, battle-cries, and the metaphors of war. We do not want mutual abuse whether it be the "raucous voice" epithet from the floor of the House or acid comments on the Minister in the columns of the *Journal*. There is no place now for "fighting speeches" and turgid letters to the medical press. We need a cold re-examination of the points of dispute and how far they really matter to the profession as a whole or to each individual doctor. It will need courage on the part of the leaders of the B.M.A., for they have manoeuvred themselves into a difficult and responsible position.

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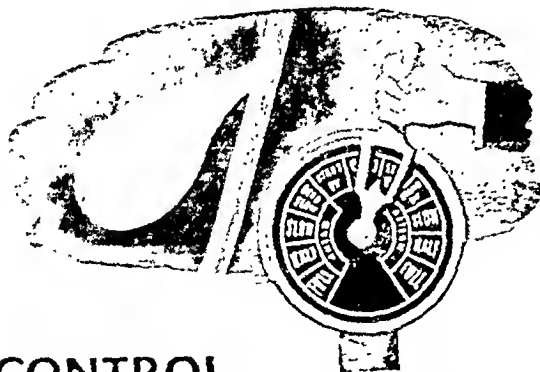
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Always the curse of a situation of impasse is the pride which must have its face saved. Gradually this becomes the major consideration, suffocating calm discussions of points of disagreement. If the B.M.A. attempts to lead the profession into conflict on July 5 by continued refusal to accept the Minister's offer to re-examine the four unacceptable provisions of the Act it must fail because no sectional resistance can prevail against the wish of the community, but if, on the other hand, it reconsiders the value of the plebiscite as a guide to action, if it measures its tremendous responsibility and is inspired by courage and wisdom, the situation can be saved to the great relief of the mass of doctors.—I am, etc.,

London, W.1.

ALECK BOURNE.

The Best Medical Service?

SIR,—By Order-in-Council the bureaucratic totalitarian National Health Service machine is to start on July 5. The Minister has the effrontery to call this machine the best medical service in the world. The number of panel and hospital patients will be doubled. There are no beds and no single rooms. Voluntary hospitals have long waiting-lists. There are insufficient nurses, ward maids, cleaners, technicians, and medical staff. Patients will have to queue up to queue to obtain a registration number when they cease to become individuals. After sitting on a hard bench in a crowded waiting-hall for an hour or so they will see a doctor for a few minutes. They will not be able to see the doctor they want and they will be lucky to see the same doctor twice. To quote a famous comedian, the patient will not be able to have the disease she wants. The doctors will be blamed and become the scapegoats for this chaos, which will be much worse than the housing programme.

The National Health Service is to cost £152 million per annum; only £32 million, or 10d. per head, is allocated from the National Insurance. The remaining £120 million comes from taxation. Moreover, the contributions, subscriptions, donations, etc., to the voluntary hospitals throughout the country amount to more than £100 million per annum. These will disappear. The people do not know that this is the sort of medical service they are going to get or how much it will cost them except that they will have to contribute about 4s. 9d. per week for each person. Patients are not interested in basic salaries, the buying and selling of practices, and the right of dismissal, but they are interested in the type of medical service which will be forced on them. The people are also interested in an ideal plan for a national health service which the B.M.A. has advocated. This is the information which should be put over to the Press and public at frequent intervals.—I am, etc.,

London, W.1.

E. D. D. DAVIS.

Criticism from Holland

SIR,—With great interest I followed your articles about the Health Service Act. As a Dutchman I certainly have to keep far from any struggle between the British doctors and their Government. But when heavy rains are pouring down in Britain we Dutchmen see dark clouds on our horizon. And here are the highest principles of the medical profession at stake. You said so well in your leading article, "Why Be Fearful?" (Jan. 17, p. 104), "They work hard—probably harder and certainly for longer hours than any other section of the community."

Now it is a curious fact that many people take freedom to discuss the amount of money that a doctor might earn by this hard work and constantly under great strain. I never noticed that the same procedure is applied to solicitors, barristers, bankers, manufacturers, etc. Still more painful is the fact that a struggle for the freedom of the medical profession is sometimes looked upon as only a struggle for more money. I am sure that the great majority of the British doctors if they had to choose between higher payment as a State officer and less payment as a free man would vote for the latter. To be totally ruined by the mere fact that one wants to be free is another question.

Now, why has the medical profession to be free? Once a State medical organization is in full action, the State will be able by force of the purse to compel the doctors to many things which they regard as not fit to the ethics of their profession.

Such things will certainly threaten, as the highest authority in a State organization will not be in the hands of medical men but in the hands of political groups which are in the possession of State power. The State once on its way to organize will never stop again. So frightful disorganization will be in the end. The medical profession will be more and more impersonal. The doctor will work for the State and not for his patients.

Now, how will a doctor find strength and energy for the daily heavy work in a great practice when he nowhere finds an adequate stimulus? This stimulus is certainly not the question, the more I work, the more money I make. It is the satisfaction that though a lot of trouble comes to the man who dedicates himself to the medical profession, it is the happiness of a hard but free life that makes it possible not to mind the deceptions, the irritations, the heavy strain of every doctor's day, that makes it possible to see, above all, the glory of the "Nobile Officium," which does not mean State office.—I am, etc.,

Amsterdam.

C. LANDHEER.

Amend the Act

SIR,—Surely Mr. Bevan must be perturbed by the result of the plebiscite. Supposing the Act were amended to suit the doctors, who would really suffer? Certainly not the patients, and certainly not the economic position of the country. Mr. Bevan, however, might feel frustrated. Mr. Bevan cannot be expected to climb down; he is determined to have the Act as it stands, and only the loyalty of the doctors can prevent him from gaining the desires of his heart. From now on we must expect a furious onslaught on our determination. The people will again hear of us striking at the roots of democracy.

The Cabinet's plan to peg wages met with strong disapproval of certain bodies, yet not a word was spoken about these bodies, although to oppose such a plan must have been very disloyal to the country. We lately have read of a number of strikes at a time when production is so important. Yet it seems that certain strikes get encouragement.

There are a few members of the medical profession who approve of the Health Act as it stands; surely these men are dangerous. They will tell us that we cannot win, so why "kick against the pricks"? They will say, "Look at the doctors in 1911, when they joined the National Health Insurance scheme although they disapproved of it so strongly." The faint heart will listen to such talk and might start a landslide. Surely some move must be made soon by the B.M.A. If we doctors cannot get this Act amended we deserve to have it as it stands, and we will be doing a great disservice to generations of doctors who will receive our inheritance.—I am, etc.,

Trimdon Station, Co. Durham.

ALBERT MILLER.

Compromise by Amendment

SIR,—May one with no axe to grind but who is very anxious to see a satisfactory solution by some amendment of the Act put forth a few ideas?

Appeal.—As a former chairman for three years of a Pensions Tribunal appointed by the Lord Chancellor, we adjudicated on hundreds of cases. Appeals against our decisions were *nil*. A medical man brought before a tribunal—two being doctors not connected in any way with the Ministry, and a barrister as chairman—would not I think care to risk his money in an expensive lawsuit when the case is given against him.

Sale of Practices.—We know a lot of untruths have been published on this point, but a great number of the public believe what has been said. The vendor should have the right to sell to a purchaser chosen by him at the 1938-1939 figure or the last financial year's income figure, the money being found by the State and paid over without waiting, after completion—purchaser to repay gradually.

Basic Salary.—Paid only to those with less than 1,000 on their lists: to be repaid gradually as the numbers increase.

Direction.—Conditions are much the same either way. More doctors apply for a practice than there are for sale. A man, unless he squats, cannot go and live where he would prefer. Executive Councils should have the power to increase in some way the remuneration where it is difficult to get applications to practise.

Assistants.—Single-handed practices of 3,000 and over on the list should be only allowed to take more patients if they employ an assistant—suitable pay arranged according to numbers on the list, partly by the State.

Sale of Doctors' Houses.—To try and prevent a doctor or his widow obtaining the value of his house sold at public auction to the new man is making it most likely that the auctioneer has orders on no account to sell to the newcomer. Under these conditions he is without a house or place to practise and loses a valuable part of the goodwill which goes with the house.

The Insurance Act as we know it has worked on the whole smoothly. After twenty-two years' experience I cannot remember any disagreement or disagreeable orders.—I am, etc.,

Melksham, Wilts.

J. HOLMES.

Considered Planning

SIR,—The need for an improved medical service is generally acknowledged, and I am as anxious as any that such a scheme should be introduced as soon as possible. However, having followed the discussions in the medical journals and the press, it is hard to escape the conclusion that the medical profession is being asked to sacrifice present freedom for a nebulous future. Wise decision in the matter is made more difficult because there is very great financial pressure to accept by a certain date, while at the same time the terms of service and conditions of work are very uncertain. Not to accept may mean financial ruin; to accept may mean serious loss of income, not to mention inferior conditions of life and quality of service. At the same time one cannot avoid the impression that haste to bring in the new Service is due largely to exploitation of health for political motives.

As is well known, there is an acute shortage of nurses; 50,000 beds are closed already, and under the new Service vastly greater hospital accommodation will be needed. There is an acute manpower shortage, and lack of personnel for the health centres, which are not yet built. The country is in the middle of a life-and-death struggle for economic survival, and the equipment needed for the Service is lacking. There are many such factors. I do not wish to appear defeatist, but realistic. In the next five years will the Service provide anything materially better than the facilities already provided? Why the rush to apply rubber stamps? There is time for considered planning and evolution. Work can be commenced in many directions and the medical profession will fit into an evolving plan. What is the need so abruptly to control the profession?

If National Health Insurance trebled the number of items of service, much the same may be expected in the present instance. One of the common criticisms of the G.P. is that he is too busy to do thorough work. A tremendous additional burden is now to be placed upon him with no materially increased facilities.

A derestricted medical service will be facing demands which they cannot fulfil, and the people may suffer not only economic hardship, but deterioration in the quality of service. There has been an unfortunate emphasis on personalities, and much has been said from emotion rather than reason. The position, however, is now much clearer than before, and it is clear that our profession is being asked to give away freedom with unnecessary precipitation, when matters of principle are being denied and points vital to individual freedom are obscure.

In the circumstances it would appear a duty to oppose the Minister with a firm "No," at the same time avoiding negation and seeking the positive, by every means in our power helping to develop a sound basis for a national health service which shall promote the health of the nation.

The Minister's demand to sign on the dotted line by July 5 is a challenge for the reasons (financial) given above tantamount to blackmail. Would it be unethical (or futile) to suggest that practitioners should all sign, under protest, in self-defence, and that after the appointed day they would go solidly back to the old trade union tradition unless in the interval their demands are made clear and their just demands are met?

Amesbury

M. E. M. HEEFORD.

An Unworkable Act

THE following are some of my chief objections to the proposed National Health Service Bill as it is being introduced into the House of Commons. We know the difficulties of the present system, but we know the difficulties of the proposed system. The Bill is a disaster. It is a disaster to the public, to the medical profession, to the nursing profession, to the hospital staffs, to the general public, to the country, to the world. The Bill is a disaster. It is a disaster to the public, to the medical profession, to the nursing profession, to the hospital staffs, to the general public, to the country, to the world.

week for health services, and are being led to believe that all the resources of medicine will be at their disposal for the asking. They will naturally endeavour to get a good return for their money and will not be backward in coming forward. Result—overcrowded surgeries, incessant telephone calls, our lives a little hell, our work not what it should be.

It is now the duty of our representatives to put these facts before the Government and to say firmly that we cannot possibly at present give the service required by the Act. They should also state what we are able and prepared to give. A service that would appeal to me would be: (1) to extend the present N.H.I. to include the family of the insured; (2) the rest of the population to contribute a weekly sum sufficient to provide a fund to (a) materially help to build, equip, and maintain hospitals, and (b) adequately pay the honorary staffs. In return they should be entitled to hospital treatment whenever necessary free of further payment. The amount and nature of such treatment to be specified; it should be comprehensive but not extravagant.

The public are not interested in the sale of practices and so forth, but they could surely be made to understand that there are not enough hospitals or doctors to give the service the Act seems to promise them. They could be made to see that the Act must be modified and also I think that at all costs we must retain our freedom. Unless the Act can be modified I would rather keep out of it, and I do not envy the lot of those who join and attempt the impossible. Theirs a life of toil providing a paradise for the "malade imaginaire."—I am, etc.,

Melksham, Wilts.

I. C. KEIR.

An Alternative Wanted

SIR,—My question may have been put by others, but I have not seen an answer, although I follow fairly closely the correspondence in the *B.M.J.* Doctors have received a separate copy, and a full report of the proposed National Health Service has been published in the *B.M.J.* Can the British Medical Association publish in a similar manner their alternative health service scheme in detail or circularize doctors with copies of the amended scheme that they propose—in every detail? Can this be done at an early date so that those concerned can decide before the appointed day how they are going to earn a living for themselves and their dependants when the appointed day arrives?—I am, etc.,

Morston, Cheshire.

MARGARET ROUND.

Alternative Plan

SIR,—We have shown by the ballot that in the opinion of all sections of the profession there is something very wrong with the present Act. In order to hold our prestige it is essential that the B.M.A. quickly publish a clear and concise alternative plan. In order to do this successfully it is equally essential that the wording of this alternative plan be drawn up with the aid of the best legal opinion available. It would greatly add to the influence of such a plan if it were signed by (1) one of the leading members of each section of the medical profession; (2) several leading legal experts; (3) several prospective patients drawn from all sections of the community; (4) several administrators of hospital, panel boards, and regional boards; (5) several members of the nursing profession.

To remove the present suspense in the public mind the B.M.A. should now state over the radio and in the Press that such a plan is in the course of preparation and will be published on a definite date.—I am, etc.,

SERVICE PRACTITIONER.

Alternative Suggestions

SIR,—Now is the time to make suggestions for an alternative health service. I doubt if there are many practitioners who in their heart of hearts really like N.H.I. as it is at present. It would therefore be a mistake to extend it to dependants.

What are the salient evils of N.H.I.? I would say: (1) The encouragement of the bottle-of-medicine addicts, the neurotics, and those who feel they are entitled to a week on the panel after paying in for years. (2) The latitude given patients to pin one's panel for the first time, though long resident in district, on occasion of an illness or accident.

necessary. The patient leaves district shortly after and the doctor is entitled to a fee of 3s. 10d. paid some months later. (3) Patients presenting cards, receiving attention, and subsequently found not to be entitled to benefit. There are of course other abuses, not enumerated. Imagine under the National Health Service the items of attention per year for a baby, for whom the capitation fee will be not a penny more than for an adult.

All the above irritations and injustices can be avoided by the following: (a) Option for all, including dependants, below a certain income limit to join a contributory scheme. This would not penalize those who do not wish to contribute. (b) Cash payment for service by patient, who passes receipt to the Government for partial repayment. (c) An extension of pathological facilities and hospital accommodation.—I am, etc.,

Bournemouth.

A. R. THATCHER.

Alternative Insurance Scheme

SIR,—The recent plebiscite shows that the profession opposes a certain system of payment and control, but no one opposes an extended insurance service of some sort. Do we have to wait until the Government organizes this for us? In the case of general practitioners at least it seems feasible for the individual doctor to offer services for an annual subscription. The B.M.A. could lay down model forms of contract and suggest rules to prevent abuses and fix subscriptions. Entry should be voluntary, but open to anyone. Now that we have shown our dislike of the Government's plan, can we not produce a practical plan of our own, piecemeal if necessary, to commence as soon as possible?—I am, etc.,

Paignton, Devon.

J. F. BURDON.

Alternative Service

SIR,—While the profession has won a notable victory, they must be careful that they do not lose the peace. It is now up to the B.M.A. Council to draw up a well-considered plan to replace the politically forced creation of the Government.

Unless they are to fall even more miserably the following points must be closely borne in mind. (1) The profession's general-practitioner strength is nothing like large enough to cope with the enormous increase of work that will accrue when the whole population is entitled to free medical attendance. (2) We should strike a blow for the nursing profession in our own interest as well as theirs. I suggest tentatively a 50% increase for doctors, and about 200% increase for nurses. These recruits could be obtained (a) by subsidizing medical education and nurses' education; (b) by Government propaganda fixing hours of work, promising good food to nurses, and recreational facilities, generous holidays, and pensions for sickness and retirement. (3) Unless the Service is going to be gravely discredited it must not be started until such time as the Government's clinics are ready and properly staffed with telephonists, typists, and adequate domestic service.—I am, etc.,

Gt. Yarmouth, Norfolk.

LEONARD LEY.

Profession Should Plan Service

SIR,—Having at last, thanks to the B.M.A. and aided by Mr. Bevan, obtained what formerly seemed impossible, a united profession, surely the time has come to decide what we want. I was in agreement with Mr. Bevan in one of his statements in the Commons debate, that we disagreed with all the Ministers of Health who have tried to produce a National Health Service. Why? Because as experts we will not be told how to do our job. We should be told by Parliament to produce a comprehensive service, and within broad limits, agreed mutually without rudeness, threats, or preconceived prejudices on either side, we should work out the details ourselves. As in other spheres, the expert is called in, told what result is wanted, and left to produce it.

It is a great pity that the National Health Service has become a political issue. The nation's health should be above party strife; and the medical profession dislikes Labour, Conservative, and Liberal dictatorship on details—in varying degrees, doubtless, but all disliked.

We should now inform the Press and the Minister that if a health service is wanted we will organize it, provide it, and

work it. Tell us how much money is available, give us the necessary aid from financial experts and statisticians, and we will do the job. If we have not done our job within a certain time, say 2 years or 5 years, then we cannot complain if we are told how to do it. We must then work out some details and agree on them among ourselves. No doubt the B.M.A. Council has plans, but I suggest we should express our opinions in letters to the *British Medical Journal* and through study groups to the Representative Meeting on points about which individually we feel strongly: the abiding principle throughout to be freedom, of thought, word, and action, under the laws affecting everyone and with a reconstituted G.M.C. for disciplinary procedures.

My own essential points are:

- (1) A service available to 100% of the population, but "contracting out" allowed. (Freedom for the public.)
- (2) Goodwill to be retained. (Freedom for the profession.)
- (3) Payment by capitation only, 21s. per head, perhaps less if and when health centres are provided, with secretaries, nurses, instruments, telephone operators, cleaning, lighting, heating, etc., complete.
- (4) Increased capitation fee in under-doctored areas and in rural areas.
- (5) Limit of 3,000 in urban areas, with the opportunity for doctors with special skill, experience, or aptitude to earn more by a part-time specialty.
- (6) Abolition of some of the minor irritations of the present N.H.I. regulations—e.g., the unnecessary frequency of certification.

—I am, etc.,

Torquay

R. A. LATTEY.

Profession Must Find Solution

SIR,—As one of the minority who, from deep conviction, voted "Yes" to the first two questions of the plebiscite, whilst pledging my unconditional loyalty to the Association by my reply to the third question, I feel that I have the right to urge my views at the present juncture, in the hope that they may contribute towards the settlement which we all desire. The plebiscite revealed two things.

First, it revealed the depth of feeling created by the Minister in his handling of the profession. We have, as a profession, expressed this feeling in no uncertain way; nevertheless, we must remember that it is the Act which we have to decide upon, and it will serve no lasting purpose whatever to try and make the Minister a scapegoat. Let us now bury this personal feud.

Secondly, the plebiscite revealed that the majority of doctors have shied at the last fence; that in point of fact they do not, subconsciously, want a National Health Service at all. They are still thinking in terms of some general medical service for the nation, some compromise between nationalization and private enterprise. In point of fact this Act is itself a compromise; from the point of view of the Labour Party must definitely so. When one considers without prejudice the varied schemes mooted in the past few years one realizes that with all its faults and potential dangers this present Act is the most workable scheme that has been evolved to date. It can be compared in its breadth and latitude with the great Education Acts which our social order has produced.

If we analyse all the points at issue between the profession and the Government in turn we cannot but realize how weak these points are from our own point of view. In the recent debate in the House the support offered us by the Conservative Party on the question of buying and selling was so feeble that we should realize that this is a closed issue which no Government can concede. No lay person can understand why we should object to the minimum of control in the matter of permission to practise, since this measure is a protection for ourselves as well as for the public. In practice it will work less hardship than the present system. The supremely rational reply of the Government to our representations on the matter of appeal would convince any other mind than ours. How can we expect the support of public opinion on any of these three points?

There remains (apart from purely technical matters such as partnership arrangements) only the question of the basic salary. The profession itself originally suggested this and supported

We should say to the Government: Let us retain the goodwill of our practices and we will concede you the other points at issue; furthermore, we are prepared to accept some measure of control over the transfer of practices. In fact we could safely hand this function over to the board which will replace either the insurance committee or the panel committee, it would probably do the job better than the commercial agencies do it, and it would act in the best interests of buyer and seller.

What are the other points? Appeal to the Courts?—a double-edged weapon and one which would be very rarely used. Basic salary?—no danger at all if we retain the goodwill of our practices, in fact it could be very usefully used to subsidize young men or to encourage them to practise in undesirable areas. Partnership difficulties?—these again would resolve themselves for the great part, but in any case the Minister is prepared to give way on this point. I sincerely hope the Representative Body will decide to make the retention of goodwill the major issue, and if we put it to Government and public that we are prepared to concede all other points for this one then I think we would have a great volume of support. If we won our point we would have achieved victory.—I am, etc.,

London, S E 1

W. B. PEMBERTON.

The Panel Yoke

SIR.—Mr. Bevan's delusions of a raucous-voiced politically minded minority of doctors intent on an evil thing develop one step further towards carpet-chewing when he declares in Parliament that he has made all the concessions and the doctors none. We have made so many concessions that we are left with a weakened case to present to the public. The rights to buy and sell practices, to appeal to the courts, to move without permission, and not to be salary-earners seem relatively small matters to the average man. To win public support we should now take a firmer stand, with a clearer case which all can appreciate.

Possibly we have called a halt too late in the process of sacrificing ourselves—and our wives. We have suicidally offered a "free" G.P. service to every man, woman, and child in this country, undeterred by the fact that most conscientious panel doctors are half worked to death already. But now mercifully our sacrifices are scorned. We have the opportunity to reconsider and restate our case. Now we have the chance to redeem the mistake made in 1911. The panel yoke is about to be lifted from our galled shoulders. No longer will twenty million people feel that they pay doctors and so might as well "have" them, considerately or inconsiderately. Let us boldly state that advances in medicine render it impossible for honest doctors to contract to supply all possible aids to all patients, especially if bothered by bureaucrats. Let us confess the bitter truth that the panel system debases the practice of the art and science of healing.

Should we not now return to the time-honoured dealing between doctor and patient in which each gives what he can? If there must be intervention of cash-collectors between doctor and patient then let our patients pay our own collectors so much a week or month off their accounts. This system has worked in Lancashire, and has this to recommend it: that patients only pay for what they have had and only ask for what they need. There would be no question then of the divine rights of Parliamentary collectors of our earnings.

Our case for the public would be simple if we confessed our distrust of any form of contract practice and our resolve to preserve some freedom for ourselves. It would be strong if we insisted that we hold the doctor-patient relationship sacred and will not admit unnecessary intrusion on its privacy. It would be invincible if we sufficiently explained the great sacrifices and concessions we have already made as panel doctors with little peace in our homes owing to the insatiable demands of contract patients and bureaucrats. We know that we have not got the time and strength to do half what we should like to do for our patients. Let us say so. Let us add that we wish to be doctors, not M.O.s, not even panel doctors any longer. We will be wise, kindly, generous helpers of our own free will, and not by contract any more.

You well point out that Mr. Bevan has failed to find a narrow target for his vituperation of persons. But you fail to make clear that this Welsh class-warlock, building on the Welsh

Wizard's foundations laid in 1911, has dangerously narrowed the apparent differences between his plans and ours. Accro- that too narrow gap he hopes to throw the blame for the dis- appointment of electors' hopes falsely and treacherously raised. So let us tell the truth about the panel and so set ourselves free from his trap.—I am, etc.,

London, W.1.

WILLOUGHBY CLARK.

Remuneration

SIR.—The plebiscite makes it abundantly clear that the doctor as a whole are opposed to the new Act, but it does not say why. There have been reasonable criticism in the Press and from the public that the B.M.A. have been destructive, but not constructive; that they have no agreed plan of their own. This is regrettably true. The explanation lies in the fact that nowhere in the world has a wholly satisfactory system of remuneration for a complete service been evolved.

In all forms of employment and of organization of labour there is inevitably some degree of loss of freedom and frustration of initiative, but nowhere is this loss of freedom so vitally important as in the arts and in the personal relationship of medicine. For this reason a rigid State salaried service is ruled out. There is no doubt that a capitation system with professional freedom would be much better than a State salaried service, but the capitation system itself suffers from two incurable defects: (1) The elderly and chronic sick, who make up such a large part of practice, are put in the humiliating position of feeling that they are a nuisance. They are acutely aware that they are a liability rather than an asset to their doctor and, if they are sensitive, feel apologetic when asking to be accepted as a patient. (2) There is no financial inducement for the doctor to undertake any particular service. In theory this should not count, but in practice many men prefer to be paid for what they do because they feel that it is a safeguard against any tendency to slip into slackness.

All will agree that for those who could afford it private practice has in the past given as good a service as doctors were able to provide with the limited facilities at their disposal. It would seem evident that it is desirable not that all should be "on the panel" but that all should be "private patients." We want a true health service based upon insurance; one in which the patient chooses his doctor and decides when he needs help without fear of cost, while the doctor, backed by the State insurance funds, has at his disposal all the necessary facilities to give of his best.

Clearly the cost of the best possible service cannot be met by an equal contribution from all classes—the individual contribution would be far too high for the poor. Therefore, either, as in the present Act, the State must meet the extra cost from general taxation or, as in the New Zealand system, it must be borne by a personal security tax rising with income. The New Zealand system provides a complete health service, and the plan for remuneration is satisfactory except that it is open to abuse by excessive claims. The patient chooses his doctor and the State pays the account at a fixed rate per service. It is also permitted to doctors, in agreement with these patients, to make an extra charge for visits to the home. In this way doctors whose services are especially in demand may earn a larger income. This extra incentive may or may not be approved, but it does take note of quality as well as quantity of work and helps the older, experienced practitioner in his years of declining strength.

In other countries where high wages are the rule the principle of making the patient contribute part of the charge at the time is considered to check unnecessary visits and to give the patient a sense of responsibility without imposing any hardship. A safeguard against excessive claims by doctors could easily be devised by limiting the extent to which a doctor's claims on State funds should be met to an agreed total figure per thousand patients—this figure to be based on the Spens report. A higher rate would need to be allowed under special conditions.

In the past many doctors have disliked the intrusion of financial questions into their personal relation with their patients. The main reason for this feeling was the fact that so often serious illness resulted in heavy expenses for their patients when they could least well be met, and that in any

the decisions of the Representative Body, and therefore of the profession as a whole. He knows that the officers are the spear-head through which the decisions of the profession are promulgated. We know all this, but the public do not. Whether in view of all this Mr. Bevan's gross misrepresentations are innocent and to that extent honest, or whether deliberate and otherwise, may safely be left to the judgment of the profession.

Does he really believe that a profession to which he himself has applied the adjectives "honourable and learned," to which he himself has paid the unintentional compliment of accusing them of "rejecting the Act before they knew the terms of remuneration;" does the Minister, I say, really think that this "honourable and learned profession" is incapable of judging for itself and coming to a decision? Or does he think we are spoon-fed with the opinions of others?

There are many other points on which one could enlarge, but we are not a flock of sheep to be stampeded, and we are proof against bullying. I think the profession owes Mr. Bevan a deep debt of gratitude for welding it into a state of solidarity such as it has never before attained.—I am, etc.,

Brookwood, Surrey.

H. M. STANLEY TURNER.

Tell the Public

SIR.—I have read the correspondence in the *Journal* of Feb. 21 with more than passing interest, and especially the letter by Dr. Reginald C. Jewsbury (p. 359), advocating a short exposition of what we stand for and what we are standing against—not more than 500 words, attractive enough to secure general attention, simple enough to be within the grasp of every man's intelligence, to be broadcast far and wide. A series of such pamphlets might be issued with great advantage during the next few weeks. As a matter of fact, there appeared in *The Times* of Feb. 21 just such an admirable exposition, under the name of Prof. J. H. Dible, of London University, entitled "The Doctors' Plebiscite." This was ample explanation for the relatively small but enlightened circle who read that journal; but for the "Plebs" as a whole I would advocate something that explains adequately the true significance of the basic salary and the selling and buying of goodwill, something that shows these to be matters concerned with our freedom, and not a squalid haggle over filthy lucre, which is precisely what a commercially minded public believe them to be—a belief which the Socialists are exploiting with clever perseverance.

Further, the public must be taught here and now that their interests and those of our profession are one and the same—namely, freedom, and the keeping of politics out of medicine; nor should the things of the spirit be ignored.

Time is in the essence of this matter, and these expositions should be scattered with persistence for some weeks to come.—I am, etc.,

Liverpool.

J. GORDON DANSON.

The Fight taking Shape

SIR.—The fight that is now taking shape between the medical profession and the Ministry of Health has not been unforeseen by most of us, and I for one envisaged the present position in the columns of the *Journal* in 1945, but we all hoped Mr. Bevan might see reason and settle this dispute sensibly, as it must be eventually. Mr. Bevan with his characteristic stubbornness is no compromiser and may therefore have to go, and then the Government's headache really begins. Mr. Bevan may join up with Mr. Dalton to help to fire the malcontents.

Mr. Bevan has already fired the first broadside by throwing doubts on the validity of the doctors' plebiscite, and he has suggested the doctors are defying the Act of Parliament. This is certainly not so, for, at present anyhow, as the Act stands the doctors may or may not join the Health Service according to their wish. It is not the doctors who need worry—it is Mr. Attlee.

The result of the plebiscite leaves no doubt that a huge majority will prefer not to join the Service and so decline to operate the Act in its present bad form—bad for the doctors and bad for the public. It is believed the Cabinet ill-advisedly have decided in advance to make no concessions to the doctors, and so the fight is on. The Government therefore hope that the individual doctor will enter the scheme even if he votes

against doing so in the plebiscite. Indeed the recalcitrants will come under heavy and continuous pressure as the appointed day draws nearer for the formation of the Health Service. The Cabinet again have made a mistake.

I am sure this country is slowly but surely sliding down the hill with our present incompetent "planners" in control, and this is no empty vain statement. It is therefore up to one and all of us to accept responsibility when we can and help to pull us out of our present troubles. It is indeed this great feeling of necessity, of almost despair for one's country, that has brought a nonentity in the medical world such as myself into the political arena. We live in one of the most perilous periods of our history, but never perhaps in such a perilous state of weakness as we are in to-day. The people of this country must wake up to the full realization of how we are saddled to-day with an incompetent and dogma-ridden batch of theorists.

The doctors must now do their part by standing firm, and it will only be a matter of time (and not a very long time) until the Government seek to come to terms with the profession, when we can then amend the present badly framed Act and establish, as we have always desired to establish (irrespective of political flavour), a sound health service for the benefit of all members of the community in this country.—I am, etc.,

London, W.1.

NORMAN P. HENDERSON.

Action Now

SIR.—The time for action has come and we look to the B.M.A. to give the profession a lead now. July 5 is awfully near, and every day spent in defensive tactics not only lowers the morale of those who are unwilling to accept the Act as it now stands but gives the Minister just cause to continue his cynical attitude that the majority of us who voted "No" will change our mind as the appointed day gets nearer. It should be realized that economic pressure and—let's face it—the fact that we are not certain that our colleagues will not waver will tend to drive a large section of the profession into the Minister's waiting net. Therefore why wait until March 17 before the Representative Body decides on the next move?

The plebiscite result demands that immediate action be taken, and I suggest that forthwith the Minister be informed that we resign from the N.H.I. on April 1 (or some convenient date) unless between now and then it is agreed between him and our representatives: (1) That there be no basic salary as such but an expenses allowance. This would, I feel, satisfy the Minister's urge to help young doctors and at the same time would not make them salaried servants of the State. (2) That there be freedom to join the service without penalty at any time. (3) That there be no direction—negative or otherwise—but that special inducements be offered to enable the under-doctoring areas to be efficiently served. (4) That the capitation fee should remain unaltered for each patient, irrespective of the size of the doctor's list. (5) That a compromise could be reached about sale of goodwill. At the same time the public must be told by an intensive Press campaign exactly what we are fighting for. I feel that this is of great importance, as at present the large majority of the public think that our dispute with the Minister is either financial or political, or both.

One thing I feel is certain, that unless we get immediate action our present united army will have dwindled sadly by the time the appointed day arrives. If we are going to put up a fight against the curtailment of our individual and professional liberty we cannot start fighting too early. This is no time for defensive action—and anyway we don't need that kind of action if we are to retain our freedom and self-respect. Time is not on our side, nor at the moment are the majority of the public. We need an alternative scheme for them. Why not extend the panel system and leave it at that?—I am, etc.,

Farnborough.

A. S. BRADLAW.

Attack Now

SIR.—I am whole-heartedly in favour of widespread integration of the hospital and auxiliary medical facilities of the country. I believe all doctors are, as in this way we can better the service we render our patients. I am whole-heartedly against the present Act, which, under cover of this integration, aims at completely removing personal liberty from the doctor, and in large part from the patient. I think it is pathetic that

R. LUNT.

After the hopeless failure of the B.M.A. Protection of Practitioners Scheme I can hardly be blamed for lacking faith in the integrity of my fellow practitioners.

In the recent B.M.A. plebiscite, while voting my disapproval of the Health Scheme in its present form, I did not agree to abide by the decision of the majority. If the scheme is forced upon us in July I for one intend to enter the Service, not because I approve of it, but because financially I have no option. And—as I remarked in my letter of 1944—there must be hundreds in similar circumstances to myself.—I am, etc.,

Dis., Norfolk.

J. H. CULLINAN.

The Moral Issue

“Discretion tested by a hundred secrets”—this was part of R. L. Stevenson’s tribute to the medical profession, and he also wrote, “Generosity he had, such as is possible to those who practise an art, never to those who drive a trade.” Sir, I would say that under State service we shall be driving a trade, and those of us who enter the scheme unamended will have destroyed the very soul of medicine.

Let us by every means at our disposal, whether it be by talks to our patients or lectures, but above all by a united front in our own district, convince the public that this is not the way to Beulah but to Bedlam.—I am, etc.,

Sidmouth, Devon.

SIR,—
NATIONAL
ARTHUR L.

ARTHUR H. DUNKERLEY.

Nationalized Charladies?

ARTHUR H. DUNKERLEY,
Nationalized Charladies?
SIR,—While in complete agreement with the views of doctors' wives on their importance to the N.H.S. as expressed in recent letters in the *Journal*, I should like to point out that there are quite a number of women practitioners who, if they unfortunately have no family relative to act as housekeeper, have to bear the double burden in many cases of running both their practice and their house, including surgery, accommodation, etc. Those of us who are thus situated will indeed welcome the nationalized receptionist-cuni-charlady already visualized as yet another of the benefits to be conferred on us by Mr. Bevan.—I am, etc.,
Newbury Park, Essex

PHYLLIS C. MACKENZIE.

Brodie's Abscess

Brodie's Abscess

SIR,—Under this title Messrs. Stanley Scott and F. S. Preston (Feb. 14, p. 296) state, "It also occurs commonly after compound comminuted fractures." The case history of a patient developing an abscess in the tibia thirteen years after a compound fracture of that bone is reported. This raises a point of importance not only to medical historians but also to clinical teachers, authors, and statisticians.

There is a fascination in employing the name of Brodie as a discoverer of a disease or of the first to describe it. Unfortunately, as time passes, the name becomes forgotten and there appears to be no one to whom it can be ascribed. Brodie's abscess is a condition which is not only of historical interest but also of clinical importance.

Yours faithfully,
PHYLLIS C. MACKENZIE.

There is a fascination in employing the name of the discoverer of a disease or of the first to describe a clinical entity. This raises a point not only to medical historians but also to clinicians, authors, and statisticians. The original description is forgotten and there appears in medical literature (or even a new one) of a condition once described in a masterly manner. Benjamin Brodie read his first paper on this subject on March 27, 1832, and it was published in *Medico-Chirurgical Transactions* (1832, 17, 239) under the title of "An Account of some Cases of Chronic Abscess of the Tibia." The clinical details are set out concisely and lucidly. He lectured on the subject at St. George's Hospital Nov. 19, 1845, and this

Stand Firm

work about buying and selling patients—is sheer bunk.”

Some think the Minister should be approached with suggestions of compromise, etc. Surely, Sir, such an attitude towards the Minister is the height of folly and would merely delight him who is banking on cleavage in our ranks. It is devoutly to be hoped that the 90% will stand firm this time and that no approaches to the Minister will be made either directly or indirectly by the B.M.A. or by others apart from the B.M.A. Any such approaches for further negotiation must come from the Minister, for to his request for an answer to enter the Service as it stands he has twice been refused. Yes or No to the Minister, for to his request for an answer to enter the Service as it stands he has twice been refused. Yes or No to the Minister, for to his request for an answer to enter the Service as it stands he has twice been refused. Yes or No to the Minister, for to his request for an answer to enter the Service as it stands he has twice been refused.

He says our objections are unreasonable and our objections have been pointed out to him *ad nauseam*. Let him then expunge the objectionable parts of the scheme. Why does he not do so? Simply because he knows very well that these parts are fundamental to our freedom, which is what he is set on depriving us of.—I am,

Basic Salary

C. H. BARBER.

Basic Salary and "Squatting"

Basic Salary and "Squatting"

C. H. BARBER.

SIR, While the basic salary is rightly or wrongly suspected in its political implications by the vast majority of the profession there are other grave objections to it that appear to have been overlooked. (1) The squatter, who has always been objected to by the established practitioner, in being subsidized will be paid at a very much higher rate per patient than the long-established practitioner. (2) The squatter is not required to submit any evidence of competence apart from a registrable one. In general he will be a young inexperienced doctor who has short-circuited the usual avenues affording experience—the hospital appointments, assistantships, etc. The net result will be an embarrassment to decent established practice and a loss of additional remuneration of approved practice and experience. At the same time there is no recognition by the State of the inexperienced in being subsidized there is no recognition by the State of the experienced in being subsidized. The net result will be an embarrassment to decent established practice and a loss of additional remuneration of approved practice and experience. At the same time there is no recognition by the State of the inexperienced in being subsidized there is no recognition by the State of the experienced in being subsidized.

SIR, I am a better plea for any kind of supplementary remuneration would be additional capitation in approved experience and qualification in general and higher standard of service in general.

No One

J. MacLeod.

No Option

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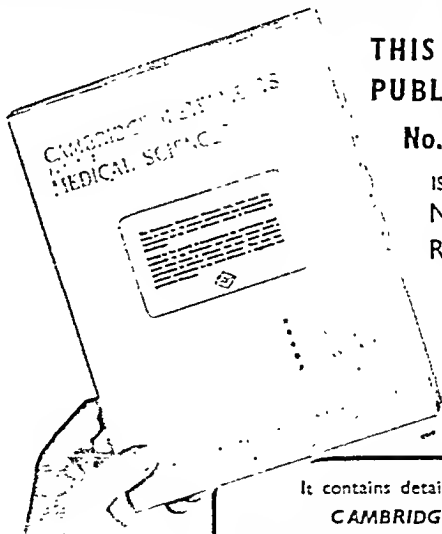
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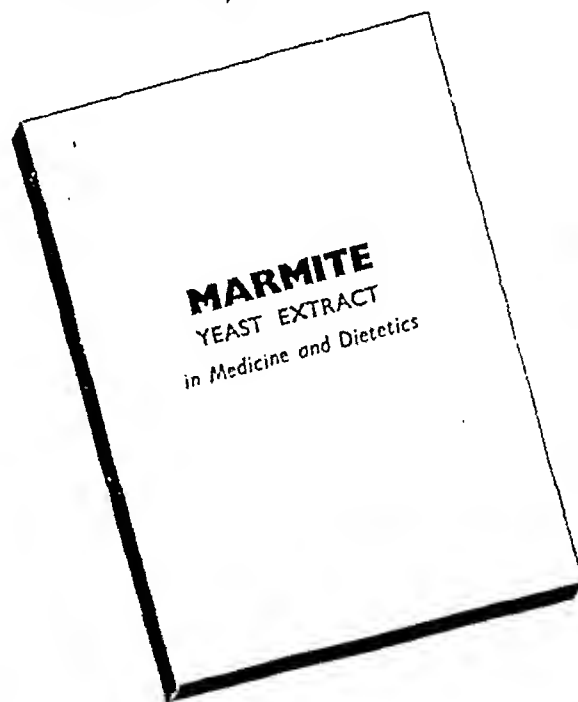
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lecture was published in the *London Medical Gazette* (1845, 36, 1399). The first patient in whom he recognized an undescribed condition was seen by him in 1824, but I find no record of him reporting this case prior to 1832; Scott and Preston did not state the reference when they wrote that Brodie had described "his abscess" in 1824.

It is quite clear that the latent abscess occurring at the site of a compound fracture long years after is not the entity ascribed by Brodie, for there had been no open wound of the limb in his cases. The medical literature in our language is flooded and we are proud of those whose names we associate with well-known conditions. If only for the sake of those who will read present literature in future days it seems important to realize what condition was described by the man whose name is associated with it. By this means the value of the original work is accurately reported from time to time and the memory of a great man is perpetuated.—I am, etc.,

London, W.1.

ST. J. D. BUXTON.

Louse-borne Relapsing Fever in Persia

SIR.—Drs. R. I. Bodman and I. S. Stewart in their interesting article (Feb. 14, p. 291) claim that this disease had not previously been reported in Persia. They may be interested to know that it was encountered in Iraq and Persia on a wide enough scale to cause much anxiety among our Forces in the campaign of 1914-18. The subject was reviewed at considerable length by W. H. Willcox and J. C. G. Ledingham in addresses to the Royal Society of Medicine on Jan. 27, 1920 (*Proc. R. Soc. Med.*, 1920, 13, 59). In his opening address Willcox said that the disease was known by native practitioners as "recurrent fever" and by the Turks as "chronic fever," both typhus and relapsing fever being endemic and of greater incidence than enteric fever. Our troops were uninfected until their contact with the local population and Turkish prisoners. Louse infestation was appallingly common in the Turkish army and relapsing fever was known to be prevalent at Kut in the winter of 1915-16. The disease also occurred in the civil and military population of Bagdad in 1917, after its conquest by an army led by General Sir Stanley Maude. The following incidence of cases among military personnel was recorded (the total amounting to 1,883):

Year	British	Deaths	% Mortality	Indian	Deaths	% Mortality
1917	20	—	—	196	8	4.05
1918	110	6	5.5	1,557	126	8.09

Sir John Ledingham demonstrated the correspondence in the incidence curves for typhus and relapsing fever month by month from 1917 onwards which Drs. Bodman and Stewart notice again in 1946. The epidemic started in the last quarter of the year and attained maximal height in April, whereas in the 1946 epidemic January was the month of maximal incidence—a difference accounted for solely by variations in temperature and relative humidity of the atmosphere. On reading the accounts of the two epidemics it is interesting to note that they correspond in almost every detail with regard to symptomatology, complications, and the response to treatment with N.A.B. The mortality was about 1% for Arabs in 1918, being considerably less than for Indian and British troops. It was noted that cerebral relapsing fever might sometimes clinically resemble meningococcal meningitis. Jaundice was often a complication. There was evidence that lice are sometimes infective for both typhus and relapsing fever at the same time. For example, a medical officer contracted relapsing fever exactly 6 days after attending two cases of typhus, and there were other experiences from which it was concluded that lice can be vectors of the two diseases simultaneously.—I am, etc.,

Windsor, Berks

PHILIP H. WILLCOX.

Trichlorethylene in General Anaesthesia

SIR.—Since the introduction of trichlorethylene into anaesthetic practice in 1942, the two factors concerning this drug which have provoked more discussion than all others would appear to be (1) tachypnoea and (2) the necessity of employing only

minute amounts of the agent. Concerning these two points, Dr. Gordon Ostlere (Jan. 31, p. 195) does little but reiterate what has been said already many times over.

He states, "The secret of a successful trichlorethylene administration lies in the employment of only small quantities of the drug," previous to which he has said that he uses as a vehicle for his vapour a 20% mixture of oxygen in nitrous oxide. There is, however, no mention of the effect of oxygenation upon tachypnoea and this to my mind is equally important. Using a 20% oxygen-nitrous-oxide mixture rapid respiration will indeed ensue if the amount of trichlorethylene vapour exceeds the minimal. If, however, the oxygen content is raised to 30% or more, then much greater latitude with the amount of trichlorethylene can be allowed and a more easily controlled anaesthesia obtained even though in the long run more of the agent may be vaporized.

Adequate oxygenation would appear to be an exceedingly important factor in the prevention of trichlorethylene tachypnoea, and since Dr. Ostlere's paper appears to have been written for the benefit of persons unaccustomed to using this agent I feel that this point should be stressed. I agree wholeheartedly with the writer when he refers to the use of minimal amounts of the drug, but may I make so bold as to add an amendment to his statement and say that "the secret of a successful trichlorethylene administration lies in the employment of only small quantities of the drug, together with a high oxygen percentage in the mixture"?—I am, etc.,

York.

J. McNAUGHT INGLIS.

Simple Test for Pulmonary Tuberculosis

SIR.—With reference to the letter under this heading (Jan. 24, p. 173) the monocyte-lymphocyte (m/l) ratio is recognized as one of several aspects of the differential count having special interest in tuberculosis, more particularly in relation to "resistance" ($m/l < 1/3$) and to "spread" ($m/l > 1/3$) of the disease. The idea is promulgated in the Houghton and Frimodt-Moeller indices, where monocytes and lymphocytes are regarded respectively as "liabilities" and "assets"; but in these indices the m/l ratio makes only minor contribution towards the final result, and Muller, who reviewed the literature, concluded that monocytic variations are relatively crude measures of the disease process and in the form of the m/l ratio are not diagnostic. In an established case of tuberculosis, serial haemograms (including the m/l ratio) can be helpful in assessing progress, but unfortunately the controversial significance of the monocyte and the multiphasic aspect of the disease (co-existence of recent and old-established lesions) preclude rigorous correlation with the underlying pathology and there is an inevitable "haziness" when we come to interpret the haematological data.

Classification in terms of an m/l ratio also implies confidence in the value observed, but the differentiation of monocytes and lymphocytes is not always easy and any error in this respect is doubled in the ratio. For example, an error $-x$ in the monocyte count leads to $m-x/l+x$ in the ratio, for what is lost to one is gained to the other. Although supravital staining has been used to improve differentiation, this difficulty still remains—in 1936 Dr. Heaf submitted identical blood films from three cases to each of 11 "competent authorities" and received the following range of reports: Case 1, lymphocytes, 12-29.5%; monocytes, 4.5-40%. Case 2, lymphocytes, 4-19%; monocytes, 4-16%. Case 3, lymphocytes, 36-65%; monocytes, 2-15%. The site and method of the puncture may also alter the picture, as monocytes can stagnate in the lobe of the ear.

Finally the standard error of the ratio which is of the order $\sqrt{m/l}$ (more nearly $m/l[1 + 1/m - 1/3]$) must be considered. In a differential count of 100 cells ($w=100$), where $m=8$ and $l=24$, the true value of the m/l ratio is not necessarily $8/24=1/3$, but merely somewhere within the range $1/3 \pm 2$ SE—viz., between $1/13$ and $1/17$.

To summarize—not only is the m/l ratio largely indeterminate in relation to the general and special pathology of tuberculosis but it is also subject to considerable cytological and mathematical uncertainty. Hence it lacks scientific desiderata essential to any reliable diagnostic test and must be viewed with circumspection. Incidentally, bacteriological tests are just as "simple" to do and much "simpler" to interpret.—I am, etc.,

PARANET CONTROLLER

D. BARRON CRUICKSHANK.

Injection Errors

SIR.—Mr. Harold Dodd (Feb. 14, p. 320) raises an interesting and vital subject. The greatest medical tragedies are surely those following the injection of a solution, prepared either in error by the pharmacist or administered wrongly by the surgeon. Not only are these catastrophes avoidable, but in the majority of cases they occur in the treatment of minor maladies, in which, were it known that even the slightest possibility of risk to life existed, operative treatment would never be considered by the patient or the relatives. As long as this smear on the good name of the profession exists, either individually or collectively, surely it is imperative that no effort be spared to reduce this risk.

The suggestion of tinting the fluids and of etching the contents of ampoules would contribute towards the end we should all have in view. Such methods would require enforcement by Act of Parliament to prove effective, for only by an addition to the Dangerous Drugs Act, making it obligatory for pharmacists to conform to a standard range of colours for common injection solutions, would the danger of these lethal drugs be properly appreciated and avoided.

Even with this additional safeguard it is not likely that the number of fatalities would greatly diminish so long as the present method of inquiring into the cause of death exists. The coroner's inquest is the mode of investigation to determine the cause of death, and this court has as its object to exclude the possibility of murder or manslaughter, a possibility in a death on the operating table so slight as to be ignored. But let us face the fact that the truth is not always spoken, perhaps in some cases from altruistic motives, and also in others when the temptation to conceal is there. If full exposure might tarnish some reputation. If negligence or lack of care is revealed at an inquest it is only by chance, as the purpose is not to inquire into its possibility.

There seems to have arrived the time when all anaesthetic deaths and all others taking place in the course of operative procedure should be investigated by a court other than that of the coroner. This could be composed of three medical men appointed by the General Medical Council with possibly a member of the Bar to advise on legal procedure. The findings and conclusions would be made public and be of inestimable value to the profession.

The public to-day are suspicious of medical evidence and an undercurrent of dissatisfaction is abroad. If the initiative does not come from our own ranks pressure will certainly be brought to bear from other quarters in the very near future.

"None ever feared the truth to be told,
But they whom the truth would indict."

—I am, etc.,

Harold Dodd

W. T. WESTWOOD.

Emergency Bed Service

SIR.—The E.B.S. has now been in operation for nearly ten years and experience has shown that it can be of real assistance to general practitioners. Hitherto it has dealt solely with finding beds for acute patients requiring immediate assistance. In the course of this work it has become apparent that doctors could be greatly helped if the service were able to give them information as to the facilities other than in-patient treatment available for their patients, the time and place of out-patient clinics, the services as there are to help chronic patients, the various home services, and so on, and all matters on which the general practitioner requires advice. And an enormous amount of time has been made to acquire the information necessary to do this.

The service is intended to be omniscient, but it seems likely that many of the questions can be answered if the reply is sent by post, and if the information is available for the service to use. It would be a great help to the service if the answer is sent by post, and if the information is available for the service to use. It would be a great help to the service if the answer is sent by post, and if the information is available for the service to use.

P. E. PETERS
General Practitioner

Cancer of the Lung

SIR.—With reference to the letter written by Mr. E. W. Shea (Jan. 24, p. 173), I would like to bring out the following observations:

(1) It is stated that the incidence of the above disease between 1921 and 1938 has greatly increased, and it is suggested that it is due to increased smoking. It would be of further interest to find out the incidence in the last ten years, as I am informed that smoking has still further increased since the war, especially in the case of women. (2) One often hears the suggestion that it might be due to the tars in the tobacco. Might I suggest that the carbon in the burnt tobacco may have something to do with it? It is a fact that much carbon is present in burnt tobacco as seen in the bowl of a pipe or deposited on a vulcanite denture plate. If the smoke is inhaled a large amount of this carbon must, one would think, be left in the lungs, either in the tubes or alveoli. (3) One should not forget that both smokers and non-smokers are continually inhaling tobacco smoke whenever they are present in enclosed places where smoking takes place, the great difference being that cigarette inhalers are breathing in hot concentrated fumes. It is noticeable that smoke arising from a burning cigarette is blue in colour while that seen after exhalation is a greyish colour. It has either lost something in the process of being inhaled or gained something such as moisture. (4) It is not unreasonable to suspect carbon as being responsible for the disease if merely on the assumption of the cause in "chimney sweeps' cancer," unless of course there is some element of tar in the latter. It would be interesting to know how the tars and carbon are interrelated. Also, how does the incidence of this disease compare in non-smokers and smokers and various categories of the latter? Does the quality of tobacco have any apparent effect on the incidence? Has anything introduced into the tobacco during the process of manufacture any possible effect?

These are but a few of the questions one might ask concerning this terrible disease.—I am, etc.,

Church Village, Glam.

T. ISLWYN EVANS.

An Unusual Appendix

SIR.—On Oct. 30, 1947, one of us (T. M. C.) was called to see a woman aged 53, in a rather isolated district. The patient complained of having been "rather slight" for the previous week with epigastric pain and vomiting. The pain had now gone, though she had a lump in her groin which had burst the night before, and she could walk about and felt much better. She was actually walking about her kitchen on my arrival, and had not even seen fit to apply any sort of dressing to the discharging abscess.

On examination there was a large abscess above the right inguinal ligament discharging freely, and on wiping away the excess pus the vermiform appendix was seen protruding through the abdominal wall.

She was taken to hospital forthwith, and the abscess cavity was opened widely (by R. L. O.). The appendix was completely gangrenous and full of pus, with a perforation about 1 in. (2.5 cm.) from the base which was adherent to the bottom of the cavity just to the right of the femoral artery. The meso-appendix could still be made out. A curved clamp was placed across the base and the appendix removed. The abscess cavity was packed with flavine gauze. A course of penicillin and sulphamezathine ensured an uneventful convalescence.

It was apparent that the appendix had actually worked its way through the internal abdominal inguinal ring.—We are, etc.,

R. L. OAKES,

T. M. CRABTREE.

St. Austell, Cornwall.

Pathogenic Fungi

SIR.—Since the natural habitat of pathological fungi is not known the following note is being communicated. For isolating yeast-like symbiotic germs from insects I used prune-juice media with or without other metabolites, like liver and yeast extracts. While working at the Indian Institute of Science, Bangalore, I used to be confronted with occasional infection of pathological fungi, but when I happened to continue similar work in Berlin contaminations from pathological fungi became very frequent and I had to concentrate my attention as to the possible source of these germs. In Berlin I worked mainly with homopterous insects which I used to collect from woods, feeding there on

shrubs and small trees. The contamination was not confined to one genus, but *Trichophyton* species predominated. The petri dishes, on being opened, would give an acrid smell produced by these fungi strong enough to check the breath for a time. The frequency of this infection was such that I had to seek the advice of the late Prof. Bruhns and of his colleague Dr. Alexander, joint authors of *Allgemeine Mykologie*, in Adassohn's *Handbuch der Hautkrankheiten* (1928).

Dr. Alexander kindly told me that they had found wood-rotters and similar labourers who frequently came in contact with wood and timber most liable to such infections. They had resumed that the natural habitat of pathological fungi must be wood or freshly cut timber. The place where I used to collect the insects was exactly such a habitat.

In Europe mycotic infection of the feet, particularly of the toes, is rather common. It is often believed that the infection is derived from public bathing institutions. There wooden planks are provided for bathers to stand on immediately after leaving the bath. Wood, thus constantly moist, would appear to form an artificial habitat for such germs. This explanation brings in line with the main finding communicated above.—I am, etc.,

Bombay, India.

S. MAHDIHASSAN.

Milk-borne Tuberculosis

SIR.—We read with interest the annotation (Feb. 14, p. 303) of two articles which appeared in the Swiss journal *Gynaccologia* (1947, 123, 265). We draw attention to the last sentence, which reads, "Many of these infections are undoubtedly milk-borne and serve to emphasize yet again the importance of providing a safe milk supply."

There is only one way of knowing whether an infection is of bovine origin or not, and that is to isolate the organism and determine its type. Our protest is against the subtle insinuation that "many are undoubtedly milk-borne" without any proof to support such a statement. Our own experience is that bovine infections are not so common now as some people suggest, and recent surveys also support our view. The dangers of contact infections with tubercle bacilli of human origin are greater than infections from unsafe milk, even in those forms of tuberculosis so persistently suggested as being milk-borne.

We welcome sensible efforts to provide a safe milk supply and believe that this can be achieved without ignoring facts or having recourse to misrepresentation or to exaggeration.—We are, etc.,

PETER W. EDWARDS.
LESLIE J. CUTBILL.

Market Drayton, Salop.

Relief of Pain in Midwifery

SIR.—The subject of analgesia in labour has recently been discussed in your columns. In this connexion it must be remembered that there are two components in the pain of labour.

(1) First stage—pain due to uterine contractions. These should, like gastric contractions, be painless, and with proper training in relaxation, as advocated by Dr. Grantley Dick Read, can become so. Nevertheless, just as gastric contractions may be rendered painful by underlying pathology such as an ulcer, so may uterine contractions also in a few cases cause pain and require pethidine. (2) Second stage—pain due to distension of the perineum. Now if the skin of any other part of the body is stretched it is certainly painful; and how in the world is it to be stretched to persuade us that the perineum is less sensitive than any other portion of the anatomy? No. These pains are very real and severe and in most cases call for anaesthesia.

We must remember that 80% of women in this country are delivered by the midwife alone, so the most important thing is to find an anaesthetic which she can safely administer without medical aid. Only the Minnitt fulfils this. Striking success is obtained with this machine provided the patient is properly trained in its use beforehand. May I issue a plea to all doctors and midwives who have lost confidence in the Minnitt to try it again, this time giving their patients a good half-hour's antenatal introduction to it and instruction in its use? This could be easily done in groups at clinics. I am sure those who are in the trouble to do this will find themselves amply rewarded results.—I am, etc.,

ANNE M. TOMS.

Leek, Staffs.

The Problem of Chilblains

SIR.—Dr. R. John Gourlay's comprehensive treatise on chilblains (Feb. 21, p. 336) commends itself to all interested in the study of that and other vascular disorders.

I would draw his attention to an inaccuracy in his description of cyanosis. He states that carboxy-haemoglobin is responsible for the cyanosis and that cold interferes with the formation or causes the breakdown of carboxy-haemoglobin and thus prevents the elimination of the waste products of cellular metabolism. Carboxy-haemoglobin is a relatively stable compound of carbon monoxide and haemoglobin, and as such it does not exist in normal blood.

The cyanosis is due to the presence of reduced haemoglobin, and depends fundamentally upon the absolute amount of reduced haemoglobin in the capillary blood and not upon the relative proportions of reduced haemoglobin and oxyhaemoglobin. The capillary blood must contain approximately 5 g. of reduced haemoglobin per 100 ml. blood before cyanosis will appear (Lundsgaard, C., and Van Slyke, D., *Cyanosis*, 1923, Baltimore). Carbon dioxide can form a loose carbamino compound with haemoglobin which although small in amount is important in CO₂ carriage, but which as far as I can ascertain does not contribute to the cyanotic colour of blood.—I am, etc.,

Dublin.

WILLIAM P. McKEEVER.

Dicoumarol

SIR.—In view of the recent correspondence on the control of dicoumarol therapy by prothrombin-time estimation I should like to make three points which have not hitherto been mentioned and which have been noticed in a series of 50 cases, using Fullerton's method.

1. The variability of individuals. In 40 normals, prothrombin times of 10–22 seconds were obtained (av. 16.2), but the individual himself remains fairly constant and any departure from this time due to operation or dicoumarol therapy is related to his own base line, and to it he returns in course of time. Consequently when testing reagents or when comparing abnormalities with normals at least 5 normals must be taken to avoid gross errors (Attrill *et al.*, *Blood*, 1946, 1, 220), and for each new patient a base line should always be obtained if possible and all subsequent readings related to this.

2. In the standardization of technique, I found that I could not get reproducible results if the tubes containing plasma and "oxyphen" were in the 37° C. water-bath for less than 3–6 minutes—after a half-minute the shorter the time at 37° C. the quicker the reaction. At 1/2 or 1 minute one could get times of 11–12 seconds or less, but they were not constant. The prothrombin times increase with the length of time in the 37° C. water-bath till 3–6 minutes, and thereafter remain relatively constant till 12 minutes, when they again increase slightly.

3. The Winrobe anticoagulant was found to be quite suitable for the collection of specimens, but it was most important to observe that the volume of blood added was in accordance with the amount of oxalates which had been dried into the collecting tube. If smaller volumes of blood were added to the Winrobe anticoagulant falsely long prothrombin times were obtained.

Even if all these points are observed patients will occasionally bleed slightly with prothrombin times only 1½ times their normal, but in these cases the clotting time is prolonged in spite of a Quick's Index in the region of 40%.

It is hoped to publish a more detailed report some time in the near future.—I am, etc.,

Senior IV Laboratory,
Walford, Herts.

G. A. JAMES.

Juvenile Delinquency

SIR.—In your leading article entitled "Juvenile Delinquency" (Jan. 31, p. 203) you emphasize the urgent necessity for further investigations into "the efficacy of different methods of treatment as judged by the after-histories of cases of different types." There are, I suggest, several more urgent measures, solidly founded in psychology and calculated to produce practical results far more quickly.

Virtually all juvenile delinquents are made, not born, and the principal factors in their making are the parents' attitude and the child's economic and social environment. Unquestionably the first factor is the more important. Good parents can do much to

POINTS FROM LETTERS

Where the Power Is

Dr. W. M. MCINTYRE (London, W.8) writes: A leading article in *The Times* of Feb. 10 contains the following passage: "Mr. Bevan was weakest in his defence of the basic salary. He defended once again the basic salary for particular groups of doctors with special needs, a case which even the B.M.A. does not seriously question. But he utterly failed to justify the basic salary for all doctors, as Mr. R. A. Butler was quick to point out. His attitude confirms the suspicion that the universal basic salary has passed beyond rational discussion and is now a symbol." If the question of the basic salary has passed beyond rational discussion and is now a symbol, the next step is to embark on a rational inquiry into the significance of this symbol and to try to discover what, in political terms, it stands for. To be endowed with such political importance, a symbol must represent some important political aim.

Mr. Bevan's political Odyssey may therefore be worth a glance. It is contained in his own words in *Hansard* (vol. 395, col. 1615, December, 1943) and reads as follows: "When I was quite a young boy my father took me down the street and showed me one or two portly and complacent-looking gentlemen standing at the shop doors, and, pointing to one, he said, 'Very important man. That's Councillor Jackson. He's a very important man in this town.' I said, 'What's the council?' 'Oh, that's the place that governs the affairs of this town,' said my father. 'Very important place indeed, and they are very powerful men.' When I got older I said to myself, 'The place to get to is the council. That's where the power is.' So I worked very hard, and, in association with my fellows, when I was about 20 years of age, I got on to the council. I discovered when I got there that the power had been there, but it had just gone. So I made some inquiries, being an earnest student of social affairs, and I learned that the power had slipped down to the county council. That was where it was, and where it had gone to. So I worked very hard again, and I got there—and it had gone from there too. Then I found out that it had come up here. So I followed it, and sure enough I found that it had been here, but I just saw its coat tails round the corner."

In my opinion Mr. Bevan did a great service to the country as an Opposition leader, representing, as he did, the desire of the ordinary man to control his own destiny, as he has expressed it himself in words that follow immediately the passage I have transcribed: "The ordinary man in Great Britain has been spending his life for the last couple of generations in this will-o'-the-wisp pursuit of power, trying to get his hands on the levers of big policy and trying to find out where it is, and how it was that his life was shaped for him by somebody else." Mr. Bevan has now the levers of big policy in his hands, and it is there more than in any other particular place that our lives may be shaped for us by somebody else. His big levers should respond to the control of the community's wishes, and the smaller levers of the B.M.A. can also be of service in meeting the people's wishes and preventing a deadlock.

ate Dictatorship

Dr. J. H. POWER (Coventry) writes: Dr. Bruce Cardew (Feb. 7, 270) makes a number of statements that are worthy of comment. He says that doctors claim exemption from parting with a portion of our personal freedom for the sake of social security. Does he realize the difference between social security and social "Babbittism," that the doctors are perhaps putting up the first active stand against State dictatorship? There is no commercialism in the buying and selling of practices. In fact it is a very good "insurance policy" for the patients that the doctor will put his back into his work to ensure a speedy return of his outlay. Buying a practice does not mean that the patients are bound to him. . . . Pathologists, etc., are in a rather different category to the private doctor: they are in no personal relationship to their patients.

The salaried worker is indeed no slave to his employer, but lies to watch his bread-and-butter. The acceptance of the present status—salary or no—puts us completely into the clutches of the minister and those magic letters S.R. and O. Will the "vast majority G.P.s be better off"? Dr. Cardew cannot have compared Mr. Bevan's gross figures with the Spens Committee's net figures, and they will have sacrificed all their and their patients' freedom. . . .

Individual Responsibility

Dr. NORR JACKSON (Scarborough) writes: The present fashion seems to be a great concern about working conditions. I think most of us are aware that our patients are liable to become ill or injured at any time of the day or night, and speaking for myself I don't think that one should be too resentful of the fact. Again, I may be incorrect, but it does not seem to me to be wrong to feel definite reluctance to hand over the responsibility for one's patients to a clock on and off strictly according to a time-table. At present ultimate and final responsibility for a patient rests with an

individual doctor. This responsibility is sometimes shared with another doctor by consultation, but it certainly seems to me that if this responsibility is to shift away to comply with a policy determined by some remote body, however expert, the patient will lose something worth having. In my opinion the effect of the Act is to transfer interest and responsibility for patients from the doctor to the State. The complicated machinery of administration does not exist, in my opinion, for any other purpose. For my part, I started with a few ideals which I had when I was a student. I thought they might change after nearly ten years' practice, but they haven't, and I steadfastly refuse to swap them for a medical policy to be determined by an Act of this or any other Parliament. I have always understood that the leaders of our profession were doctors and quite frankly I cannot see high ideals of medical progress and practice surviving for long in an administration of politicians and economists, however expert they may be.

Fighting Committee

Dr. I. LIBMAN (Heywood, Lancs) writes: I would like a special committee set up by the B.M.A. to formulate a line of attack and defence that will result in certain victory.

Victory for Socialism?

MEDICUS writes: The following letter received to-day from my son at Winchester College may interest you: "We had a fire debate on Friday night. The motion was that this House considers that the Socialist Government deserves the continued support of the electorate. Speaking for the motion was Dick Crossman, M.P., and against it Brigadier Low, M.P. for Blackpool. Crossman said the middle classes were finished for ever and that the Government was going to go much further to the left. He said *a propos* Bevan and the doctors that within six months 'the B.M.A. will come crawling to the Government' and that he will be very glad, as it would mean a great victory for socialism." The motion was defeated by 130 votes to 45. Still, it was nice pabulum for schoolboys!

Foreign Body in the Ear

Dr. S. GNESSEN (London, W.1) writes: Mr. Sean O'Brien's letter (Feb. 14, p. 321) reminds me of an experience which befell me while serving in the R.A.F. Examining a candidate at an aircrew medical board I found one external auditory meatus apparently filled with wax. On proceeding to remove this with a ring-probe its hardness became apparent and it was obvious that I was dealing with something more than wax. The obstruction was removed with little difficulty and found to be a glass marble covered with wax, which the young man remembered pushing into his ear over ten years ago. He had been afraid to tell his mother for fear of a scolding, and there it had remained. On returning home, he informed a Sunday newspaper of the occurrence and I still have a cutting describing the event! In this case, too, there was absence of pain, discharge, and tinnitus, and no marked impairment of hearing.

Dogs and Poliomyelitis

Dr. J. W. SHACKLE (London, W.1) writes: I have read with much interest your correspondence on this subject. My own dog (a dachshund) recently had an attack of a mysterious disease with a sudden onset, consisting of acute pain and tenderness of diffuse distribution; his efforts to be comfortable were heart-rending to watch. This was followed in about twelve hours by a flaccid paralysis from the waist down, with apparent retention of urine for twenty-four hours, at the end of which time there was some return of movement in one leg, followed in a further twenty-four hours by some return of movement in the other. At the end of a week he was almost completely recovered, but on my going to pat him one evening he gave a loud cry and had a complete return of the condition, followed as before by a flaccid paraplegia from the waist down. He recovered much more slowly this time and it is to this day (a month later) not so "limbersome" as before. I have since heard from friends of a similar attack in their own dog, the paralysis in the relapse being much more extensive, necessitating his destruction as he was unable to swallow.

Sex Instruction

Mr. H. J. WOOLLIFF (Edinburgh) writes: I read Dr. R. I. Bevan's article on "What the Medical Practitioner wants to Know" (Feb. 14, p. 294) with interest and particularly his figure and comments on the letters dealing with sex problems. As a medical student I find it distressing that sexology is not taught fully as a separate subject during the medical education of doctors. Surely it is now time that the universities and medical schools set up a department of sexology with a full-time head. This department could carry out the research that is needed in this subject as well as giving a course of instruction in sexology. Postgraduate diplomas could be given after a course at the department so that young doctors wishing to specialize in this subject could get a firm basis for their subsequent work. Far too many doctors are ignorant of modern advances in sexology and do not know how to deal with patients asking advice on various subjects of a sexual nature.

Obituary

SIR H. LINDO FERGUSON, C.M.G., M.D., F.R.C.S.I.

New Zealand has lost its oldest and most distinguished medical man with the death of Sir Lindo Ferguson on Jan. 22 at the age of 90. He served the medical school of New Zealand as a teacher of ophthalmology for over fifty years, and for twenty-three years as dean of the Faculty. Throughout this period he gave himself with the greatest energy and devotion to the task of establishing the medical school on sound foundations.

Henry Lindo Ferguson was a man of exceptional intellectual ability, winning a gold medal in his Arts course at Trinity College, Dublin, in 1876 before proceeding to a brilliant medical course at that College. He travelled to New Zealand as medical officer on the s.s. *Takapuna* on her first voyage to New Zealand late in 1883 and immediately set up in practice as an ophthalmic surgeon, the first in New Zealand. On Jan. 1, 1884, he opened the ophthalmic department at the Dunedin Hospital, a department which he continued to control until his retirement from active practice in 1936. The Dunedin Hospital authorities marked this long period of service by naming the new ophthalmological ward the Lindo Ferguson Ward, and the Otago University Council by creating him emeritus professor of ophthalmology in the university.

Sir Lindo's greatest achievement, however, was in the development of medical education, to which he devoted his great gifts of creative vision, breadth of outlook, administrative ability, and human understanding. He has left a profound impression on the teaching and practice of medicine in New Zealand. He was also a founder of the Australasian College of Surgeons. At the twenty-first annual conference of the College held in Dunedin on Jan. 27, Prof. Gordon Bell, president of the Royal Australasian College, paid the following tribute to his memory: "He was a founder of the College and its oldest Fellow, and I hoped that he would adorn our meeting with his distinction of person, his undiminished intellectual supremacy, and the dignity of an exceptionally long life devoted to the highest interests of our calling, but that was not to be. It is the happy lot of few to come to a young country as a young man, to spend 65 years in it, to establish in the southern hemisphere a new specialty—that of ophthalmology, and at the same time to carve for himself a unique position in the hearts of his fellow citizens, through enriching his chosen city by the depth and variety of his interests in its intellectual life. On the professional side he introduced into this young university centre an old-world charm and dignity, a sincerity of purpose, a disregard for pecuniary considerations, and a burning zeal for educational advancement which in the course of half a century, brought him a reward. He is in truth the architect of our Otago Medical School in its present form, and happily he lived to see most of his cherished purposes come true, and to know that he occupied an enduring place in the affections of his colleagues and of his pupils."

Sir Lindo Ferguson was awarded the C.M.G. in 1918 and knighted in 1924. He was a member of the New Zealand Board of Health, and he was president of the New Zealand Branch of the Royal Medical Association in 1919.

P. I. H. ADAMS, M.B., F.R.C.S.

Professor P. I. H. Adams, who died on Feb. 9 at the age of 63, was one of the late Dr. G. F. D'Arcy Adams. He was educated at Trinity College, Oxford, and later was a member of the London Hospital. After graduating he took a diploma in ophthalmology in 1910. He was a member of the Oxford Eye Hospital, which was founded in 1876, and served as its director for over fifty years, and as its president from 1944. He was a clinical lecturer in ophthalmology at the University of Oxford, and from 1923 to 1931 he was a honorary lecturer in ophthalmology at the University of London. He was a member of the Royal Society of Medicine, and in 1932 he had been consulting ophthalmologist to the Ministry of Health. Mr. Adams was a man of great energy and devotion to his work, and his death is a great loss to the medical profession.

The Oxford Ophthalmological Congress was founded by Mr. Adams among others. He was its Master from 1926 to 1928, and deputy master from 1929 to 1942. He had been a member of the B.M.A. since 1906, and was president of the Section of Ophthalmology when the Association met at Oxford in 1936. He was president of the Ophthalmological Section of the Royal Society of Medicine in 1944 and in 1945. Since his retirement in 1941 Mr. Adams had been living at Theberton, Suffolk. He leaves a widow, a son, and two daughters.

Dr. ROLF CREASY, who was the last surviving son of the well-known historian the late Sir Edward Creasy, author of *The Fifteen Decisive Battles of the World*, died in London on Feb. 20. Dr. Creasy was a student of Guy's Hospital and qualified there in 1885. He had been associated for many years with the All Saints' Hospital for Genito-Urinary Diseases, and was at one time clinical assistant to the West London Hospital and on the staff of the Royal Victoria Hospital, Ascot.

Dr. A. Hope Gosse writes: The death of Rolf Creasy will be a sad loss and deeply felt by his many friends, and especially by the members of the Medical Golfing Society. To many of them, in fact, the society was Rolf Creasy and he was the society. He was its founder towards the end of the last century and was its secretary for an unbroken period of half a century, a unique form of service to colleagues. He retired from the office of secretary in its jubilee year in 1947 and the members marked the occasion with a presentation. The fifty-first annual meeting and dinner happened to fall on the very eve of his death and an episode at the dinner well illustrated the purpose Rolf had in mind when he founded the society and helped to make it flourish, for a new silver challenge cup was presented by one of the members of the society "as a mark of appreciation of the happy days and good fellowship he had enjoyed at very many meetings of the society." Rolf Creasy had achieved one of his ambitions and established a tradition.

Dr. WILLIAM HENRY DICKINSON, who died at his home in Hoylake on Jan. 31, was the son of Edward Harriman Dickinson, M.D., F.R.C.P., of Liverpool, in which city he was born in 1874. After education at Charterhouse School and Trinity College, Cambridge, he went on to St. George's Hospital for his clinical work, and there he qualified M.R.C.S., L.R.C.P. in 1903. He was house-physician first at the Northern Hospital, Liverpool, and later at St. George's Hospital. He served in France with the 6th London Field Ambulance of the 47th Division from March, 1915, to April, 1919, with the rank of captain. As a young man his singular good looks and engaging manners made him a great favourite not only with his contemporaries but with his seniors. That good judge and great teacher, the late Marmaduke Sheild, was much attached to him. Their mutual love of golf was, naturally, another link. Nor did social success in any way spoil his sunny nature, for he remained throughout one of the most unassuming of men, and his friends knew that he was as straight as a die. Dr. Dickinson was never married.—H. R.

Medico-Legal

ATTRIBUTABLE TO WAR SERVICE

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

The appeal of an ex-Serviceman claiming a pension for a disability due to hernia gave Mr. Justice Denning an opportunity recently of stating how the courts should decide whether a disease is attributable to war service or only aggravated by it. The appellant had earlier had a left inguinal hernia brought on by accident before the war, but he claimed in respect of a hernia on the right side which had arisen after war service. The Medical Services Division of the Ministry rejected the claim, holding that it was a consequence of a developmental weakness of the musculature. The tribunal said that it had been preceded by a cough which the claimant had while in the Service, and was not attributable to war service.

To be attributable to service a disease must, said the judge, arise during the service, which must be one of the causes of its arising. It was often difficult to say when a disease especially an insidious one, arose. If the Minister asserted

that it arose before the service, the burden was on him to prove this, and that burden was not discharged by merely proving a predisposition or susceptibility. A disease would in its natural progress cause illness or incapacity even though no other cause might operate; a susceptibility might never become injurious unless some other cause operated. On the question of whether in a given case war service was one of these causes the medical advisers of the Minister used to divide causes into two classes—predominant and contributory—and say that the disease was attributable to the predominant cause and aggravated by the contributory cause. For instance in hernia, where the predominant cause was the inherent weakness in the wall of the abdomen and a contributory cause might be an injury in war service, they used to hold that the hernia was not attributable to war service but was aggravated by it. Many decisions, said Mr. Justice Denning, had shown that approach to be wrong. If one of the causes was war service, the disease was attributable to war service, even though it might also be attributable to other and more powerful causes. The courts therefore approach the problem from much the same angle as a workman's case, in which compensation is awarded if the employment has contributed materially to the condition.

Medical Notes in Parliament

University Grants

Replying to Sir ERNEST GRAHAM-LITTLE on Feb. 20 Sir STAFFORD CRIPPS said that provision would be made for recurrent grants to universities for general purposes and for medical and dental education on the scales announced by Mr. Dalton in his statement of March 10, 1947. Since that date responsibility for aiding agricultural and veterinary education had been assumed by the Treasury. After the present academic year the teaching hospitals would be financed under the National Health Service Act, and the need for Treasury grants to them would cease. Provision for such grants could therefore be reduced to £250,000. As regards non-recurrent grants, experience had shown that the rate of expenditure on capital developments was somewhat over-estimated last year. He proposed this year to provide £2,000,000 for this purpose. Accordingly the total amount which Parliament would be asked to vote for 1947-8 was £11,880,000.

Thames Water and Radioactivity

On Feb. 24 Mr. G. R. STRAUSS told Major BEAMISH that thorough precautions were being taken by the Ministry of Supply to ensure that the Thames water used at the atomic energy research establishment at Harwell was returned to the river free from risk of harmful radioactivity. The precautions were adopted on the advice of the Medical Research Council's research committee on the medical and biological applications of nuclear physics. A certain amount of radioactivity in drinking-water could be tolerated by human beings. The tolerance laid down by the Medical Research Council for the Thames water was such that medical and biological effects due to the consumption of water during the life span of human beings would be negligible.

Remuneration of Specialists

Sir ERNEST GRAHAM-LITTLE on Feb. 26 told the Minister of Pensions that the rates of remuneration of the specialist medical officers employed by his Department were much below those fixed by the British Medical Association as a minimum and accepted by most hospitals. Mr. GEORGE BUCHANAN replied that rates of remuneration of specialists employed by his Department on a part-time basis for hospital work were in general accord with the rates agreed by the British Medical Association with appropriate authorities. The rates payable to specialists and consultants for sessional medical board work were the subject of discussion between his Department and the B.M.A.

Research.—In 1946-7 approximately £130,000 of the Parliamentary grant to the Medical Research Council was used for research projects mainly of a clinical nature. The remainder was expended on projects mainly involving laboratory work and on administration.

Vaccination.—Mr. BEVAN states that the National Health Service Act does not require the issue of regulations governing the carrying

out of vaccination. It is intended, however, to make available to doctors authoritative medical opinion about up-to-date methods of vaccination.

Married Women Doctors.—Mr. HOUSE was assured by Mr. BEVAN on Feb. 26 that married women doctors would be considered for appointments as house-physicians and house-surgeons in hospitals under the National Health Act.

Diphtheria Immunization.—From 1940 to June 30, 1947, approximately 6,875,000 children under the age of 15 in England and Wales were immunized against diphtheria through local authority arrangements.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

The following medical degrees were conferred by proxy on Feb. 14:

M.D.—H. M. Woodman.
M.B., B.Chir.—M. G. H. Lewis, K. L. Williams, J. H. Angel, G. M. Woodmark, J. S. Jenkins, J. D. G. Turner.

The following candidates have been approved at the examination indicated:

M.Chir.—L. L. Bromley, R. N. Jones.

UNIVERSITY OF MANCHESTER

The following appointments are announced: *Reader in Human Physiology*, A. A. Harper, M.B., Ch.B. *Lecturer in Pathology*, John Wainwright, M.B., Ch.B. *Assistant Lecturer in Anatomy*, E. P. Samuel, M.B., Ch.B. *Assistant Lecturer in Pathology*, John Ball, M.B., Ch.B. *Lecturer in Medical Ethics and Conditions of Medical Practice*, D. R. Goodfellow, M.D. *Honorary Clinical Lecturer in Child Psychiatry*, Winifred M. Burbury, M.B., B.S., D.P.M. *Clinical Tutor in Child Health*, R. I. Mackay, M.B., Ch.B., D.Ch. *Surgical Tutor in Orthopaedic Surgery*, J. K. Wright, M.B., Ch.B. *Lecturer and Demonstrator in Anaesthetics in the Dental Department*, Tom Dinsdale, M.B., Ch.B., D.A.

UNIVERSITY OF BIRMINGHAM

John Rupert Squire, M.B., B.Chir., M.R.C.P., has been appointed Leith Professor of Experimental Pathology and Director of the Department of Pathology in the University, and John Washington Orr, M.D., M.R.C.P., to the second Chair of Pathology.

UNIVERSITY OF LEEDS

The following appointments are announced: D. N. Ross, M.D., F.R.F.P.S., Research Fellow in Rheumatism; E. C. Allibone, M.D., Clinical Lecturer in Paediatrics; W. Goldie, M.B., Ch.B., Lecturer in Pathology (part-time).

UNIVERSITY OF SHEFFIELD

The following appointments are announced: C. E. Davies, B.M., B.Ch., M.R.C.P., Research Assistant in Clinical Medicine; T. Stapleton, B.M., B.Ch., M.R.C.P., D.Ch., Tutor in Child Health; A. Jordan, M.B., B.S., M.R.C.P., Honorary Lecturer in Clinical Biochemistry.

Dr. Margaret H. Miller has resigned from the post of Research Assistant in Medicine, and the Council has thanked her for her services to the University.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

Through an oversight the names of following members of the medical profession were omitted from the list of Fellows in Dental Surgery printed in the *Journal* of Feb. 21 (p. 373): G. B. Pritchard, M.R.C.S., L.R.C.P., George T. Hanky, O.B.E., M.R.C.S., L.R.C.P., Prof. W. E. Herbert, M.R.C.S., L.R.C.P., Prof. M. A. Ruston, M.D., A. E. W. Miles, M.R.C.S., L.R.C.P., Prof. J. Bayes, F.R.C.S.Ed., and Prof. A. I. Darling, M.R.C.S., L.R.C.P.

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

At the meeting of Council of the College, held on Jan. 24, Sir William Fletcher Shaw agreed to accept an invitation from the Members of the College in Canada to visit them on behalf of the College. He hopes to leave England in April and will visit various centres to discuss with the Fellows and Members of the College matters affecting the practice of obstetrics and gynaecology in the Dominion.

A women's conference arranged by the London Labour Party at Caxton Hall on Feb. 25 was addressed by Mr. R. Stamp, chairman of the Statutory Health Committee of the London County Council. In the course of his address Mr. Stamp said, "The L.C.C. has ample evidence that the service provided by a large number of doctors in part- and full-time employment with public authorities, described by the B.M.A. as 'Civil Service doctors,' do not suffer interference with their clinical service to the patient, and that at all times the relationship between doctor and patient is confidential and strictly in accordance with professional practice." Continuing, he expressed the opinion that very few doctors would be so unwise as to throw away their goodwill and allow others to take their patients when the public were asked to select their doctor under the new Service. "Any who do carry their opposition too far will within a few weeks be very much poorer, and I hope wiser, men." According to a report in *The Times*, Mr. Stamp was later asked if there would be some recognized channel for complaint of any abuse of the new Service. Mr. Stamp replied that there was always the Post Office.

Medical News

Writs for Libel

The British Medical Association has issued writs for libel against Dr. S. W. Jeger, M.P., Dr. Somerville Hastings, M.P., Dr. L. Comyns, M.P., and Dr. H. B. Morgan, M.P., in respect of a letter from them published in certain newspapers touching on the conduct of the plebiscite recently carried out by the B.M.A. The Association has taken this step against four doctors with great reluctance, but has felt constrained to do so since it feels that the honesty of the Association has been publicly impugned.

Greetings from Illinois

The Council of the Illinois Medical Society resolved, at a meeting held in Chicago recently, that official interest, sympathy, and a message of understanding be sent to the members of the British Medical Association. "Since the passage of the National Health Service Act in Britain, the medical profession in this nation has realized that our confrères in Britain are faced with the most important issue in the whole of its history. . . . We see in the fight you have been forced to wage in your own behalf the forecast of what the profession in this country may face if our Federal legislature passes any of the several Bills of a similar nature which have been introduced for consideration. As a component part of the American Medical Association the members of the Illinois State Medical Society desire to express a feeling of confidence in the members of the British Medical Association, and wish to extend official sympathy and understanding to all."

Tudor Edwards Memorial Fund

The Tudor Edwards Memorial Fund will be closed on March 31. Until that date donations may be sent to the treasurer of the fund, Lord Courtauld-Thomson, at Brompton Hospital, London, S.W.3.

Surgeon-General of U.S. Public Health Service

Dr. Leonard A. Scheele has been nominated as Surgeon-General of the U.S. Public Health Service and will succeed Dr. Thomas Parran in that office on April 6. Dr. Parran became Surgeon-General of the Service in July, 1936, succeeding Dr. Hugh S. Cumming.

Lecturing in Hungary

Prof. R. Platt, Professor of Medicine in the University of Manchester and Physician to the Manchester Royal Infirmary, is lecturing in Hungary under the auspices of the British Council on "Recent Advances in the Study of Kidney Diseases and High Blood Pressure."

Italian Cardiologist Visits Britain

Prof. D. Arrigo Poppi, Cardiologist at the Pathological Institute of Bologna, is in Britain on a short visit under the auspices of the British Council in order to study the methods adopted for prevention and treatment of rheumatic diseases, especially in children.

Training of Nurses

The British Hospitals Association has submitted a Memorandum on the Report of the Working Party on the Recruitment and Training of Nurses to the Minister of Health. Though admitting that the Report has value, the B.H.A. Memorandum observes that as a practical instrument it is seriously depreciated by its "concentration on a long-term policy which can only be described as Utopian." Discussing the figures of wastage during training, the B.H.A. rejects some of the inferences drawn by the Working Party from its data, many of which relate to abnormalities caused by the war; indeed he B.H.A. maintains that the principal purpose of the preliminary course is to enable the schools to eliminate unsuitable candidates for the candidate herself to withdraw if she wishes. The Working Party's emphasis on excess or harshness of discipline is thought to be exaggerated. The B.H.A. suggests that every hospital should have a small advisory committee of lay members to interview dentists contemplating resignation. The B.H.A. emphatically disagrees with the Working Party's suggestion that training time is fully lengthened by excessive domestic work and unnecessarily onerous nursing duties. It criticizes the Working Party's proposals for training and advocates a three-year course. In a concluding opinion on administration the B.H.A. states: "We do not agree that the nursing services of the community ever could or should be effectively administered by the Minister of Health."

Marriage Guidance

The Home Secretary has appointed a departmental committee to consider in what way marriage guidance can be most advantageously developed in England and Wales if assisted by Exchequer grants, to advise how these grants could properly be made. The chairman is Sir Sydney Harris, who is British Representative on the 1st Commission of U.N., and the members are: Mrs. E. G. M. Is, Mr. G. E. Haynes, Sir Edwin Herbert, Dr. Edward Larkin, Miss W. M. Goode.

Scholarships at Foreign Universities

Scholarships for the academic year 1948-9 will be offered to students and graduates of British universities and colleges by the Governments of a number of foreign countries, including Belgium (8 scholarships), Hungary (6), the Netherlands (6), Sweden (3), and the University of Teheran, Persia (2). The scholarships are intended for postgraduate study. Two scholarships have also been offered by the University of Cologne and two by the University of Munich. Scholarships may also be offered by the Governments of Czechoslovakia, Finland, and Norway. Those interested in scholarships to Belgium, Hungary, the Netherlands, Sweden, and Persia should apply for full particulars as soon as possible to the Controller of the Education Division, the British Council, 7, Hanover Street, London, W.1. Those interested in scholarships to Czechoslovakia, Finland, Norway, and Germany should send a stamped addressed envelope to the British Council. Scholars will be selected by a board including members of the British Council Medical Education Panel and representatives of the country concerned.

Film on Curare

A film on *d-tubocurarine chloride*, prepared by the Wellcome Film Unit, received its first showing at the Wellcome Research Institution on Feb. 19. In colour, the film demonstrates the effect of the drug both experimentally and in surgical practice. It is now available for exhibition to practitioners and students. Application for copies should be made to Wellcome Film Unit, 152-163, Euston Road, London, N.W.1.

Corsets Released

Restrictions on the supply of corsets by manufacturers have been withdrawn. In order to ensure that anyone who needs a surgical support for medical reasons shall be able readily to obtain it, the Ministry of Health will continue to make arrangements for the supply of special materials to the manufacturers. A medical certificate covering the need for the appliance will be required so that the medically necessitous cases may be readily identified and supplied. Such certificates, given and signed by medical practitioners, should state (a) the date, (b) the name and address of the doctor and of the patient, and (c) the nature of the condition necessitating supply of the appliance. Giving the certificate is not restricted to certain named conditions, and it is not necessary to send certificates to the Board of Trade for endorsement. When the practitioner does not wish to disclose the nature of the condition to the patient, the certificate should be sent direct to the Supplies Division of the Ministry of Health, Whitehall, London, S.W.1, with a separate signed document stating the patient's name and address and giving a description of the type of appliance required (for the guidance of the manufacturer). The certificate will be retained by the Ministry of Health. The second document will be endorsed and returned to the patient, who will then be able to use it as a certificate to obtain a surgical support or corset.

Vivisection

The Home Secretary has recently told a deputation of antivivisectionists that he would consider their suggestion to appoint a Royal Commission to inquire into vivisection.

Wills

Major-General Sir Thomas Joseph O'Donnell, late D.M.S., India, left £3,540. Sir Frederic Rowland Mallett, who practiced in Balloch, for many years, left £31,976.

COMING EVENTS

Chelsea Clinical Society

Chelsea Clinical Society will hold a general meeting at the South Kensington Hotel, 47, Queen's Gate Terrace, S.W.7, on March 9 at 7 for 7.30 p.m. Discussion on "Medical Experiments in Nazi Germany" to be opened by Major Keith Mart, R.A.M.C., of the British War Crimes Group, B.A.O.R.

Cutter Lecture on Preventive Medicine

The Harvard University School of Public Health announces that Dr. William N. Pickles (Medical Officer of Health, Ayerth Rural District, Yorkshire) will deliver the Cutter Lecture on Preventive Medicine on April 12, at Boston, Massachusetts, U.S.A. Dr. Pickles has chosen as his subject, "Epidemiology in Country Practice." The Cutter Lectures on Preventive Medicine have been held annually since 1912, having been established by Dr. John Clarence Cutter, of the class of 1877, Harvard Medical School. The medical profession, medical and public health students, and others interested are invited to attend.

APPOINTMENTS

Col. H. A. Sandiford, M.C., M.B., Ch.B., D.P.H., A.M.S.(ret.), has been appointed Medical Director of the Empire Medical Advisory Bureau, B.M.A. House, Tavistock Square, London, W.C.1.

SOCIETIES AND LECTURES

Monday

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square. W.—March 8, 8.30 p.m. "The Aetiology of the Common Cold and Influenza." Discussion to be introduced by Dr. C. H. Andrews, Prof. C. H. Stuart-Harris, and Dr. Freddy Himmelweit.

Tuesday

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—March 9, 5 p.m. "Concerning Megalocytic Anaemias." Oliver-Sharpey Lecture by Dr. J. F. Wilkinson, F.R.C.P.

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—March 9, 5 p.m. "Physio- and Electro-Therapy." by Dr. R. T. Brain.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHYSIOLOGY, Gower Street, W.C.—March 9, 5 p.m. "Some Aspects of General Physiology," by L. E. Bayliss, Ph.D.

Wednesday

ROYAL SOCIETY OF ARTS, John Adam Street, Adelphi, London, W.C.—March 10, 2.30 p.m. "The Trade and Technical Press," by Mr. R. E. Dangerfield.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE, 28, Portland Place, London, W.—March 10, 3.30 p.m. "The Disorders of Childhood" (Illustrated), by Dr. D. W. Winnicott.

ROYAL MEDICAL SOCIETY, 7, Melbourne Place, Edinburgh.—March 10, 8 p.m. Annual Extraordinary General Meeting.

Thursday

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—March 11, 5 p.m. "Concerning Megalocytic Anaemias." Oliver-Sharpey Lecture by Dr. J. F. Wilkinson, F.R.C.P.

ANGLO-AUSTRIAN SOCIETY.—At British Council (Theatre), 6, Hanover Street, London, W.1, March 11, 6.30 p.m. "The World Food Situation," by Prof. J. R. Marraek. Members and friends are invited.

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—March 11, 5 p.m. "Diseases of the Hair," by Dr. W. J. O'Donovan.

MEDICAL SOCIETY OF LONDON.—At Claridge's, Brook Street, London, W.1, March 11, 7.30 p.m. for 7.45 p.m. 168th Anniversary Dinner.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, 17, Bloomsbury Square, London, W.C.—March 11, 7.30 p.m. "The Work of the Medical Staff of the Ministry of Health," by Sir Weldon Dalrymple-Champneys, Bt., D.M., F.R.C.P., Deputy Chief Medical Officer, Ministry of Health.

SOCIETY OF CHEMICAL INDUSTRY: FOOD GROUP.—At Welbeck Hotel, Nottingham, March 11, 7.15 p.m. Joint meeting with the Nottingham Section of the Society. Paper "Physical Chemistry of Food with Particular Reference to Bakery Products," by W. Cunliffe, B.Sc. I.P.I.C. A discussion will follow.

St. George's Hospital Medical School, Hyde Park Corner, S.W.—March 11, 4.30 p.m. "Psychiatric lecture-demonstration," by Dr. D. Curran.

Friday

BIOCHEMICAL SOCIETY.—At Department of Biochemistry, University College, Gower Street, London, W.C.—March 12, 2 p.m. Annual General Meeting. Papers will be read.

INSTITUTE OF ANESTHETISTS.—At Conway Hall, Red Lion Square, London, W.C.—March 12, 6 p.m. Annual General Meeting. Address by the Rt. Hon. Aneurin Bevan, Minister of Health.

LONDON CLINICAL HOSPITAL, Victoria Park, E.—March 12, 5 p.m. "The Indications for Bronchoscopy in Chest Diseases," by Dr. H. V. Mould.

PHILOSOPHY INSTITUTE OF PHILOSOPHY, University Hall, 14, Gordon Square, London, W.C.—March 12, 5.15 p.m. "Philosophy and Medicine: Problems and Prospects," by Prof. Aubrey Lewis.

Saturday

NUTRITION SOCIETY.—At London School of Hygiene and Tropical Medicine, Keppel Street, W.C.—March 13, 10 a.m. "Results of the 1947 Survey into the Nutritional Status in Great Britain."

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Dr. J. H. M. J. van der Grinten, M.P.C.S., L.R.C.P., wife of Dr. J. H. M. J. van der Grinten, 1 P.C.P., 41, Wendell Lane, Mappertey.

Dr. J. H. M. J. van der Grinten, M.P.C.S., L.R.C.P., wife of Dr. J. H. M. J. van der Grinten, 1 P.C.P., 41, Wendell Lane, Mappertey.

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Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Melaena Neonatorum and Peptic Ulcer

Q.—In Cecil's "Textbook of Medicine," 7th ed., 1947 (p. 797), Walter L. Palmer states that "in about 50% of the cases melaena neonatorum is due to peptic ulcer." In the same book (pp. 1104-5) George R. Minot claims that in the newborn "melaena due to ulcer is seldom seen," the condition being due to vitamin-K deficiency. Contradictory statements in textbooks written by various authors are by no means rare, but usually they are a matter of opinion and not a matter of fact. One must assume that both Palmer and Minot base their conclusions on post-mortem findings, and the evidence obtained in the dissecting-room is not a matter of opinion. As both treatment and prognosis are so utterly different, depending on which of these views is correct, I would be glad to have an up-to-date authoritative opinion from a third expert.

A.—Post-mortem findings do not provide a satisfactory answer to this query, as the great majority of cases of haemorrhagic disease of the newborn recover with treatment. It is unlikely that this is equally true of cases of duodenal ulcer occurring in the neonatal period, and the condition, though it may be suspected during life, can seldom be confirmed except at necropsy. Most paediatricians would agree that haemorrhagic disease of the newborn is a much commoner cause of melaena during the first week of life than is duodenal ulcer, though this opinion is largely based on the clinical diagnosis of haemorrhagic disease being confirmed (a) by prompt response to treatment with vitamin K or transfusion, or (b) by the occurrence of haemorrhages elsewhere than in the gut, in the absence of sepsis, and by the rarity of ulcer as a post-mortem finding. The prothrombin level, though reduced in haemorrhagic disease, is not conclusive, since it is normally reduced during the first week of life and may be so when an ulcer is present. Neither the bleeding nor clotting time is consistently abnormal in haemorrhagic disease. The following figures, from the practice of a maternity hospital having 2,000 to 4,000 deliveries a year, and where post-mortem examination is carried out on almost all neonatal deaths, are given as an indication of the relative frequency of the two conditions, with the above qualifications.

During the years 1939-47 inclusive 44 cases of haemorrhagic disease were observed in which the diagnosis was considered proved. Of these, 36 showed melaena as a presenting symptom. Of five fatal cases—four with melaena and one without—post-mortem examination showed cerebral haemorrhage in three; one was a premature infant weighing 3 lb. 5 oz. (1.5 kg.); and in one (which had not shown melaena but in which the stomach was filled with blood) duodenal atresia and mongolism were present. No ulcer was present in any of these cases. During the same period one duodenal ulcer and one pyloric ulcer associated with ectopic pancreatic tissue were observed in all post-mortem examinations of newborn infants.

The disparity between the incidence of the two conditions is probably considerably greater than indicated by the above figures, since doubtful cases of haemorrhagic disease (in which, for instance, cerebral haemorrhage in the absence of bleeding from the gut was the principal post-mortem finding) have been excluded, whereas no example of ulcer is likely to have been missed at post-mortem examination.

Sulphanilamide Powder in Nasal Catarrh

Q.—There are certain preparations on the market for the treatment of nasal catarrh, sinusitis, etc., which contain from 0.4" to 5" sulphanilamide powder. In view of the growing concern about developing sulphonamide-resistant strains of bacteria, is this a proper and valuable use of sulphanilamide?

A.—Any indiscriminate use of such drugs is to be deprecated. On the other hand, the use of sulphonamide snuffs,

ith or without penicillin, is often effective in eliminating apylococci, haemolytic streptococci, meningococci, and phtheria bacilli from the nose or nasopharynx, particularly carriers and when the sinuses are not involved (it is doubtful whether the efficacy of this treatment extends beyond the ain cavity). Preferably, therefore, a bacteriological examination should precede treatment, as well as a clinical examination to determine the extent of the infection. In a somewhat ifferent category is the use of such preparations in order to event secondary bacterial infection in the common cold and us reduce its duration. This form of treatment has been vourably reported on, and seems justifiable in so far as these ports are correct. Sulphathiazole, owing to its lower solubility and thus more persistent action as well as its greater tibacterial activity, is more useful than sulphanilamide for ese purposes.

Combined Action of Penicillin and Sulphonamides

Q.—(a) *Whitby, in the "Practitioner" (1947, 159, 239), states at penicillin and the sulphonamides have a directly contrary id, in so far as the former prevents the passage of glutamic id through the cell wall of the organism, while the sulphonamides produce an abnormal accumulation of glutamic acid thin the organism. From this one must assume that penicilli and sulphonamides should not be used in conjunction. Has is been confirmed?*

(b) *What are the advantages of giving penicillin and a ulphonamide simultaneously, and in what condition is this mbined therapy of value?*

A.—Interference with glutamic acid metabolism is not estab- shed as a final and complete explanation of the mode of action e, either penicillin or the sulphonamides. The recorded facts e, however, of interest and importance, and may be regarded pieces in a jigsaw puzzle which has not yet been completed. y any case, the two facts are not evidence of a directly con- ary action. It is not as though penicillin prevented the passage e glutamic acid while sulphonamides facilitated the passage. he facts are that: (1) penicillin prevents passage; (2) sulphon- mides do not prevent passage through the cell wall, but pre- vent utilization when the glutamic acid is within the cell, so at abnormal accumulation results. There is no clinical evi- ence that a combined use of penicillin and a sulphonamide eats its own ends or that these substances are antagonistic or compatible. Theoretically the main argument for combined e is in the case of mixed infections, where one organism— g, staphylococcus—may be relatively resistant to sulphon- mides and another—e.g., *Bact. coli*—resistant to penicillin.

Ligation of the Common Femoral Vein

Q.—(a) *Ligation of the common femoral vein is stated to be en employed in cases of post-operative venous thrombosis of e lower limb in America. Is the ligature applied proximal e the entrance of the long saphenous? If so, what are the ter-effects on the venous return, and what course does the urn take?*

(b) *Is there a condition of incompetence of the deep veins e lower limb? Under what circumstances would such a ute be diagnosed, and could this operation be performed r it?*

A.—(a) The ligature is as a rule applied below the saphenous ening unless the saphenous vein is thrombosed, when it is eed above. Some prefer to go even lower and ligate below e deep femoral junction. Whatever the position of the ligu- e, there is no difficulty about venous return: even ligation e inferior vena cava does not cause any difficulty. Natur- y if thrombosis has occurred before the ligation, as is so en the case, then some permanent oedema and other changes ll result. This must not be put down to the ligature, because s found that ligation of the femoral vein in a normal leg uces no changes at all in venous return. Nature has been y generous with collaterals.

(b) There is a condition of deep incompetence, and it is nosed when complications, usually associated with varicose is, are present, but varicose veins are either absent or net ent in sufficient degree to explain the skin changes. There d not be a previous history of deep thrombosis.

Procaine in Asthma

Q.—*How is intravenous "novocain" used in cases of bronchial and cardiac asthma?*

A.—"Novocain" (procaine), by intravenous injection, has been used extensively in cases of bronchial asthma, particu- larly in France. It does not appear to have any advantage over the commoner antispasmodics, and there have been instances where aminophylline was successful in relieving an attack after procaine had failed. There is experimental evi- dence that procaine, administered intravenously, so modifies the bronchial musculature that it no longer responds to stimuli previously causing bronchoconstriction. It has been given in dilute solution—1 g. of procaine in 500 ml. of iso- tonic saline by intravenous drip lasting two hours—or, in more concentrated form, in doses of 5–10 ml. of a 1% solution in isotonic saline. References to its use in cardiac asthma have not been found.

Injection of Vitamin D in Psoriasis

Q.—*Some time ago I came across a reference to the use of daily injections of vitamin D in a series of cases of psoriasis, a large proportion being reported as having done well. Can you give me further details as to technique and length of treatment needed?*

A.—Several reports upon this subject in the last ten years have appeared, particularly in the American literature, but few have been favourable, and authorities are almost unanimous in rejecting the measure. The dosage of calciferol in these cases has varied between 50,000 and 400,000 i.u. daily, administered over the course of some months by mouth or by injection. The treatment is a dangerous one, carrying with it the risk of serious disturbance of calcium metabolism (a toxic rise of diffusible calcium) and of severe renal damage, and should not be employed for psoriasis. (Reference: G. E. Clarke, *Arch. Derm. Syph., Chicago*, 1940, 41, 664.)

Dosage of Vaccines

Q.—*What is considered to be the correct dosage according to age of cholera vaccine, T.A.B., T.T., and typhus vaccine?*

A.—Although there is no general agreement about the gradation of doses of vaccine according to age, it is often recom- mended that for infections like the enteric group, cholera, and typhus the dose should be one-third to one-quarter of the adult dose for children under 5 years, and one-half the adult dose for children aged 5–15. Many authorities do not advise inocula- tion of children under 2 years against these infections, which are very rare or very mild in young children, but certificates of prophylactic inoculation for every immigrant irrespective of age are demanded by certain countries. In the case of tetanus the risk of infection in young children may be considerable in some countries, and not less than one-half the adult dose of tetanus toxoid, which is as a rule free of any reaction, should be given. It must be remembered that in order to establish a good basal immunity the first dose (the primary stimulus) must be adequate to sensitize the tissues, and that children under 1 year probably give a poorer response to antigenic stimulus than older children or adults.

Passage of Antibodies from Foetus to Mother

Q.—*Certain neonatal diseases are now ascribed to the pass- age of maternal agglutinins or other antibodies through the placenta; can maternal toxæmia, with its resemblance when acute to the effects of an incompatible transfusion, be similarly related to the passage of antibodies from the foetus to the mother? It is said that the newborn do not develop definite blood groups at first, but does this exclude the possibility that they produce antibodies in their serum?*

A.—The blood groups of newborn infants are quite fully displayed at birth so far as concerns the agglutino-gen content of the red cells. The serum of the newborn, however, does not display the reciprocal relations of agglutinogens and agglu- tinins characteristic of the adult, any iso-antibodies present in the infant's serum being derived from the mother's circula- tion. The infant gradually develops its own appropriate iso- agglutinins during the first year of life. The capacity of the

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THE STATE OF NUTRITION IN SINGAPORE BEFORE, DURING, AND AFTER THE JAPANESE OCCUPATION

BY

LUCIUS NICHOLLS, C.M.G., M.D.

Before the war Malaya was prosperous owing to the export of large quantities of rubber, tin, and coconut produce. The imports consisted largely of food, consumer goods, machinery, and motor vehicles.

Food Available in 1940

The staple article of diet of the population of Malaya was rice; about two-thirds of the rice consumed in the country was imported from Burma, Thailand, and to a lesser extent from Indo-China and other countries of the Far East. In 1940 the principal imports of foods of vegetable origin were: rice, 646,076 tons; wheat flour and prepared cereals, 91,243 tons; pulses (dhals, peas, and beans), 36,304 tons; and sugar, 113,935 tons.

The population of Malaya may be estimated at between 5½ and 6 million persons. Taking the figure of 6 millions, a calculation of these imported foods in terms of calories daily per head of the population gives the following:

	lb. per Head per Year	Calories per Head Daily
Rice	240	1,000
Wheat and other cereals ..	33	140
Pulses	13½	50
Sugar	42	180
Total		1,370

The foodstuffs of animal origin that were imported and used in Malaya appear impressive at first sight: 25,117 head of cattle; 212,281 pigs, sheep, or goats; 1,365,972 poultry; over one hundred million eggs; 1,145,765 cases of condensed milk; and 1,209,626 lb. of dried milk. But these do not give more than 30 calories daily per head of the population. During 1940, therefore, foodstuffs to the value of about 1,400 calories daily per head were imported into Malaya.

After the outbreak of war in Europe a drive was started to produce more food, and some progress was made before the Japanese invaded Malaya. The estimates of the Agricultural Department for 1940 indicate that 812 calories daily per head were obtainable from foods, other than oils, grown in the country. The amount of fish and meat available would have been about 100 calories in value. There was ample oil in the form of coconut products and red palm oil.

Thus a conservative estimate of the calories per head daily available in 1940 is: imported foodstuffs, 1,400; rice grown locally, 560; roots, bananas, etc., 202; garden vegetables, 50; fish and meat, 100; oils, at least 250. Total, 2,562 calories. The rice, roots, banana, and garden vegetable figures are Agricultural Department estimates.

The Food Position under the Japanese

The quantity of rice and other foodstuffs imported during the Japanese occupation is not known. But the havoc of war had prevented cultivation in vast areas of Burma, the greatest rice-exporting country in the Far East; the transport systems

of Indo-China, Thailand, and the Netherlands East Indies had broken down; and owing to many sinkings by the enemy very few, if any, steamships were available to transport goods for civilians. It is certain that imports of foods into Malaya were far less than in the years before the war. It is known, however, that some rice and other foodstuffs were imported by land over the borders of Thailand, and further supplies were brought by junks and other small coastal craft.

The rice-growing areas of Malaya were self-supporting, but in the towns and most country districts the Japanese introduced rationing, apparently fairly efficiently in view of the stocks available. A ration of rice of 5 oz. (140 g.), 4 oz. (115 g.), and 2 oz. (57 g.) daily for men, women, and children respectively was distributed in Singapore Island right up to the time the Japanese surrendered.

Local Agricultural Production.—The production of rice in Malaya, estimated at 341,000 tons in 1939, had diminished by at least 100,000 tons yearly by the last year of the Japanese occupation. The reasons for this falling off in production were: (1) The drainage and irrigation systems were not properly maintained; these progressively deteriorated during the whole period of the Japanese occupation. (2) The Japanese confiscated much rice, and the cultivators reacted by producing little more than their own needs. (3) There was some displacement of the population, partly due to labourers being taken for forced work elsewhere. (4) The Japanese introduced and compelled the cultivation of a type of rice plant, called *taiwan*, new to Malaya, which turned out to be unsuitable for the climate and agricultural conditions of the country. (5) There was a shortage of water buffaloes for ploughing owing to slaughter for meat. (6) Lack of control measures led to a marked increase of pests such as rats, wild pigs, monkeys, and insects.

The Japanese realized that the only way to prevent famine among the general population was by growing large quantities of roots, mainly manioc (tapioca) and sweet potatoes. In this they were successful as regards widespread famine. But roots are a bad substitute for rice unless they are well supplemented with foods rich in proteins, such as meat, fish, milk, and pulses. The evidence of the Japanese food drive can be seen on all sides: rubber trees were cut down, virgin jungle was cleared, and the open spaces in the towns and villages were turned into gardens.

The estimate from the Agricultural Department is that in 1940 there were 48,000 acres under roots on the Malay Peninsula, and the Japanese had raised this to 140,000 acres, giving an increased yield of 396,000 tons, the equivalent of about 99,000 tons of rice in terms of calories. A similar estimate for bananas is 35,000 acres in 1940 and 78,500 acres by 1945, the increased production being 174,000 tons of *peeled* bananas, the equivalent in calories of 69,000 tons of rice. Also there were small increases of maize, millet, and sugar. Garden vegetables were also grown in abundance. When the new areas were first cultivated the yields may have been far greater than these estimates, because fallow and virgin lands have a high fertility.

The production was brought about by direct and indirect forced labour. The Japanese gave powers to selected persons in country areas to compel others to cultivate the land. Tin mines were closed down and rubber was no longer produced on most of the estates. Numbers of rural labourers were recruited for various purposes of war, and others had to turn to growing food for their subsistence. Business in towns ceased to function; clerks and others in subordinate positions were

replaced by Japanese or were no longer required. Many from the towns were sent to the country and settled on the land to fend for themselves. Office work ceased about 2 p.m., and the clerks were compelled to work in gardens or on allotments from 3 p.m. till dusk daily, Sundays included.

Animal Husbandry.—The Veterinary Department estimates that during the Japanese occupation the live stock of Malaya was reduced by at least 40%. The reduction would probably have been greater were it not for lack of transport, because in districts within easy reach of towns the stocks of cattle were reduced by 60% and pigs by 80%.

Fish.—Prior to the war the deep-sea fishing was largely in the hands of the Japanese, and this continued during the occupation. But the greater part of the coastal and fresh-water fishing was done by Malays. By the end of 1945 many boats had been lost, others were unseaworthy, and much of the fishing-gear had perished. Consequently there was a great reduction in the supply of fish, and it may have been 50% less than in 1940.

Vital Statistics Before, During, and After the Japanese Occupation

The Japanese maintained much of the British administration with the subordinate Asiatic staffs of the Government offices. The efficiency was very variable in different offices. Where it was inefficient it was not necessarily due to the failure of the Asiatic staffs but to the exigencies of war and other causes over which the staffs had no control. The work in the offices of the registrars was continued as previously, but the statistics kept in Malacca, Penang, and Kuala Lumpur are faulty and difficult to assess. This, however, is not the case in Singapore, where the statistics for the years after 1941 and 1942 are complete and give ample testimony to the health conditions in the island of Singapore under Japanese rule. Therefore the statistics only for this part of Malaya will be considered.

The records show the number and causes of deaths; but it is impossible to give the death rates with accuracy, because the last census of Singapore was taken in 1931, and there had been a considerable movement of population since the outbreak of war. Between 1937 and 1945 the civil population averaged about 750,000; of these somewhat more than 60% were males. Deaths among the Japanese forces and prisoners of war are not included in these statistics.

The numbers of deaths for the four years (1937-40) prior to the Japanese occupation and the deaths for the four years (1942-5) during the Japanese occupation were:

	1937-40	1942-5
Males	38,556 (60%)	86,697 (66%)
Females	21,265 (40%)	43,645 (34%)
	59,821	130,342

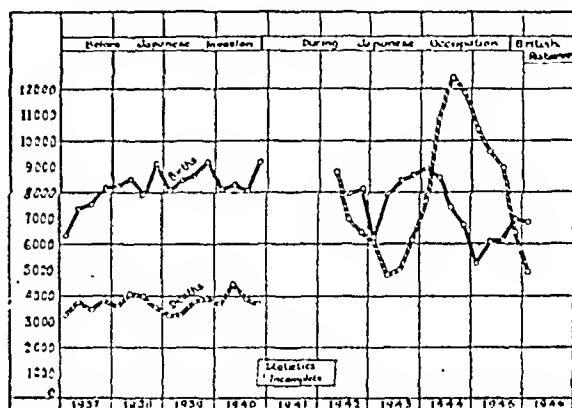
There was a great increase in the number of deaths of both males and females during the years 1942 to 1945, but the increase was greater among the males. It might appear that many deaths were due to executions or massacres, but these are not included in the statistics. During the four months July to October, 1944, when the recorded deaths were more than three times as many as in the years before the war, the number of executions was not as great. Further, the causes of all deaths are recorded, and the consistency of the rise and fall under each cause is a good evidence that they were not falsely loaded.

The birth rate, as shown by the number of births and deaths for the years 1937-40 and for the quarter of 1946. It will be seen that there was an unusually high birth rate during the Japanese occupation, and a marked fall after the British return, to a level below the average of 1946.

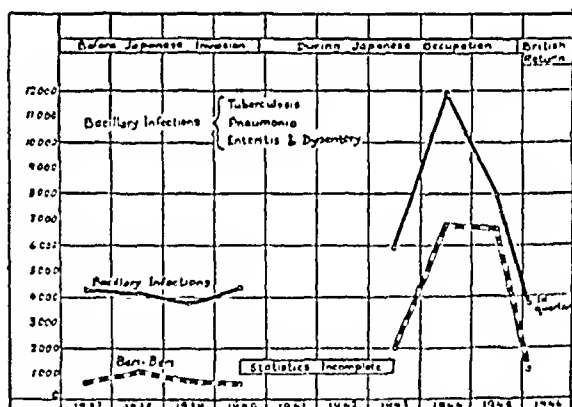
The number of deaths from three causes, namely, beriberi, bacillary infections, and infantile convulsions, is shown in the following table. More than 60% of the deaths from beriberi occurred during the Japanese occupation. The figures for 1941-1945 are for the years 1942-1946, as the statistics for 1941 are incomplete.

beriberi deaths was about 6½ times, whereas in the case of the bacillary infections it was little more than twofold. It may be that deaths from general malnutrition in which the patients had marked oedema were included under the heading "beriberi."

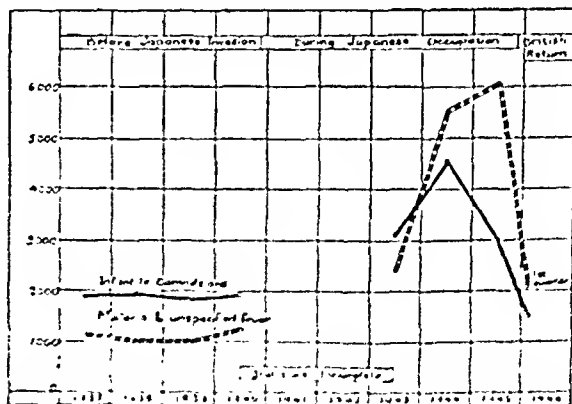
Graph III.—Here the deaths under the single heading "infantile convulsions" are compared with the combined deaths under the two headings "malaria" and "unspecified fevers." There are many causes of infantile convulsions. They are common in neonatal deaths of the infants of malnourished women of the Tropics: the infants pass into convulsions and die, and the aetiology is seldom apparent either clinically or at necropsy. Many infants weaned on cereal paps



GRAPH I.—Births and deaths in Singapore, 1937-46 (quarterly statistics).



GRAPH II.—Deaths from bacillary infections and from beriberi



GRAPH III.—Deaths from infantile convulsions compared with those from malaria and unspecified fevers.

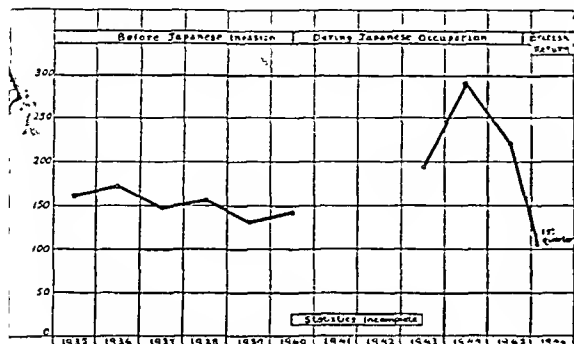
die in convulsions; and infantile beriberi is another cause. Again, convulsions in infants occur in many infections, especially malaria, where they are equivalent to the ague fits of adults. It will be seen that the deaths from convulsions do not run parallel with the deaths from the fevers: between 1944 and 1945, when the deaths from fevers were increasing, there was a marked fall in the deaths from convulsions. It is probable that malnutrition was the principal cause of these infantile

deaths. In a few months after the British return improved feeding of infants and the restarting of antimalarial work brought the death rates to the pre-war level.

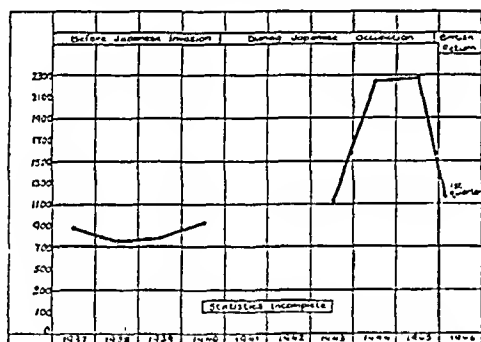
Graph IV.—This shows the infant mortality rates; it will be seen that the graph closely follows that for deaths from infantile convulsions.

Graph V.—This shows the deaths under the heading "senility." It was a hard time for the aged, the deaths among them being three times as numerous as the yearly average before the war. Again the situation was quickly improved under British rule.

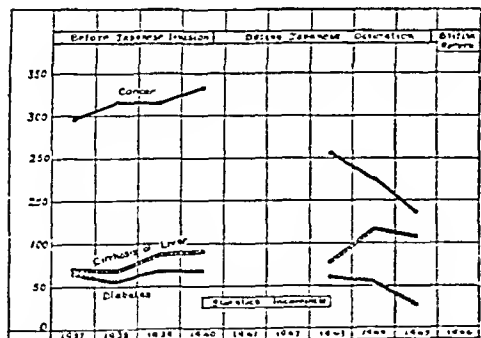
Graph VI.—This gives the numbers of deaths from cancer, cirrhosis of the liver, and diabetes. There was a fall in the



GRAPH IV.—Infant mortality rates.



GRAPH V.—Deaths from senility.



GRAPH VI.—Deaths from cancer, cirrhosis of liver, and diabetes.

number of deaths from cancer; this may be attributed partly to faulty diagnosis, as many medical men had left or were interned, and partly to deaths among those who had reached the age of greatest liability to cancer. In other words, there was a smaller population of those in the "cancer age." Probably malnutrition hastened death in the early stages of cancer, when diagnosis was difficult. The statistics give cirrhosis of the liver under two headings: "alcoholic" and "non-alcoholic"; the figures for only the latter are given.

Cirrhosis of the liver is six to seven times as common in the Tropics of the Far East as it is in temperate climates. It occurs mainly among the poorest classes. There is evidence that it follows the long consumption of low-protein diets deficient in various vitamins. This may account for the increase in 1944 and 1945, though it might be expected that the number of deaths would have been greater. Diabetes is common among the wealthy classes of the Far East, who habitually eat excessive amounts of rice highly laced with curry stuffs of an appetite-stimulating and irritant nature. There was a fall in the number of deaths from diabetes, but it was not as great as might be expected under the exigencies of the times.

INSURANCE ACTS COMMITTEE

A meeting of the Insurance Acts Committee took place on Feb. 19, with Dr. E. A. Gregg in the chair.

The Chairman of Council (Dr. Dain) commented on the results of the plebiscite which had been announced on the previous day. The results had exceeded anything they could have anticipated. The figures proved that the Minister had succeeded in dividing the profession and that the "unconvinced politicians" were not so unrepresentative of the rank and file as he had assumed. The wise thing for the moment was to allow the figures to speak for themselves. Possibly when the Government had had time to consider the effect of the figures, it might have something to say to the profession about future developments. Following the Special Representative Meeting on March 17 a campaign to instruct the public about the position would be undertaken. It was now their duty to announce to the public their constructive policy and the sort of service they were proposing to give. A conference of public relations secretaries was being held on the following day. Another proposal to which the Council had agreed was to recommend the S.R.M. that a new fund to be called the Independence Fund should be set up, to which subscriptions would be invited forthwith. The Guarantee Fund would be closed, and the guarantees would not be called in.

Dr. Woolley expressed on behalf of the Committee grateful appreciation of the efforts of officers and staff of the Association in carrying through the plebiscite.

Dr. Fraser attended in order to support a resolution passed at a joint meeting of the Cumberland and Carlisle Panel Committees that the Insurance Acts Committee be urged to invite resignation from all insurance practitioners with three months' effect from March 1 as a protest against the introduction of the National Health Service in its present form. He said that the idea behind the resolution was that the resignations should be collected and handed to the Insurance Acts Committee. Already the collection of resignations had compelled the Minister to abandon a position he had taken up. The course suggested would also be a means of holding the profession together and preventing any drifting away, especially in industrial areas where practitioners might not be well known to each other.

Various objections to this course of action were voiced by members of the Committee. It was pointed out that there was no analogy between what had been done in the past with regard to resignations and what was now proposed, also that such action would be labelled as sabotage, and again that it was a slightly illogical position to ask practitioners to resign from a service with which they were fairly satisfied because they did not want to enter a service with which they were dissatisfied.

Dr. Fraser said he quite appreciated these and other points which were urged against his committee's resolution.

It was agreed that no action be taken.

The Committee agreed to place on the agenda of the Special Panel Conference to be held on March 16 the recommendation which the Council had agreed on the previous day to make to the Special Representative Meeting urging such changes in the Acts as were necessary to maintain the integrity of medicine and to prevent doctors from being turned into State servants (*Supplement*, Feb. 28, p. 36). It also endorsed the recommendations of the Council concerning the setting up of an

Independence Fund in the hands of a Trust consisting of ten members appointed by the Council and six by the National Insurance Defence Trust.

Independence Fund

Sitting as Trustees of the National Insurance Defence Trust the members received a statement concerning the recommendation to the Representative Body that an Independence Fund should be set up. The Chairman said that the present Guarantee Fund, which in any event was due to expire on March 1, would be closed, and the guarantors would not be called upon; but they would be asked to convert their guarantees, or larger sums, into actual contributions to the new Fund. When the present storm was over the new Fund would be wound up and the unexpended balance returned in the appropriate proportions to those who had contributed. Even then there would still remain the same need as before for the existence of the N.I.D.T.

Dr. J. W. Bone, Treasurer of the Trust, said that on Feb. 18 the National Insurance Defence Fund stood at £491,000. He drew attention to the considerable funds which were held by certain Panel Committees, and pointed out that a difficult position might arise in July when Panel Committees ceased to exist.

It was decided to take legal advice for the benefit of Panel Committees on the disposal of funds which they might possess.

The following were elected as the six trustees to represent the N.I.D.T. on the Independence Trust Fund: Drs. Gregg, Knox, Pearce, Steel, Wilson, and Woolley.

It was agreed unanimously that an initial contribution of £400,000 be made from the National Insurance Defence Trust to the Independence Trust when established.

National Association of Local Executive Councils

Dr. N. E. Waterfield, a member of a provisional committee charged with preparing a draft constitution for a new National Association of Local Executive Councils, to be run in the same manner as the National Association of Insurance Committees, attended the meeting to urge that proper representation of the professional elements on Local Executive Councils should be secured in such a constitution. He reminded the Committee that in the old days the National Association was almost entirely in the hands of the Friendly Society representatives.

The view of the Committee was that, as the doctors, dentists, and pharmacists have a 50% representation on Executive Councils, whereas they were only in a small minority on the old Insurance Committee, they could be trusted, without making specific provision, to ensure that they were adequately represented on a national body.

The Committee gave some consideration to the draft statement of evidence to be given to the Departmental Committee on Certification under the N.H.S. Act, but certain points of detail were held over for further discussion. It was stated by a member of the Departmental Committee that it was not likely to be in a position to receive this evidence for perhaps two or three months, or to report for about a year.

GENERAL PRACTICE COMMITTEE

The General Practice Committee of the Association, under the chairmanship of Dr. S. Wand, held an all-day meeting on Feb. 11. Some 70 items were on the agenda, including reports from five subcommittees, one of them embracing four sets of minutes. Much of the business was concerned with the revision of fees for various services and the remuneration of practitioners in the whole- or part-time employment of Government Departments and other bodies.

A preliminary matter concerned petrol restrictions. It was reported that the Minister of Fuel and Power, while not able to remove all forms of restriction from doctors as a class, was prepared to agree that if a doctor undertook a social or recreational engagement and was at the time on call it was reasonable for him to use his car. The use of his car by a doctor when he had made an alternative arrangement for his patients was not justified. Petrol would be allowed to doctors for attending Association and other professional meetings in their locality. Where a practitioner urgently required to send a patient to a hospital or a sample to a laboratory it would be in

order for the journey to be made in the practitioner's car driven by his wife. Regional petroleum officers had been notified of these concessions.

It was reported that the Ministry of Pensions had refused to allow payment of mileage to members of medical boards, and the Committee resolved that the Ministry should again be pressed to come into line with other departments in this respect. In considering the scale of fees for attendance upon ex-Servicemen pensioners for whom the department accepted responsibility it had been agreed that a night visit should be regarded as one made between 8 p.m. and 9 a.m.

The Committee gave some consideration to the case of the small group of civilian medical practitioners employed by the Army authorities on a whole-time basis, and hitherto extremely badly paid. The Association had previously claimed that their payment should be at the rate of 5 guineas a day. The War Office was unable to agree to this but was prepared to make the remuneration 3 guineas a day, being more than a 200% increase on what they have been receiving. The Committee, after considering the circumstances of these officers, accepted this proposal, subject to its being made retrospective.

The Ministry of Health had agreed to a suggestion from the Committee that the status of the hospital member of the Medical Interviewing Committees under the Disabled Persons (Employment) Act should be clarified, and in the latest instructions to regional officers this member was defined as one possessing a higher qualification in medicine or surgery. The Ministry had also made it clear that either the industrial doctor or the hospital member was eligible for chairmanship of the committee. The question of sessional remuneration of specialist members and payment of travelling expenses was under consideration, and any decision subsequently reached would be given retrospective effect. With regard to sessional fees for members of Disablement Advisory Committee panels, the Ministry had offered an increase of from 1½ to 2 guineas, but the General Practice Committee decided to urge again that the minimum fee should be £2 5s. per session, plus mileage payment at standard rate and subsistence payment in accordance with the Civil Service scale.

Entrants to the Mining Industry

The Chairman reported that he with the Assistant Secretary had met the chief medical officer of the National Coal Board on a number of matters. It had been urged that pre-employment medical examinations of entrants to the mining industry should be undertaken by medical boards, but the chief M.O. was not convinced of their advantages, and considered that an individual practitioner with a knowledge of the industry could undertake the work equally satisfactorily. Medical boards would have to serve a wider area, involving travelling and subsistence allowances and affecting the cost of the examination. The coal areas, he said, were not so compact that these factors could be disregarded. The Committee resolved to explore this matter further.

The question of international vaccination certificates for attending passengers to the Far East occupied the Committee for some time. The authorities of Hong Kong and Singapore have insisted on certificates being signed by medical officers in the service of central or local governments and have refused to accept the certificate of a general practitioner as valid; in some other quarters, while the certificate of a general practitioner is accepted, it requires to be countersigned by a Government medical officer. It was stated that the whole question had been reviewed by an expert committee, which is recommending to the World Health Organization at meetings shortly to be held that, although it is advisable that certificates be countersigned, they should not be rejected merely on the ground that this has not been done.

Burden of Certification

The Committee reviewed the draft statement of evidence which it is proposed to submit to the Departmental Committee on Certification. The evidence included a classified list, not exhaustive, of certificates which general practitioners are commonly required to give at the present time. These were set out in four groups, making 32 items in all. A recommendation was passed that the Association was satisfied that effective steps

could be taken to lighten the burden of certification. The steps suggested included reducing the number of varying forms of certificate in order that one or two stereotyped forms might serve a variety of purposes; simplifying the forms of certificate wherever practicable; ensuring that new certificates are not introduced without due consideration and consultation with the profession; abolishing the necessity for giving medical certificates for commodities in short supply where there is no official sanction for such requirement; and reducing the frequency with which certificates may be renewed. The sub-committee which has prepared the evidence rather drastically pruned the occasions for which practitioners may be expected to give certificates, and the General Practice Committee made some further deletions. A model form of certificate was approved.

WORLD MEDICAL ASSOCIATION

The General Assembly of the World Medical Association at its meeting in Paris last September delegated to the Council the task of selecting a site in North America for the headquarters of the Association, the selection being subject to the approval of the American Medical Association and the Canadian Medical Association. The Chairman of the Council, Dr. T. C. Routley, of Canada, and Dr. Louis H. Bauer (U.S.A.), Member of Council, have reported that on behalf of the Council they are acquiring offices in the building of the New York Academy of Medicine at 2, East 103rd Street, New York. It is believed that they will admirably meet the needs of the Association.

The Council will hold a meeting in New York on April 26-9, and it is hoped that the new offices will be available by that time. After the meeting the Members of the Council will be the guests of the American Medical Association, the Mayo Foundation, the University of Minnesota, and some other universities for a ten-day tour which will take them as far west as Minneapolis.

HEARD AT HEADQUARTERS

Public Relations

The appeal is now to Caesar, Caesar being the British public, and the public relations organization of the Association (both the department at Headquarters and the public relations committees and their secretaries in the Divisions) is working hard. A Public Relations Conference assembled within 48 hours of the announcement of the plebiscite, and many of the secretaries brought forward ideas which they have successfully followed in their own localities. Every channel of publicity—leaflets, posters, public meetings large and small, the local and national press—was discussed. One of the difficulties is, of course, that while the individual doctor is regarded with affection doctors collectively do not command the same regard, and never have done. Moreover, the patient who is a most sympathetic and receptive person when seen by himself in the surgery is a very much more sceptical sort of person when he is one of a crowd at a public meeting. Another difficulty is that there is not one public, but two, or many, and that the approach which may be suitable to the readers of picture papers would be despised by those who take their views from the serious journals, and perhaps ten of the latter are more important in the formation of public opinion than a hundred of the former. But the Public Relations Department has got all this in hand.

How Many Patients a Day?

How many patients can a doctor see in a day? There has been an amusing correspondence in the American journals on this subject. A Wisconsin doctor put in a claim that he could see 75 patients a day. He was taken to task by a New York doctor, who pointed out that even if each patient took only ten minutes that would still add up to 12 hours, and even then it would mean that his chair never got cool. "A good service,"

he said, "cannot be given in ten minutes." But then came along a doctor from California who went whizzing past the Wisconsin record and declared that he saw personally as many as 120 patients a day, and his day was less than 12 hours. Easily done, he says it is: it is just a question of having sufficient space and organized team-work between doctor and nurse. It is true that a new patient may even require as much as 15 minutes, but on the other hand it takes only two or three minutes to give a patient a repeat injection and send him on his way. He concludes, perhaps rather ingenuously, "Maybe we don't give the best, but we treat the most."

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Poplar.

Non-County Borough Councils.—Dartford, Radcliffe (limited to future appointments), Tottenham, WallSEND.

Urban District Councils.—Denton, Drydlsden, Houghton-le-Spring, Huyton-with-Roby, Portslade, Redditch (restricted to new appointments), Stanley (Co. Durham), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

H.M. Forces Appointments

ROYAL AIR FORCE

DENTAL BRANCH

D. C. P. BAKERSEA to be Squadron-Leader.

ROYAL AUXILIARY AIR FORCE

L. WATT to be Flight-Lieutenant.

ROYAL AIR FORCE VOLUNTEER RESERVE

Flight-Lieutenant D. M. BROWN has resigned his commission, retaining the rank of Squadron-Leader.

Flying Officers T. M. Cullingworth, A. Fernandez, R. L. Goldson, D. B. Harnes, J. M. Kelly, J. McNally, J. E. Marrett, J. W. Moffitt, C. H. Neville-Smith, B. Poole, S. R. Sims, D. R. Smith, L. Temkin, F. G. Tuffnell, C. N. Atkinson, C. B. Burdett-Smith, J. P. Clayton, D. E. Cullington, A. L. T. Eason, J. H. H. Glin, L. W. Godfrey, G. R. S. Grogono, W. J. L. Harries, T. D. Hawkins, J. P. Jackson, A. R. Jones, T. J. Jones, R. E. Leighton, D. L. Mackinnon, W. T. S. Moore, R. A. Morris, R. Owen, R. A. Parker, J. P. Penon, P. R. B. Sankes, W. M. B. Strangeways, W. K. Sutton, S. Beacon, A. J. Beale, A. V. Craig, S. Croft, G. Forrester, K. B. N. Freeman, L. M. Green, W. P. Gurassa, J. D. Hennessy, J. J. Henry, F. G. Ince, F. J. G. Kinsella, H. R. Macleod, R. S. Male, N. G. Nicholson, J. A. O'Garra, B. H. Pentney, T. W. Price, B. E. Roebuck, W. H. R. Smith, S. A. Somers, J. Walsh, R. G. Welch, F. J. Woodley, and J. M. Talbot to be Flight-Lieutenants (Substantive).

The following have been granted the Substantive rank of Flight-Lieutenant: R. H. Sage, W. M. Sandeman, G. E. Schofield, M. G. Scott, P. F. Scott, R. M. E. Seal, G. H. Seal, J. S. T. Searle, P. Selzer, D. S. Sharpe, W. J. W. Sharrard, C. S. Shaw, J. F. Shaw, D. W. S. Sheldon, F. L. Shepherd, A. Sherlock, D. A. Sherman, J. G. Shirreffs, H. Shooman, L. Shuck, R. E. Sidebotham, E. Silver, P. H. S. Silver, L. Silverstone, R. D. Simpson, D. H. Sinclair, J. A. Sindell, I. P. D. W. Skempton, H. H. Slack, H. R. Smart, J. G. Smirk, E. R. Smith, H. H. Smith, C. J. W. Soutar, J. Stevenson, R. H. Stillman, J. B. Stirling, D. F. Street, S. D. K. Stride, H. F. Surden, G. P. Sutherland, H. D. Symon, J. McA. Taggart, C. E. Tait, G. S. Tapsall, J. C. Taylor, J. G. Taylor, T. Taylor, W. C. Taylor, D. C. Tennant, G. J. Tewfik, D. L. C. Thomas, J. M. Thomas, M. Thomas, P. H. Thomas, J. L. G. Thomson, T. J. Thomson, W. S. T. Thomson, M. Tobias, C. Todd, W. F. Toomey, D. K. M. Tove, P. R. Travers, D. E. Truscott, R. R. Trussell, A. J. Underwood-Whitney, F. N. Valdez, J. G. Vause, A. D. Verniquet, C. C. Vidot, P. Vlasto, J. C. L. Wade, H. Wainstead, I. A. Waldie, G. A. Walker, R. V. Walley, J. Ward, N. C. T. Watford, D. A. Watkins, I. G. Waugh, J. A. Waycott, M. T. Welford, G. G. Wells, P. W. Wells, P. West, G. A. Wetherell, J. D. Whitehouse, T. C. D. Whipside, L. R. Whittaker, D. E. C. Whitome, R. H. Whitworth, H. Wickham, R. A. Wilkinson, R. W. Wilkinson, R. F. Williams, A. M. Williamson, C. P. Williamson, H. B. Willington, J. D. Willins, K. M. Willis, D. G. Willson, J. R. E. Wilson, R. R. Wilson, C. A. Wilson-Sharp, D. Wilborne, E. A. Witheridge, J. F. H. Wood, G. R. Wotton, K. A. A. Wray, T. A. Wyllie, P. O. Yates, A. Young, F. R. M. Young, C. E. Phillip, and R. Youngman.

The notification concerning F. Latham in a Supplement to the *London Gazette* dated Jan. 13, p. 270, col. 1, and in the Supplement to the *Journal* dated Jan. 31, p. 21, has been cancelled.

The notifications concerning J. A. B. Mounsey and T. H. Redfern in a Supplement to the *London Gazette* dated Jan. 20, p. 599, have been cancelled.

SPECIAL LIST (EX-INDIAN ARMY)
BRITISH ARMY

Colonels R. L. Vance and Sir G. R. McRobert, C.I.E., have retired.

Lieutenant-Colonels W. McAdam, O.B.E., J. E. Ainsley, and D. H. Waldron, O.B.E., have retired and have been granted the honorary rank of Colonel.

Lieutenant-Colonel W. J. Shipsey has retired on account of ill-health and has been granted the honorary rank of Colonel.

Lieutenant-Colonel R. W. H. Miller has retired.

Majors D. McC. Black and T. P. Binns have retired.

Majors R. K. Muir, F. C. Leach, and O. Walker have retired and have been granted the honorary rank of Lieutenant-Colonel.

Majors L. H. F. Michael and J. H. Cater have retired.

Captains (War Substantive Majors) E. L. Wilson and T. J. Powell have retired and have been granted the honorary rank of Lieutenant-Colonel.

Lieutenant S. N. Eatc has retired.

COLONIAL MEDICAL SERVICE

The following appointments have been announced: J. Boyd, L.R.C.S., L.R.F.P.S., Medical Officer, North Borneo; C. W. J. Hingston, M.R.C.S., and D. F. MacBean, M.B., Medical Officers, Gold Coast; W. J. McGuiness, M.B., Medical Officer, Tanganyika; A. M. Robertson, M.B., Medical Officer, Malaya; C. A. Bathfield, F.R.C.S., Orthopaedic Surgeon, Mauritius; T. A. Doran, M.D., Medical Officer, Fiji; P. Frischmann, M.D., Medical Officer, Nigeria; W. J. L. Neal, M.B., Temporary Medical Officer, Aden; E. S. Shoucair, M.B., Medical Officer, Jamaica; A. H. Barwell, M.R.C.S., Medical Officer, Kenya; D. D. McCarthy, M.B., Assistant Director of Medical Services, Uganda; G. I. Shaw, M.B., Ch.B., Senior Health Officer, Hong Kong; J. R. C. Spicer, M.B., Senior Medical Officer, Vickers, M.R.C.S., Director of Medical, A. McKelvie, M.B., Medical Officer in charge, Gold Coast.

Association Notices

CONSULTANTS AND SPECIALISTS COMMITTEE

Representative of Part-time Consultants' Roll

As a result of a postal ballot held to fill the casual vacancy upon the Consultants and Specialists Committee caused by the resignation of Mr. A. H. Baker, F.R.C.S. (Scarborough), Mr. T. F. R. Griffin, F.R.C.S. (Scarborough), has been appointed to serve on the Committee as a representative of the Part-time Consultants' Roll for the remainder of the session 1947-8.

PRIZES FOR NURSES

The Council of the British Medical Association is prepared to consider the first award in 1948 of three prizes each of the value of 20 guineas for the best essay and three prizes each of the value of 10 guineas for the second best essay submitted in open competition by each of the following categories of nurses: (i) Pupil nurses; (ii) State registered nurses working in a hospital; (iii) State registered nurses not working in a hospital—i.e., district nurses, private nurses, etc.

The subjects of the essays for 1948 shall be: Category (i) "Suggested Improvements in the Methods of Training Nurses"; Category (ii) "Nursing the Patient, not the Disease: the Nurse-Patient Relationship"; Category (iii) "Difficulties of Nursing in the Patient's own Home and their Solution."

The purpose of these prizes is the promotion of systematic observation among nurses. In awarding the prizes due regard will be given to evidence of personal observation. No essay that has previously appeared in the medical press or elsewhere will be considered eligible for a prize. Nurses who are undergoing a course of training at a hospital are eligible to compete under category (i); nurses registered by the General Nursing Council are eligible to compete under categories (ii) and (iii). If any question arises in reference to the eligibility of a candidate or the admissibility of his or her essay, the decision of the Council of the British Medical Association shall be final. Should the Council decide that no essay entered is of sufficient merit, no award shall be made. Each essay must be typewritten or neatly written, must be unsigned, and have attached to it a sealed envelope containing the name and address of the candidate and the category into which he or she falls. Essays must be forwarded to the Secretary of the British Medical Association not later than May 31, 1948. Inquiries about the prizes should be addressed to the Secretary, British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1.

SCHOLARSHIPS IN AID OF SCIENTIFIC RESEARCH

The Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows: An Ernest Hart Memorial Scholarship of the value of £200 per annum, a Walter Dixon Scholarship of the value of £200 per annum, and four Research Scholarships each of the value of £150 per annum. These scholarships are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including State medicine) relating to the causation, prevention, or treatment of disease. Preference will be given, other things being equal, to members of the medical profession.

Each scholarship is tenable for one year starting on Oct. 1, 1948. The scholar may be reappointed for not more than two additional terms. A scholar is not necessarily required to devote the whole of his or her time to the work of research but may hold an appointment at a university, medical school, or hospital, provided the duties of such an appointment do not interfere with his or her work as a scholar.

In addition, applications are invited for the first award of the Insole Scholarship of the value of £250 for research into the causes and cure of venereal disease.

Conditions of Award: Applications

Applications for scholarships must be made not later than Friday, April 30, 1948, on the prescribed form, a copy of which will be supplied on application to the Secretary of the Association, B.M.A. House, Tavistock Square, London, W.C.1. Applicants will be required to furnish the names of three referees who are competent to speak of their capacity for the research contemplated.

CHARLES HILL,
Secretary.

Diary of Central Meetings

MARCH

- 16 Tues. Special Conference of Local Medical and Panel Committees, 11 a.m.
- 17 Wed. Special Representative Meeting, 10 a.m.
- 24 Wed. Council, 10 a.m.

Branch and Division Meetings to be Held

SOUTH-EAST ESSEX DIVISION.—At Southend Municipal Hospital. Rochford (Nurses' Lecture Hall), Friday, March 12, 8.30 p.m. B.M.A. Lecture by Sir Heneage Ogilvie: Some Lessons of War Surgery.

Meetings of Branches and Divisions

EAST YORKSHIRE BRANCH

A general meeting was held on Feb. 11, when Mr. Parkes, biochemist to the Hull Royal Infirmary, gave a lecture on "Some Tests on Liver Function." He discussed the values of the different tests done to assess the function of the liver. He first described the galactose and laevulose tolerance tests, showing how their elimination from the blood stream is impaired with liver damage. He then went on to consider plasma proteins. He next discussed the blood cholesterol, which is increased in amount in obstructive jaundice and decreased in advanced cases of cirrhosis of the liver. He ended by emphasizing that in the investigation of any one case it was necessary to perform a series of tests and to balance the results.

DORSET DIVISION

A meeting of the Division was held on Feb. 17; 39 members were present. Dr. Geoffrey Evans delivered the B.M.A. Lecture on "Some Aspects of Kidney Disease." He spoke on the classification of kidney disease and its treatment, with special reference to Schlemm's diet in the treatment of oedema. He described the uses of the artificial kidney in the treatment of suppression of urine.

LINCOLN DIVISION

A general meeting of the Division was held on Feb. 8 with Dr. A. M. Maiden in the chair. Sixty members and non-members were present.

The chairman put to the meeting the question: "Are you in favour of the National Health Service Act as it stands at present?" On a show of hands 3 were in favour of the Act and 56 were against it. It was then announced that 32 postal votes had been received, and of these 1 was in favour and the remainder against. The total voting of the Division was therefore 4 in favour of the Act as it stands at present and 87 against it.

SUNDERLAND DIVISION

On Jan. 16 Mr. B. W. Rycroft spoke on plastic implants into eye sockets. He then delineated the methods of corneal grafting, and demonstrated with the aid of lantern slides the instruments used. He discussed in detail the technique of obtaining grafts with the trephine and the methods of suturing across the graft to retain it in position; he then considered the post-operative treatment. Mr. Rycroft concluded by showing an American film depicting the technique of corneal grafting by the Castroviejo method.

BRITISH MEDICAL JOURNAL

LONDON SATURDAY MARCH 13 1948

WHERE ARE WE GOING?

MEDICINE IN A PLANNED ECONOMY

BY

FRANCIS ROBERTS, M.D.

*Honorary Physician in Charge of Douty X-ray Clinic,
Addenbrooke's Hospital, Cambridge*

It is a truism to say that the last fifty years have witnessed a revolution in public health. Many diseases we have exterminated, others we have learnt to cure, others again we have learnt to control; puerperal and infant mortality have diminished, the expectation of life has risen, and the standard of personal, domestic, and public hygiene has improved beyond recognition. Our pride in these achievements, however, should not blind us to the other side of the picture—the rapidly mounting cost of the medical services both in money and in man-power. At any time this remarkable paradox would provide a subject of great

The existence of this increase is of course well known. What is not realized is the acceleration. Figs. 1 and 2 show the rapidly mounting cost per in-patient per week and per out-patient per attendance, respectively, at Addenbrooke's Hospital, Cambridge. The *Hospital Year Book* shows that a similar rise is occurring throughout the country. While it is partly accounted for by the general rise in wages and cost of equipment, it is mainly due to the increase in the amount of work done per patient. In 1897 106 beds were served by four physicians, four surgeons, and two residents; in 1922, with 170 beds, the

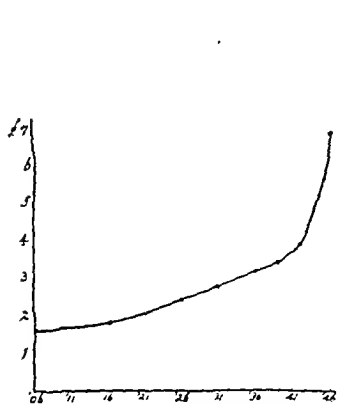


FIG. 1.—Addenbrooke's Hospital. Cost per in-patient per week in pounds.



FIG. 2.—Cost per out-patient per attendance in shillings.

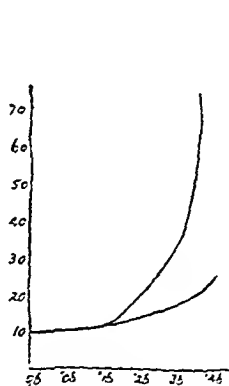


FIG. 3.—Upper curve = medically qualified staff, lower curve = medically qualified staff per 100 beds

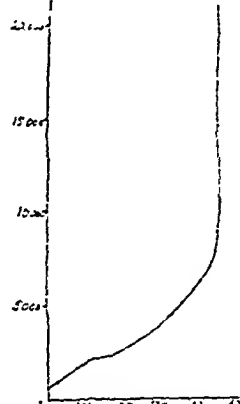


FIG. 4.—Number of pathological examinations.

academic interest; in our present economic plight it becomes a matter of grave national concern.

The expansion of medicine is visible to all. With a population almost at its maximum practitioners have increased in the last twenty years by 50%. Many new hospitals have been built and others enlarged and up-graded. Hospital beds, having reached the figure of 600,000, need to be supplemented by a further 200,000. To the increasing army of nurses has been added a large force of auxiliaries which barely existed a generation ago—radiographers, almoners, dietitians, speech-therapists, laboratory technicians, occupational therapists, orthoptists, hospital physicists, masseuses, physiotherapists, child-guidance workers, clinical photographers, records officers, health visitors, and psychiatric social workers—classes which are being added to almost yearly.

total staff numbered 16; in 1947, with 315 beds, it numbered over 70 (Fig. 3). These figures, however, grossly underestimate the increase in man-power, for they take no account of the assistance which the staff now receives from the host of auxiliaries or the greatly increased work done by members of the staff compared with that done by their predecessors, who were mainly occupied with general practice. Although there has been some increase in the population this has been offset by the opening of a new hospital in the area and the enlargement and up-grading of others. In spite of this, demand has outstripped supply, for the waiting-list has risen in the last ten years from 228 to over 1,500. The necessity for the increase in staff will be realized from the increase in the work of one department alone. Since 1927 the total pathological examinations have increased 33 times (Fig. 4) and the blood

counts 50 times (Fig. 5). These figures again underestimate the true increase, since examinations have become more complex. Parallel figures could doubtless be produced by other hospitals. Taking the country as a whole we see in Fig. 6 the rise in the numbers on the *Medical Register*. Twenty years ago the annual increase was 600; it is now

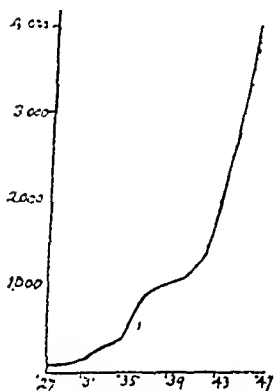


FIG. 5.—Number of blood counts.

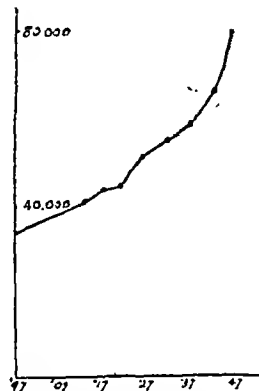


FIG. 6.—Numbers on the *Medical Register*.

over 2,000. In fact, whatever medical activity we plot against time we find the same result: *acceleration towards infinity*.

Can we see any sign of a limit to this trend? There are four directions in which we can look: the stabilization of the population, the repair of past neglect, the improvement in social conditions, and the advancement of science.

Stabilization of Population

Since the figures given above show that the rise is mainly due to the increased medical requirements of each patient it is clear that nothing short of a substantial decline in population could operate as a limiting factor.

Repair of Past Neglect

It may be thought that we are making up for lost time and that stabilization will be reached when we have accomplished this task. This, however, is true only to a limited extent. It is a misreading of history to think that our forerunners were neglectful in providing the necessary requirements. Sixty years ago there was barely any need for hospitals, because domiciliary treatment was as efficient as hospital treatment. If we look back we find this general rule: every new development has appeared as a small increment, and its provision has always been regarded *at the time* as amply sufficient for existing needs and a matter for pride and congratulation. When, in 1915, the Governors of Addenbrooke's Hospital built two small rooms for radiology and electrical treatment combined they described the accommodation as "commodious." To-day a floor-space twelve times as great is considered inadequate. At all times estimation of future requirements can be made only in terms of the leeway to be made up and in the light of the existing state of medicine. The developments which are in store, even in the immediate future, are hidden from us. We know neither the form they will take nor the provision which they will need. All we know is that they are certain to come.

Improvement in Social Conditions

The relation between the standard of living and the incidence of disease is complex in the extreme. In theory we should expect a diminution in disease when the whole population is adequately fed, housed, clothed, and educated. In practice, however, several factors operate powerfully to prevent this happy combination. In the first place we have to admit the fact that no causal relationship between social conditions and most of the major diseases which fill the

hospitals. Secondly, as civilization, or at least our conception of it, advances, rational practice becomes complicated by extraneous considerations. There is the threat of litigation and censure, which among its other effects has resulted in the routine x-ray examination of even the most trivial injuries. As the man in the street becomes familiar with the many similar tests which are rapidly being added, the threat of litigation will increase. Now that in almost every family there is at least one person who, being a masseuse, speech therapist, orthoptist or whatnot, is in the best position to speak with authority on medical matters, this threat may reach formidable proportions. Investigations inspired by fear of litigation are inessential by products of the healing art, imposed upon it by modern society. The threat to economy lies not in the premiums paid, nor in the expenses incurred by the protection societies (which can doubtless look after themselves), but in the enormous expensiveness of examinations made not because of their clinical necessity but from fear of savage penalties. The time has come when we simply cannot afford the wholesale radiography of trivial injuries because one in a million may become the subject of litigation. A situation which should be ours to contend with has passed into the hands of the lawyers. The courts will have to accept the plea of reasonable care against accusations based on conventional procedures. Moreover, practitioners are increasingly pressed for the performance of investigations which they know to be useless under the circumstances. Refusal is difficult, since any subsequent calamity will, however unjustly, be ascribed to their obduracy. In private practice concession to prejudice is permissible, since the cost is borne by the patient, but it will be interesting to observe whether, with free medical attention for all, specific methods of investigation will be demanded by patients as a right.

Thirdly, as the standard of living rises people increasingly fail to distinguish between essentials and non-essentials, and tend to judge efficiency by the standard most obvious to them—namely, the *fa-la-las*. I have often heard patients sing the praises of the cottage hospitals (to which they should not have been sent) on account of the homely atmosphere there created. In particular, women value the "dainty teas" in which these institutions specialize. Admission to hospital is coming to be looked upon as a desirable thing in itself, and it is remarkable how this idea has unconsciously crept into common parlance. Recently at a meeting of a friendly society a member complaining of the long waiting-list for admission to the local hospital, said that several hundred members *wanted* to be admitted. A business man in comfortable circumstances and of robust health, speaking of the advantages of the general hospitals over the nursing homes, said he *looked forward* to the time when he could be admitted to a general hospital. At the present time admission to hospital is in many cases essential merely because domestic difficulties make the necessary investigation and treatment impossible to carry out at home. While we may hope that circumstances will improve in course of time, it is to be feared that admission to hospital will meanwhile have become a habit too deeply ingrained to be easily eradicated. If we make hospitals more comfortable than home in inessentials it will be a sign of regression, not of advance in civilization; it will be a reversion to the days when our ancestors found in the monastic infirmaries a refuge from the insecurity of their wattle huts. In short, whatever reasons may exist for hoping that a rise in the standard of living will diminish the incidence of disease, there is every reason to fear that it will increase the incidence of treatment.

The Advancement of Science

The most reasonable hope for the diminution of disease may seem to lie in the advancement of science. The astonishing growth in our knowledge about the natural history of diseases is, however, no measure of the speed at which we are finding the causes of disease. Medical research is peculiarly obedient to the law of diminishing returns. In the first place, unlike most other sciences, which stretch forth into a boundless ocean, its sphere is very definitely circumscribed. In the last resort it is up against the inevitable; its concern is the postponement of a natural termination, and it is significant that in the new science of geriatrics we are interesting ourselves in the consequences of such postponement. We live in an age of increasingly

medicated survival. Secondly, our most dazzling successes have concerned those noxious agencies which differ biologically from, are extraneous to, human life rather than those which resemble or are inherent to it. Hence our triumphs have been greater over acute than over chronic ailments. Progress slows as we come to deal with the weaknesses of the flesh. The discovery of vaccination, though undoubtedly a stroke of genius, is a simple matter suited to the crude state of science then existing. Profound as was its effect upon society, the conquest of smallpox was achieved at a cost which was infinitesimal compared with to-day's expenditure on cancer research. Thirdly, humanitarianism, while being the main inspiration of medical research, at the same time imposes upon it severe limitations. While urging us to the strife it withholds from us the use of the most powerful weapons—wholesale slaughter and breeding from immune strains—which have proved so effective and economical in the hands of the agriculturist. For these reasons medical research has, of all forms of research, the least prospect of reaching its ultimate aim.

If this view appears unwarrantably pessimistic let us appeal to the facts and consider the effects of the fruits of research upon everyday clinical practice. Of the hordes of diagnostic tests in common use very few are, like the identification of the tubercle bacillus in the sputum, discoveries of the cause of disease. By far the greatest number are tests of consequences—tests, that is to say, of the reaction of the body to some infection or disturbance of unknown nature. For the most part these tests, however valuable they may be diagnostically, only determine by-results which are brought to light by scientific and sometimes fortuitous means. They are like the flotsam which, unseen in the roaring torrent but readily visible in the eddying pools, merely indicates that some disaster has occurred nearer the source. These tests have come to be used not merely to confirm a clinical diagnosis and to settle a matter of doubt but also to discover morbid conditions alleged, on grounds however uncertain, to be responsible or associated. Witness the tests required to discover or eliminate foci of infection said to be the cause of fibrositis. They are used to make a diagnosis doubly and even trebly sure, and to prove the absence of any other diseases—a process which multiplies as new diseases, new modifications of diseases, and resemblances between diseases are discovered. We dare not make a diagnosis of neurosis without using all the appropriate tests to eliminate beyond all shadow of doubt the organic diseases which it simulates, and with each test the patient becomes increasingly impressed with the reality of his complaint and prouder of its importance. Moreover, these tests are also employed at frequent intervals to gauge and control treatment, for the therapeutic seas into which we now venture are navigable only by the most vigilant flotage of the laboratory. The truth is that, at any rate in regard to chronic disease, cure is being more and more outstripped by treatment, and there is no sign that the situation will be reversed.

This prospect, ominous enough in itself, is rendered more ominous by the disturbing fact that advancing knowledge so often obscures rather than clears our vision. For many years radiological examination was held to provide reliable evidence of the existence or absence of a gastric ulcer. But now it is aimed that gastroscopy reveals ulcers invisible to radiology. It is the result, recorded in the *British Medical Journal* of Aug. 9, 1947 (p. 215), of an experiment in which the same x-ray films of the chest were submitted to five radiologists.

"The number of the full-size celluloid films found positive for tuberculosis varied from 59 to 100; altogether 131 films were described as positive. All five agreed that the film was positive in only 27 cases. Four were in agreement on 17 films, three on 17, two on 23, and in 47 cases only one observer described the film as positive. Further individual comparisons showed that from one-third to one-half of the films described as positive by one reader were negative according to the others. The radiologist with the smallest group of 59 positives had 31, 29, 37, and 14% of his positive films described as negative by the other four. The proportion of another reader's 100 positives labelled negative by the other experts varied from 42 to 50%.

The failure of the same individual to be consistent in judgement was even more astonishing than the variation

between different radiologists. All the films were assessed for a second time at a later date by the same five readers. The proportion of first positives regarded as negative on second reading by the same expert varied from 7 to 41%, and the proportion of the second positive readings which had been called negative on a first reading ranged from 6 to 19%. The radiologist who had 59 positives originally found an additional 23 on his second assessment, but missed 4 of his own first positives."

This makes depressing reading. We are left with the impression that modern methods, with their mounting cost and complexity, while valuable in establishing a diagnosis already made by simpler means, contribute little to the elimination of doubt and uncertainty. Scientific discoveries hailed on their first appearance as fresh triumphs over Nature lead to disillusion when their limitations are realized. Artificial aids to our senses make the boundary between health and disease vaguer instead of clearer. Does our reliance on them denote a lack of faith in ourselves? Does it mean that, in the words of H. G. Wells, mind is at the end of its tether? It is like the problem of the fens. The more these are drained, the deeper they sink, and the deeper they sink, the more they have to be drained, so that a time may come when the cost of drainage exceeds the value of the food grown on them.

If I appear to decry the value of research and to advocate empiricism let me say at once that nothing is further from my intention. There is a world of difference between the discriminating application of research on the one hand and, on the other, the routine performance of its technique by the unskilled and the self-confident interpretation of its results by the inexperienced. If a tree produces too much leaf we can, by ringing the bark, pruning the roots, or other device, restrain the sap and at the same time direct it to fruit-formation. Economic factors may force us to confine the prolific sap of science, without affecting its source, to the most productive channels. While encouraging genius we must make it clear that medicine is no place for the career-plugging of mediocrity.

The Fetish of Perpetual Expansion

We have unfortunately come to accept expansion as inevitable and unending. Nobody even visualizes a time when our hospitals will be emptied instead of crowded, when the conquest of disease will lead, as it logically should, to the diminution of disease. We go further and seem to assume that such expansion is something desirable in itself. We pride ourselves on the cultivation of virgin soil rather than on the harvest. Consider, for instance, the plans recently envisaged for the development of clinical photography (within certain limits a desirable thing). According to one of its enthusiastic advocates the department of the future must have a medically qualified director, an assistant director, two photographers who must also be trained nurses, a microscopist with additional training in photomicroscopy, a secretary, an instrument mechanic, a nurse, and a porter. Accommodation must consist of one large main studio, 40 by 20 ft. (12.2 by 6.1 metres), three subsidiary studios, 15 by 10 ft. (4.8 by 3 metres), three small studios for the photography of small objects, seven dark- and accessory-rooms, a secretary's office, a filming-room, a director's room, dressing cubicles, linen-cupboards, lavatories, storerooms, and a small surgery. This, we are told, would suffice for the first three years; after that extensions would be necessary. Among the users of the department would be the welfare department, which would wish to "show the return of a healthy glow to the cheeks of a convalescent." A second enthusiast tells us that medical photography must become "a subject in our medical schools on an equality with radiology." A third tells us that the staff will need a lengthy and complete training. Spaciousness, he says, would be necessary in order to counteract "the demoralizing effect of cramped quarters." But, one may ask, were Louis Pasteur, J. J. Thomson, and Gowland Hopkins demoralized by the cellars in which their best work was done?

This is perhaps an extreme case, but it illustrates an attitude of mind from which many of us suffer. Ambition in its most virtuous form impels us to raise ourselves higher from the ground on a pyramid of ever-increasing subordinates and accommodation. We measure our success by the material growth of the things which we create, forgetting meanwhile that in many human activities, such as increase of population and exploitation of new countries, this standard has had to be abandoned. We see limit, either actual or implied, in all directions; in the wide adoption of birth control, in the world shortage of many necessities, in the control of entry to the universities, and in the predetermination of the size of the new satellite towns. We can therefore hardly maintain our faith in the inevitability of perpetual expansion in the one feature of social life whose reduction is essential to the prevention of the reduction of everything else.

The Dependence of Medicine on Economics

The idea that medicine is immune from economic laws is fostered by several factors. First, in a commodity the need for which diminishes the capacity to pay for it the laws of supply and demand cannot operate. The cost of treatment having for the great majority of the population been removed from the sphere of domestic economy and transferred first to charity and later to the State, the consumer is a third party (the doctor) who, acting in the interests of the recipient (the patient), has therefore no interest in economic considerations. Spending all he is given, he appeals for more to the supplier, who is totally incapable of judging the degree of necessity.

Secondly, life is not, as it is sometimes believed, beyond price under all circumstances. Its value increases with the danger which threatens it. When the danger is imminent people are quite unreasonable; when involved in an accident they expect doctors and nurses to appear out of the blue. The great majority of the community have in fact set the value of their lives at a very low figure, for the 4d. or 6d. per week which is the most that can be extracted from them for specialist treatment under the contributory schemes is only a very small fraction of their expenditure on the cinema, football pools, and cigarettes. That the value of life is only relative is easily proved. The appalling toll of road accidents could be reduced to vanishing-point by a decree limiting speed to 10 miles an hour. We do not take this step because it would dislocate our commerce and (let us be candid) curtail our pleasure; we prefer to improve the treatment of the results of accidents.

Thirdly, in the healing art the heart as well as the head plays a part: it cannot be conducted in the matter-of-fact manner with which we cash a cheque at a bank. Patients have strong views of their importance and behave as though the world revolved around them. The public, while granting that the medical labourer is worthy of his hire, believe that under certain circumstances, such as a railway accident, humanitarianism must override financial considerations. Humanitarianism is, moreover, mixed with sentiment—a commodity which, however inexpensive and harmless it may appear, may have costly reverberations. When food distributors go on strike but graciously make an exception in favour of hospitals they make a bid for sympathy as illogical as it is mawkish. For the crocodile tears which they shed for the sick in hospital blind them to the sufferings of the sick in their homes, not to mention those awaiting admission to the hospitals and those recently discharged and in need of special nourishment. They overlook, too, the ill-health consequent upon the deprivation of food of which they are the cause.

The Economic Background

Since we can see no sign of any arrest of this accelerating expansion (let alone any reversal of the process) in stabilization of the population, in repair of past neglect, in improvement of social conditions, or in the advancement of science, and since such expansion is clearly incompatible with a contracting economy, we are forced to conclude that the limit will be determined by the available resources of man-power or cost, or both. The limit in man-power is already evident in the acute shortage of nurses, and shows signs of spreading to other sections. Improvement in the conditions of employment, however desirable, is no solution, for it only increases the cost and probably attracts less suitable entrants. Moreover, the labour market being limited, the shortage can be relieved only at the expense of productive work. As regards the cost, we must bear in mind that with the establishment of the National Health Service the State becomes a single *private* patient—John Bull. But whereas the individual private patient can deny himself the benefits of medical treatment or throw himself upon charity if the cost is beyond his means, John Bull must foot the bill. The question is, How much can he afford to pay? The answer depends upon three stark economic truths.

First, disease cannot be anything but a tax on national prosperity, however much it may benefit sections of the community. Secondly, the available resources, whether national or charitable, are only two—the surplus of agricultural produce and the surplus of exports over imports. In this country the first of these has long ceased to exist, and cannot return unless the population is substantially reduced. The absence of the second is now only too painfully apparent, but many still fail to realize that it is something far greater than a sudden and temporary calamity. It was predicted by Disraeli in 1847, and in view of the increasing industrialization of other countries it is extremely unlikely that we shall even approach the high-water mark reached on that day fifty years ago when the captains and the kings departed.

The third truth is that the standard of medical treatment is influenced by, and at the same time influences, the general standard of living. This reciprocal relationship arises from the fact that the purpose of medicine, which is the promotion of happiness and prosperity by the subjugation of ill-health, consists of two components, humanitarian and economic. Though these are interwoven in practice we must for our present purposes separate them. The humanitarian component is uppermost in the relief of suffering in the aged and infirm, though the economic component is also present if this relief is accompanied by a reduction in the number of those in attendance upon the recipients and their consequent liberation for productive work. The resources available for the humanitarian component are limited by personal or national income. What we can afford to spend may, and often does, fall short of what we should like to spend. This is a hard saying, but we live in a hard world.

Suppose that 100 patients suffer from a rare disease curable only by the use of a drug costing £50,000 per patient and that there is no prospect of this amount being reduced. The £5,000,000 required to save these lives would clearly be beyond the resources of the State, for it could be provided only at a sacrifice which would involve loss of efficiency and therefore loss of health to the whole community. As the State could hardly make an exception in favour of one patient no one would be saved. If, however, one patient were a millionaire he could save himself by writing a cheque for the amount. This hypothetical case

may seem fantastic, but it is only an exaggeration of what actually occurs. Recuperation in the South of France can be enjoyed by the few but is denied to the average citizen, although he is glibly promised the finest medical service in the world. Of the rare and refreshing fruit promised by Lloyd George not a single grape has assuaged any parched lips from National Health resources. A medical service provided by the State cannot be as efficient as that which the fortunate few can provide for themselves. In a beleaguered city there is a limit to which the defenders can share their rations with the infirm. If that limit is overstepped by dictates from the heart the defence is imperilled. The fear that we may have reached the danger mark is in the minds of those who now question the wisdom, from the national point of view, of the liberal allowance of milk to sufferers from dyspepsia. In regard to its humanitarian component, then, the standard of a national medical service is limited by the general standard of living. It cannot overstep that limit without adversely affecting national prosperity.

In the economic component the situation is the reverse, for here the standard of medicine directly influences the general standard of living. This component is typified in the youth who submits to the radical cure of hernia in the hope of the financial reward which will ensue from his increased efficiency. The benefit will not be confined to himself but will be felt by the whole community. Personal good becomes merged into national good. This fact indicates the amount which the State can afford to spend on the economic component. It must be less than the value of the improvement which is expected to accrue. It must show a profit in the long if not in the short run. We are often told of the annual loss of labour, expressed in man-hours, due to minor ailments, and the figures are indeed formidable. If this wastage can be reduced by research carried out centrally and capable of cheap application peripherally there is an economic gain. But if we rely on uncoordinated and ill-considered peripheral action the result may well be an economic loss. If, for instance, a hospital contemplates the establishment of an auxiliary service devoted to the economic component, the reason must be economically sound. It is not sufficient to say that other (probably larger) hospitals are doing it, nor can the question, "Can we afford to do it?" be met by the fatuous rejoinder, "Can we afford not to do it?" if by his is meant, "Can we countenance the loss of prestige if we don't?" Nor, again, is the step justified if, when established, the department is used because it is there, not because it is really needed. It may be justified in three ways. First, the improvement in treatment must result in an improvement in national efficiency—in the more rapid return of the worker to industry and in a lessening of expenditure on man-power in attendance upon patients after their discharge from hospital. Secondly, the work of the medical staff must be eased so that it can deal with the same number of patients in a shorter time, with the ultimate object of making fewer doctors necessary. Thirdly, research into the causes and treatment of diseases which reduce working capacity must be thereby facilitated. This admittedly a difficult criterion; it is sufficient here to state that it is applicable to only a few hospitals.

While I fully appreciate that in practice the humanitarian and economic motive cannot be separated, I am convinced that we cannot solve the problems which confront us unless we realize that national prosperity determines the humanitarian component and is largely determined by the economic component. The importance of the economic component is brought home to us only when man-power is short. Always implicit in the work of the military medical services, it is forced upon us for the first time during peace

by the stark reality of our plight. We must constantly bear in mind that every person engaged in medicine is a person lost to the production of food and exports. Medicine is now not only a humanitarian profession but also an indirectly productive trade.

Conclusions

If my philosophy appears unduly pessimistic my answer is that economics is notoriously a dismal science and cannot be otherwise when applied to medicine. Those who think that medicine is above economic laws are destined to have their illusion rudely shattered, for a limited and planned economy obviously cannot support a health service expanding with the acceleration which medicine now exhibits. I do not pretend that the suggestions which I have made touch the main problem: still less do I expect them to command universal assent. I shall be content if I have succeeded in stimulating a realization of the situation and the disastrous consequences of ignoring it. I foresee three dangers which are by no means remote. First, money and labour will be spent on trifling ailments to the detriment of those who are seriously ill. There are indeed signs that we have already reached this stage. My realization of this danger will, I hope, absolve me from any charge of displaying in what I have written an unsympathetic view of ill-health. Secondly, individual attention and mature thought will be replaced by routine performance and reflex automatism. Responsibility beyond their capacity will be delegated to subordinates and auxiliaries, with the encouragement of that form of self-confidence which never admits ignorance. The maintenance of a high standard of practice will be greatly imperilled. Thirdly, the threat to freedom of action in our dealings with patients, a threat which we so much dread, may be forced on us not by a thirst for official control but by sheer economic necessity. When limitation becomes imperative, as it certainly will, it is surely preferable that it should be self-imposed by those who have an intimate understanding of the subtleties of clinical medicine rather than enforced by those who have only a bureaucratic acquaintance with it. In the reconstruction of our distracted world the doctor will be called upon to play a vital part, a part transcending the mere technicalities of his profession, a part which will demand, as never before, the fullest exercise of his intellectual qualities and moral influence. We rightly dread any violation by the State of the sanctity of the doctor-patient relationship, but the preservation of this sanctity depends upon the full recognition by doctor and patient alike that individual health and national health cannot be dissociated, and that intelligent but at the same time unselfish regard for his own health is not the least contribution which every citizen must make to national prosperity.

Chiropody. Theory and Practice (3rd edition, Charlesworth and Wiles, 42s.), by Franklin Charlesworth, is already well established as a useful textbook among students and practitioners of chiropody. The issue of a third edition, largely rewritten and extended, shows that it meets a demand which is likely to increase with the growth of the auxiliary medical services, including chiropody, when the Health Service starts. If the new entrants to the profession absorb all the information and carry out the precepts given in this book they will indeed become worthy practitioners, for as its title implies it is a most comprehensive production ranging over anatomy, physiology, surgery, medicine, materia medica, and theoretical and applied chiropody. However, the author has been at some pains to determine that of such vast subjects only those aspects which are of direct interest to the chiropodist have been included. The student will find here just the information he requires to cover his examination syllabus. The medical practitioner who sees and is interested in minor foot disabilities will discover much useful guidance in this volume on the possibilities and limitations of chiropodial treatment. The book is well and clearly illustrated and the production is of a high standard.

THE HEALTH OF 407 NEW STUDENTS

BY

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The publication of three recent reports on the problems of student health indicates a growing interest in this subject. Investigations have been made by the British Medical Students Association and other student bodies (1944), the Social and Preventive Medicine Committee of the Royal College of Physicians (1946), and the Conference on Student Health organized by the Nuffield Foundation (1947). These reports call attention in general terms to the existence of a good deal of ill-health among the student population and point to the need for better facilities for dealing with it. So far, however, little detailed information has been published on the nature and extent of this ill-health.

Voluntary medical examinations for students entering the University of Sheffield were introduced in 1937 and made compulsory for all new students in 1942. The aim of the medical officers who conduct these examinations in the students' first or second term has been to discover any remediable cause of ill-health and to advise them on how to obtain the appropriate treatment.

The present report describes the state of health of a group of 407 students admitted to the University in October, 1946. In addition to the medical data, certain aspects of the students' social environment are discussed in their relation to health.

Methods

The general medical examinations were conducted by a team of medical first assistants, the dental examinations by the dental registrar, and the ophthalmological examinations by the ophthalmological registrars from the Royal Sheffield Infirmary and Hospital. In addition, the woman students had a haemoglobin estimation and the medical and dental students a full-sized chest radiograph. All the students had a private "health interview" with me at the end of the various examinations. At this interview any defect or disorder requiring treatment was discussed and the student was referred to his general practitioner or, sometimes, if he had no doctor in Sheffield, to the out-patient department of the Royal Sheffield Infirmary and Hospital. During the interview a family health history was obtained and questions were asked about the student's lodgings, travel to the University, recreations, work, and sleep.

Classification of Students

In presenting the results the male students have been separated into two groups: 157 students aged 20 years and over, nearly all of whom were ex-Service men, and 153 students under 20. This separation has been effected because the ex-Service group do not constitute a normal student population and have special socio-medical problems, as is shown later. The 97 women students have not been included, as only 18 were aged 20 years and over. There were 372 British students, 24 European, and 11 non-European.

In order to discover whether the health of the students was related to their previous social environment the records were classified according to the father's occupation. The Registrar-General's classification (1944) was adopted—Group I, professional and upper managerial; Group II, lesser professional and managerial, retail proprietors, etc.; Group III, black-coated workers and skilled artisans; Group IV, semi-skilled workers; Group V, unskilled labourers; Group VI, unclassified; Group VII, Non-European.

Table I shows the constitution of the student group by age, sex, and occupational category of the father. The largest proportion of students (34%) were from Group III.

TABLE I.—Age, Sex, and Social Groups of the Students

Social Group (Father's Occupation)	Men Under 20 (153)	Men 20 and Over (157)	Women (97)	All Students (407)
I Professional and upper managerial	15%	10%	19%	14%
II Lesser professional, retail proprietors, etc.	25%	25%	29%	26%
III Black-coated workers and skilled artisans	41%	27%	35%	34%
IV Semi-skilled workers	10%	2%	2%	5%
V Unskilled labourers	3%	2%	2%	3%
Unclassified	6%	27%	11%	15%
Non-European	—	7%	2%	3%

Only in the men under 20 was there an appreciable proportion (13%) from social Groups IV and V. The women students tended to come from a slightly higher economic stratum than the men.

The Findings Analysed

Table II shows the chief causes of defective health found in the new students.

TABLE II.—Chief Causes of Defective Health

Type of Disorder	Men under 20 (153)	Men 20 and Over (157)	Women (97)	All Groups (407)
Dental caries requiring treatment	75%	65%	76%	73%
Defective vision: corrected with glasses or needing correction	36%	36%	35%	37%
Postural and other orthopaedic defects	38%	27%	40%	34%
Minor anxiety states or depression	16%	29%	16%	20%
Nervous breakdown, marked introversion, psychoneurosis, epilepsy, hysteria, schizophrenia	8%	6%	7%	7%
Ear, nose, and throat: chronic nasal obstruction, sinusitis, enlarged or inflamed tonsils, partial deafness, discharging ear	20%	24%	25%	23%
Skin diseases: acne, furunculosis, epidermophytosis, eczema, dermatitis	13%	6%	7%	9%
Pulmonary disease: bronchitis, bronchiectasis, pulmonary fibrosis, asthma, emphysema	6%	4%	3%	4%
Endocrine disorders: enlarged thyroid, hypogonadism, obesity, undescended testicle	6%	2%	6%	5%
Cardiovascular disease:				
Mitral stenosis	2%	1%	1%	1%
Essential hypertension	2%	2%	—	1%
Hypochromic anaemia (under 85% Haldane)	—	—	3%	—
Miscellaneous: varicose veins, dyspepsia, migraine, varicocele, hydrocele, hernia	1%	3%	5%	2%

Dental Caries.—This was easily the most common disorder—73% of all the students required treatment for this condition. A smaller proportion of the ex-Service group required treatment—65% compared with 75% and 76% in the other two groups. This did not reflect a lower attack rate of dental caries among the ex-Service group, but a greater amount of previous dental treatment. The attack rate, obtained by adding to the number of students with active dental caries those who had fillings but no caries, was 96% in the men under 20, 98% in the men 20 and over, and 93% in the women. The attack rate of dental

TABLE III.—Showing the Relationship between the Incidence and Extent of Dental Caries Requiring Treatment and the Social Grouping

Social Group	No. in Group	Incidence of Active Dental Caries	Average No. of Fillings Needed per Mouth	Average No. of Extractions Needed per Mouth
I	55	72%	1.45	0.60
II	107	74%	2.50	0.29
III	132	72%	2.20	0.34
IV and V	30	83%	3.50	0.87
Unclassified	62	59%	2.66	0.61
Non-European	11	55%	1.34	0

caries did not vary significantly from one social group to another, but both the incidence of untreated caries and the extent of the disease increased in the lower economic groups (Table III). It seems probable that financial considerations had prevented some of the students from the poorer social groups from obtaining dental treatment. The dental condition of the non-Europeans was better than that of any of the other groups.

Visual Defects.—Defective vision was second in order of frequency: 36% of the whole group had myopia, 31% had hypermetropia, and 3% had mixed astigmatism. In 37% (150 students) the defect was such as to require spectacles for its correction. Of these 150 students 100 were already wearing correct spectacles, 40 had incorrect spectacles, and 10 had no spectacles. There was no relationship between the incidence of visual defects and social grouping.

Orthopaedic Defects.—Some orthopaedic defect was present in 34% of the students. Most of these were postural defects of the spine or flat-foot. Their incidence is shown in Table IV. Postural spinal defects were commonest in

TABLE IV.—Incidence of Different Types of Orthopaedic Deformity

Orthopaedic Abnormality	Men under 20 (153)	Men 20 and Over (157)	Women (97)	All Students (407)
Minor spinal deformities (scoliosis, kyphosis, lordosis)	22%	12%	15%	16%
Flat-foot	13%	10%	18%	14%
Miscellaneous	10%	7%	19%	12%

the men under 20 and flat-foot was commonest in the women students. Two students had orthopaedic defects requiring operative treatment. Most of the orthopaedic abnormalities found were due to lack of muscle tone and physical development, and could perhaps have been prevented by better previous physical education. They emphasize again the value of adequate and easily available facilities for athletics, sports, and gymnastics as a positive contribution to student health.

Mental Health

In the reports already mentioned attention has been drawn to the frequency with which minor psychological disorders are found among students. The present investigation confirms this. All the assessments of mental health were made by me after interviewing each student. Variations in assessment due to the personal factor were therefore minimized. Some 20% were found to be suffering from minor anxiety states or depression. Table V shows that the incidence of anxiety was remarkably similar in the three main groups of students.

TABLE V.—Anxiety States and Depression (mostly minor in degree)

	Men under 20 (153)	Men 20 and Over (147)	Women (95)	All Students (395)
Anxiety states	15.0%	16.3%	14.7%	15.4%
Depression	0.7%	12.3%	1.05%	5.05%
Total	15.7%	28.6%	15.75%	20.45%

It is worth while to consider the possible causes of these anxiety states. The occupation of the student is unique so far as it is probably the only one in which those who follow it are repeatedly subject to formal tests of their fitness to continue the work. Fear of failing to pass these tests of "fitness" provides one of the main psychological stresses to which students are subject. For the present generation, further penalties may be added to examination failure, such as the loss of grants, calling up for national

service, and the end of a university career. One of the manifestations of anxiety recorded was the presence of insomnia. This was marked as present if the student lay in bed more than an hour before he went to sleep or if he habitually lay awake in the night for an hour or more—34 (9%) had insomnia of this degree.

A large number (28%) of the students were "only" children, and the proportion of these increased steadily from the higher to the lower economic groups (see Table VI). It would appear that among children from

TABLE VI.—"Only" Children

Social Group	No. in Group	Percentage of Only Children
I	52	11.5
II	93	27.5
III	134	34.2
IV and V	30	59.0
Unclassified	53	13.8
Total	357	23.3

poorer families those without brothers and sisters have a better chance of reaching university than those from larger families. This type of student—the only child from a poor family—is especially likely to feel a heavy burden of responsibility and indebtedness towards his family which may add to his anxieties.

The following excerpts from the students' health records briefly illustrate how some of these anxiety states in students can develop.

A. B., aged 18. Father died 10 years ago. Mother goes out to work; one brother and one sister. States he is "worried about getting thrown out" if he fails his exams. Works every evening, including Sundays.

C. D., aged 28. Was in Services for 6½ years. States he has no time for recreation. Suffers from insomnia; takes an hour to get off to sleep. "It's all this studying. It's a strain getting back to work again after all this time in the Army."

E. F., aged 33. No time for recreation. "I'm not letting up on myself: I've got to complete this course. I work on at night till I can't work any more."

Depression was twelve times as common in the ex-Service group as in the other two groups of students. The interviews suggested that the chief cause of the relatively high incidence of depression in the ex-Service group was the difficulty these students experienced in adjusting themselves to civilian life. Many of them had occupied active and important positions in the Forces, and some were not unnaturally dissatisfied with what seemed to them the relatively unimportant role of a university student. Of the ex-Service group 25% were married, and half of these had children. To these responsibilities were added the difficulties associated with finding accommodation for their families in or near the city.

In addition to the cases of mild anxiety states and depression eight students were diagnosed as psychoneurotics, two as hysterics, 14 were markedly introverted, one had had a recent nervous breakdown, one suffered from epilepsy, and two showed evidence of early schizophrenia. Many of the students with the minor anxiety states and depression will probably lose these as they become adapted to university life and succeed in proving to themselves that they are adequate for the tasks before them. It is among the psychoneurotics and schizophrenics that the long-term problems are to be found.

Organic Disorders

Organic defects and disorders have been classed as major if they were considered likely to prevent the student from participating fully in university life, and minor if they were not sufficiently serious to do that.

Some major organic disorder was found in 9%, and in this group pulmonary conditions were the most frequent, accounting for nearly half. Five students had chronic bronchitis, five asthma, four bronchiectasis, four pulmonary fibrosis, and one emphysema. Most of the group stated that their illness had started with a previous attack of pneumonia. They illustrate the chronic invalidity which too often follows this disease. Next in importance came the group with cardiovascular disease. Four students (1%) had mitral stenosis and four had essential hypertension (blood pressure 150/100 or above). It is worth recording that 35 students (9%) had innocent cardiac murmurs and three had persistent albuminuria for which no cause could be found. No case of pulmonary tuberculosis was discovered among the 76 medical and dental students who underwent chest radiography or in the remaining 331 students at the general medical examination.

Among the women students and men under 20 major organic disorders were more common in those from the lower economic groups than in those from the higher groups. The men over 20 were of course a physically selected group. Six of the 19 men under 20 (33%) from social groups IV and V suffered from a major organic disorder, compared with 9% in the whole group of students. Of these six students two had mitral stenosis, one bronchiectasis, two chronic bronchitis, and one asthma.

In 40% a minor organic disorder, excluding dental caries, defective vision, and orthopaedic conditions, was found. These mostly consisted of affections of the ear, nose, and throat, or of the skin. Some 23% suffered from chronic nasal obstruction, sinusitis, enlarged or inflamed tonsils, partial deafness, or discharging ear; 9% had skin conditions such as acne, furunculosis, epidermophytosis, eczema, or dermatitis. These skin conditions occurred twice as often in men under 20 as in the other groups (Table II).

The average haemoglobin value of the 95 women tested was 98.6 (Haldane). Three cases of hypochromic anaemia were found, however, with values of 68, 80, and 84. After treatment with iron for six to seven weeks these values became normal—102, 96, and 102% respectively.

Examples of minor disorders of the endocrine glands were not uncommon, especially in the younger groups: 6% of the men under 20, 6% of the women, and 2% of the ex-Service group had conditions such as diffuse enlargement of the thyroid, hypogonadism, obesity, or undescended testicle. There appeared to be no relationship between the incidence of minor disorders and social grouping.

Conclusions

A considerable proportion of the 407 students examined had some physical or psychological defect or disorder. Although in most cases these disabilities were not serious, they were sufficient to reduce the efficiency and well-being of many students. The findings indicate that in the development of student health schemes, in addition to medical examinations of new students, provisions for the active medical treatment and supervision of university students need consideration. The high incidence of dental disease and defective vision points to the need for special provisions with regard to these conditions. A medical officer in charge of student health may expect to be frequently consulted by students on account of anxieties often disguised by some physical complaint such as vague pain in the chest. If he is to treat them successfully it is essential that he should be interested in them not only as patients but also as individuals who are developing rapidly and are not infrequently subjected to considerable physical and psychological strain.

The treatment of postural and other orthopaedic defects is the question of the value of compulsory physical

education such as has been introduced for freshmen in at least one British university: Routine haemoglobin estimations on women students followed by treatment of the cases of hypochromic anaemia discovered is a worth-while procedure.

There will probably always be students who enter university with serious and permanent physical handicaps such as mitral stenosis or bronchiectasis. A students' health service and the initial medical examinations should not be used to exclude such students, but rather by advice and careful supervision it should enable them to make the best use of their university career.

Finally, student health centres could become valuable field stations for university departments of social medicine. In them, for example, studies of normal variations in structure and function could be made, and methods developed for the early detection and prevention of disease in the young adult population.

Summary

The results of the compulsory medical examinations of 407 new students are presented.

Dental disease, defective vision, postural faults, and minor psychological disorders were the commonest conditions found.

The various factors contributing to the development of anxiety and depression in students are discussed together with some aspects of the students' social environment.

The need for the further development of student health services to include the provision of medical and dental treatment when required is re-emphasized.

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The second edition of Mr. Harry Hill's *Pasteurisation* (H. K. Lewis, 21s.) is to be welcomed. Most of the faults of the earlier edition have been remedied, and numerous illustrations and figures have been included to clarify the sections on plant design and control. The size of the book has been nearly doubled. There is an interesting description of the Hemming-Howell heating unit for the treatment of milk churns on the farm, though it would be interesting to know more about the effectiveness of this method under practical working conditions. Like most idealists, the author favours the adoption of the "in-bottle" method of pasteurization, and he forecasts the adaptation of the H.T.S.T. process to the heat treatment of milk in bottles. Whether he is on such safe ground in recommending the increased use of irradiated milk is more doubtful; the possible danger to adults of consuming unlimited quantities of vitamin D is not considered. This book can now be recommended without hesitation to those who want to learn something about the methods of carrying out pasteurization and the subsequent treatment of pasteurized milk. It is, however, alarming to be told in the preface and again on p. 229 that "all methods of pasteurization carried out in this country are not satisfactory." This general condemnation is surely unjustified, and we hope that what the author really means is that not all methods of pasteurization are satisfactory. Perhaps an alteration to this effect might be made in the next edition.

THE RECOGNITION OF TOXICOGENIC BACTERIAL STRAINS IN VITRO

BY

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The detection of toxicogenicity *in vitro* has not in the past proved a practical proposition for routine purposes, and this paper is concerned with a new technique which, it is believed, makes this possible. In diagnostic bacteriology most pathogens are recognized by their cultural and biochemical properties, and are finally characterized by serological study of their antigenic structure. In those groups of organisms which produce disease through the agency of exotoxins the surface antigenic pattern is of little diagnostic use, and final recognition is effected by specific serological neutralization of the toxin in a susceptible experimental animal. Clearly a rapid test is required to bring exotoxin-producing organisms into line with those which can be identified serologically. Technical difficulties have, however, prevented the use of *in vitro* toxicogenicity for diagnostic purposes. The lecithinase action of the alpha toxin of *Clostridium welchii* is an exception to the rule that toxins rarely produce convenient effects *in vitro*. Flocculation of diphtheria toxin with its homologous antitoxin was first demonstrated by Nicolle, Césari, and Debains in 1920 and is widely used for titration of antitoxin (Ramon, 1922), but the procedure in its original form is too complex for routine identification of toxicogenic strains.

Petrie and Steabben (1943) introduced a technique for the identification of the pathogenic clostridia of gas-gangrene in plate cultures. Crude specific antitoxic serum was incorporated in an agar-base medium designed to yield abundant toxin production. After prolonged anaerobic incubation the plates were left at room temperature, and under these conditions a ring of opacity developed around the colonies of a toxicogenic strain in the presence of the homologous antiserum. The zone of opacity was shown by the plate microscope to consist of Liesegang rings, and was accepted as a specific reaction.

The same workers attempted to employ this technique for the recognition of toxicogenic strains of *Corynebacterium diphtheriae*, but the results were unsatisfactory. Repetition of their experiments suggested to me three main reasons for the failure. In the first place, isolated colonies produce only minute amounts of toxin even after prolonged incubation. Secondly, as flocculation occurs only within a narrow zone, and as both toxin and antitoxin excess may inhibit the reaction, it is necessary to adjust the antitoxin content of the plate most carefully; strain variations in toxicogenicity make it very difficult to gauge the antitoxin concentration so as to be within the optimum range. Thirdly—and this is perhaps the most serious difficulty—certain aerobic and anaerobic organisms may produce a zone of opacity around their colonies when grown in serum-agar media. Clearly this non-specific reaction may lead to erroneous interpretation, especially as a number of strains of *C. diphtheriae* produce concentric rings irrespective of whether they are toxicogenic or not. The methods described below were devised to overcome these difficulties and to place in the hands of laboratory workers a technique which it is hoped will find a useful routine application.

The New Technique

In working out this technique three principles have had to be considered: to obtain maximal and rapid toxin

production: to produce an antitoxin gradient in the medium so as to give a reaction with varying toxin concentrations; and to provide non-specific serum constituents in sufficient quantity to make the flocculation reaction easily visible. The nutritional and gaseous requirements for rapid toxin production in most toxicogenic organisms are well known. In the case of *C. diphtheriae* a modified Pope's medium was found suitable, whereas for staphylococci a slight modification of Walbum's medium proved satisfactory. Inoculation in the form of a wide streak will yield *pari passu* with increased bulk of growth far more toxin than a single colony. The minimum length of incubation can be determined only by experiment: it is the shortest time which will reveal all virulent strains as toxicogenic.

The required antitoxin gradient can be achieved by the simple method of placing on the surface of the medium a strip of filter paper moistened with commercial antitoxin in suitable dilution. The concentration of antitoxin at any point on the plate is determined by the laws of diffusion

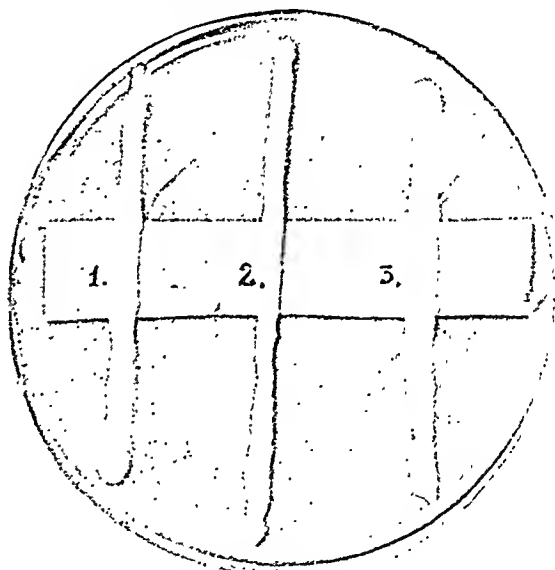


Fig. 1.—Completed test with corynebacteria. Strain 1=positive control; strain 2=non-toxicogenic; strain 3=toxicogenic.

governing this complex system, and varies from a maximum (corresponding to the concentration of the antitoxin used) to a minimum in the part of the plate most remote from the strip. In order to provide non-specific serum constituents in sufficient quantity to make flocculation reaction easily visible it has been found better to incorporate 20% normal horse serum in the medium rather than to rely on the constituents of the crude antitoxic serum, which diffuse at a different rate from the immune globulins.

If the organism to be tested is inoculated in the form of a wide line at right angles to the filter paper the toxin produced by the organism will diffuse out in descending concentrations, just as the antitoxin diffuses from the filter strip. In these circumstances the points of optimum proportions for toxin-antitoxin reaction fall on a continuous line, and the flocculation which occurs along this line provides striking graphic representation of the law of optimal ratios. On each side of the inoculum a white line develops at an angle, so that a toxicogenic strain becomes virtually marked with an arrow-head (Fig. 1).

The principles outlined above have been adapted for the examination of *C. diphtheriae* and staphylococci, and the special procedures for these organisms are detailed below; the technique, however, should be capable of adaptation for any toxicogenic organism—aerobic or anaerobic. Furthermore, it is possible that substances diffusing from bacterial cultures, but not commonly regarded as exotoxins, can also be used for purposes of recognition if suitable antisera are employed.

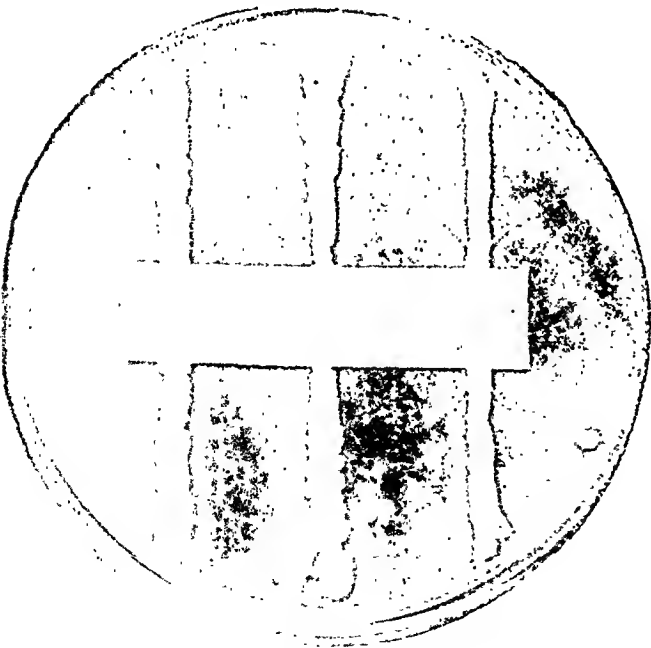
Method for Examination of *C. diphtheriae*

Materials.—The medium is prepared by dissolving 4 g. of protose-peptone ("difco"), 0.6 g. of maltose, and 0.14 ml. of lactic acid (B.P.) in distilled water. The volume is made up to 100 ml. and the pH adjusted to 7.8. A 3% solution of agar in 1% sodium chloride is cleared by filtration through paper pulp and its reaction is adjusted to pH 7.8. It is further clarified by treatment with charcoal, and again filtered through pulp. Equal parts of the peptone and agar solutions are mixed together and distributed in 10-ml. quantities, which are sterilized by steaming for 30 minutes on three successive days. The antitoxin used is refined diphtheria antitoxin globulins (Burroughs Wellcome and Co.) diluted with physiological saline to a concentration of 1,000 units per ml. The filter-paper strips are prepared from sheets of good quality filter paper (Postlip 633 was used). This is cut into strips measuring 6 by 1.5 cm. and these are placed in a plugged test-tube and sterilized in the hot-air oven.

Procedure.—Plates are prepared by melting 10 ml. of the medium, adding 2 ml. of sterile normal horse serum, and pouring into 3½-in. (8.75-cm.) Petri dishes. A sterile filter-paper strip is now dipped in diluted antitoxin, and after excess antitoxin has drained off it is laid across the surface of the freshly poured plate and allowed to sink into the medium while it is still fluid. The plate is then dried thoroughly in the incubator and should be used the same day. The organisms to be tested are inoculated by a loop in the form of a wide streak right across the plate. Three or four such streaks are readily accommodated on a single plate, and each set should include a known toxiceogenic strain as a positive control. The plate is incubated and examined after 24 and 48 hours.

Results

A positive reaction is denoted by the appearance of fine white lines forming an arrow-head within 1/2 in. (1.25 cm.) of the filter paper and pointing towards it. It makes its appear-



ance after about 22 hours' incubation in some strains, and in its earliest stages has to be sought with a hand lens. It is best seen by reflected light against a dark background. After 48 hours the arrow-head is easily visible to the unaided eye by transmitted light. A completed test is shown in Fig. 1.

If the plates are left at room temperature the density of the lines gradually increases, but secondary lines may develop which possibly represent the interaction of bacterial substances diffusing out from the growth with antibodies corresponding to them present in the serum. The presence of such antibodies may be assumed from the fact that the material used for the immunization of animals contains numerous substances in addition to the toxin itself. These secondary lines may appear with both toxicogenic and non-toxicogenic strains, and with the latter might lead to difficulty in interpretation. If, however, the final readings are made directly after 48 hours' incubation no confusion arises from this cause, as several days at room temperature are required to bring out the secondary lines. Even then they are very soft, and their detection usually requires the aid of a lens.

The plate shown in Fig. 2 demonstrates that the opacity produced in serum media by certain strains of corynebacteria is independent of toxin production. The strain on the left shows opacity and the arrow-head denoting toxin production; the strain in the middle shows the opacity but no toxin-antitoxin line. The right-hand strain (the positive control) shows the arrow-head only. On standing at room temperature these opacities lose homogeneity and become distributed in the form of concentric denser and clearer areas resembling Liesegang rings. Clearly the development of rings cannot be accepted as proof that a toxin-antitoxin reaction is taking place.

Results of Tests on 20 Strains of *Corynebacteria*

Strain No.	Origin and Type of Organism	Animal Virulence Test	In vitro Test	
			24 hrs.	48 hrs.
1	W.I. No. 77	Virulent	+	+
2	Diphtheroid, St. Geo. Hosp.	Avirulent	—	—
3	W.I. No. 90	Virulent	+	+
4	L.C.C. 11680, gravis	"	+	+
5	L.C.C. 11674, gravis	"	+	+
6	St. Geo. stock, gravis	"	—	+
7	L.C.C. 12224, mitis	Avirulent	—	—
8	L.C.C. 12151, mitis	"	—	—
9	L.C.C. 12494, gravis	Virulent	+	+
10	L.C.C. 12511, gravis	"	—	+
11	L.C.C. 12594, mitis	Avirulent	—	—
12	L.C.C. 12595, mitis	"	—	—
13	L.C.C. 12597, mitis	"	—	—
14	N.C.T.C. 3985, gravis	Virulent	—	+
15	N.C.T.C. 3986, gravis	"	+	+
16	N.C.T.C. 3988, intermedius	"	—	+
17	N.C.T.C. 3989, mitis	"	—	+
18	L.C.C. 12825, mitis	Avirulent	—	—
19	L.C.C. 12826, gravis	Virulent	+	+
20	L.C.C. 12828, mitis	"	+	+

W.I. = Wellcome Institute.
L.C.C. = London County Council, Southern Group Laboratories.
N.C.T.C. = National Collection of Type Cultures.

The accompanying Table shows the results obtained with this test on 20 strains of corynebacteria, all but one of which (No. 2) gave typical morphological and cultural characters of *C. diphtheriae*. Of the 13 virulent strains eight showed a positive reaction in 24 hours, while with the remaining five the reaction became positive only after 48 hours' incubation. None of the seven avirulent strains showed a positive reaction after 48 hours.

Method for Examination of Staphylococci

With the staphylococci ability to form a toxin is clearly not the sole factor determining virulence, since these organisms invade the body. Nevertheless a simple procedure for the detection of toxicogenicity might well prove to be of value for both clinical and experimental purposes. The staphylococcal toxin-antitoxin reaction can be recognized in an agar plate was shown by an accidental observation made in 1944 on a routine plate (Fig. 3). A method similar to the one described for the diphtheria bacilli was devised and tried in a small number of cases.

Materials.—The medium used consists of heart-infusion broth (difco) to which 0.2% potassium acid phosphate (KH₂PO₄) and

0.03% magnesium sulphate ($MgSO_4$) are added. Both salts are used crystalline. The pH is adjusted to 6.8, and the broth, which is somewhat yellow, is clarified with charcoal. Agar is now added to a concentration of 1.5% and the medium filtered and clarified in the usual way. It is distributed in 10-ml. quanti-

to 32 strains of staphylococci. Of these nine were obtained from the fingers or were obviously contaminants on plates, and only one—an *aureus* strain obtained from the hand of a laboratory worker—gave a positive result in 48 hours. Ten strains, being obtained in pure culture from typical staphylococcal lesions, were assumed to be pathogenic, and nine of them gave positive results in 48 hours. The remaining 13 strains were obtained in the course of routine work from various sites and three of them failed to give a positive reaction.

Discussion

The application of these methods has not yet reached a stage at which detailed discussion of the results would be profitable, and the object of this paper is to present the new *in vitro* technique and to indicate directions along which development is possible.

Clear-cut results have been obtained with a small series of *C. diphtheriae* strains, and they show that there is a high correlation between *in-vitro* toxicogenicity as detected by this test and the so-called "virulence" as detected by the usual guinea-pig test. It is a generally accepted fact that pathogenicity is not a good basis for bacteriological classification, as virulence is not a permanent intrinsic property of a given species. It is, however, precisely this point which is of paramount interest to the medical bacteriologist: to him a non-virulent strain is not a "true" representative of the species, and is indeed the worst nuisance, since its unimportant character is revealed only after lengthy investigations, involving animal experiments. Animal tests have numerous disadvantages in a routine laboratory, and it is hoped that the *in-vitro* test may well prove of practical value on account of its great simplicity and the relatively short time needed to obtain the result.

Once an organism has been assigned to the *Corynebacterium* group on morphological grounds and grown in pure culture the test can be applied without investigating the biochemical properties of the strain and without classification as regards its type, as the specificity of the reaction with diphtheria antitoxin is axiomatic. Theoretically not every toxicogenic strain need be virulent. If this differentiation really does exist between the *in-vitro* and the animal test a larger series of parallel tests should reveal this. As, however, every virulent strain is by definition toxicogenic, from the utilitarian point of view there is no source of error in the test. Clearly, further work is needed to establish whether or not this test can be relied upon to replace the accepted virulence tests in practice.

The results with the staphylococci are less well defined, but here again there is high correlation between a positive test and clinical pathogenicity. In addition to the possible use of the test in clinical bacteriology the procedure may prove to be of value in investigating the diffusible products of staphylococci. The multiplicity of lines developing with the positive strains suggests the presence of several interacting substances and clearly requires further study.

Without substantial modification the same technique can be used for the identification of the anaerobes by means of their specific toxins. The technique should also be capable of wide application to other groups of organisms by investigating diffusible antigenic substances produced by the culture but not usually regarded as exotoxins.

Summary

The principles of a new technique for the *in-vitro* detection of bacterial toxicogenicity are outlined.

Tests utilizing these principles and adapted for examination of *C. diphtheriae* and staphylococci are described.

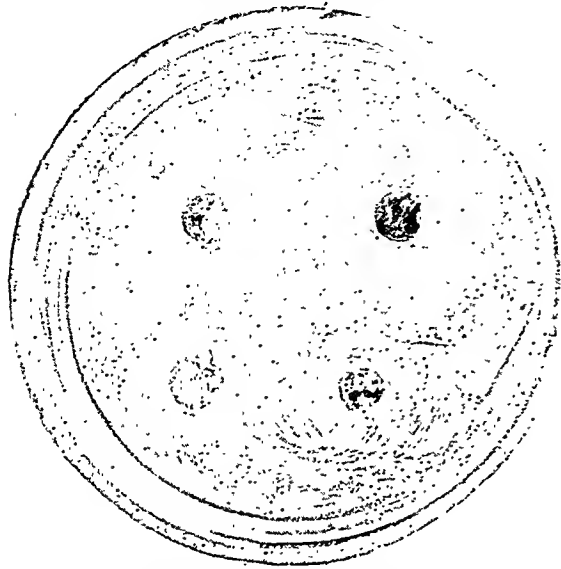


FIG. 3.—Routine plate showing staphylococcal toxin-antitoxin reaction. Plate inoculated with patient's strain of *Staph. aureus*. Upper cups contain penicillin solution (1 and 5 units per ml.); lower cups contain pus from patient's abscess—the left shows presence of penicillin and a ring believed to be a toxin-antitoxin reaction.

ties in tubes and sterilized in the autoclave. For antitoxin refined staphylococcal antitoxin globulins (Burroughs Wellcome and Co.) are employed, diluted so as to contain 1,000 units per ml.

Procedure.—This is precisely as in the former method, except that normal horse serum is not incorporated in the medium, as its addition was not found to improve the reaction. Readings are taken with a lens after 48 hours' aerobic incubation. The effect of incubation in an atmosphere of carbon dioxide was not tried.

Results

The lines which form with toxicogenic strains are multiple and are fainter than those formed with *C. diphtheriae*, so that their presence has to be sought with the aid of a hand lens. A typical plate is shown in Fig. 4. The test has been applied

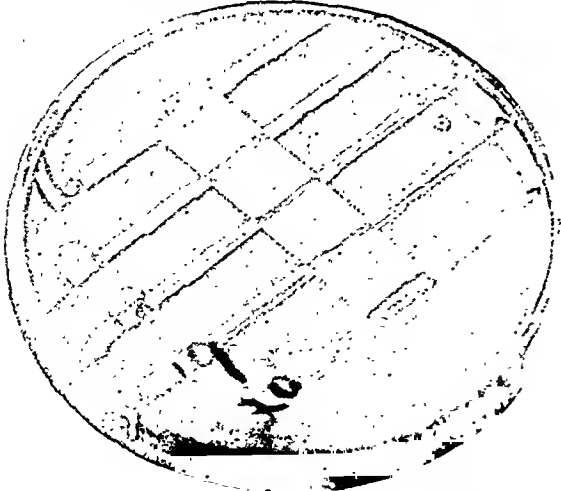


FIG. 4.—Completed test with staphylococci. All strains show multiple line formation.

Results with a small number of strains show a high correlation with the results of animal virulence tests in the case of *C. diphtheriae* and with clinical pathogenicity in the case of staphylococci.

The possibilities of wider application of the technique for both clinical and experimental purposes are discussed.

I wish to express my thanks to Dr. Theo. Crawford for his help in the preparation of this paper, and to Dr. J. E. McCartney for kindly providing some of the *C. diphtheriae* strains used and for carrying out the virulence tests. I wish also to thank Mr. T. W. Shaw for technical help.

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SPERANSKY'S METHOD OF SPINAL PUMPING IN RHEUMATOID ARTHRITIS

A REVIEW OF FOUR CASES

BY

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The recent interest shown in Speransky's method of treating rheumatic cases by means of "spinal pumping" make it worth while to report four cases of rheumatoid arthritis which were treated in this way and followed up for a year. Speransky (1935) gave reasons for his belief that the nervous system played an important part in acute and chronic disease. Ponomareff and Tchechkoff (1927) and Jowelew (1930) studied the passage of antibodies through the blood-stream barrier of the spinal cord in rabies and attempted by spinal pumping to break it down.

The operation, which consists in withdrawing and replacing 20 ml. of spinal fluid slowly twenty times, takes about an hour. The spinal fluid in each of our cases was sterile, and laboratory tests showed no abnormality. The only reactions were vomiting in one case, and a transient rise of temperature in another. Spinal pumping is not an easy procedure to carry out in cases of active rheumatoid arthritis, for the patients find it difficult and painful to get into a suitable position for lumbar puncture.

Speransky claimed good results with this treatment in malaria and typhus, and also in the rheumatic diseases. He treated 100 cases of "polyarthritis" by spinal pumping, giving intensive salicylate therapy before and after, and found that of 52 patients with their first attack of rheumatic fever 70% appeared to show complete recovery. Of 15 cases of chronic arthritis, 4 were reported recovered, 9 improved, and 2 unchanged.

Later the Gullman brothers (1946) issued an account of their trials of spinal pumping, and interest was reawakened in the subject. They reported good results in 36 cases of subacute rheumatism following rheumatic fever and in 22 cases of chronic arthritis which had failed to respond to gold and physiotherapy. In 12 of these chronic cases there was great improvement, with a return of the sedimentation rate to normal in two weeks; in the remaining 10 the condition was unchanged. After the spinal pumping they noted a rise in skin temperature, and visible dilatation of the peripheral skin capillaries which lasted for days. No unpleasant side-effects were encountered, such as severe headache and vomiting, and, in one

case with hypertension, death due to multiple cerebral haemorrhages followed the third pumping. After publication of that report it was decided to try spinal pumping in the following cases of rheumatoid arthritis which had failed to respond to more rational methods.

Case 1

A hospital sister aged 54 had had arthritis for a year. It had spread rapidly to her hands, wrists, feet, knees, and elbows in the last six months. She was admitted on June 18, 1946, with clinical rheumatoid arthritis—afebrile. Radiographs revealed generalized decalcification with loss of joint space. A blood examination showed: red cells, 3,850,000; Hb, 70%; white cells, 5,500; differential count normal; W.R. negative; uric acid, 2.6 mg. per 100 ml.; sedimentation rate, 25 mm. in one hour (Westergren), which rose to 40 mm. in the next five weeks. Treatment with "myocrysin," salicylates, 1,000,000 units of penicillin, complete bed-rest, and plasters brought no improvement, and as she was rapidly becoming crippled it was decided to carry out spinal pumping. This was performed on Aug. 1 after a preliminary course of 10 g. of salicylate in 24 hours. The C.S.F. pressure at the onset was 180 mm., and at the end 70 mm. Salicylate, 10 g., was given during the next 24 hours. Five hours after pumping the patient complained of feeling "burning hot, especially in the forearms and feet," though there was no rise in general or skin temperature and no demonstrable capillary dilatation. This lasted for 12 hours. The joints then improved, and in a month the sedimentation rate had dropped to normal and the patient was up, walking, and free from pain. She proceeded to a convalescent home.

In February, 1947, the B.S.R. was 5 mm. In September, 1947, it was 8 mm., and she was doing light work, typing and playing the organ with some difficulty, and having to take three or four "veganin" tablets a week for pain in her wrists and ankles. There was a moderate degree of deformity and crippling, though it was no worse than in August, 1946. She had had no treatment since October, 1946. Radiographs showed no change from August, 1946.

Case 2

A Polish housewife aged 54 had suffered from intermittent arthritis in the knees, wrist, and hands for 20 years. It had been much worse in the last six years, since she had come to England. In spite of physiotherapy and gold injections at the B.R.C.S. Clinic, Peto Place, her condition had got worse. When admitted on Aug. 18, 1947, she was crippled with rheumatoid arthritis and had been unable to walk for two months. The

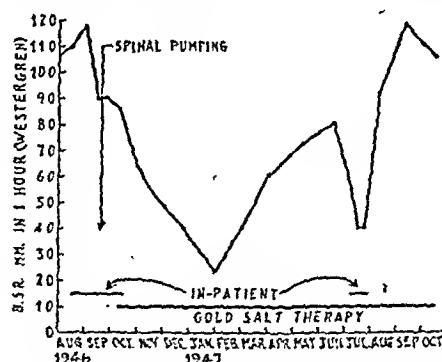


FIG. 1.—The blood sedimentation curve in Case 2.

B.S.R. was 110 mm. in one hour (Westergren); blood uric acid 2.5 mg. per 100 ml.; Hb, 83%; white cells, 7,200.

Spinal pumping was carried out on Sept. 6. Salicylate was not given before or after. The C.S.F. pressure was 180 mm. After 10 withdrawals the pressure dropped to 35 mm. and the pumping was stopped. A reaction similar to that of Case 1 came on six hours afterwards, with a feeling of heat in forearms and legs lasting 12 hours. She had a general fever of 100° F. (37.8° C.), but no demonstrable capillary dilatation. During the next week the joint condition improved, and four weeks later she was discharged. Fig. 1 shows the course of

her B.S.R. She has been treated as an out-patient with myocrisin. The patient was readmitted on July 7, 1947, for active rheumatoid arthritis. The B.S.R. was 55 mm. Further spinal pumping was tentatively suggested, but was refused. She still has an active rheumatoid arthritis, but is able to get about and do some housework.

Case 3

A housewife aged 48 was admitted on Aug. 30, 1946, for clinically active rheumatoid arthritis with effusions in the knee-joints. The history was of rapid onset of arthritis involving the hands, wrists, elbows, and knees two months before. The temperature was 99° F. (37.2° C.), and the B.S.R. 45 mm. Radiographs of the hands revealed general decalcification and reduction in joint spaces. Blood examination showed: uric acid, 2.8 mg. per 100 ml.; red cells, 4,350,000; Hb, 64%; white cells, 10,000. This patient refused gold treatment and requested to have spinal pumping, as Case 2, whom she knew, had improved so much.

Spinal pumping was carried out on Sept. 19, 1946, 10 g. of salicylate being given before and after. The C.S.F. pressure at the beginning was 180 mm. and at the end 160 mm. This patient had the same feeling of warmth at the periphery as Case 1, but with no demonstrable signs. Forty-eight hours later the joints were much improved, and a week later she had full movement and no pain, but the B.S.R. had risen to 85 mm. Twenty-five days later she was discharged, the B.S.R. being

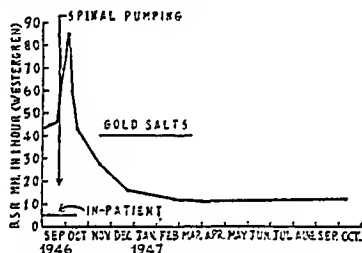


FIG. 2.—The blood sedimentation curve in Case 3.

45 mm. Fig. 2 shows her B.S.R. curve. She attended as an out-patient and had myocrisin till March, 1947, when the B.S.R. was 11 mm. On Oct. 10, 1947, she was doing full housework and had no pain or limitation of movement; the B.S.R. was 12 mm.

Case 4

An engineer aged 40 had for eight months been feeling ill and losing weight, with pain and swelling which started in the left great-toe joint and spread rapidly to the feet, right hip, knees, and right wrist. He had been treated elsewhere with injections of a local analgesic and manipulation of the right hip, but had steadily got worse. On March 21, 1946, he was pale and emaciated, with commencing ulnar deviation of the hands, limited movements of the hands and feet, and much muscle spasm. He had synovitis of the left knee and his ankles were swollen. The B.S.R. was 70/100 in one hour (Westergren); Hb, 73%; white cells, 11,600; blood uric acid, 2.6 mg. per 100 ml.

He was admitted to hospital, and for 10 weeks was treated with rest, plasters, gold, and blood transfusion. There was considerable improvement, but the rheumatoid arthritis was still active and the B.S.R. was 65 mm. As he was very anxious to get back to work he was offered spinal pumping in the hope that it would hasten the improvement. This was carried out on Oct. 1, 1946, after 10 g. of sodium salicylate had been given. Pressure at the beginning was 140 mm. and at the end 210 mm.

The patient was a trained scientist, and he kindly noted his reactions for us:—At operation: "No discomfort and no back-ache when it was over." First day: "Woke with violent headache and nausea and felt hot all over. Throughout the day experienced quite involuntary movements of the joints—i.e., sudden jerk of knee-joints or ankles or shoulders." Second day: "Still hot and having involuntary joint movements." Third day: "All reaction over." On discharge from hospital two weeks later: "On the whole no marked

change." Some joints were less painful, others more so. There was no rise in temperature after the pumping and the B.S.R. was unchanged.

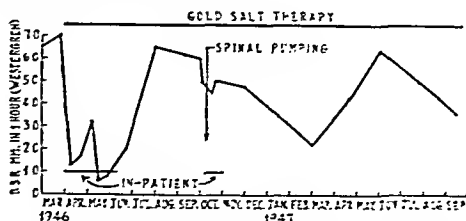


FIG. 3.—The blood sedimentation curve in Case 4.

The patient continued to have gold as an out-patient and steadily improved. He has gained 1 st. (6.35 kg.), is back at work, and is fit enough to swim, though he still has pain in one shoulder, elbow, and wrist. Fig. 3 shows his B.S.R. curve.

Comment

It may be of some interest to include the views of the patients themselves as to the efficacy of this treatment.

Case 1 slowly became quiescent after the pumping and has remained so. We were quite impressed with her improvement at the time, though it was not so dramatic as other writers had recorded, and the disease has remained quiescent. A year later the patient "does not believe the pumping had anything to do with it."

Case 2 still has very active rheumatoid arthritis. When readmitted to hospital a year later a further pumping was tentatively suggested, but she refused.

Case 3 requested this treatment and is convinced that it cured her. Certainly the disease is still inactive a year later, and the small amount of myocrisin (0.14 g.) which she had afterwards is not alone likely to have had this effect.

Case 4, whom we consider the most accurate observer, recorded "no marked change."

Discussion

No conclusions regarding the value of this treatment can be drawn from such a small number of cases. We saw no sign of dramatic improvement such as a return of the B.S.R. to normal in two weeks as recorded by the Gillmans in their 12 cases of chronic arthritis. All our patients described the same type of reaction as that noted by the Gillmans—that is, a subjective feeling of heat coming on a few hours after the operation and lasting up to 48 hours. In three it was most pronounced at the periphery. We were, however, unable to observe any objective sign of this, such as a rise in skin temperature or peripheral or orbital dilatation of vessels. Rheumatoid arthritis is an extremely difficult disease in which to assess the value of any particular treatment, because its natural history shows periods of remission and relapse.

All the cases were under the care of Dr. W. S. C. Copeman, and it is a pleasure to record my indebtedness to him for encouragement in carrying out the treatment and in writing this report.

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According to the October number of the British Red Cross Society's *News Survey*, an American in Washington before the war who acted as a blood donor for the Red Cross was subsequently wounded at Tarawa and was given a transfusion of plasma. On glancing up from his bed to look at the bottle he was astonished to see that its label showed the plasma was his own.

DIVERTICULITIS PRESENTING AS EMPHYSEMATOUS CELLULITIS OF LEG

CLINICAL REPORT ON TWO CASES

BY

R. L. G. DAWSON, F.R.C.S.*Assistant Surgical Registrar*

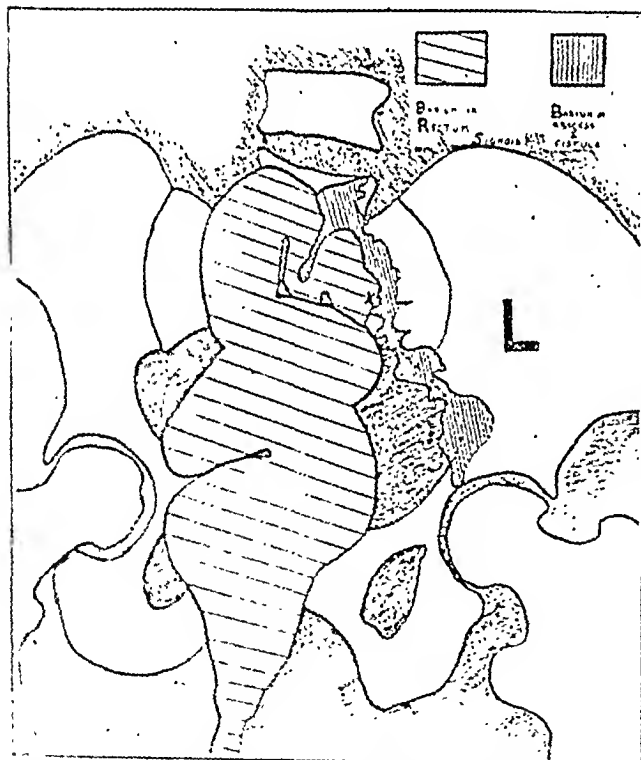
AND

R. H. HARDY, B.M., B.Ch.*House-Surgeon**University College Hospital, London*

A case of diverticulitis of the large intestine which presented as an emphysematous cellulitis spreading down the leg from the left groin is considered of sufficient general interest to merit recording. This occurred in a patient under observation for another condition. A similar case which occurred in the hospital in 1908 has been recalled by a senior member of the staff and is also recorded.

Case History

Mrs. C., aged 73, was admitted on Nov. 30, 1946; for excision of a rapidly growing tumour of the skin of the lumbar region. This was removed by wide excision down to the lumbar fascia, the exposed area being left to heal by granulation. The tumour was found on section to be a benign neurofibroma. She had never had any gastro-intestinal symptoms. On Jan. 27, 1947, while awaiting skin-grafting, she developed an attack of pyrexia,



Tracing of antero-posterior radiograph of barium enema, showing rectum full of barium. Abscess and fistula leading from it. X marks the site of obstruction.

the temperature reaching 102° F. (38.9° C.) on Jan. 31. The pyrexia was associated with backache, diarrhoea, vomiting, and some difficulty of micturition. By Feb. 4 the temperature had subsided, and thereafter remained subnormal. On Feb. 6 the patient developed a painful, tender, deep-red swelling in the left groin. This was considered to be an inguinal abscess, and as such was being treated expectantly with local heat until it should fluctuate. This did not, however, happen. The swelling developed into a rapidly spreading cellulitis which soon involved the left lumbar region, spread laterally almost to the midline, and anteriorly almost to the midline, and for a few inches down the anterior aspect of the

thigh. The swollen area was crepitant to palpation and covered with bullae containing blood-stained fluid.

On Feb. 8 the swelling was incised under general anaesthesia, with liberation of large quantities of very foul-smelling, frothing sanious pus from the deeper subcutaneous layers. In the course of wide excision of the affected area a track was found leading over the brim of the pelvis, just lateral to the mid-inguinal point, into the pelvic retroperitoneal tissues. A provisional diagnosis of gas-gangrene was made, and, although no clostridia were seen in a direct smear, appropriate specific treatment was started at once. Culture ultimately showed the infection to be due to *Bact. coli* and *Str. faecalis*. No further pyrexia occurred, and the local condition responded rapidly to intensive local and general treatment.

On Feb. 13 the previously defined track became the site of a faecal fistula which persisted intermittently until death. Discharge of pus from the area was controlled with sulphasuxidine and later with phthalyl-sulphathiazole supplemented with riboflavin and nicotinic acid. By March 1 the patient's general condition had improved sufficiently to permit examination by barium enema, on which the radiologist reported as follows: "Barium passed normally through the rectum into the first part of the sigmoid. There was an irregular filling defect past which the barium would not flow. It outlined an irregular fistulous track running down towards the left groin. The film taken after evacuation is suggestive of the presence of diverticula of the colon." The films are unfortunately not good enough for publication, but a tracing from one antero-posterior view is shown in the accompanying illustration. On March 14 a sigmoidoscope was passed to 20 cm. and showed no abnormality.

Owing to the persistence of the fistula and to recurrent attacks of subacute intestinal obstruction a colostomy was considered necessary, and laparotomy was performed on April 11. A large mass was found in the region of the sigmoid attached to the side wall of the pelvis, with several loops of small intestine adherent to it. The gut proximal to these adhesions was dilated and hypertrophied. In attempting to free them from the mass a small abscess was inadvertently opened. Transverse colostomy was performed through a transrectal incision, the abscess being drained through the midline laparotomy wound. The patient died two days later from general peritonitis.

The post-mortem findings were as follows: "The pelvis was almost entirely occupied by a large mass involving the sigmoid colon. Connected with the lumen of the gut were numerous diverticula, which were infected and haemorrhagic. The gut wall in this region was extremely thick, with mucoid or gelatinous deposit producing great deformity of the lumen. About 6 in. (15 cm.) of gut was thus involved, and there was no evidence of carcinoma."

The 1908 Case

In spite of the lapse of time since its occurrence, this case is recorded because of the rarity of the condition and its close similarity to the recent case. The 1908 case was referred to by Barrington and Gardham (1932), but was not fully reported.

Mr. S., a hotel-keeper aged 52, was admitted under Mr. Barker in a moribund condition on June 3, 1908. He came in at 1 a.m., with a diagnosis of intestinal obstruction and emphysematous gangrene of the leg. The patient's doctor supplied a history of moderately severe pain on the left side of the abdomen for two days and reported that "a lump could be felt here, but that nothing could be felt by rectum." The pain was first in the hypochondrium but later in the iliac region. The patient had been unwell for five days. He had had diarrhoea and vomiting but no constipation; he had also suffered greatly from eructations for some time.

On admission he was pale and rather cyanosed. Respiration was 42 a minute. The pulse was rapid and could hardly be felt at the wrist, and the heart sounds were scarcely audible. The abdomen was distended, but the patient said that he was always stout; it was not rigid or tender, and was resonant all over except for some slight impairment in the left flank. The left leg was blotchy and cyanosed in colour, cooler than the right, and the sense of touch with the finger was absent all over it. The pulse in the left dorsalis pedis and femoral arteries could

not be felt, but on the right side they were distinctly palpable. The patient complained of great pain in the left leg, which was partly relieved by elevating the leg and applying leeches.

In the left thigh there was a superficial crepitant sensation resembling surgical emphysema. This was limited sharply above by Poupart's ligament, but, below, the margin was not definite, extending down to the knee in some places. The patient was very restless; the dyspnoea gradually increased, and he died at 4.15 a.m.

The post-mortem report mentions the dark-red colour of the lesion, the large bullae projecting from the surface, and the involvement of the left side of the scrotum. Culture from the leg post-mortem gave several organisms, chiefly *Bact. coli*. *Bact. aerogenes capsulatus* was not present. "Thrombosis of the veins of the leg had occurred; the muscles of the thigh—iliacus and psoas—were involved in the gaseous necrosis. The intercostal muscles were also involved. The whole of the retroperitoneal tissues on the left side of the abdomen were full of a liquid brownish pus. There was a thick adhesion between the descending colon and the retroperitoneal tissues, and in this there was a recent perforation. In the large intestine there were numerous small pockets of mucous membrane bulging into the peritoneal cavity. There was no obstruction of the large intestine."

A diagnosis of "sacculization of the large gut, stercoral ulceration, perforation, and emphysematous gangrene of the leg" was made.

Summary

Two cases of diverticulitis presenting as emphysematous cellulitis of the leg are described, one in a woman and one in a man. Points of similarity between the cases are set out. In the first case the patient developed the clinical manifestation of the underlying disease while in hospital for another reason; she ultimately died of peritonitis following a therapeutic colostomy, in spite of prolonged and intensive general and local treatment. The second patient was admitted in a moribund condition and died of the immediate and very far advanced sepsis.

Our grateful thanks are due to Mr. A. J. Gardham for encouragement and permission to publish the first case, to Mr. F. J. F. Barrington for references to the second, and to all who have in any way assisted in the preparation of this account.

REFERENCE

Barrington, F. J. K., and Gardham, A. J. (1932). *Clin. J.*, 61, 337.

RECURRENT RENAL LITHIASIS

BY

A. DICKSON WRIGHT, M.S., F.R.C.S.

Surgeon to Out-patients, St. Mary's Hospital

The condition of recurrent renal calculi associated with infection has been a urological bugbear for a very long time, and the apparently satisfactory outcome of the following extreme case seems to render it worthy of record.

Case History

The first operation was done by the late Girling Ball in 1936, when the patient was aged 24. An oval stone was removed from the pelvis of the left kidney, and infection with *Bacterium coli* was present at this time.

The subsequent ten operations were performed by me during the next ten years, and are summarized diagrammatically. Never during this time was she free from gross pyuria, and *Streptococcus faecalis*, *Bacillus proteus*, staphylococci, and *Pseudomonas pyocyanea* found company with the *Bact. coli* of the first occasion. The patient suffered much misery from recurrent attacks of renal colic associated with fever together with renal aching nearly all of the time. Naturally every method was used to try to overcome the infection—ketogenic diet, mandelic acid, sulphonamides, penicillin, N.A.B., etc. The stones were always a mixture of phosphates and seemed to be unaffected by reducing calcium intake and drinking large amounts of distilled water. Calcium metabolism was carefully checked and found normal.

After some of the later operations small tubes were left in the infected calices and irrigated continuously for two weeks

with various solutions, G1, G2, associated with sulphonamide solutions and penicillin. On two occasions a ureteric catheter was left in the ureter and the irrigating was done through this with a nephrostomy tube for outflow. All these methods were in vain, the infection in every case reappearing before the patient had left the hospital, and the stones rapidly forming soon after.

With the last two operations streptomycin was used systemically for two days before the operation, and the urine for the

Nov., 1936



Feb., 1940
Calculus Anuria



March, 1940



Oct., 1941



Sept., 1942



May, 1943



Oct., 1943



Nov., 1944



June, 1945
Nephrectomy



Streptomycin

Oct. 5, 1946



Streptomycin

Oct. 8, 1946



Dec. 22, 1946



first time for ten years became sterile. Four stones were removed, and radiographs taken during the operation with a small oral film inserted into the depths of the wound visualized no stones. A radiograph on the second post-operative day showed two small calculi still present, so the wound was reopened and these were removed by the device of drawing half a small dental wool roll on a silk thread from the pelvis through the diseased inferior calices. Streptomycin was used for seven days in all—1,000,000 units daily in three-hourly doses—and the diseased calices were also irrigated with streptomycin solution—1,000 units per ml.—for seven days after the operation.

Six months later the urine is clear of infection and the kidney of stone, and the patient is free from symptoms.

Medical Memoranda

Central Placenta Praevia with Premature Rupture of Membranes

The following case is of sufficient practical importance to merit publication.

CASE HISTORY

Mrs. A., aged 45 and separated from her husband, had had three normal pregnancies before the age of 30; thereafter she suffered from severe menorrhagia, which was relieved by curettage and removal of a fibroid polyp; hysterectomy had been advised on account of fibroids, but conception temporarily removed her symptoms. Her fourth pregnancy was illegitimate and unwanted, and she was due for confinement on May 19, 1947. Irregular bleeding began in the early months, and there was a severe haemorrhage at 28 weeks; after three weeks in bed there were three more attacks in a fortnight, and she was admitted on April 9 in her 34th week, following her fifth haemorrhage.

On examination she was seen to be somewhat anaemic, the haemoglobin amounting to 62%. The uterus was not contracting and there was no vaginal loss. A foetus equivalent in size to 34 weeks' pregnancy was presenting by vertex (not engaged) and with regular heart sounds. There was no oedema, albuminuria, or rise of blood pressure. Speculum examination of the cervix disclosed no local cause for bleeding.

A provisional diagnosis of placenta praevia was made; a conservative regime was adopted in view of prematurity and the patient confined to bed. Two days later, however, the membranes ruptured, with copious loss of clear liquor, and 48 hours later contractions started. These increased steadily for 20 hours, during which period there was no bleeding, the presenting part remained high, and no pelvic examination was made. Brisk haemorrhage eventually ensued, and preparations were made for vaginal examination under an anaesthetic; but caesarean section was not seriously contemplated, since the foetus was six weeks premature, the membranes three days ruptured, and the placenta presumed to be well away from the os.

Delivery.—Under thiopentone anaesthesia examination showed a soft cervix rather less than half dilated and completely covered by thick placental tissue; the presenting part was high, but was easily palpated through the anterior fornix. Two fingers were passed up between placenta and anterior lip of cervix to re-rupture the membranes and fasten two pairs of Willett forceps on to the foetal scalp; the placenta was pushed back, the head drawn down, and 1 lb. (0.45 kg.) traction weight secured to the forceps handles. Surprisingly little haemorrhage attended these manoeuvres, but there was sufficient loss to warrant blood transfusion. Four hours later a stillborn child weighing 4 lb. 13 oz. (2.18 kg.) was delivered. The placenta failed to separate, and after 1½ hours of slight bleeding the patient was again anaesthetized. An attempt at expression was unavailing, and manual removal was undertaken. The placenta was found on the posterior wall, the upper part separating easily; but inferiorly it was densely adherent to the lower segment and cervix, from which it could be clawed off only with great difficulty and much loss of blood. The patient's condition became critical; the lower uterine segment was packed with gauze, and a total of 5 pints (2.84 litres) of blood was given before satisfactory recovery ensued.

DISCUSSION

The pathology of the condition was undoubtedly an imperfect placental development in the lower part of the uterus (partial accretal, with morbid adhesion more or less all round the internal os). Thus the membranes must have bulged round the anterior placental border to rupture at the least-supported spot, while subsequent dilatation of the cervix was considerably hindered and bleeding relatively slight. The practical importance of the rupture of membranes was to give an unwarranted trust in vaginal delivery and to trust to vaginal delivery. This policy was apparently endorsed by the early freedom from bleeding but hastily condemned by the difficulty and danger of the third stage. The morals that may be drawn are two: ante-partum haemorrhage is a potential caesarean section until the labour has passed through the cervix; and a patient with ante-partum haemorrhage may die of postpartum haemorrhage if delivered vaginally.

A note of thanks is due to Mr. Kenneth MacMillan for his permission to publish this case.

W. G. MITTS, F.R.C.S., M.R.C.O.G.,
Reading Surgical Officer,
Birmingham Maternity Hospital.

Occupational Dermatitis Occurring in Transplanted Skin

The following case of occupational dermatitis occurring skin graft to a finger may be of interest to casualty surgeons and to dermatologists—to the former as a complication of technique, and to the latter as a factor in the aetiology of occupational dermatitis.

CASE REPORT

The patient, a man aged 38, had been employed for some 20 years as a wet grinder of brake drums and other car components, sustained an injury to the soft tissues of the dorsum of the terminal phalanx of the right ring-finger. Superficially there was no skin, nail, and part of the nail bed, and, more deeply, the tendons of the extensor digitorum longus was divided and the bone lacerated.

At operation in hospital the damaged tissues were repaired, the lost skin made good by the application of a cross-arm flap, the upper extensor aspect of the left forearm; it was noted that the medial and lateral neurovascular structures were intact. Recovery was uneventful, and six weeks after the date of injury the patient returned to his original job without having been subjected experimentally to the exact working conditions of the job, his hands were continuously bathed in a dilute solution (varying 5 to 10%) of washing soda.

Twenty-four hours after starting work a vesicular eruption appeared over the area of the grafted skin, and after attempting to carry on the next shift he reported sick. When examined the condition of the graft was noted to be as follows. A whole skin graft covered the dorsal aspect of the terminal phalanx of the ring-finger. The graft had taken well, and a definite small area delimited its extent. The whole of the skin-graft area showed a erythema, and a few scattered vesicles were seen. The surrounding skin was normal. In addition there were areas of desquamation where vesicles had broken down, showing increased erythema of the underlying tissue layers. The transplanted skin contained follicles, and the openings of these were prominent and distinct. The whole appearance was compatible with a localized occupational dermatitis due to contact with a mild irritant fluid.

Daily treatment with a simple zinc-and-tar lotion and a dressing was immediately instituted, and arrangements were made for the patient to be placed on dry work. The condition cleared after one week, and at the time of writing (some four weeks after the man's return to work) he is on a job under dry conditions but being given a further contact trial.

DISCUSSION

This man had never previously shown any reaction to washing solution, with which he had been continuously in contact for 20 years. It is presumed, therefore, that the irritant factor was the contact between sensitive skin—i.e., from the upper part of the forearm—and the soda solution, which was both a mild irritant and a macerating action. The skin was only six weeks old, and it is probably correct to assume that the blood supply was still inadequate.

The chance of an occupational dermatitis occurring in skin grafts should be borne in mind by surgeons and by medical practitioners when certifying a man as fit to return to his pre-accident job. Industrial medical officers and those in charge of skin clinics should recognize its possibility, and arrange for slow initiation, under supervision, of skin-graft cases in contact with industrial irritants.

The reaction in this case was to dilute alkaline solution, one of the less common skin irritants met with in industry. The distended condition of the hair follicles following contact indicates that in carrying out skin grafts on the hands of machineists casualty surgeons should consider the possibility of taking skin from a less hairy area than the extensor surface of the forearm, thus reducing the risk of infiltration of the follicles with industrial solutions.

Prosser White (*The Dermatogoses*, 4th ed., 1934, p. 10) states that, "apart from the activity of the irritant and the sensitivity of the nervous system, liability to injury depends upon whether the skin is normal in structure and healthy in function." In the case of transplanted skin it is likely that six weeks vascularization is still incomplete, and therefore the powers of recuperation from continued low-grade chemical trauma are less than those of normal skin.

C. H. HOSKYN, M.B., B.Ch.

Reviews

ZEST IN OLD AGE

Old Age. Its Compensations and Rewards. By A. L. Vischer. Foreword by Lord Amulree, M.D., F.R.C.P. (Pp. 200; illustrated. 12s. 6d.) London: George Allen and Unwin. 1947.

In the ages of mediaeval Christian faith a "good death" was regarded as the crown of life (not necessarily always of a good life). Nowadays, surely, a healthy old age, with true "ripeness" and preservation of the intellect, has a just claim to be called the crown of an active and well-spent life. Among the many (including some brilliant) medical and philosophical books and essays on old age there is not one, so far as I know, really similar to Dr. Vischer's. Dr. Vischer, who has had exceptional opportunity at Basle for a long and obviously sympathetic study of old persons, gives us the result of his experience and study regarding their physical and psychical peculiarities and infirmities, their mental life, and how best to make them comfortable and happy in the feeling that they are still really playing a useful part in life.

Paediatrics, in spite of considerable opposition, gained recognition as a medical specialty, and now, with the greatly increased proportion of old persons among the public, geriatrics can no longer be denied a place.

When about 20 years of age I once had the privilege of sitting at dinner next to the warm-hearted Sir James Paget. He questioned me on how I spent my holidays, and then he gave me to understand that I was one of those who preferred "change of work" to mere rest or amusing games—I suppose he included the strenuous pursuit of hobbies under "change of work." Change of work doubtless gives a temporary holiday to groups of brain cells—according to the ideas admirably put forward by the late Sir Farquhar Buzzard (1928), quoted with approval by Dr. Vischer (p. 192), and these ideas should be remembered in the management of some of the troubles of late middle age and commencing senescence. Old persons should not be discouraged from making harmless experiments in regard to way of life (including diet), if they find that for a time their vigour and zest in life are thereby increased.

One need scarcely mention that when long periods of continuous physical and mental work become impossible the experience of old persons is often still so useful that they should be recognized as advising, or consulting authorities (not "sleeping partners"). For instance, in our medical profession they might often be made active "consultant diagnosticians" to hospitals and institutions where they were formerly on the regular visiting staff.

The clear wording and admirable translation of Dr. Vischer's book should be specially noted, but not the least feature is its wealth of references to sparkling and appropriate epigrammatic sayings and discussions by previous writers of all kinds bearing on a subject which, perhaps next to love and death, offers itself most readily to literary artists. One piece of advice from early mediaeval Christianity (not included in the book) I once stumbled on—namely, the last two lines of a letter by Paulinus, Bishop of Nola, early in the fifth century (eleventh volume of Migne's *Patrologia, series latina*, column 184): "Vive, precor [another version gives "Vive diu"], sed vive Deo: nam vivere mundo Mortis opus; vera est vivere vita Deo." In the widest possible humanistic spirit I think one should interpret these lines: "Live long the fullest life you can, but live as rightly as you are able to; for to do wrong is death's work: to act rightly is the true life to God."

F. PARKES WEBER.

THE GROWING CHILD

The Child from Five to Ten. By Arnold Gesell, M.D., and Frances L. Ilg, M.D. In collaboration with Louise Bates Ames, Ph.D., and Glenna E. Bullis. (Pp. 475. 18s.) London: Hamish Hamilton. 1947.

In this volume, now in its second edition, the authors discuss the same children as in previous volumes—*The First Five Years of Life*, 1940, and *Infant and Child in the Culture of*

Today, 1943. The study is chiefly longitudinal through seventeen age levels and ten major fields of behaviour, but cross-sections are summarized for the sake of clarity. The study is clinical rather than statistical and experimental, and the behaviour was observed, so far as possible, in the natural setting of school and home. It must be remembered that a child is growing all the time and not at an even rate in all respects, so that a certain cross-section cannot be regarded as normal for any particular child. Nevertheless, a growth gradient and tendency can be discerned as a general pattern of normality.

The age of 5 to 10 lies between the dramatic years of infancy and adolescence and has so far been rather neglected. The present study shows that it has distinctive and important characteristics peculiar to it. Besides marked physical growth there is a surprising mental advancement which, while showing a general progress towards maturity, may not proceed evenly and may even retrogress from time to time. When large numbers are studied the curve of progress smooths out, so that the stage reached by the individual in respect of particular activities and skills can be estimated at any age. Thus we may learn how a particular child needs help or encouragement. To bring up a child successfully the parent and teacher need consideration, a sense of humour or proportion, and a "philosophy of growth"—that is to say, an idea of how the average child develops and what should be looked for at any particular stage. The danger of divided loyalties for the child must be avoided by maintaining a close relationship between parents and teachers.

In the second part of the book the authors describe "behaviour profiles" reached at each successive year from 5 to 10, especially in relation to ten maturity traits and gradients of growth—namely, motor characteristics, personal hygiene, emotional expression, fears and dreams, self and sex, interpersonal relations, play and pastime, school life, ethical sense, philosophic outlook. In the third part they trace the development of these maturity traits through the first ten years of life, though since individual children develop at different rates parents should not be alarmed if theirs has not reached a particular stage at a certain age. From this part of the book, however, it is possible to discover what the average child is likely to be doing at any given stage of development. For example, we can learn how and when a child responds to reason, how his relations with other children change, his interests in sex develop, his conception of God emerges, and so on.

This book will be of great value to parents and teachers, doctors and nurses, and all those concerned with children. For it is interesting to read and useful for reference. Any work done in the Yale clinic of child development, of which Dr. Gesell is the director and Dr. Ilg a prominent member of the staff, is reliable and thorough. A balanced study of childhood is especially important in these days, for "the intrinsic charm and goodness of childhood still constitute the best guarantee of the further perfectibility of mankind."

R. G. GORDON.

POLIOMYELITIS

On the Problem of Poliomyelitis. An Epidemiological Statistical Study. By Bertel S. Son Bertenius. (Pp. 212. No price given.) Lund: Carl Bloms Boktryckeri A.-B. Acta Pathologica et Microbiologica Scandinavica Supplementum LXVIII. 1947.

The author of this publication presents a valuable collection of official statistics and other records of poliomyelitis in many countries, his analysis covering a number of problems. In this review we can only summarize some of his arguments. Large epidemics and an increase in the prevalence of poliomyelitis have been noted only in this century and at first particularly in Sweden, Norway, and the U.S.A. There was a stationary period during the first world war, but in the 1920's the increase was resumed and the population of Iceland, New Zealand, and Australia were affected. Countries with a high incidence of poliomyelitis have low infantile and general mortality rates and a high standard of living. The seasonal incidence has a constant maximum in autumn. Analysis of Swedish and American figures shows that this may be related to climatic conditions, but the reason for it has not yet been elucidated.

The shift in age incidence to older people is contrary to the trend of other infectious diseases in Sweden, which conform to de Rudder's "Law of Age Precession." The shift has occurred to a different extent in different countries and during a high

prevalence in some and a low prevalence in others. Although attack rates in rural districts are often higher than in towns, the reverse has been true in some countries, and Swedish figures show several indications that the attack rate is not inversely related to population density. In Sweden also the case fatality rate is higher in towns than in country districts and highest among people aged 20 to 60 years. These findings lead the author to conclude that immunization by subclinical infections plays no part in determining the incidence of poliomyelitis. He refers to experiments by other workers showing that deficiencies of diet increase the resistance of monkeys and mice to poliomyelitis virus and suggests as a working hypothesis that a predisposition of the individual human being, probably produced by social factors, is a necessary antecedent to acquiring poliomyelitis.

A. M. McFARLAN.

DIGESTIVE TRACT

An Introduction to Gastro-Enterology. A Clinical Study of the Structure and Functions of the Human Alimentary Tube. By James Dunlop Lickley, M.D. (Pp. 143; 21 illustrations. 8s. 6d.) Bristol: John Wright and Sons, Ltd. 1947.

The author's aim is to present a simplified account of the structure and functions of the gastro-intestinal tract which senior students or recently qualified practitioners may use as an introduction to the study of digestive disorders. He first carefully describes the salient features of the anatomy of the intestines. He then gives a chapter on physiology, though, as he says, this is simplified by the selection of certain details for description and the omission of many others. The author then proceeds to describe and elaborate his main thesis, which is that the signs and symptoms of disease of the digestive tract are mainly produced by the actions of the defence mechanisms by which the intestines deal with abnormal situations. Such a conception takes us from the realm of facts to that of hypothesis. For instance, he considers that the increased resting juice found in pyloric stenosis is necessary "to fill the dilated stomach and so enable the impaired gastric muscles to adjust their grip on the stomach content."

It is, however, by his account of the practical clinical applications of his theory that the author is likely to lead the senior student furthest astray. He classifies diseases of the stomach into acute or chronic, generalized or circumscribed mucositis, myositis, or serositis. Such a division is surely an oversimplification, and he is wise not to keep too closely to this nomenclature. Nevertheless, he succeeds in describing and explaining the pathogenesis of the symptoms of peptic ulcer (chronic circumscribed mucositis) in a very few pages.

The author attempts too much and achieves too little. As a manual of gastro-enterology his book contains too little fact and too much theory; as an exposition of the author's particular thesis it suffers from being too simplified and from an absence of verifiable evidence to support an original conception.

CHRISTOPHER HARDWICK.

FAR AND WIDE

Nothing New Under the Sun. By J. P. Lockhart-Mummery, M.A., F.R.C.S. Illustrations by William Wood. (Pp. 178. 12s. 6d.) London: Andrew Melrose, Ltd. 1947.

Mr. Lockhart-Mummery has drawn on his experience, his travels, and his reading, scientific and otherwise, to produce this attractive little book of essays, which are linked by having in common a scientific or historical background. A random selection from the titles—"Fighting Fish of Siam," "How was Man Evolved?", "Why do Dogs like Bones?", "Hormones," "Quacks and Charlatans," "D.D.T.," "What was the Biggest Fertilizer?" gives some indication of the range he covers. The author has an attractive eager style that takes the reader with him in his enthusiasms. He is at his best when considering historical subjects like "The Good Old Days," least satisfactory as an exponent of evolution. The proof reader has made a few mistakes, such as automatically for anatomically on p. 13, and Cheselden for Choselden on p. 124. The book is generally readable. It is attractively produced, and the illustrations by William Wood are a delight to look at.

HELEAGE OGILVIE.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received.]

Méthodes Statistiques en Médecine et en Biologie. By E. Morice et al. (Pp. 177. 480 francs.) Paris: Masson and Cie. 1947.

Textbook of statistics for medical workers.

Die Prophylaxe des Verbrechen. By Heinrich Meng et al. (Pp. 568. 34 Swiss francs.) Basle: Benno Schwabe and Co. 1948.

A study of the aetiology and prevention of crime.

Psychotherapy in Child Guidance. By Gordon Hamilton. (Pp. 340. 22s.) London: Geoffrey Cumberlege. 1947.

A study of the social worker's role in psychotherapy.

Let's Talk About Your Baby. By H. Kent Tenney, Jr., M.D., F.A.A.P. 3rd ed. (Pp. 115. 8s. 6d.) London: Geoffrey Cumberlege. 1947.

Medical advice in plain language for mothers.

Traité de Médecine. Vol. 1. Edited by Prof. A. Lemierre et al. (Pp. 1,096. 2,200 francs.) Paris: Masson and Cie. 1948.

Textbook of medicine: this volume is first part on infectious diseases.

Traité de Médecine. Vol. V. Edited by Prof. A. Lemierre et al. (Pp. 1,163. No price.) Paris: Masson and Cie. 1948.

Textbook of medicine: respiratory diseases.

Guide to Marriage. By Leslie J. Tizard. (Pp. 173. 7s. 6d.) London: George Allen and Unwin. 1948.

A manual for the layman.

Doctors, Drugs and Steel. By Edward Podolsky, M.D. (Pp. 382. 16s.) London: Medical Publications Limited. 1947.

Some recent medical discoveries described for the layman.

Lehrbuch der Inneren Sekretion. By F. Verzar. (Pp. 609. 52 Swiss francs.) Liestal: Verlag Ars Medici Lüdlin AG. 1948.

A textbook of endocrinology.

Women and Men. By Amram Scheinfeld. (Pp. 394. 15s.) London: Chatto and Windus. 1947.

An account of sex differences for the layman.

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THE INDEPENDENCE OF MEDICINE

A Special Representative Meeting will be held next week so that the Representative Body may consider the results of the plebiscite and the consequent policy to be adopted. The Council of the B.M.A. at its meeting on Feb. 18 passed a Resolution to be put before the Special Representative Meeting. It is as follows:

That the Representative Body, reaffirming the whole-hearted desire of the medical profession for a comprehensive health service available to everyone, urges that in the public interest such changes should be made in the Acts of 1946 and 1947 as are necessary to maintain the integrity of medicine and to prevent doctors being turned into State servants, with harmful consequences to patient and doctor alike. The Representative Body therefore expresses the hope that the Government will make it possible for the profession to co-operate by making such changes, and states its view that it is not in the best interests of the public or of medicine for members of the profession to enter the Service until such changes are made.

At its last meeting held before the issue of the plebiscite forms the Representative Body discussed the problems before it in a thoughtful, quiet, but determined manner, thereby showing its sense of responsibility in relation to the present conflict between the medical profession and the Ministry of Health. The in many ways unexpected results of the plebiscite will have heightened their sense of responsibility and at the same time confirmed the confidence of the representatives in the policy they have followed. It was said in the early days of the war, we believe by Mr. Winston Churchill, that it was undesirable to introduce controversial legislation during the period of war stress. But the reformer always seizes upon the atmosphere created by a war to promote those projects which he fervently believes will promote the well-being of the country. It was in 1942 that Sir William Beveridge (as he then was) introduced his Social Security Report. We are not concerned here to argue whether security is an ideal likely to bring out the best from a people who have built up a great and beneficent Empire by boldly accepting the challenge which insecurity offers. It may, however, be noted that the Beveridge Report was published at a moment when Britain was faced with the possibility of overwhelming national disaster. Freedom from fear and from want were things that even the most stout-hearted deeply desired. Assumption "B" of the Beveridge Report carried with it the promise of freedom from disease. The psychological moment was indeed ripe for the reception of Sir William Beveridge's great document, and what Mr. Butler has described as "the new social mosaic" was put together by a Coalition Government. If we are to believe what

Socialist spokesmen have said, the pressure for the nationalization of Medicine came from the Labour side of the Coalition, and successive Ministers of Health—Liberal, National, Conservative, and finally Labour—have been busy trying to fit the medical profession into this new mosaic.

The medical profession has for centuries, and with startling success during the past hundred years, laboured to free humanity from disease and to promote the health of the individual. Doctors hardly needed to be told that this was an ideal to be aimed at and were eager to explore ways in which their beneficent activities could be made more effective. The opposition that the medical profession has offered to successive proposals by Ministers of Health belonging to different political parties clears it from any accusation of party political bias. The opposition is directed against the political control and management through a bureaucracy of the art and science of Medicine and against the employment of medical men by a member of His Majesty's Government. Medicine has never claimed immunity from constructive criticism, or that its services to the community are incapable of improvement. Though individual doctors, through human weakness, may have faltered, each generation of medical men has remained faithful to its high ideals and through this has brought Medicine to the present high position it holds. No one has denied the need for the State organization of such communal services as are provided through the Public Health Acts. But to try to fit the care and treatment of the individual patient by the individual doctor into a national framework is a matter of the highest complexity and one which the planners of Medicine are incapable of fully understanding. The sick person must, of course, have confidence in the medical skill of the doctor, and the degree of skill a medical man has depends not only upon himself but upon those responsible for his technical education. As a science Medicine is full of uncertainties, and a good doctor knows its limits. As important to the sick person as the technical skill of the medical man is his quality as a human being coming into one of the closest relationships that exist between human beings. This is something that the planner, thinking along quantitative lines, fails to take into account and is possibly incapable of comprehending.

The results of the plebiscite show the deep-seated doubt all sections of medical men have about the effect upon the quality of Medicine of the State medical service fore-shadowed in the National Health Service Act. There are compelling reasons for keeping Medicine independent of the State. If, however, the people of this country through Parliament, in the face of what we consider to be the better judgment of the medical profession, pursue with success the idea that a paternal State should provide every kind of medical service, then the medical profession must at least see that within the State framework the maximum amount of freedom and independence of the medical man is made secure. In its present form the Act does not provide safeguards for this freedom and independence, and if the Government fails to provide them the National Health Service Act will be an inglorious failure.

STUDENT HEALTH

In recent years an increasing number of physicians have been appointed at British universities and colleges to supervise medical health services, yet nowhere in this country is there a comprehensive service operating to the full extent considered appropriate by the university delegates to a recent conference on student health.¹ An important lead was given in 1944 by the Goodenough Report,² which recommended that universities should set up student health services, and Cambridge has recently appointed Air Vice-Marshal A. F. Rook for this purpose. In 1946 the Social and Preventive Medicine Committee of the Royal College of Physicians recommended arrangements for medical examination, including chest x-ray and annual re-examination during the student's stay at the university, in order to detect physical and mental disabilities and to indicate how advice or treatment should be obtained if necessary. This committee also suggested that arrangements should be made for the medical and nursing care of students who are ill, and drew attention to such matters as diet and lodgings. Though not as yet generally adopted, schemes for the provision of medical treatment are obviously important, but with sickness provided for more attention can be directed to the preservation and promotion of health.

The present position is summarized in the most recent report of the health committee of the National Union of Students. Among 38 universities and university colleges, 57 training colleges, and 33 technical colleges, 42% have no medical examination or certificate at entry, 30% no provision for advice or remedial service, 36% no arrangement for calling a medical practitioner, 39% pay no attention to lodgings, and in 69% there is no examination for tuberculosis. Generally speaking training colleges are better provided for than universities and university colleges; the position in technical colleges is worst. These arrangements as a whole are in marked contrast to those in universities in the United States.

In the U.S.A. student health organizations have benefited by more than twenty years' experience. There the best medical advice in health and sickness has been made available to students, who have in their turn furnished excellent material for the study of normal young adults, particularly as regards standards of measurement and the ranges of normal variation. The Grant study of young men at Harvard is perhaps the best known on this side of the Atlantic, and the rapidly extending literature concerning student health reveals that the interest has shifted from sickness to health. This reorientation of outlook requires a form of training for physicians different in its scope from the traditional one of hospital practice, and it is perhaps noteworthy that in the study of normal personality the terms of psychopathology have often been found less suitable than words in common English usage.

The factors influencing the welfare of students are those of everyday environment and their genetic endowment.

They include such items as the quality of teaching, the cost of food and lodgings, hours spent in travel or queue at eating-houses, pressure of examinations, the wish to justify financial grants, hours of study often self-imposed and excessive, the loneliness of isolated digs, and at the present time for ex-Servicemen the problems of readjustment to civil life. Such factors assume major importance because they impinge on young life still hopeful of attaining full physical stature, sexual maturity, and intellectual power. A physician with responsibility for young adults has a rare opportunity to guide, to reassure, or to warn at the first sign of disorder. Given understanding and an outlook appropriately sympathetic he may create an atmosphere in which difficulties can be discussed rationally and thus be more easily dispelled. Measurements of physique or personality made at the first interview serve as a base-line against which future observation during the student's residence takes on new meaning. With this purpose in view, with or without an added stimulus of research, what might be a monotonous routine examination can become a lively and sustaining activity.

We publish this week a survey by Dr. J. Pemberton of the health of 407 new students. Because examination after entry was made obligatory for all students at Sheffield his survey covers a fully representative group, and from the findings it should be possible to plan for the future. A case may be established for routine dental and ophthalmological examination, and the ready availability of an E.N.T. surgeon is clearly desirable. With regard to mental health, Pemberton found 20% of students were suffering from minor anxiety states or depression. This proportion corresponds with that found by other workers in this field³ and its importance lies in that the majority may be relieved by relatively simple measures, as for example the adjustment of financial grants, or more simply opportunity for discussion and advice. Even more serious psychological disturbances are not uncommon, as the high wastage rate among students who start but fail to stay the course suggests. Though Pemberton reports no example of attempted or successful suicide, such occurrences are frequent enough to constitute a special problem in which community responsibility is deeply concerned. In addition in the words of the report to the Royal College of Physicians, "the development of a psychosis in a student already embarked on his University career may prove to all concerned a major tragedy, which could have been foreseen and perhaps prevented." Its detection is no less important than the early signs of pulmonary tuberculosis. In view of the foregoing remarks the question of the value of routine psychiatric interview may be raised. Experience to date is limited, but at one well-known university in the U.S.A. mental hygiene examinations were instituted as part of the routine health examination of all first-year students. They were, however, discontinued after four years as it was found that students wanting psychiatric help would seek it, whereas those who did not would not be coerced. Results failed to justify the additional organization, work, and cost.

If it is the purpose of university education to encourage the fullest and best use of all human attributes, then

¹ For a full report see the Health Conference, 1947, Oxford.
² *Proceedings of the Goodenough Conference, 1944, London.*
³ *British Medical Journal*, 1947, 2, 937.

physical and social development should come second only to the cardinal and traditional aim of intellectual development. Many students reach the university to-day with great intellectual achievement to their credit but possessing neither physical nor social maturity. Facilities to develop in both these directions are necessary, not so much for the star performers in any field, who have little difficulty in following their bent, but mainly to foster the powers and enjoyment of the remaining majority. Preliminary surveys suggest that only a small minority balance their studies with regular outdoor activity. For example, it is probable that many students are unable to swim fifty yards, yet even a young person with severe kyphosis and unfitted for most sports may overcome his handicap by learning to swim on his back. Physical exercise need not be limited to the usual field games but may well include mountaineering, dancing, ski-ing, canoeing, beagling, and other activities according to individual taste. It is not generally realized that where compulsory physical education for first-year students has been in force the university authorities have had no easy task in providing facilities for so wide a variety of recreations.

The question of making routine health examinations compulsory, and also physical recreation, has been closely argued. In most universities on the Continent and in the U.S.A. obligatory examination is fully accepted. Some medical officers in charge of student health services in this country may feel that they could be more effective if medical examinations were compulsory. Medical examination of school-children is accepted by nearly all parents as a necessary and useful adjunct to education. Though not exactly compulsory, under the Education Act of 1944 parents can be induced in certain circumstances to allow their children to be examined. Students attending a university are no doubt supposed to be old enough to know what is good for them, and in any case it is one of the primary functions of education to develop a sense of responsibility in young people. It can be said, however, that where medical examination has been made compulsory at a university little if any harm has followed. Student health services, to develop satisfactorily, should have that voluntary spirit which seeks and finds the answer to individual needs.

RHEUMATOID ARTHRITIS—A NEUROLOGICAL DISEASE?

The cause of rheumatoid arthritis remains unknown. Since the disease was differentiated from other forms of arthritis in the nineteenth century many causes have been suggested,¹ and a number of eminent observers have looked with suspicion at the central nervous system. Charcot² and Pierre-Marre were impressed by the bilateral symmetry and centripetal spread of the disease. Weir-Mitchell produced a neurotrophic hypothesis. More recently Speransky in the U.S.S.R. has suggested that the disease is a specific nervous dystrophy, and interest has been aroused in the technique of "spinal pumping" which was first advocated by him. Elsewhere in this issue Savage describes this

method of treatment and reports on the results obtained in four cases of rheumatoid arthritis. Obviously with such a small series nothing conclusive can be said, but it seems unlikely that completely successful results will be frequent.

Of the three ways—psychological, autonomic, and neurological—in which the central nervous system might be involved in the development of the disease the neurological features have received considerable attention in recent months. They include the paresis and atrophy which affect the muscles of the extremities, and the trophic changes associated with disease of the autonomic system. Sundelin³ believes the symptoms indicate that both the central and autonomic nervous systems are involved. He examined the cerebrospinal fluid from 141 patients, and the only abnormality he discovered was a change in the protein level. In 41% there was either a rise in globulin or an alteration in the A.G. quotient, sometimes associated with a rise in total protein. These findings were not connected with the duration, severity, or activity of the disease, nor with the previous administration of gold salts.

Alteration in the cerebrospinal fluid proteins may be related to the cause or to the effects of the disease, and Sundelin refrains from drawing any debatable conclusions. In rheumatoid arthritis it is not unusual to find an abnormal blood-protein value, with alteration of the A.G. ratio and a rise in globulin level. The empirical tests of liver function may be positive, and these probably depend upon a rise in globulins. The cerebrospinal fluid changes may be only a part of a general alteration in protein levels, possibly depending on the position of globulins in the immune response. Combined observations on cerebrospinal fluid and blood would help to clarify this point.

The muscle paresis and atrophy which Sundelin claims to be neurological features might be related primarily to the altered muscle histology. In rheumatoid arthritis muscle biopsy nearly always reveals focal accumulations of lymphocytes, plasma cells, and eosinophil cells around the nerves and in the endo- and perimysium.⁴ If rheumatoid arthritis is a neurological disease, then the C.S.F. findings of Sundelin would suggest a degeneration rather than an infection of the central nervous system.

CERVICAL INTERVERTEBRAL DISK LESIONS

Lesions of the intervertebral disk, with protrusion of some of its substance into the spinal canal, is now a well-recognized cause of lumbo-sacral sciatica. The cervical region of the spine has many anatomical and mechanical features in common with the lumbar region. There is, however, the important difference in the cervical region that the intraspinal neural structures, which here include the spinal cord, are relatively more fixed and the nerve roots have a more direct passage through their intervertebral foramina. In the cervical region there are numerous causes for pain referred to the neck, shoulder, and arm. Kristoff and Odom¹ have studied twenty cases of ruptured cervical intervertebral disk. This type of case was first described by Stookey in 1928 as one of compression due to extraneural cervical chordomas, but it is only in the last few years that much has been written on the subject.

Kristoff and Odom believe that in all probability such lesions are traumatic in origin. Rupture of a cervical intervertebral disk results in some of its substance extruding into the spinal canal, generally causing root compression. Where these protrusions are large the case may be complicated by spinal cord compression. Pain and paraesthesia are of radicular distribution. When the sixth cervical root is compressed by the fifth intervertebral disk the area of distribution will be the radial side of the forearm, thumb,

¹ Copeman, W. S. C., *Proc. R. Soc. Med.*, 1947, 40, 329.

² *Arch. Physiol.*, 1868, 1, 161.

³ *Amer. J. Med.*, 1947, 2, 579.

⁴ Gibson, H. J., et al., *Ann. rheum. Dis.*, 1946, 5, 131.

and index finger, associated with weakness mainly of the deltoid and biceps muscles and a diminished biceps reflex. A rupture of the sixth disk with involvement of the seventh cervical nerve root will cause pain and paraesthesia on the extensor side of the forearm, the dorsum of the hand, and one or all of the three middle fingers, associated with weakness chiefly of the triceps muscle and a diminished triceps reflex. These are the two segments most commonly involved. A reliable sign is to hyperextend, flex, and bend the head towards the side of pain—manœuvres which aggravate it and the paraesthesia. Radiologically, degenerative changes in an intervertebral disk may be recognized, but their absence by no means rules out the possibility of a disk lesion.

The common conditions which may cause difficulty in diagnosis are cervical arthritis, scalenus anticus syndrome, laminal fractures, cervical ribs, subdeltoid bursitis, brachial neuritis, Pancoast's tumour, and cervical radiculitis. In the cases with larger protrusions the need for exploration is clearer because of the signs of spinal cord tumour. Here the pain in the neck or shoulders will be overshadowed by neurological changes in the upper limb. The operative procedure in the neck is somewhat similar to that for the lumbar region, but there is of course a bigger element of risk. The authors note that, while both the subjective complaints and the defensive signs will be banished by removal of the protruding portion of disk, disappearance of the neuro-pathological signs depends upon the duration of root compression. Furthermore they state that in cases of cord compression recovery may be neither spectacular nor always complete. They give a very clear exposition of this subject, the limits of which seem to be more clearly marked than in the comparable condition in the lumbo-sacral area.

ALUMINIUM PNEUMOCONIOSIS

Powdered aluminium has been very widely used during the past decade in ordnance factories and in making paints, and many thousands of workers have been exposed to dust in working aluminium alloys. The health of the workers in these industries has been generally satisfactory. Crombie and his colleagues¹ in Canada, and Hunter and his co-workers² in England, have been unable to demonstrate radiologically any changes in the lungs. This is only to be expected because of the low atomic weight of aluminium. Since Denny, Robson, and Irwin³ suggested that the inhalation of powdered metallic aluminium might prevent the development and progression of silicosis large numbers of miners in Canada, the United States, Australia, and Cornwall have received the treatment. These men have all been under careful observation, and up to the present no adverse effects have been recorded.

Despite this experience Goralewski,⁴⁻⁶ in Germany, has repeatedly described a disease attributed to aluminium dust. The powder was made at Gunterstahl by the Pyro process. It was stamped, but a minimum of either ceresine or petroleum-jelly substitute was used to lubricate the powder in the stamping machines—not more than 0.01% appeared in the final product. The aluminium powder, which was 98% metallic aluminium, contained about four milliards of particles per gramme of dust—97.5% of the particles being less than 5 μ in diameter—and many of the factories were blown up because an explosive concentration of aluminium dust was reached. Seven hundred workers were examined, and many complained of dry cough with pain on breathing.

shortness of breath, poor appetite, and gnawing abdominal pain. Spontaneous pneumothorax occurred in four workers. Blood counts revealed a relative lymphocytosis with an eosinophilia up to 10%. The sedimentation rate was within normal limits in 78% of the cases, and the vital capacity was decreased in 27 out of 125 men examined. Radiographs showed focal shadows in the apical region with an increase of normal bronchial markings in the upper and middle thirds of the lung, giving a reticular appearance which at a later stage tended to increase and become confluent. There was always marked emphysema at the bases. The development of the illness was rapid, often within three months of starting work. It appeared to bear no relation to the length of exposure to aluminium. Histological examination of the lung of a patient who died revealed coarse, branching, hyaline collagenous fibres which enclosed phagocytes containing fine and coarsely granular particles distinguished by their jagged outline from carbon particles. A similar picture was produced in animal experiments by Jötten and Eickhoff.⁷

Shaver and Riddell¹⁰ have now recorded an identical disease from the Niagara region of Canada in workers manufacturing corundum—an aluminium oxide abrasive of great hardness. Bauxite, iron, and coke are treated in electric furnaces. They are ground and intimately mixed in metal pots 6 ft. high and 6 ft. in diameter; large carbon electrodes are then lowered to the surface of the mix, which is fused at 2,000° C. The resultant dense white fumes contain considerable quantities of alumina and silica together with small quantities of many other substances all in a very fine state of division. Three hundred and forty-four men were employed in connexion with the furnaces, and in 23 of these x-ray examination revealed well-established changes in the lungs. There were also 12 early and 13 doubtful cases. There have been 7 deaths, and 8 of the workers have had bilateral spontaneous pneumothorax. Dyspnoea was the outstanding symptom. Cough with white frothy sputum, substernal discomfort, weakness, and fatigue were also noted. The attacks of dyspnoea and pain were often sudden. Signs of disease in the chest were variable and depended on the presence or absence of pneumothorax. Limited chest expansion and impaired percussion note were most commonly observed; rales and rhonchi were variable. Tachycardia and cyanosis were marked features. X-ray examination revealed extensive fibrosis with areas of gross emphysema. At necropsy emphysematous blebs and bullae were found on the surface of the lung, the substance of which was invaded by dense tissue of a fibrous character. Microscopically the chief features were extensive fibrous tissue formation and extreme emphysema. The fibrosis was not nodular. The result of ashing three lungs was:

	Ash of Dry Weight	Silica of Dry Weight	Silica in Ash	Alumina in Ash
1	5.87	1.49	25.3	Not obtained
2	7.22	1.80	24.9	45.63
3	9.66	2.95	30.5	32.08

Jager and Jager¹¹ observed that while aluminium powder is highly resistant to aerial oxidation it is freely soluble in sodium chloride solution, giving sodium aluminate and aluminium chloride in equilibrium. A colloidal aluminium hydroxide complex results if the sodium and chloride ions are allowed to diffuse away, and if protein is also present:

¹ *Can. J. Med. Sci.*, 1944, 23, 319.

² *Br. J. Ind. Hyg.*, 1944, 1, 153.

³ *Can. J. Med. Sci.*, 1944, 23, 319.

⁴ *Arch. Hyg. Berl.*, 1942, 127, 344.

⁵ *J. Industr. Hyg.*, 1947, 29, 145.

⁶ *Arch. Gewerbepath. Gewerbehyg.*, 1941, 11, 117.

⁷ *Beitr. Klin. Tuberk.*, 1942, 97, 638.

⁸ *Perry, K. M. A., Thorax*, 1947, 2, 91.

⁹ *Dtsch. Tubertbl.*, 1943, 17, 3.

¹⁰ *Arch. Hyg. Berl.*, 1942, 127, 344.

¹¹ *J. Industr. Hyg.*, 1947, 29, 145.

¹² *Arch. Gewerbepath. Gewerbehyg.*, 1941, 11, 117.

¹³ *Beitr. Klin. Tuberk.*, 1942, 97, 638.

¹⁴ *Perry, K. M. A., Thorax*, 1947, 2, 91.

it is co-precipitated round the partly dissolved aluminium particles. Jager and Jager think that this complex caused the lung changes in the German workers. Koelsch,¹² however, believed that mechanical factors were responsible, and that the disease was a consequence of the unsatisfactory ventilation of workrooms resulting from the black-out. The suggestion has also been made that the lubricant might have been a cause of the condition,¹³ but this seems improbable since only minimal amounts were used. Canadian investigators think that the disease may be a form of silicosis caused by vaporized silica, but this also seems unlikely. There can be little doubt that the disease described in Germany and that in Canada are one and the same, and while silica was present in the Canadian manufacturing process it certainly was not in the German. The exact aetiology of the condition therefore remains a mystery, but it now seems probable that aluminium in certain physical states is capable of producing a pneumoconiosis.

RESECTION OF TUBERCULOUS LUNG TISSUE

In 1891 Tuffier successfully removed an indurated tuberculous area from the upper lobe of the lung, his patient surviving for seven years. Since then sporadic reports of similar operations have appeared, but until the last decade the successes were outnumbered by the failures, most of which were due to the great technical difficulties. With the rapid advance of thoracic surgery in the past few years many of these difficulties have been overcome, and thoracic surgeons, particularly in the U.S.A., are reporting an increasing number of successful pulmonary resections for tuberculosis.

Overholt and others,¹ in an important communication, record 88 resections with a follow-up ranging from 2 to 12 years. Their indications for operation were varied, the commonest being extensive, predominantly unilateral disease. Many patients had spreading caseous-pneumonic lesions or large cavities at the time of operation. Resection was also undertaken for bronchiectasis and suppuration complicating phthisis, and after unsatisfactory thoracoplasty. Tuberculous bronchial stenosis was present in many instances. Lobectomy was performed in 34 patients, with 7 deaths, the most important complication being a spread of the disease into the remaining lobes. Of 58 patients who had pneumonectomy 24 died, and again spread of tuberculosis into the remaining lung accounted for many of these deaths. Other complications were tuberculous empyema and ulceration of the severed bronchus. Against this somewhat grim picture must be set the fact that 12 patients with lobectomy and 24 with pneumonectomy are reported to be well and working; also in many of these patients the risk of operation was a desperate one. In a more recent paper Bailey² reports the results of 80 pulmonary resections for tuberculosis. His mortality for lobectomy was 8 out of 32 cases, and for pneumonectomy 15 out of 41. Seven segmental resections were performed without a death. Like Overholt he advocates the routine use of thoracoplasty after pneumonectomy in tuberculous patients to close the residual space—a procedure which makes the operation more severe. Both these authors stress the importance of surgical and anaesthetic technique in the prevention of complications, and it is clear that these operations should be undertaken only by a skilled thoracic surgeon working with a trained team.

When considering the indications for pulmonary resection we must not forget that in tuberculosis we are dealing with a widespread infection of which the lung lesions are, in Sir Robert Philip's words, "a late visceral manifestation."

In carcinoma of the bronchus or bronchiectasis radical removal may be achieved, but in tuberculosis the most that can be expected is that the removal of some of the major foci may enable the patient's resistance to overcome the less obvious lesions. It is not surprising that such a severe procedure may sometimes have the opposite effect and exacerbate latent disease elsewhere. Nevertheless, this operation offers a possibility of improvement in a few types of pulmonary tuberculosis in which the prognosis has hitherto been almost hopeless. These include suppuration distal to a tuberculous bronchial stenosis, basal disease unaffected by simpler methods of treatment, large tension cavities, and a few instances of acute unilateral caseous disease.

THE ACTION OF BOTULINUM TOXIN

There are few poisons so potent as botulinum toxin. According to Guyton and MacDonald¹ a pure crystalline preparation would probably prove fatal to man in a dose of a quarter of a millionth of a gramme. These workers have recently thrown light upon the site and mode of action of the toxin, their technique being designed to produce complete paralysis either of a single muscle or of the whole animal. The gastrocnemius of a guinea-pig could be paralysed by the local injection of toxin, general paralysis and death of the animal being prevented by systemic administration of antitoxin two days later. In the other method systemically poisoned and completely paralysed rabbits were kept alive by artificial respiration and vasoconstrictor drugs for the duration of the observations, which consisted in measurement of action potentials and responses of the muscles to various stimuli. The experiments were made with type A toxin.

There was no evidence that botulinum toxin acted on the nerve trunks, and the paralysed muscles responded to direct stimulation in the same way as denervated muscles. The site of action is therefore in the terminal nerve fibrils or, as Bishop and Bronfenbrenner² suggest, at the myoneural junction. Oscilloscopic measurements of the delay in conduction, recorded by Guyton and MacDonald, support the theory that the myoneural junction is affected, and histological examination shows swelling of the end-plates and dissolution of the granules of Kühne. Neostigmine fails to avert paralysis due to botulinum toxin, and the completely paralysed muscles still respond to acetylcholine. In these respects the action of the toxin differs from that of curare. It seems probable that in botulinum poisoning acetylcholine is not produced at the end-plate or, from the evidence of other experiments, at the endings of the vagus nerve. The toxin also causes peripheral circulatory failure. It does not pass the blood-brain barrier, so that symptoms referable to the central nervous system are not observed. It has a molecular weight of about 1,000,000, and its properties suggest that it may be a destructive enzyme.

It is of interest to note that antitoxin given two days after the subcutaneous injection of a lethal dose of toxin saved the lives of guinea-pigs even after some symptoms of intoxication were present. Once poisoning of nerve endings has occurred antitoxin cannot restore the damaged end-plate. Observation of local paralysis in guinea-pigs showed that recovery of muscular contraction and action potential was almost complete in one year. From the nature of the damage and the prolonged time to recovery noted in the experimental animals improvements in the treatment of botulism in man are unlikely, and hope seems to lie mainly in the early use of multivalent antitoxin in large doses.

¹ *Amer. Rev. Tuberc.*, 1947, 55, 195.

² *J. thorac. Surg.*, 1947, 16, 328.

¹ *Arch. Neurol. Psychiat.*, Chicago, 1947, 57, 572.

² *Amer. J. Physiol.*, 1936, 117, 393.

TUBERCULOSIS IN THE BRITISH ZONE OF GERMANY

REPORT OF AN INQUIRY

The Foreign Office published on Tuesday, March 9, a report prepared by the Medical Research Council at the suggestion of the Ministry of Health on certain aspects of the tuberculosis problem in the British Zone of Germany. The authors of the report are Dr. M. Daniels and Dr. P. D'Arcy Hart.

The report points out that death rates form the most reliable basis for judging tuberculosis trends. Annual death rates are best, but over the comparatively short post-war period six-monthly figures may justifiably be used provided that a first half-year is not compared with a second half-year, since the death rates from tuberculosis are normally higher in the first half of the year. During the post-war period the death rate from pulmonary tuberculosis in Hamburg has declined, while in the three Laender the figures show little evidence of change. The death rate from non-pulmonary tuberculosis has also declined slightly in Hamburg, remained stationary in Schleswig-Holstein, and increased somewhat in the other two Laender. The relevant figures for the Zone as a whole are as follows:

Tuberculosis Mortality, 1946-7, in British Zone as a Whole

Half-years	Population	Deaths		Crude Annual Death Rates per 100,000		
		Pulm. Tb.	Other Tb.	Pulm. Tb.	Other Tb.	Tb. All Forms
1946 I	21,891,000	6,823	891	62	8	70
II	22,902,000	5,083	801	44	7	51
1947 I	22,868,000	6,966	1,096	61	10	71

Clearly, while no fall in tuberculosis mortality has taken place, there are no signs of any alarming increase. These figures should also be considered in relation to the rates existing before and during the war. The 1946 death rates are higher than the pre-war rates, but the main rises occurred during the war period. Indeed, in Hamburg and part of Nordrhein-Westfalen the war rise appears to have been checked in 1945. Death rates in the British Zone are very similar to those in the United States Zonal Regions, which in 1946-7 ranged from 49 for Bavaria to 91 for Bremen. The crude death rate from all forms of tuberculosis in Bremen should be compared with the Hamburg figures of 101 in 1945 and 85 in 1946. The corresponding figures for London in the same two years were 87 and 70. The rates for Hamburg in fact are considerably less than those obtaining in Glasgow and Liverpool, and in Paris, Warsaw, and Rome.

The proportionate tuberculosis mortality, the number of deaths which occurred from this disease expressed as a percentage of annual deaths from all causes, also confirms the view that tuberculosis does not figure more largely among health problems in the British Zone of Germany than in Great Britain. The figure for England and Wales for 1945 was 4.8% as against 4.2% in Niedersachsen and 4.5% in Schleswig-Holstein in 1946. The figure of 5.7% in Hamburg in 1946 may be compared with the 1945 figures for London 5.5% or for Manchester 6.4%.

Registration and Notification

In the British Zone there are two methods of reporting deaths, and in certain small towns and country districts lay people can complete death certificates. Attention is drawn to the difference in Schleswig-Holstein between the uncorrected total of 2,746 registered tuberculosis deaths in 1946 and the corresponding "verified" total of 1,655. Where medical certification is compulsory the figures of registered deaths are regarded as a fairly correct measure of tuberculosis mortality. Apart from this method of registration of a death, deaths from tuberculosis must be notified by the medical practitioner directly to the health police of the Health Department. This is not always done, however, and the total notifications of deaths from tuberculosis tend to be less than death registrations.

Four suggestions are put forward for improving the value of the mortality figures supplied to Regional Public Health Branches. (1) Tuberculosis death figures (pulmonary and non-pulmonary) should be supplied quarterly instead of weekly as at present. (2) These quarterly figures should be derived from registered deaths and so stated, the figures being "officially verified" where this procedure is necessary. (3) Tuberculosis death registration figures should be accompanied by figures for deaths from all causes, so that proportionate tuberculosis mortality figures can easily be calculated. (4) The German Land authorities should be persuaded "to make medical certification a prerequisite of burial throughout their territories."

Tuberculosis Morbidity

The fact that tuberculosis mortality rose during the war but has altered very little since then and that the present rates are not disturbing when considered in relation to those in Britain and other countries was not disputed by the German authorities. All of them emphasized, however, the considerable increase in morbidity in the past year. The report points out that since 1925 there has been in fairly general vogue in Germany a classification of cases of pulmonary tuberculosis requiring care into three groups: (a) infectious tuberculosis of the lungs with bacilli discovered; (b) infectious tuberculosis of the lungs with no bacilli discovered; and (c) non-infectious but active tuberculosis of the lungs. The recent remarkable rise in practitioners' case notifications is simply explained, and the report confirms the suggestion made in our columns that the rise was almost entirely due to a change in the methods of notification (*Journal*, Feb. 28, p. 424). Until 1938 doctors notified cases in group (a) only. From December, 1938, to September, 1946, doctors notified cases in groups (a) and (b) only. Since September, 1946, practitioners have notified cases in groups (a), (b), and (c). The recent steep rise in pulmonary tuberculosis case notification rates represents therefore largely a "paper increase." The recent extension of notifications has gone far beyond the original intention of bringing in fresh categories of cases of tuberculosis so as to give a more accurate picture, and has allowed the notification of many equivocal cases that would not be notified in British practice. It is shown too that a wide definition was being variously interpreted by different authorities and by different physicians. An incentive to exploit the definition now permitted is provided by the entitlement of dispensary-approved cases to extra rations. For these and other reasons which are set out at length the two investigators concluded: "We must state categorically that we attach no significance whatever to statistics of pulmonary case notifications as an index of current tuberculosis trends in the British Zone."

These objections do not apply with the same force to the regular returns made by tuberculosis dispensaries to the Local Health Departments. All three categories are again included and under (c) there were notified doubtful active cases, children whose radiographs merely showed "enlarged hilar shadow," and even clinically normal infants with positive tuberculin reactions. On the other hand, these dispensary registration figures are based on specialist opinions and the pulmonary cases are subdivided at source into categories (a), (b), and (c) so that the numbers may be considered in each category. An analysis of the dispensary statistics of new cases registered over a number of years in Hamburg, Hannover Province, and Schleswig-Holstein shows no marked increase since the end of the war in the more serious forms of pulmonary tuberculosis—(a) and (b)—but a considerable rise in the registration of those earlier or lesser forms represented by group (c). There has also been a recent rise in new non-pulmonary cases of tuberculosis.

At the end of 1946 there were 200,000 cases on the tuberculosis dispensary registers of the British Zone. The report points out that at the end of 1946 there were 244,000 cases of tuberculosis on the tuberculosis dispensary registers of England and Wales, with a population nearly twice as large. The British total, however, is based on criteria which exclude the German category (c) in which there were 12% of the British Zone cases. To improve the dispensary figures it is again suggested that case figures should be supplied quarterly, that they should comprise only cases newly notified and registered on the books of the tuberculosis dispensary.

and that they should be tabulated under the customary groups. These returns should contain only definite cases and should exclude suspects, contacts, and otherwise normal tuberculin-positive children. A survey of the findings after mass radiography in three areas also suggests that the incidence of tuberculosis is not notably high.

Hospital Accommodation

It is customary to assess the degree of adequacy of in-patient accommodation for tuberculosis by the ratio of the beds available to the annual number of deaths from the disease. This rate for the Zone as a whole is 2.2 and should be compared with 1.3 for England and Wales. It also compares favourably with the rates obtaining anywhere in Europe, excepting Scandinavia.

Detailed comparison of the arrangements in Lancashire, a county with an advanced anti-tuberculosis service, bears out the finding that "on no count, therefore, is the British Zone worse off than this country as to institutional accommodation; and on the most reliable basis of ratio of beds to annual deaths, it is considerably better."

Two further points are made in the report on the Zone. The fact that tuberculosis mortality increased more among males than among females during the war is ascribed partly to a selective factor—healthy young men were enlisted and the statistics relate, therefore, to the remaining male population—and partly to the greater strain of wartime conditions borne by males. The increase in the mortality from non-pulmonary tuberculosis and in the incidence of new cases is probably due to a failure of efficient pasteurization. Much of the pasteurization plant was damaged during the war and it has since then been subject to general deterioration and reduced efficiency. Fuel shortages have also made pasteurization difficult.

Tuberculosis in Berlin

Although the main study was in the British Zone the position in Berlin was also investigated. The increase in tuberculosis mortality during the war was much greater in Berlin than in the Zone. The present level of mortality is also much higher and constitutes a grave problem, even though the mortality from non-pulmonary tuberculosis is at present stationary and the mortality from pulmonary tuberculosis appears to be declining. Institutional provision for the tuberculous in Berlin at a rate of 0.7 beds per annual tuberculosis death is much inferior to that of the British Zone. The actual number of cases of "active" tuberculosis on the dispensary registers in Berlin in August, 1947, was 79,331 in a population of 3.2 millions. It was made up of 11,694 cases in group (a); 9,893 in group (b); 9,673 in group (c); and 8,071 non-pulmonary cases. Even allowing for the questionable significance of group (c) this total is two and a half times the corresponding pre-war total incidence and is much higher than that in the Zone.

This is an important report and one which should be carefully studied. It amply confirms the statement made in our leading article (Nov. 30, 1946, p. 821) that "available figures do not bear out alarmist reports of the incidence of this disease in the British Zone." The detailed survey and the tables and graphs fully support the general discussion which is here summarized, and confirm a final statement made by the authors:

"We must refer here to the regrettable fact that German officials (some non-medical) have repeatedly during the past year issued to Allied journalists and other visitors misleading and sometimes even false information regarding the tuberculosis situation in Germany. These statements have had the effect of putting tuberculosis in Germany unjustifiably on the level of a sensational news item. Moreover, since it is generally known that tuberculosis figures are a sensitive index of social conditions, sweeping conclusions as to these conditions have been drawn from erroneous data."

The head of the U.S. Federal Security Administration, Mr. Oscar King, estimates that in 1960 the U.S.A. will need from 15,000 to 20,000 more doctors than will be available, and he recommends the establishment of Government financed scholarships for the training of medical men, dentists, nurses, and public-health staff. He said that Congress ought to use Federal resources if necessary to overcome shortages.

WORLD HEALTH ORGANIZATION

INTERIM COMMISSION

The Interim Commission of the World Health Organization met in Geneva from Jan. 22 to Feb. 7, under the chairmanship of Dr. Andrija Stampar, president of the Yugoslav Academy of Sciences and Arts. In the course of this session the Interim Commission approved a report on its activities which will be submitted to the World Health Assembly meeting at the Palais des Nations in Geneva on June 24. It is generally expected that the Interim Commission, which has bridged so ably the unexpectedly long gap between its creation at the International Health Conference in New York in 1946 and the first meeting of the World Health Assembly, will be formally dissolved within one or two months of the adjournment of the Assembly.

The Interim Commission drafted the agenda for the Assembly, which will have to select a Director-General for W.H.O., and also examined proposals relating to the permanent site and the 1949 budget for W.H.O. A number of nations have already declared their preference, and so far Geneva heads the list, with New York, Paris, Washington, and London as alternative suggestions. The proposed 1949 budget amounts to \$6,367,995, which is more than twice the Interim Commission's budget for the first year of its work. Of this sum, over \$1,000,000 will be set aside for the provision of fellowships, medical literature, teaching equipment, and emergency medical supplies.

Proposed Programme

The following are among the major recommendations of the fifth session of the Interim Commission, and will in due course be submitted to the World Health Assembly:

Medical co-operation with accredited governmental and non-governmental agencies should be continued. It was recommended, therefore, that the Assembly adopt the draft agreements drawn up by the Interim Commission with several United Nations Specialized Agencies. These agreements provide that the W.H.O. shall serve in an advisory capacity in the fields of public health and State medicine with the following organizations: the International Civil Service Advisory Board, the U.N. Social Commission, the U.N. Scientific Conference for the Conservation and Utilization of Resources, I.L.O., U.N.E.S.C.O., and F.A.O. Collaboration between W.H.O., I.C.S.A., and F.A.O. on nutrition projects has already started.

The Interim Commission, which is collaborating with the International Children's Emergency Fund, will continue to advise the I.C.E.F. on the programme for immunization of 15 million people against tuberculosis to be undertaken by 200 expert medical teams within the next eighteen months. At the fifth session Interim Commission help was requested by the I.C.E.F. in launching an antiveneral campaign among children, pregnant women, and nursing mothers through mass treatment with penicillin. Continuation of medical guidance by the permanent W.H.O. was recommended in relation to these two programmes.

The Interim Commission recommended continuation and enlargement of the epidemiological service. A more efficient and quicker system of epidemiological notifications will be established.

In addition to these major projects it is hoped that the 1949 budget will provide for further work in connexion with nursing, rural hygiene, alcoholism, and a number of tropical diseases. The need for revision of existing sanitary conventions was debated after Dr. A. T. Shousha Pasha, the Egyptian Under-Secretary of State for Health, had presented his report on the 1947 cholera outbreak in Egypt. Several countries took measures to prevent the spread of cholera far exceeding the provisions of the international conventions. The Governments concerned will be asked to explain the scientific grounds on which such action was based.

The Interim Commission also recommended the continuation of work on biological standardization and unification of pharmacopoeias. The creation of an international influenza centre is now well under way, and it is suggested that W.H.O. should press forward also the campaigns against important communicable diseases and for the promotion of child health. Malaria and tuberculosis are the two diseases given "top priority" in the list of Interim Commission recommendations, and the large-scale application of penicillin in the treatment of early syphilis is also proposed.

At the final meeting Dr. Stampar paid tribute to the work of the Interim Commission over the past twenty months and said

that "never in his experience had he worked with a more co-operative and internationally minded group of people." He referred also to the unbroken record of unanimity in decisions made by the Interim Commission.

THE HUMAN APPROACH

METROPOLITAN COUNTIES BRANCH LECTURE

Another lecture in the series which the Metropolitan Counties Branch has arranged for senior students and newly qualified practitioners in the London area was delivered in the Great Hall of the Association on March 2 by Dr. Henry Yellowlees, whose subject was "The Human Approach." Dr. R. W. Cockshut, chairman of the Branch Council, presided.

Dr. Yellowlees began by contrasting the scientific and the human approach. The scientific method, he said, was by far the best yet evolved for the solution of certain kinds of problems, but there remained a vast number and variety of problems in which the scientific method could lead only to an incomplete solution or offer no solution at all. Properly used, the scientific method never led to an erroneous conclusion, because it was wisely agnostic. In everything outside pure mathematics scientific conclusions were tentative and incomplete. Science was always right, so far as it went, but there were other methods of approach which transcended it. Science was never inaccurate, but it was often pathetically inadequate.

The preclinical subjects were peculiarly suited for approach by the scientific method. Things like the sphenoid bone and the cranial nerves simply had to be learned and learned well, and that was that. But then came the clinical period and a crowd of problems which the scientific method unaided could not solve. The student passed suddenly from the laboratory and the dissecting-room to the hospital ward and the out-patient department. He was invited to deal with minds and personalities. This was called clinical material, but it did something which the specimens in the laboratories never did, it "answered back." He wondered how many of them could say that before they entered on their clinical period they had received any helpful and practical instruction on how to understand and deal with those qualities in their patients which chiefly distinguished them from the beasts of the field.

Limitations of the Scientific Approach

It had often been pointed out, Dr. Yellowlees continued, that the trend of modern medical practice and teaching was increasingly towards laboratory procedure and tests. Much of this was inevitable, and the accuracy and helpfulness of the information were not to be disputed. Its chief drawback was that the student might come to feel that the hospital physician had only to acquaint himself with the relationship of a mass of typed reports from the pathologist, the haematologist, the radiologist, the biochemist, and finally to pronounce a diagnosis largely based on their collective significance. The student was led to think that any personal investigation of the patient should be withheld so long as one single secretion or function remained untested by the experts of the clinical laboratory or the special departments, while the patient himself perambulated wearily from department to department like a "passed to you" memorandum in a Government office. This was a continuation of the scientific approach which had served the student excellently in his earlier subjects but failed him now.

The student got little help from his teachers. They had seen the human body separated out into little regions, each with its guardian angel in the shape of its appropriate specialist. It might be said that this was the time for the teachers in psychological medicine to get busy and set things right. Generally, he agreed; but at the present day the teaching of psychological medicine was lopsided and inadequate. True, psychological medicine could put up a good case for the defence. Teachers, students, doctors, the general public, all tended to sheer away from the whole subject of psychological medicine with dislike and distrust. This feeling was based on ignorance, and the ignorance was closely bound up with fear and shame, camouflaged of course, but thereby making itself only the more

obvious. What would one think of a person whose funniest stories concerned the patients in a cancer hospital, or who screamed with laughter at the helpless gropings of a blind man? Yet jests about the "loony bin" remained a characteristic English sport. No brutality was intended; nevertheless he could think of only two types of establishment, apart from the mental hospital, which had analogous alternative names—the prison and the brothel.

General medicine looked with dislike and distrust on a speciality which might help it to a viewpoint it could not reach unaided. Some, indeed, called for a closer union between general and psychological medicine, but he felt with regard to much of this that the scripture was appropriate: "This people honoureth me with their lips but their heart is far from me." Exhaustive examinations were made of the lungs, the circulatory system, the digestive tract of the patient, and treatment was carried out, without a word being said about the psychological factor from start to finish, or any suggestion that it mattered in the slightest whether the patient was happy or miserable, clever or stupid, married or single, Briton or Hottentot. But every now and then the patient ceased to act like a machine and behaved not according to plan, and then they tried out the old fallacy of excluding the organic factor. As someone had said, it was not of much use talking about psychosomatic medicine if all that one did was to give an airy wave of the hand to *Psyche* as one passed along for a heart-to-heart talk in a quiet corner with *Soma*.

A Unique Speciality

At the same time Dr. Yellowlees admitted that the psychiatrist very often made "shockingly poor use" of such chances as he got, usually because he was attending too much to his own scientific problem to the exclusion of the human one. He was by no means blameless for the fact that his speciality had become a "public joke." Psychiatry, of course, had its scientific problems like all branches of medicine, and it was only fair to say that it had solved many of them brilliantly during the last twenty years. With the possible exception of anaesthetics, no branch of medicine could point to anything like the record of startling and revolutionary achievements. But psychological medicine had gone the same materialistic and mechanical way as general medicine, with less excuse and with even more tragic results. At present it was the most scientific and least human of all the specialities.

Psychological medicine was unique among the specialities. It was not only a speciality in its own right but also an essential constituent part—not a mere handmaid or hanger-on or poor relation—of all medicine. But as taught to-day it did more to illustrate the differences between itself and general medicine than to emphasize their essential unity. Generation after generation of medical students were allowed to pass through the schools without having heard the human approach to the patient so much as mentioned. "What is the use of cramming the student with the details of every medical and surgical and psychiatric procedure if he does not then know how to say 'Good morning' properly to a nervous patient?" Of course the scientific study of every branch of medicine was absolutely essential. The patients would take scientific skill for granted, but what they really wanted, whether they knew it or not, was someone who, in addition to knowing his work, could give them confidence, patience, courage, and hope. "The great majority of our patients, in their hearts, whatever they may say and do, expect us to be to them 'like the shadow of a great rock in a weary land.'"

At the annual general meeting of the Scottish Council for Health Education held on Feb. 20 at Aberdeen it was reported that public interest in health education throughout Scotland was noticeably on the increase. During 1947 a total of 252 meetings were held in Scotland, attracting an attendance of 64,483 persons—eight of them with an attendance of 14,900 being held in Edinburgh, where the Corporation organizes and finances a winter series of film-and-lecture meetings. The Council's full-time medical lecturer, Dr. Kenneth I. Macleod, has addressed 212 meetings in six months. Visits to schools are a regular part of his daily itinerary, but he also gives talks to youth clubs, industrial workers, and women's organizations. The 55 major local authorities in Scotland now support the Council.

TOWARDS THE IDEAL HOME

Until March 25 some corrective for present depressions will be afforded by the Ideal Home Exhibition at Olympia, most conspicuously in the official exhibit in which the Ministries of Health, Education, Food, and Labour and National Service have combined. They have concentrated on a demonstration by tableaux, photographs, and poster displays of the services directed towards the welfare of the child from the intra-uterine to the adolescent phase. The child of to-day is to be sympathized with in some respects, but he has only to look across a hundred years to the dark age of the industrial revolution to thank his stars that he was not born then, at all events in a working-class environment. A plaster figure of a child working in a coal mine, and the suggestion of child labour in factories and mills, of starvation and neglect in work-houses, of flogging and ugly and unhealthy conditions in schools, of under-nourishment and overcrowding in the home, are contrasted with present-day conditions. These include health services for expectant and nursing mothers and young children, maternity grants, family allowances, and supplementary rations. There are school medical services and school meals, and the juvenile employment service, which endeavours to ensure that the adolescent enters an occupation for which he is fitted and for which he has some preference. The work of the special schools for blind, crippled, and delicate children and of the nursery schools is also exhibited. Statistics attractively presented bear out the same story, showing the reduction of infant and maternal mortality. One chart illustrates the milestones in the children's health service from 1862, when health visiting began.

In another exhibit the Ministry of Health depicts the housing achievements of the nation since the end of the war. The first 200,000 permanent houses have been finished and are occupied in various parts of the country, and models are shown of concrete, brick, or aluminium dwellings—three-bedroomed houses for the average family. Among other exhibits which catch the eye is a pavilion where the National Gas Council, by means of domestic interiors and life-size models, shows the uses of the newly nationalized product in what it calls the seven ages of woman. One of the tableaux shows the young woman entering upon her career as a hospital nurse and discovering to what extent gas and its by-products (drugs, dyes, plastics, disinfectants) enter into the hospital service; then we have the housewife with her enamel cooker thermostatically controlled, her refrigerator, and other equipment for the labour-saving kitchen, and finally the old dame with the comfort of her gas-coke fire. Not to be outdone by its older rival, the electrical industry shows its fluorescent light-fittings for the home, together with some ingenious space-heating equipment.

DAYLIGHT VERSUS ARTIFICIAL LIGHTING

The Illuminating Engineering Society staged an amusing, if sometimes inconsequent, debate recently on the proposition that artificial lighting is an adequate substitute for natural lighting. The proposer, a lighting engineer, claimed boldly that artificial light is not merely a substitute for daylight but an improvement upon it. If the lighting effect of the sun could be considered in isolation, apart from heat and power, it would be seen to be easily outdone by the fluorescent tube. Moreover, the lighting engineer could provide an adequate and even lighting for the twenty-four hours of the day as against a limited and varying daylight. Another speaker pointed out that an advantage of artificial light was that its colour could be changed, so as to stimulate or to soothe according to the need and the hour of the day, whereas with daylight there was no such control. If artificial light had been first in the field, said yet another speaker, if the fluorescent tube, the splendid product of years of research, had preceded the sun, people would have derided the latter when it at length arose, asking what was the use of so uncertain and wayward a source.

The sun had its defenders. Artificial light, said its spokesman, compared poorly with daylight, whether judged from the psychological, the aesthetic, or the efficiency point of view. The public showed its preference for daylight whenever it was given the chance. The blackout during the war caused much

discontent among factory workers, however good the artificial illumination provided, and the discontent was assuaged by the letting in of some natural lighting. The fluorescent tube, these speakers contended, was a hideous thing—a cold bar of light apparently designed by a plumber. How magnificent a thoroughfare was Kingsway in daylight, and how grotesque at night under its new illumination with fluorescent tubes hung skittishly on concrete pillars. The protagonists of artificial lighting had said that windows were put into buildings, not to give light, but to give a sense of freedom and the opportunity for gazing out; but what array of electric bulbs could rival the light given by the Gothic window of a church or by the Victorian or neo-Georgian window of domestic architecture? One speaker had written to the welfare officers of certain American factories which were lighted only by artificial light, and they had replied that the lighting was liked moderately well, chiefly because it was uniform. But in this country, at least people took a poor view of uniformity and found variety stimulating, alike in lighting and in climate. One speaker argued that there was something in the human make-up which demanded change, alternation, rhythm in lighting, and that the same was true even of lower forms of life.

The last word was with the defenders of daylight, one of whom said that on a recent visit to New York he found on the outskirts of the city very tall buildings of many stories still being constructed, but they were well spaced out so as to ensure even for the lower floors an abundance of daylight.

Reports of Societies

INHIBITION OF DENTAL CARIES BY FLUORINE

At a meeting of the Section of Odontology of the Royal Society of Medicine on Feb. 23, with Prof. HUMPHREY HUMPHREYS in the chair, Dr. ROBERT WEAVER, of the Medical Branch, Ministry of Education, read a paper on the inhibition of dental caries by fluorine.

Dr. Weaver said that in the early 'thirties it was suggested that a mottled appearance of tooth enamel was caused by the presence of a substantial amount of fluorine in drinking-water. It was not at that time realized that a very much lower concentration of fluorine than was necessary to produce mottling might inhibit dental caries. During the five years before the war, however, evidence accumulated that the inhibition of caries could be brought about by a concentration of fluorine too low to cause any unsightly mottling. In 1944 Dr. Weaver himself had referred to the low incidence of dental caries in certain areas as being possibly due to fluorine, and the evidence accumulated since then had convinced him that judgment on this point need no longer be in suspense.

Fluorine was by no means a rare element. It was now being used widely for industrial purposes, but there were few communities of any size dependent for water supply on water containing significant amounts. Most fluorine-free waters were soft; well-waters, in which fluorine was more likely to be found, were hard. The fluorine content of the diet, apart from drinking-water, was, generally speaking, low. It was relatively high in fish, perhaps up to 7 parts per million, but was largely concentrated in the bones, which were not eaten. It had been stated that baking-powder might contain a considerable quantity of fluorine.

Dr. Weaver described certain dental investigations in five-year-old and twelve-year-old children in North Shields and South Shields. North Shields water had a fluorine concentration of less than 0.25 part per million, but in South Shields water the concentration was 1.4 parts. The investigation showed that there was a lower incidence of dental caries in South Shields, but the most important lesson to be drawn was that the inhibitory property of fluorine was of rather short duration. At first sight it might seem that caries was inhibited by nearly 50%, but actually the effect was only to postpone the onset of caries for from three to five years. A question which might be put was that if the incidence of dental caries at certain ages in South Shields was so much less than in North Shields, and dental disease was inimical to health, was there any evidence that the South Shields child population was healthier than

that of North Shields? There was no striking difference between the two towns in this respect, and it was evident that only a limited beneficial effect might be expected from fluorine in drinking-water.

Something must be said about the possibility of fluorine doing harm. A good deal had been written about the toxicology of fluorine, in particular that it caused hypercalcification of bone, and that in fluorine districts goitre was specially prevalent, though he had not found this in north-east Durham. There was no doubt that fluorine was a toxic substance and would do harm if taken in considerable quantities, but there was no evidence that, apart from the unsightly appearance of the teeth, there would be any ill effect from the prolonged ingestion of water containing not excessive amounts of fluorine.

Was the effect produced during the pre-eruptive or the post-eruptive life of the teeth? Would the incorporation in the forming enamel of quite a small amount of fluorine render the enamel more resistant to caries? Laboratory experiments had been carried out, but it was doubtful whether reliable conclusions could be drawn from experiments *in vitro*. From an examination of several hundreds of children he had come to the conclusion that it did not matter whether the child's residence in a fluorine area had been long or short—or, to put it in another way, so far as the six-year molars were concerned it did not seem to make any difference at what period the child had come to live in the fluorine area—provided he arrived there before the age of 6. It seemed to be essential that the child should have ingested fluorine for a period, even if only a brief one, before the eruption of the six-year molars. Children over 6 when arriving in the area appeared to derive no benefit at all so far as the protection of their six-year molars was concerned. If the fluorine conveyed any protection in the post-eruptive stage it was only during a short period following eruption. Protection was acquired during the late stage in the pre-eruptive life of the teeth, but the acquirement of such protection just after eruption could not be ruled out.

In some places in the United States and Canada fluorine was being added to drinking-water in order to study the effect on dental caries, but such a method was not one to be adopted without serious consideration, and for his own part he had never suggested that the fluorine content of drinking-water should be raised above one part in a million.

In discussion it was argued that the degree of mottling found when there was a certain amount of fluorine in the drinking-water was conditional upon the state of nutrition of the teeth. This had been shown in investigations in Italy and Morocco. Arab children in Morocco who were badly nourished showed mottling conspicuously, while French children in Morocco who drank the same water had teeth of normal appearance. Dr. Weaver pointed out, however, that there were other factors to be considered. It was not only a question of the amount of fluorine in the water but of the amount of water which was drunk.

PATHOLOGY OF RECTAL CANCER

THIRD LETTSOMIAN LECTURE

In his third and concluding Lettsomian lecture, delivered before the Medical Society of London on March 1, Dr. CUTHBERT DUKES dealt with the special problems of rectal cancer.

The records of St. Mark's Hospital, he said, proved that in rectal cancer biopsy was a trustworthy procedure. Between 1930 and 1945, 2,118 biopsies were carried out preparatory to excision of the rectum; in each case a comparison was made later between the original biopsy diagnosis and the tumour subsequently removed, and in all but 17 cases there was agreement. In 15 of the 17 the biopsy report had been "villous papilloma," whereas operation showed the growth to be carcinoma. These were all examples of a carcinoma developing in a villous papilloma, and it so happened that the biopsy fragment included only the villous portion.

Operation Specimens

Haemorrhoidal rectal cancers were divided into two varieties: adenocarcinoma and colloid carcinoma, the latter term being

used to describe tumours the individual cells of which were distended with mucus, giving a signet-ring appearance. mucoid material was found only in the lumen of the acini the tumour was described as an adenocarcinoma undergoing mucoid degeneration. Adenocarcinoma was much the commoner of the two varieties, and might be subdivided according to the histological grade of malignancy into low-grade, well-differentiated tumours, average grade, and high-grade, neoplastic tumours. Tumours might be confined to the rectum or spreading into the peri-rectal tissues. At St. Mark's classification had been adopted, which recognized four stages in the process of the disease: growth limited to the rectum; growth spreading by direct continuity into adjoining structures but not yet giving rise to lymphatic metastases; further spread with lymphatic metastases; and beyond the scope of surgical care. Judging from operation specimens the growth was still at the first stage in about 15% of cases operated on at the second stage in 35%, and at the third stage in 50%. Success or failure in surgical treatment depended largely on the extent of lymphatic spread, and account should be taken of all possible paths of lymphatic spread when planning an operation.

The lecturer gave an account of the pioneer work of the late Ernest Miles. It was now well established that the first glands to receive metastases in rectal cancer were almost invariably those lying close to the primary tumour. After this the superior haemorrhoidal glands were usually invaded in sequence from below upwards, so that in an advanced case of cancer of the lower third or ampulla, metastases came to form an unbroken chain extending from the regional group of glands to those situated at the point of ligature of the inferior mesenteric vessels. In the upper third of the rectum and recto-sigmoid region the first direction of lymphatic spread was also upward, and it was rare to find any metastases in glands below the primary tumour, though this might sometimes occur if the upward path of spread had been blocked. Downward spread of this character was exceedingly rare. The follow-up record at St. Mark's showed that prognosis after excision of the rectum depended very much on the extent of the lymphatic involvement. A generalization which it was easy to remember was that patients with more than five metastases rarely lived for five years.

When operation specimens of rectal cancer were dissected, evidence of extensions within the haemorrhoidal veins might be found in about 15% of all cases, usually taking the form of a solid cord detectable by palpation and extending only a short distance. In most cases the growth within the veins preserved its continuity with the primary tumour, and was more than a special form of direct local extension. It was as if the malignant tumour, having found the path of least resistance, had pushed a root-like process along the lumen of the vein. Occasionally a massive permeation of the haemorrhoidal veins accompanied by thrombosis was found. The evidence of venous spread was most often found in anaplastic varieties of carcinoma. It was present in more than 30% of tumours reported as high-grade, but in less than 3% of those of low-grade malignancy. The finding of clumps of cancer cells within one of the haemorrhoidal veins made it more likely, though did not definitely prove—that spread to the liver had occurred. There was no doubt that concealed and unsuspected hepatic metastases accounted for most of the unexplained deaths in the first year or two after excision of the rectum. Rectal hepatic metastases might also lie dormant causing no symptoms for five years or longer.

Choice of Operation

Surgery was still the only form of treatment which offered any hope of permanent cure in rectal cancer. Dr. Dukes discussed the operations in most general use—perineal excision and combined abdomino-perineal excision, with the recent variant, synchronous combined excision, in which two operations worked together, one from above and one from below. At the moment there was a revival of interest in all surgical procedures which sought to avoid a permanent colostomy and to preserve the anal sphincter.

In order to decide whether more use could be made of these restorative operations he had reviewed the pathological records of a large series of cases treated by combined excision, finding

ascertain whether, had all the facts been known, a restorative operation might have been employed instead. Certainly some cases treated by combined excision might have been equally well treated by restorative resection so far as pathological considerations were concerned, but on the other hand pathological findings were often present which might adversely affect the prospects of cure by restorative procedures. His own view was that the wave of enthusiasm to remove a carcinoma of the rectum or recto-sigmoid by methods which would obviate colostomy needed to be kept in check. Only experience could show whether this new development of rectal surgery could give as satisfactory results as the older well-tried operative procedures.

End-results of Surgical Treatment

Dr. Dukes proceeded to give the end-results of surgical treatment of rectal cancer as afforded by the records of St. Mark's Hospital. About half the patients who survived the operation of excision of the rectum were alive after five years, a very satisfactory result in view of the fact that the surgeons at the hospital all adopted a bold policy towards rectal cancer and their operability rate was more than 80%. This analysis was based on 716 cases treated by radical excision between 1928 and 1941 inclusive. Only 12 of the 716 cases had not been cured for five years, and these uncured cases were regarded as having died. In these calculations no distinction had been made between deaths due to recurrence and those due to other causes. By making an estimate of patients who might be expected to have died from other causes during the five-year period, and allowing for this, an approximate figure could be arrived at for the number of patients actually "cured," namely, 31.1%. The "cure rate" figure was thus slightly more favourable than the survival rate.

Of the 716 patients, 337, or 47.1%, were alive after five years. Approximately half these patients were treated by the perineal and half by the combined operation. The five-year survival rate of patients in whom the tumour was limited to the rectum was 81.9%, and only 62.3% for those with extra-rectal spread even though no metastases were present. For cases without lymphatic metastases the rate was 68.1%, whereas for those with such metastases it was only 26.2%. The unfavourable effect of lymphatic metastases was demonstrated especially after perineal operations. For patients without lymphatic metastases the difference between the two operations was insignificant, but for those with lymphatic metastases the five-year survival rate after perineal excision was only 17.4%, whereas it was 33.3% after the combined operation. The reason for this was because metastases in the upper haemorrhoidal glands might be removed by a combined though not by a perineal excision.

The histological grading of tumours was also of value in relation to prognosis, though less easy to define. The five-year survival rate worked out approximately at 60% for low-grade, 30% for average grade, and less than 30% for high-grade or anaplastic tumours. Metastases were found with only 18.4% of tumours classified as of low-grade, but with 78.2% of those of high-grade malignancy.

What sort of life did the five-year survivors lead? Dr. Dukes said that recently he had the opportunity of visiting 100 ex-patients from St. Mark's in their homes. All of them had had the operation of excision of the rectum for cancer, some only a few months, others several years, previously. His purpose was to collect information about the management of a colostomy, but he made notes of other matters also. Nearly all the ex-patients were in good health; eight or nine were semi-invalids, only two were bedridden. Most of them were over 50 years of age, and their general health seemed as good as one would expect to find in any similar group of elderly people. Nearly all could do some sort of work, usually household duties; only five complained that they could do nothing, and only one said he wished he were dead. Most of them spoke more of the kindness and help they had received from others than of their own troubles, and all referred with great gratitude to the skill of their surgeons and the solicitude of the nursing staff. He thought it true to say that nearly all these 100 survivors were glad to be alive, and they were less handicapped by colostomy than one would have supposed.

CONSTRUCTIVE PERICARDITIS

At a meeting of the Liverpool Medical Institution on Feb. 5, with Mr. BRYAN L. MCFARLAND, vice-president, in the chair, Mr. F. RONALD EDWARDS read a paper on tuberculous pericarditis and constrictive pericarditis.

Mr. Edwards said the object of his paper was to stress the relationship between tuberculosis and constrictive pericarditis. Four cases of subacute tuberculous pericarditis had been operated upon, as had six cases of chronic constrictive pericarditis which he described. In the chronic group there had been a history of pleurisy some five to twenty-five years previously, similar to that in the subacute group. He believed that cases of chronic constrictive pericarditis with calcification were the residuum of a much larger group of cases of so-called cardiac failure, some of which might have been saved by cardiac decompression. The paper was illustrated by a colour film showing the operative technique.

In the discussion which followed Mr. HUGH REID said that he preferred a postero-lateral transpleural approach to the pericardium, removing the eighth rib on the left side. This was simpler to perform, left no defect in the chest wall afterwards, and gave ample access to the ventricles and the apex of the heart. The only objection was a temporary embarrassment of respiration while the patient was being fixed on the table. Mr. Reid then showed one of his cases, a man aged 20 recently operated on at the Royal Infirmary.

Dr. T. CECIL GRAY said that anaesthesia in cases of constrictive pericarditis presented certain problems. These patients always had a poor myocardial reserve. They might also have ascites and some pleural effusion. The margin of safety was extremely small until the pericardium had been released, when the change in the patient's condition was often dramatic. This small margin of safety was well shown by the cyanosis which might occur purely through putting the patient in the lateral position for thoracotomy. Both he and Dr. Halton were very convinced of the real danger of the use of intravenous barbiturates in these cases, but in adequate dilution, for example, 2.5% thiopentone, and in small doses—of the order of 3-4 ml.—they could be used for induction. It was advisable, however, to allow the patient to breathe oxygen both before and throughout the injection. The anaesthesia was then deepened with cyclopropane and oxygen and an endotracheal tube inserted. Anaesthesia was maintained with ether in the closed circuit in preference to cyclopropane, because the latter had often been found to cause severe degrees of cardiac arrhythmia during any dissection around the heart. There was no definite contra-indication to the use of small doses of tubocurarine to aid induction and reduce the amount of anaesthetic required provided that adequate ventilation was maintained with oxygen.

Dr. E. L. RUBIN drew attention to the site of pericardial calcification which most commonly covered the under and anterior surfaces of the right ventricle and most rarely the left auricle. Neither pericardial calcification nor the absence of radiologically visible pulsation necessarily implied constriction and both were occasionally encountered in patients who were without symptoms or other signs. An exaggerated auricular impression on the oesophagus similar to that seen in mitral stenosis was sometimes encountered, due not to enlargement of the left auricle but to thickening of the pericardium.

At the same meeting Dr. GODFREY BAMBER read a paper on some defence mechanisms of the skin.

At a clinical meeting of the Medical Society of the L.C.C. Service held at Hackney Hospital on Feb. 5, Mr. J. Gillies showed cases of various renal anomalies. Dr. Cardno described a case of sixth nerve palsy in a man of 77 following low spinal analgesia with complete recovery in eleven weeks. Mr. Jamieson showed four cases of tumours arising in sebaceous glands, two innocent and two malignant, and said that he considered them all examples of "Cock's peculiar tumour."

Local authorities have found it difficult to provide suitable accommodation for midwives, district nurses, and health visitors. A circular from the Ministry of Health asks that the utmost possible assistance may be given to finding suitable accommodation for them.

Correspondence

The Colleges and the Act

SIR.—The crisis which now faces British Medicine calls for high and courageous thought. The plebiscite revealed the unity of the profession, a unity which springs from a complete distrust of the absolute power given to the Minister and the conversion of Medicine into a State monopoly. The profession is convinced that in opposing service it is acting in the interests of freedom and of the public and that it is safeguarding its own precious heritage.

A situation has arisen in which the B.M.A. has had to assume leadership. Certain professional observations are, however, called for. The action of the Presidents of the three Royal Colleges in January, 1947, was a risky one and it failed in its object. It damaged the prestige of the Colleges, endangered relations between consultants and general practitioners, encouraged the Minister, and misled the Press. The B.M.A. represents primarily the general practitioners, and there has never been any doubt about their attitude to the Act. Consultant opinion was not equally well represented on the Negotiating Committee, as the Colleges are represented in their corporate capacities and not by delegation from their Fellows. In the case of the largest College—the Royal College of Surgeons of England, with some 2,600 Fellows—the President and Council did not obtain the direct views of the Fellows, and no meeting of Fellows has been held since Nov. 29, 1946. And in a crisis such as the present one the leaders must derive their moral authority from their Fellows as the B.M.A. does from the Representative Body.

The Presidents had two primary obligations to the profession: first, to make clear the principles upon which the Act was based; and secondly to give their opinion as to the importance they attached to the heritage of freedom in the practice of medicine. They did neither of these. In consequence, consultants were demoralized and slow to realize the implications of an Act which places them at the mercy of a State monopoly.

A forgetfulness of Lord Halifax's maxim that "State business is a cruel Trade: Good-nature is a Bungler in it" is one of the reasons for our present troubles. Coalition governments are maintained by hard bargaining, and in the dark days of the war a hard bargain was struck which pledged social security and implied the nationalization of medicine. The repercussions of that bargain are now evident. Such a bargain explains the similarity of the health policy of all the political parties and the schemes of the successive Health Ministers, and it also explains the unwillingness of the Presidents to give clear leadership to the profession. Doctors are responsible and reasonably well-behaved citizens, and they will not break the law if they do not agree to serve under the Act, since their deepest convictions are that the Act will be disastrous in its effect.

I have never thought the Act capable of amendment which would lead to improved medical services and medical education and yet maintain that freedom which is vital to the practice of medicine. The interests of the public and the interests of the profession both call for the repeal or abandonment of this Act. The objections in principle are to the absolute Ministerial power, the creation of monopoly, and the certainty of political control. The practical objections are also weighty. We shall never trust Mr. Bevan, and it will take many years to restore our confidence in the intentions of any Minister of Health. The Minister and the Act have destroyed our good will, so that if the Act ever operates it will be with the same material resources but with fewer medical men and without the good will and confidence which alone make medicine possible. The sick public will suffer. The capital expenditure envisaged under the Act cannot be incurred, and an economic blizzard may aggravate the disorder of the health services and bring chaos and confusion. If the Act is forced on the community against the expert advice of the doctors, then the Government must accept responsibility.

In the events leading up to the present situation many have played a part—the B.M.A., the Royal Colleges, the Government, but especially the politicians, who have exploited the medical profession in an endeavour to attract votes. The situation

calls for all available political and medical leadership. The abandonment of the present destructive Act will be a first step in construction. Both political theory and grandiose planning will have to be forsaken if they are not to disorganize medical institutions, traditions, and confidence, and if that sense of vocation is to remain in work which is as private and intimate as the care of the sick. In the *Journal* of January 18, 1947 (p. 102), I wrote: "We are members of a free and liberal profession. I want that freedom to continue as one of the freedoms of a democratic community. As healers of the sick we shall continue to give our best if free from State coercion." That is still our faith.—I am, etc.,

London, W.1.

REGINALD T. PAYNE.

No Health Centres

SIR.—Mr. Bevan's irresponsibility is glaringly illustrated in a Parliamentary answer he has given me (Feb. 10), which I append (see *Journal* of Feb. 28, p. 421). It is not too much to say that the health services under the N.H.S. Act were to be provided in predominant measure by the machinery of the health centres; a glance at Section 21 of the Act proves this contention. In Mr. Bevan's own words they were to be "the key feature in the general reconstruction of the country's health services." But without any notice to the medical profession and almost clandestinely, the Minister announced in Circular J 1948, on Jan. 14, that because of the building situation provision of health centres must be postponed indefinitely. Still more certain must be the indefinite postponement of any new provision of hospital accommodation, or even any attempt at restoration of the buildings destroyed at the great London hospitals by enemy action.

Circular 3, 1948, gives a further revelation of irresponsibility. In paragraph 5 the Minister shows that he is completely in the dark as to what the health centres should provide, and he proposes to set up a "special committee to gather information as to the aim to be pursued, and he stresses the need "for intensive research and thought about the design before the new development is launched."

The provision of institutional and specialist treatment was one of the most attractive promises of the Act and indeed perhaps one of the strongest single influences in securing its passage. But the Minister in answer to me on Feb. 10 calmly informed the House that "no immediate substantial increase of the building work under the Act has ever been promised or regarded as feasible." The Act is to be put into operation within the next four months in the total absence of any possibility of fulfilling undertakings whose execution depended on provisions now indefinitely postponed. In a recent broadcast widely reported Dr. Stephen Taylor, M.P. (who constantly assumes the rôle of mouthpiece for the Minister), gave an "absolute assurance" that the Act would come into operation on July 5 with whatever resources of staffing might then be available, even though the might not cover more than half or even a third of the population, but no suggestion was offered as to how the population not so covered is to obtain medical attention after the elimination of the existing N.H.I. services. It seems clear that the unfortunate patients not included in the half or third covered will be required to pay the full levy, even though they receive none of the benefits or services in respect of which the levy is made.—I am, etc.,

House of Commons.

E. GRAHAM-LITTLE

The Political Perspective

SIR.—As you stated in the first leading article in the *Journal* of Feb. 21 (p. 347) the result of the plebiscite has placed heavy responsibility on the B.M.A. and especially on the forthcoming Special Representative Meeting on March 17. It is important to realize that this responsibility is of a new and important kind. The recent debate in Parliament has shown that the issue now regarded very much as a political one. It is most regrettable that politics and medicine should be so mixed up that they be temporarily identified, and it is also unfortunate that, as stated in the debate, doctors are seldom good politicians. (Perhaps this is because they have learned care in diagnosis, humility in prognosis, and moderation in statement.) It is therefore, that the matter should be seen in its political background, which should surely be present in the minds of all

meet on March 17, I should like to recapitulate some recent events which in their sequence and consequence seem to throw some light on the political perspective.

Towards the end of last year it was being rumoured that Britain's place in the Marshall queue might be very low, alarmingly so if the present Socialist policy were to be completed. It was therefore essential to make a bid for a higher place, and this was done by Mr. Attlee's speech on Jan. 3 roundly condemning Communism and emphasizing freedom, thereby pleasing America but disgruntling his left-wing supporters. These needed to be placated if the façade of harmony were to be maintained, so the device, unique in our history, of giving a vote of confidence to a Minister who had not been attacked was devised. The plebiscite was made the occasion for this demonstration of confidence in Mr. Bevan, the leader of the left-wingers, and careful reading of *Hansard* shows how successfully and exactly it was carried out, with a mastery of technique to satisfy Hitler himself.

Parliament was asked to say that it was "satisfied that the conditions under which all the professions concerned are invited to participate are generous and fully in accord with their traditional freedom and dignity"—when in fact the financial conditions for consultants, etc., are unknown, so that apart from a blind faith in Mr. Bevan no one could say whether they will be generous or not, while the regulations which will determine whether the conditions for most doctors are compatible with their "freedom and dignity" are also largely unknown.

Mr. Bevan, having said that "so much misrepresentation has been engaged in by the B.M.A., etc." then went on to misrepresent completely his discussions with the Negotiating Committee for the past year, for no one could gather from his speech that this time the "Negotiating Committee" had no power to negotiate but only to discuss and report back. This misrepresentation obviously convinced many members of the unreasonableness and intransigence of the doctors and coloured the whole debate.

The crowning achievement was of course to represent "the will of Parliament" as supreme not merely in matters of administration but in the sphere of morals and conscience as well (more will be heard of this later). This occurred because most of the members could not discern behind the specific objections of the Negotiating Committee the issue of professional freedom and duty to one's patients.

While doctors are not free from blame in this result, the debate made it clear that this Parliament is not versed in the art of discussing freedom in the dialectic of finance and regulations and was genuinely bewildered by the ostensible purpose of the debate, but it was a brilliant success in soft-soaping Mr. Bevan and his followers and in sweetening the bitter pill they were to swallow the next day when the Government issued the White Paper on the stabilization of wages, etc. All this goes to show how carefully the matter was timed and what importance the Government attached to making the doctors into a whipping-boy to please their extremists. No one can say that it does any good for the projected Health Service, either patients or employees, but it does emphasize the extreme seriousness with which we should meet on the 17th and the need to weigh even more carefully than usual what we say and the way we say it.

In the leading article in the *Journal* of Feb. 28 you stress the importance of public opinion, so I trust that this time the proceedings of the S.R.M. will be in public and that speakers will be the opportunity to make crystal clear to the wider public exactly what it is we are fighting for—how easy to say and to tend, but how difficult to do!—for at present public opinion is as confused and ill-informed as was Parliament a few weeks ago. We must emphasize the danger to clinical freedom, development, and research inherent in the Treasury control at the Act lays down for the Service, and show what it may mean for our patients. Enough is already known of some regulations to show what a mockery they may make of Mr. Bevan's promises about clinical freedom and doctor-patient relationship.

One would think that the dangers of a monopoly are already sufficiently known, or at least professed, to need no stressing, but this is not so. In fact most people seem to be unaware at the struggle between the doctors and the Act is really the attempt to maintain freedom in an ordered service, only

this time it will touch every individual in the most intimate parts of their physical, mental, and even moral existence. So far no satisfactory solution of this difficult problem has been found, but few solutions are so obviously bad as that proposed in the Act, which gives almost absolute power to the Minister and trusts that his promises of freedom (which the Treasury has power to nullify) will be kept.

Even if Mr. Bevan does his best, it is obvious that the Act is an instrument ideally formed for a dictator, and if the doctors accept it as it is they will have taken a long step for themselves and for their patients on the road that leads to Prague, or perhaps it will be Helsinki by this time next week. I believe that this is the crucial issue, and if we can make the people see it I have no doubt as to what their opinion will be, and even Parliament may have to admit that "the will of Parliament" ought to express the will of the people, as it certainly ought to seek their good, which is after all what we doctors exist to defend and to serve.—I am, etc.,

Winsted, Cheshire.

W. N. LEAK.

The Paternal State

SIR.—Dr. G. C. Pether (Feb. 28, p. 411) has raised the important question of the potentially deleterious effects of undue control by the State and extensive plans for "social security" on the development of the individual personality. It is not altogether true, however, that "psychologists have paid so little attention to the cramping and thwarting of personality" inherent in such trends. On the contrary, there has been for many years among eminent psychologists and psychiatrists a remarkable consensus of opinion as to the psychological significance and dangers of an over-protective and authoritarian "paternal" State, and as to the relationship between emotional and social maturity of the individual and a liberal democratic form of society.

The conclusions reached as early as 1921 by J. C. Flugel in *The Psycho-Analytic Study of the Family* (London) to-day seem as prophetic as they are relevant:

It is fairly clear that there exists a tendency to resurrect some of the parental attributes and give them a political application by bestowing them upon the State. The world war has taught us the necessity of implicit obedience to the State and its representatives—military and civil; the right of independent thought, action and criticism being to a large extent suspended and the minute details of our lives being subject to order and inspection in much the same way as in our childhood they were subject to the supervision of our parents. Again, modern socialistic thought—especially in its cruder aspects—has produced a state of mind, as a result of which the individual becomes to a large extent absolved from the responsibility for his own education, progress, and maintenance, and for those of his children. The adult individual is thus led to transfer on to the State that attitude of dependence which he originally adopted in relation to his parents. . . . If our conclusions are correct, there is a danger in too wide a ramification of State provision and State control, inasmuch as it is liable to prevent that full development of individual power, initiative and self-reliance which can only be obtained by a high degree of emancipation from the primitive attitude of dependence on the parents.

F. Alexander in *Our Age of Unreason* (1942, Philadelphia) similarly states:

Democracy must educate its members to emotional maturity if it is to survive, and psychiatry must help to develop educational methods for overcoming infantile dependence and developing responsibility.

O. H. Mowrer (*J. Soc. Psychol.*, 1939, 10, 121) writes:

Modern fascism springs from psychological roots which are as old as the human family and which are by no means confined to the populace of those countries in which fascism has gained official status. The danger of emergence and growth of such a political doctrine, with its emphasis upon subservience and blind submission . . . comes, not from propaganda and pressures from outside, but from a country's own internal educational and economic institutions. No one, I believe, can at present point with certainty to the solution of this important problem; but surely encouragement of greater independence and emotional self-sufficiency in children . . . is a step in the right direction.

It would appear then that superficial methods of education designed to mass-produce men and women according to a preconceived "average" pattern, or which would regard all

children as identical or potentially "equal" in their capacities, should be avoided at all cost if we wish to preserve our democratic way of life. On the basis of his study of human constitutional types W. H. Sheldon (*The Varieties of Human Physique*, 1940, New York) was led to the conclusion that "children of different constitutional components probably need different educational influences, just as trees which lean in different directions need to be supported from different angles." This "differential education," as he termed it, necessitates the conception of education as "an effort to discover and develop the peculiar potentialities of the individual, more or less regardless of the immediate social value of the emerging traits. The assumption is that the aim of life is not social adaptation and conformity, but maximum individual development."

Finally, one of the most profound thinkers of modern times and one who has made invaluable contributions to psychiatry, C. G. Jung, in his *Essays on Contemporary Events* (1947, London) has recently written :

The parental imago can now be projected on to the State as the universal provider and the authority determining all thinking and willing. The natural development of the soul is no longer repressed by a spiritual order of direction which bridges the centuries and keeps cultural values alive, but by a political directing order which serves the power aim of particular groups and promises the mass economic benefits. In this way the deeply rooted urge of the European towards a patriarchal and hierarchical order finds an apt and concrete expression which corresponds only too well to the interests of the masses, but which is fixed at such a level as to be in every respect detrimental to culture. . . . It is perhaps a lamentable sign of the spiritual immaturity of European man that he both needs and desires rather a large measure of authority. . . . Jung then sets out to bring everything that wants to grow to the surface of growth would soon find that the weeds, which always flourish best, had shot above his head. I therefore consider it the task of psychotherapy to-day to pursue with singleness of purpose the goal of the development of the individual.

It is well recognized that a basic standard of social and cultural maturity is essential for the emotional maturation of the individual to be possible. But it would seem from all the evidence available that it is only by educating the individual to initiative, self-reliance, and independence, giving him the opportunity to improve his own and his family's condition through his own efforts and insisting that he should, in so far as his capacities permit take upon himself the burden of his responsibilities as an adult that there can be any hope of giving rise to well-adjusted and mature personalities and a lasting and authentic culture. In the face of contemporary events and ideological trends it would be difficult indeed to find place for any such hope outside the realm of fantasy.—I am, etc.,

T. J. S. SWA

R. H. AURENFELDT.

Censorship of Opinion

SIR.—The Council of the Society of Medical Officers of Health at its last meeting discussed the statement in your leading article entitled "Censorship" (Jan. 31, p. 202) that a county medical officer of health recently instructed the public health medical officers on his staff not to take part or vote in a meeting held in their area to discuss the National Health Service Act, and that those officers who were present had to sit in enforced silence. It was the unanimous view of the Society's Council, and of the medical officers of health and departmental medical officers from all types of local authorities, that the instruction mentioned above was neither proper nor permissible. It was a gross violation of a public health department, and of its medical officers, their disclaimer of any support for such an instruction on the freedom of opinion of the medical profession.

GEORGE F. BUCHAN,

Chairman of Council,
Society of Medical Officers of Health.

The Northern Ireland Act

It is a pity that there is some misconception concerning the provisions of the Northern Ireland Health Service Act in regard to the medical profession. The Act contains in Section 7 the provision that the medical profession shall take service under the Health Service. This does not mean that the medical profession shall be required to take service under the Health Service on the appointed day and

thus lose the right to sell the goodwill of their practices. These provisions have been inserted in agreement with the representatives of the medical profession in Northern Ireland, the negotiations having been conducted with the Northern Ireland Branch of the British Medical Association.—I am, etc.,

London, S.W.1.

W. BROOKE PURDON.

* It may be useful to summarize the main features of the Northern Ireland Act. The hospitals will not lose their endowments ; there is a right of appeal to the courts ; the capitation method of remunerating general practitioners is laid down in the Act ; there are no penal clauses ; there is no negative direction or control. The doctors agreed to the abolition of buying and selling on the understanding that if this provision were removed from the English Act a similar course would be taken in Northern Ireland.—Ed., B.M.J.

The Fight for Freedom

SIR.—It was with a deep and sincere feeling of elation that I read the letter by Dr. A. C. E. Breach (Feb. 28, p. 412). I fully agree with him that the medical profession is surely now the last and only hope of true freedom. We must be ready and willing to fight, not just for ourselves against a dangerous Parliamentary Act, but we now have to regard ourselves as "commandoes of the public." If we fail in our fight, and we can only fail through cowardice and personal greed, we will be regarded by the public as a "very poor lot," whereas if we are the first in this country to take up our positions against tyranny not only will we ourselves feel happy in doing what is our honourable duty, but truly it may be said many years hence, "The doctors showed the British people strength, honour, and the road of the way back to greatness, and the British people took that road, and when they eventually rested they were indeed great."—I am, etc.,

Liverpool.

A. E. BERNSTEN.

Association of Rural General Practitioners

SIR.—I should like to support Dr. O. F. Conoley's letter (Feb. 7, p. 273) on rural mileage and practice expenses under any new Service. Living five miles from the nearest small town and eleven from any big town, one is forced to keep two cars. As both are nine years old they take turns in being repaired. Up till now, private practice has paid for purchase and upkeep ; panel mileage allowance has covered merely tax and insurance of one car, therefore panel patients are almost entirely subsidized by private ones.

Something should be done about the initial two-mile limit before payment of any allowance. Ten roads radiate from my village. I can easily do forty miles in any morning, seeing to panel patients at the two-mile limit on each road, and get precisely nothing for my travelling expenses. When private practice no longer exists that is just what will happen.—I am, etc.,

Kemerton, Glos.

D. M. WILKINSON.

Radical Alteration Required

SIR.—It is time for a wider recognition of the fact that the present National Health Service Act is not directed to medical reform but to political ends and to bureaucratic expediency. For if the Government had been actuated solely by the desire to improve the medical services of the country another and more effective plan, easier to draft and to apply, and less subversive of the good features of English medicine, would have been produced. Men of good will, in whatever Party they may be found, should combine with the profession (which alone has so far shown good will) to urge upon the Government the desirability of a radical alteration of the Act. Nothing less will secure a contented profession and, through it, a satisfied public. For it is upon the freedom of medicine that many of the advances in the past have been built, and there is no reason to suppose that the revolution in progress at present will effect any change in that respect.

Failing the complete redrafting of the Act, which was passed by a Parliament inadequately advised by the profession, there are certain amendments which, if made, could go a long way to preserving the freedom which we, as doctors, regard as essential.

1. A previous letter in the *Journal* has shown the way in which the objectionable "universal basic salary" could be made harmless by converting it into an expenses allowance.

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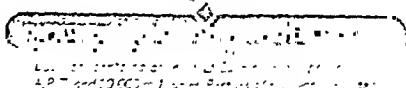
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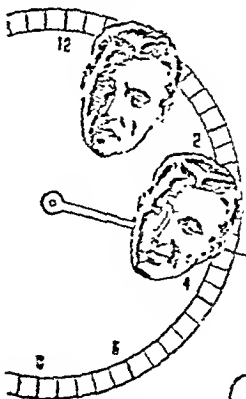
is stabilised and standardised wheat germ oil containing 3 mg. vitamin E per capsule. One to three capsules daily suffice for most cases. The vitamin is best utilised when given by mouth and treatment should in most cases be continued for several months. In pregnancy, the earlier treatment is begun the better.

References:—Shortage of space precludes list of references, but full documentation may be obtained on application to Clinical Research Dept. 41A.



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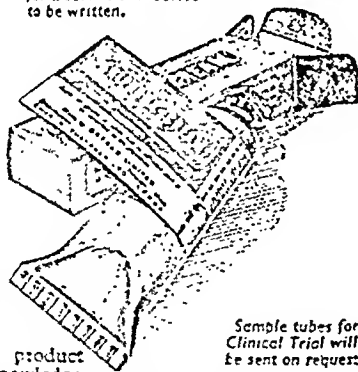
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2. The ban on the sale and purchase of practices could easily be replaced by a State power to buy practices, or shares in practices, at their market value when vacancies occur. By this means there would be no bar to the entry into practice of any man who could not afford to purchase one, for the State would buy his practice for him and install him as the tenant. The transfer of goodwill of practices to the State would thus be a gradual process instead of the upheaval that the Act demands. This method would also remove the offensive "big stick" of the restrictions on payment of compensation with which the present Minister hopes to bludgeon the profession into acceptance.

3. Mr. Bevan is in error in saying that the recent law allowing the right to sue the Crown will provide all the appeal against a Ministerial decision of dismissal that the profession could require. Mr. Bevan in the House made great play with the fact that the doctor would have the right of appeal against unlawful dismissal. Maybe, but the profession requires the right of appeal against unfair dismissal.

4. The right of the profession to put its elected representatives upon all the governing bodies of the Service could well be conceded without harm to Ministerial control and with enormous advantage to the Service. As at present planned, the Service will be run by the Minister, the Civil Servant, the administrative medical officer, and the local authority; the last person to have any power will be the doctor, who actually does the work.

—I am, etc.,

Portsmouth.

NIGEL CRIDLAND.

Some Alternative Suggestions

SIR,—In your leading article of Feb. 28 (p. 397) you state: "The medical profession and the Minister of Health have one important end in common and that is to provide an efficient medical service for the people of this country." You then continue to write about the adjustments necessary to the Act in its present form. These two statements are irreconcilable, as no adjustments of the Act can possibly improve the service of medicine to the public, although they may mitigate several potential dangers. The Act as it now stands sets out to do two things. One is to provide a "free" service, and the other is to control the profession. I cannot believe that there was any intention to try and improve the service of medicine or it would surely have shown itself somewhere. Yet if a great reform of this kind is initiated it should have as its basis an aspiration to improvement in all its spheres.

What are the hindrances which are holding back the profession? They are first the fact that all G.P.s are grossly overworked and cannot give the time they would like to each patient, and secondly that out-patient and in-patient accommodation in hospitals is seriously inadequate. The latter is a question of building and of nurses rather than of medical staffing and cannot be solved in the immediate future, but could be alleviated if the former were rectified. If G.P.s' surgeries were not so crowded, then it is possible that fewer cases would find their way to the out-patient department. If G.P.s' rounds were not so rushed, then they would feel more able to cope with minor serious medical cases which otherwise would be sent into hospital.

It would therefore seem that if G.P.s' practices could be limited in size, then most of the hindrances to an efficient service would be dissolved. The number of G.P.s is approximately 20,500 and the population about 48,000,000—i.e., about 2,146 per doctor. A practice of this size should be managed efficiently and without overworking the doctor. In order to limit practices to this size it would be necessary to leave out of the scheme a certain percentage of the population, because there are the less densely populated country districts with relatively small practices, and elderly and semi-retired doctors who would not attempt to see as many patients. The obvious solution would seem to be to leave out the upper-income groups, many of whom would not in any case take advantage of the Service—say, all those with incomes above £1,000 a year. The remainder of the population would therefore come under the Health Scheme and obtain free doctoring, but as the upper income groups will have to pay for the scheme then it is only just and proper that they should obtain certain benefits from it.

These criteria could be satisfied by limiting doctors' practices either by a generous capitation fee, such as 25s. to 27s. 6d. per head with a number not to exceed 2,750, or by a staggered capitation fee, such as 30s. per head for the first 1,000, 20s. for the next 500, 15s. up to 2,000, and any further patients at 7s. 6d. per head. Confinements, mileage, and the very much reduced amount of private practice would ensure standards approximating to those recommended by the Spens Report. Those with incomes above the limit should be helped by free pathological and radiological

investigations, which should be available to all G.P.s without reference to the out-patient department of the hospital.

Consultants and specialists would therefore carry on with a reduced private practice, which would entail that they should be remunerated for their hospital services. State aid to the voluntary hospitals is essential if they are to survive in this present era. If consultants and specialists were paid on a case basis, then they should not only be able to maintain their present rate of income but possibly manage to reduce their fees for private work, thereby increasing that work which otherwise would accumulate in the hospital departments.

Such a scheme would seem to have distinct advantages—namely (1) it would provide a fillip to medicine by enabling the G.P.s to work well without overworking; (2) it would satisfy all income groups of the public; (3) it would dilute State control by enabling a G.P. to leave the Service if he is unhappy and still be able to scratch a living outside; (4) it would help a young doctor, as his first patients would be the most remunerative and he would also benefit from the redistribution from the present bulky practices.

It does mean, of course, a new Act; and various other issues are not mentioned such as the buying and selling of practices. This custom, however, need not be insisted on, as there is no threat to the doctors' freedom. If it is to go it should be compensated for in the same way as other nationalization schemes—that is to say, by immediate reimbursement in the form of Government securities.

The scheme approximates to one produced by the Planning Committee of the B.M.A., and one possible reason it has not been elaborated may have been the desire to try for a 100% service. At the moment this ideal does not appear feasible owing to the amount of control apparently required by the State. If that control is the real object of the Government then obviously this scheme now suggested would meet with short shrift, but it will show that there is a scheme which could be worked efficiently—giving a better service immediately and one which could be extended as hospital accommodation is increased and health centres built. I am, etc.,

Plymouth

S. M. DAVIDSON.

Stand Firm on Four Points

SIR,—The general public are beginning to realize that there must be something in the doctors' case and the Press seems to think that the next move is up to the B.M.A. There are symptoms that we are expected to yield some concessions; indeed Drs. A. S. Hatch and F. H. Hunnard suggest (Feb. 28, p. 408) that we should yield on buying and selling practices and on appeal to the courts. I hope they will read and study the letter from Dr. J. Arthur Gorsky (p. 410), and also C. K. Allen's book *Law and Orders*. If they do, I feel confident that they will modify their views.

Unless we stand firm on all our four main points—for they are all interrelated—and if we yield on even one, our whole position will be turned and our freedom gone. So many people here and abroad are watching the situation and looking to us to show once again that the people of this country can be easily led but cannot be coerced. After all, when we agree to work the Act if our four main points are guaranteed we are still making great concessions and accepting much in the Act which is against B.M.A. policy and which we heartily dislike. To mention only a few, there is the undemocratic set-up of our representation on various boards and councils, the power of the Minister to suppress reports, his taking over of the hospitals, his proposed introduction of the full service when neither the necessary personnel nor the buildings exist to make its operation to the satisfaction of the public a reasonable proposition.—I am, etc.,

Southport, Lancs.

R. R. M. POFFER.

The Basic Salary

SIR,—Having now in no uncertain voice expressed our opinion of the new Health Act, we may safely, I think, venture on some constructive criticism with a view to attaining a workable compromise. Among other things I think we should take a new look at the basic salary. As at present envisaged it is a mere bond of servitude and has rightly been turned down as unworthy of a great profession for whom freedom is vital.

But need it be so? Why should it not become a reward for good service and incentive to better work? Instead of being a fixed sum it could be varied so that the man with experience would have a larger amount than the recently qualified, the man with a higher degree would be rewarded accordingly, and the

man in a difficult and sparsely populated area would be compensated in proportion. By increasing, say, every five years, it would rise promotion in the Service. The man with higher degree does not necessarily become of consultant status but should certainly be given some acknowledgment. In other words the basic salary, instead of making for mediocrity, could encourage progress and good work. Provided, therefore, that we can be assured that the basic salary does not lead to a whole-time State service, there seems to be much to be said for it, and we should not lightly turn it down without due consideration—I am, etc.,

ALFRED, JR. D. MURPHY

JOHN MALLOCH.

Inequality of Income

SIR, Almost every letter in the *Journal* is concerned with the moral issues involved in the N.H.S., but its financial clauses are left largely uncriticized. Splendid and laudable that it should be so! But most of us have to earn our living and must meet our obligations. In studying this less exalted point of view I have been impressed by the fact that financial injustice of the first magnitude appears to be inherent in the scheme as it is now proposed. Equality of remuneration, an equal charge for every patient on the doctor's list, will surely result in a grave inequality in the net receipts of practice. Thus, Dr. A works in a poor neighbourhood with "overheads" between £100 and £200 a year, his patients expecting a very few minutes of his time at each attendance (the N.H.I. has taught them to be content with that). But Dr. B, in better-class practice, may find his "overheads" three or four times as costly, while those who consult him will demand their quarter of an hour. A will do well; B will go bankrupt, unless he negatively directs himself to quit in A's fruitful field.

I raised this point at a meeting of a medical (or medico-political?) society which does not see eye to eye with the B.M.A. and was told that the matter would be of no importance in the Best of all Possible Worlds which is on its way. Dr. B would find cheap accommodation in a neighbouring slum, and if he wasted much time on individual patients others could soon be found who would not—I am, etc.,

LESTER, W. C.

G. LAUGHLIN SCOTT.

The Political Aspect

SIR, In view of the fact that the Northern Ireland Parliament is fully compromised with the doctors there, conceding the more important of their requirements, and that no prominence has been given to this in any section of the Press irrespective of its political colour, it would appear as though neither the Socialist Party, the Opposition, nor Mr. Bevan really wish the matter settled. This impression is strengthened by the recent debate in the House of Commons, which apart from a certain "artificial value" was in no way helpful.

So if the controversy reach its logical and inevitable conclusion it would in no way damage the Opposition, while the Socialist Party might find it less embarrassing to postpone the implementation of the Act, putting the responsibility for this on the medical profession, than having to explain to "organized medicine" that a substantial reduction in their pay packets is for the time being cannot be provided at present. As for the Government, they have here a clever and ambitious man who is not to be outdone in any way—I am, etc.,

GEO. McMILLAN.

Doctors who Might

... completed, the considered desires of the public are known, and the popular voice is heard. But nothing could be done without consulting the Government. Mr. Bevan states that he is not in a position to do so until July 5, and the question is whether the public will wait. Let us hope that Mr. Bevan will not delay. These are the days of the "Fifth Column" and the "Fifth Column" is not to be trusted.

The numerical strengths of these first two groups are not difficult to estimate and are sufficiently appreciated by all.

(3) There is the potential "Fifth Column" in our midst. Among those sincerely determined to refuse service under the Act there is a large group of young doctors who for financial reasons are open to economic coercion, a weapon not unknown to a certain type of politician. For example, of the thousands of doctors released from the Forces very few are earning their living at present. While under normal conditions the majority would have been absorbed into general practice, very few have been able to do so because practitioners have been naturally disinclined to accept partners owing to uncertainties based upon the proposed Service. As a result thousands of young doctors are "studying for higher degrees" and are being paid for doing so by various bodies such as the Post-graduate Federation. It is within the power of the Government to stop such payments, and these doctors wonder how long they can hold out without any money. Some have written to the various authorities requesting assurance that they will not be dismissed on July 5, but thanks to the Minister such assurance cannot be given. These doctors inadvertently constitute a potential fifth column: they number thousands. While some are determined not to join even if they have to temporarily give up medicine and work on farms, others openly admit that against their consciences they will be forced to join the Service unless some financial aid is assured them. It is probable that Mr. Bevan is well aware of the existence of the potential fifth column and of its value to his cause, and it is more than possible that its existence is not entirely accidental. The B.M.A. should now turn its attention to the danger and ensure that such doctors will not join the enemy through economic coercion.

(4) There is the public. All doctors agree that the wish of the people is paramount. Mr. Bevan states that he represents the wish of the people, but in point of fact the people have never been consulted. Furthermore, they have been misled by the politicians who have repeatedly told them they will have a "free service," and even this elementary falsehood is naturally accepted by the man-in-the-street, who is always anxious for something for nothing. By a series of equally misleading statements Mr. Bevan has got many of the public on his side. If, however, the public were told the truth about the Service they would think otherwise, and since all doctors wish to do what the public desires (in contradistinction to what Mr. Bevan says they desire) there the duty of the B.M.A. is clearly twofold. First, the B.M.A. should tell the public the truth about the projected Service. Secondly, they should then ascertain the considered wishes of the people by a survey of mass opinion and make the result known to everybody. If the public is with us it should silence Mr. Bevan. If it is against us the "battle" is over before the first shot is fired.

—I am etc.,

Sutton Green, Surrey.

JAMES T. HAROLD.

Ownership

SIR,—Judging by recent letters in the *B.M.J.* much confusion still exists on the all-important question of ownership of practice. One could safely say that if there was any general factor responsible for the majority "No" vote it was fear of a salaried State service with its attendant loss of freedom, and if this assumption is correct then it is imperative that the profession is emphatic in retaining ownership. It will clarify the cause if we consider it from various points of view.

The Government.—Socialist criteria for the necessity of nationalization are briefly (a) inefficiency, (b) exploitation. What increase of efficiency is to be expected by reason of buying out practice, and who is being exploited by the sale and purchase of practice? Many sincere Socialists have stated that the usual criteria simply do not apply to the practice of medicine. Why then does the Government risk wrecking the scheme on this point? It is because (and this applies to any government whatever its politics) the Treasury must call the tune through control of certification, etc.; it must have a tidy scheme. The Minister recognizes much more clearly than many doctors that if we accept compensation we must accept control. His reasoning on this point is logical and fair.

The Public and Press.—I am of the opinion that the public are not the slightest bit concerned about the financial transactions in the Act, and rightly so, but I am quite certain that if we go to the public and Press in sincerity of purpose and, most important of all, in unity we will have their support. The result of the plebiscite has won us tremendous support, and therefore let us make it quite clear why we voted.

The Profession.—Of the minority that voted "Yes" I have nothing to say, but there are many in the profession who state

to lose compensation. It is beyond my simple understanding to appreciate that people exist who imagine they can accept compensation and still continue to enjoy the freedom of medicine as at present. The price of compensation is control—a fair bargain if we accept it. It would be better if these "wafflers" stated outright that compensation relieved their moral fears and voted "Yes" to the Act now. If the Minister wins his battle of nerves it can only be through this section of the profession. Can anyone seriously doubt who will eventually win if 80% of the profession say "No"? We can scarcely expect the public to support this "have our cake and eat it" policy of this section of the profession. I cannot think of nor have I read of any substitute for the ownership of practice that can safeguard us, and it is for the profession to face this issue of compensation or control now lest we lose the confidence of our patients and the key to our freedom.—I am, etc.,

Sheffield.

ANDREW STEPHEN.

Protection of Doctor and Patient

SIR.—The profession, having denounced in no uncertain manner in the plebiscite the N.H.S. Act as at present constituted, it appears to me to be very desirable that they should formulate conditions under which they would be willing to participate in a scheme, the granting of such conditions being considered as a *sine qua non* by the profession before acceptance.

I enumerate below what in the light of 28 years' experience appear to me to be very necessary conditions for the protection both of patient and doctor in any State scheme.

(1) The right of a doctor to retain the goodwill of his own practice and to dispose of it as he thinks fit.

(2) No outside interference with the doctor-patient relationship.

(3) The right of any patient to change his or her doctor, and the right of any doctor to have a patient removed from his list.

(4) No increase in free certification beyond the limits imposed in the present N.H.I. regulations.

(5) The retention by practitioners of their present panel lists after July, and the addition to these lists of patients desiring to join the State scheme. This is a most important provision in order to maintain continuity of income for the doctor, who otherwise will suffer serious financial loss whether he participates or not.

(6) The right of any patient to be treated privately by their own or any other doctor if they so desire it, with adequate safeguards.

(7) The right of a doctor to appeal to an independent tribunal in case of dismissal from the Service.

There may be other very necessary conditions of service which may occur to others, but those enumerated above appear essential conditions to me.—I am, etc.,

Atherston, Manchester.

K. V. DEARIN.

Concessions

SIR.—We, three interested general practitioners, have followed the present Health Service controversy as far as we are able both in the medical and lay press. We are puzzled by one point. The Minister claims persistently and emphatically to have made concessions to the profession. We can only list two: (1) the granting of private beds in hospitals to the consultants; (2) the setting up of a legal commission on partnerships. Of these two moves the first is suspect as an attempt to split the ranks of the profession; the second was only made after all negotiation had broken down. This can hardly rank as an effort of conciliation, but rather as a propaganda point for Parliament and the public.

Are we wrong in believing that all the alterations suggested by the B.M.A. have been granted by the Ulster Parliament and incorporated in an otherwise identical health service in that country? If this be correct surely it is a point that could be made widely public. It would show that at least one body of responsible people consider our suggestions reasonable.—We are, etc.,

IDA M. WILL.
J. H. FRANCIS.
R. A. FURNESS.

Nottingham.

* Right of appeal to the Supreme Court, absence of powers of direction, and remuneration by capitation fee only are all incorporated in the Northern Ireland Act. The Bill was discussed in a leading article in our issue of Sept. 20, 1947 (p. 459).—ED., B.M.J.

Retain Goodwill

SIR.—Notwithstanding the plebiscite results, I view the present situation with grave apprehension. The most disquieting aspect is the negative attitude of the Conservative Press and Party. They both seem to have overlooked the fundamental differences between ourselves and Mr. Bevan and to consider that a little give and take on both sides will settle the matter. My own gravest fear has been that the Minister would say to us: "You are now asking for three major concessions: I am prepared to grant you two if you will meet me on the third. You shall have no basic salary, you shall have an appeal to the courts, and I shall buy your practices." To my horror a letter in *The Times* from our respected leader Lord Horder appeared to me to lead up to the same solution. Lord Horder laid far too much stress on the appeal to the courts and basic salary and scarcely any on the purchase and sale of practices. Possibly as a consultant he does not fully realize what ownership of our practices means to us G.P.s.

Obviously somebody will have to give way on some points before July 5, and my own opinion is that we should be wise as a profession to concentrate on the one issue of retention of the goodwill of our practices. If we give way on this one point we shall have lost the battle and opened the gates for totalitarianism and even eventual Communism. I regard the issue as a battle between Hippocrates and Marx.

The B.M.A. has done wonderfully well in conducting this campaign, but the real battle is only just beginning. Against us we have all the forces of the Left deployed with cunning and craft, which may well divide our ranks unless we can stand firmly together. From careful observations I personally suspect that there are quite a few chicken-hearted doctors who must "rat" on us, not because they like the Act but because they fear financial sanctions from Whitehall. If we accept the absence of appeal to the courts and the basic salary we may not get our ideal, but we shall still be owners of our own practices, "master of our soul and captain of our fate." As somebody has got to compromise, let us instruct our B.M.A. representatives to fight to the bitter end to retain our own practices but to be prepared to give way on the other two points.

We can expect no help from the Conservative Party on this issue. They are themselves tainted with the virus of bureaucratic control, and if we fail to agree on this one issue we shall, as I personally view the situation, have lost the fight and signed ourselves up for serfdom, a fate which we shall richly deserve as an educated and liberal profession, because we have not the excuse of ignorance. A study of European (particularly German) history during the last decade shows clearly how a State medical service is the essential step towards securing full control of the workers; it also helps one to realize why Mr. Bevan is so keen to get our practices.

To summarize: the State Service is coming anyhow; if we can retain our ownership of our practices we can retain our independence and try and make the best of it. If we give in on this one point we are sunk and lost for ever; no regrets afterwards will be of any avail. Let us not then bother too much about public and political opinion. We as a profession have expressed our honest sincere opinion of the Act, and we are the only people on this earth who know how to run a successful medical service for Great Britain—it happens to be our own special job. We shall never unite on all three basic principles; let us throw overboard the two that don't matter vitally and stick to the third one, which means professional life or death.—I am, etc.,

Holcombe Regis, Somerset.

JOHN V. MANTON.

The French System

SIR.—It is with some trepidation that I enter the arena of the N.H.S. controversy. It is unfortunate, if inevitable, that the translation of our principles into practical issues should revolve around ways and means of remuneration. I feel the solution does not rest with capitation fee (with or without basic salary) but with remuneration per item of service. I believe we could with advantage study the system which works satisfactorily in France to-day. As far as the general practitioner is concerned this is in outline how the system works.

Agreements are made between the regional medical unions and the regional social security headquarters concerning minimum fees for various items of service—consultation at surgery, domiciliary

visit (day, night, Sundays), and minor operations. The patient pays his doctor, who initials a receipt provided by the social security organization. The fee is later refunded minus 20%.

The advantages of this system are many and amply compensate the slightly more complicated administrative machine which is needed. (a) The patient has complete freedom to choose or change his doctor. (b) The doctor-patient relationship is preserved, as the State enters into a contract with the patient and not with the doctor. (c) The doctor is not called out for trivial complaints, as the patient must pay out of his own pocket one-fifth of the fee. (d) The more experienced doctor or the older physician may raise his fees (within accepted limits) to lessen the burden of his practice.

This system works well, and I have no doubt a similar system could be devised to meet our needs.—I am, etc.,

London, N.W.1

J. DELAFRESNAYE.

Implement the Plebiscite

SIR.—At a local general meeting of the profession convened on March 7 to consider the resolutions proposed by the B.M.A. Council at the next Special Representative Meeting I proposed the following resolution, supported by one of my seniors:

That after consideration of the plebiscite result the Representative Body recommends the profession not to take any action to implement the Health Acts of 1946 and 1947 until they have been amended to meet the demands of the profession.

While it was received sympathetically, it was rejected. The last resolution of the Council was passed by a large majority, a minority not voting.

I would like to know how the Council and the supporters of their first resolution defend it in the light of what we have learnt about the Health Acts. We know that they are a political measure, the main purpose of which is to centralize the control of certification in the hands of the Government, that they are the last link in a chain being forged, not by any one political party, which will have as its effect the delimitation of individual freedom. We know that the Government is determined to carry out its policy. We know that our previous effort to elect the Government has given us nothing, not even the sympathy of the public. We know that we have an overwhelming majority in the profession who disapprove of the Act. I would suggest that a mandate placed in the hands of the B.M.A. Council is the logical consequence of such a position.

Further, that such a resolution as mine is derived from a realistic tendency may well be a description of psycho-analytical fact and in that it is mere description—it is not to the point. The B.M.A. is a democratic institution, where it is for the members to make clear to the Council what is to be the policy of that Association. The first resolution of the Council is not a statement of policy but merely a hope and an opinion. At this meeting the Council were not given any line of policy to enact the results of the plebiscite.

Especially as there are at least a minority who share these views I venture to record them, and would like the Council and its supporters to take this matter up and explain the idea behind the first resolution. Failure to implement the plebiscite will result in the disintegration of our majority if the profession does not with decision to maintain one of the last bastions of freedom.—I am, etc.,

GEORGE H. BLAIR.

Benefits for Doctors' Wives

SIR.—I have read with interest and some sympathy of the formation of a League of Doctors' Wives. I feel, however, that the League's public activities in the national press the League has itself open to charges of misrepresentation of the position of the doctors' wives, and so I wish to express a few doubts of light in the form of State aid to the doctors' wives enjoyed up till now and which we have lost since the appointed day.

The doctors' wives have been in the mind of military age was the only way in which the reasonable provision for the doctors' wives could be made, joining a League of Doctors' Wives. The League's public activities in the national press the League has itself open to charges of misrepresentation of the position of the doctors' wives, and so I wish to express a few doubts of light in the form of State aid to the doctors' wives enjoyed up till now and which we have lost since the appointed day.

GEORGE H. BLAIR.

Symmetrical Gangrene in the African

SIR.—We have read with great interest Dr. M. Gelfand's excellent article on symmetrical gangrene in the African (June 14, 1947, p. 847). The possibility arises that the disease may have a similar aetiology to the epidemic thrombophlebitis described by us¹ in the East African Command during the War. The following are points of resemblance:

1. Dr. Gelfand's six patients were seen during the same period as our cases in Kenya and Somaliland.
2. The age and sex incidence was similar (he only saw the disease in males, usually between the ages of 20 and 35).
3. Oedema preceded the gangrene in all his cases. Many of our patients suffered from oedema without evident thrombophlebitis although the pathology of these and of the cases of obvious phlebitis was undoubtedly identical.
4. Two of our patients developed gangrene of the lower limb, arterial thrombosis being found at operation. Both cases presented as thrombophlebitis with oedema, which was later complicated by arteritis.
5. Most of our cases were preceded by venepuncture. One of Dr. Gelfand's patients had received injections of quinine for cerebral malaria, but the route of administration is not stated. The Wassermann reaction was positive in two of his cases. It is possible that these patients may have received anti-syphilitic treatment at some previous date.

The symmetrical character of Dr. Gelfand's cases is not incompatible with our theory, for 29% of our cases of thrombophlebitis involved both lower limbs. Had arteritis been a more frequent complication it is likely that gangrene would have been bilateral in a similar ratio. Is it not possible that mild thrombophlebitis was more widespread in Southern Rhodesia than appeared from hospital admission? An African in civilian life would probably fail to report for treatment of a mild, perhaps transient, attack of oedema of the leg. It would be surprising if a disease which was attacking so many East African troops in Kenya and Somaliland did not affect a proportion of Africans in civilian life. Fisher and Lendrum² describe tropical primary phlebitis in the neighbouring territory of Northern Rhodesia.—We are, etc.,

A. D. CHARTERS.

P. E. C. MANSON-BAHR.

London, W.1.

REFERENCES

- ¹ *Lancet*, 1946, 2, 333.
- ² *Ibid.*, 1946, 2, 438.

Exo-erythrocytic Forms of Malaria Parasite

SIR.—In the paper on the "Pre-erythrocytic Stage of Mammalian Malaria" by Drs. H. E. Shortt, P. C. C. Garnham, and B. Malamos (Jan. 31, p. 192) it is stated that the curtain on the gap in the cycle of events was lifted in the case of avian malaria by James and Tate in 1937, when they described the exo-erythrocytic cycle in *Plasmodium gallinaceum*. Such description had been preceded by the discovery of Raffaele of the unimpregnated stages in canaries of *Plasmodium relictum*.

In the first paper of S. P. James and P. Tate (*Parasitology*, 1938, 30, 128) it is stated that "Raffaele was the first to recognize that in *P. elongatum* there is a definite schizogonic cycle of development in cells of the reticulo-endothelial system in addition to the cycle in erythrocytes. Raffaele also demonstrated (*Riv. Malariol.*, 1936, 15, 318) that schizogony takes place in leucocytes or endothelial cells after heavy inoculation of canaries with sporozoites of *P. relictum*. . . . Unpublished work of one of us has confirmed Raffaele's results, that endothelial schizogony of *P. relictum* occurs in canaries which have been inoculated with sporozoites." Raffaele has also shown that the exo-erythrocytic forms appear only towards the 6th and 7th day after the inoculation of sporozoites. So the priority of Raffaele's discovery in avian malaria cannot be questioned, and no less incorrect is the statement in the annotation at p. 204 of the same issue of the *Journal* in which none of the names of the researchers in this field have been omitted with the exception of Raffaele's name.

The statement in the annotation that "evidence of a convincing nature is at last brought forward that the cycle of development of the malarial parasites in mammals is exactly analogous to that occurring in birds" comes many years late, as Raffaele had already described (1937-40) bodies belonging to the exo-erythrocytic cycle in man. The authors of the paper dismiss too easily the importance

of Raffaele's findings by saying that they have not been confirmed or received any support. But it is just that negative assumption that needs support, a support that would exact a long painstaking work as was Raffaele's work.

I am sure that your readers may be surprised in learning from Davey that to succeed in finding these forms, with the same difficulties that one meets in finding them in a six-days-old chick, it would be necessary to inoculate in the human the contents of 50,000 infected salivary glands. All malariologists who took the trouble of looking at Raffaele's smears have not hesitated in considering them as belonging to the exo-erythrocytic stage. I think that the authors' findings in the monkey is a confirmation of Raffaele's work on man. By the way, owing to the authority of Raffaele in that field his observations should have been accepted.

Before finishing this letter I feel the need of reminding your readers of the high intellectual merit of James in the discovery of the exo-erythrocytic stage. Considering all the proofs against Schaudinn's theory he postulated the necessity of a new stage between the sporozoite and the infection of the red blood cells. This working hypothesis was published in its completeness by Ruge (*Deutsch. med. Wschr.*, 1936, 62, 1869) and has been proved true by successive work. I am glad to give homage to the memory of James as the malariologist to whom the experimental malaria owes the most interesting clinical results.—I am, etc.,

Istituto di Malariologia Ettore Marchesiana,
Rome.

G. BASTIANELLI.

Swine Erysipelas Infection in Man

SIR.—I am interested in the concluding statement made by the president of the Section of Comparative Medicine of the Royal Society of Medicine (Feb. 28, p. 404) in which he asked whether the susceptibility of man to swine erysipelas might not be much higher than was commonly thought. Personally, I have found it comparatively common—its incidence twice as frequent as erysipelas in my practice. I meet at least two cases of the cutaneous type and sometimes as many as five of these cases in a year. I must have seen about fifty cases or more during the past eighteen years.

It is variously known as erysipeloid, crab cellulitis, or reticular lymphangitis. There is almost always a history of a scratch or minor cut from a meat bone or a skinning or butcher's knife. The infection has occurred in my cases among butchers, gamekeepers, cooks, farmers, who have been skinning dead sheep found on the hill, and not infrequently in housewives. A few have occurred from fish-bone scratches.

The condition has a seasonal incidence from August to February. It usually occurs on the finger, commencing as a purple patch, which extends over the finger, clearing in the centre and working towards the tip and the palm. There it commonly proceeds to travel down a neighbouring finger to its tip. It has a slowly spreading, sharply defined, purple, raised narrow margin. It is itchy and hot, but never really painful. On one occasion only have I seen a mild lymphangitis to the middle of the forearm. It resolved spontaneously with splinting of the parts. Suppuration never occurs. The erysipeloid undergoes spontaneous cure in about three weeks in most cases.

Until two years ago I treated these cases with 10% ichthyol ointment applied every two days on lint, knowing that it would at least do no harm. I have never seen a case relapse with this treatment although relapse is said to be common. I do not claim that the ichthyol had any particular effect on the infection, but some method of treatment had to be given to satisfy the patient. Lately I treated two cases with 200,000 units of penicillin night and morning, but abandoned it in both cases after five days as no improvement occurred. This autumn I was fortunate in having an elderly housewife with the condition, whose daughter, a nurse, administered 50,000 units of penicillin three-hourly for seven days. This case was less than a week old and too early to undergo spontaneous cure. After four days of penicillin treatment the lesion had completely disappeared, and no recurrence took place. It is obvious that ordinary massive dosage night and morning is insufficient, but 400,000 units daily by three-hourly injections effects cure in some cases. Higher dosage might of course be necessary in others.

I feel sure that swine erysipelas occurs much more frequently in man in rural areas than is commonly supposed.—I am, etc.,

Brideend, Isle of Islay, Argyll.

CAMPBELL M. MCINTYRE.

Rarer Manifestations of Herpes Zoster

SIR.—The very interesting article on this subject by Dr. T. Parkinson (Jan. 3, p. 8) is bound to recall other unusual cases of herpes zoster. I remember to have seen a sequence of cases a few years ago which struck me already at the time as extraordinary but gained even more significance after reading his article.

The first case was that of an elderly man, patient A, who was admitted to hospital with herpes zoster of typical thoracic distribution. A few days later patient B was admitted for an amputation of his toes. While recovering from it he used to visit patient A in his room. About three weeks after his admission he developed a left facial palsy which took about one year before it had disappeared entirely. Patient A was admitted again several months later for post-herpetic pain and mental depression. At that time patient C, who was being treated for a diaphragmatic hernia with ulceration, visited him on several occasions. After about a fortnight he developed a herpes zoster of typical abdominal distribution. Somewhat about the same time patient D was recovering from a lumbar rhizotomy. He too visited patient A now and then. Soon after his discharge he consulted me for a paralysis of the left thoracic nerve which had affected the serratus anterior muscle and the posterior portion of the deltoid.

These four cases are interesting inasmuch as two of them apparently were examples of "zoster sine herpete." They further seem to point to a carrier state in herpes zoster which possibly was present in patient A.

The relationship between herpes zoster and varicella is exemplified lately to me when I saw a man suffering from herpes zoster and his wife getting an attack of varicella about three weeks later.

Finally it is worth recording the case of a 6-year-old boy who had been under radium treatment for sarcoma after abdominal exploration and came to see me for a herpes zoster with a distribution corresponding with L5.—I am, etc.,

Garton, Australia.

E. OLTRANEL.

Treatment of Subacute Bacterial Endocarditis

SIR.—I agree with much that Dr. Florence M. E. Dainton (Feb. 14, p. 317) and Mr. B. Waters (Feb. 28, p. 416) have written on this subject. Nevertheless I do feel that the importance of infected teeth, apical granuloma, and possibly tonsils as potential sources of bacterial leakage leading to relapse has not been emphasized.

Therefore may I add that I have shown elsewhere (*Lancet*, 1947, 2, 807) that penicillin-sensitive organisms can thrive in a dead tooth pulp in a subject receiving massive doses of penicillin.—I am, etc.,

Liverpool.

JOHN HALLAM.

Breast-feeding in Erythroblastosis Foetalis

SIR.—The practice of weaning infants with haemolytic disease because the mother's milk contains antibodies has been based on circumstantial evidence and speculation on the possible harm that might result to the baby rather than on scientific proof. The question of breast-feeding erythroblastic babies is of such importance that an authoritative opinion based upon actual investigation should be welcome. Dr. I. A. B. Cathie's observations (Oct. 25, 1947, p. 650) that there is no experimental evidence to prove that Rh antibodies are demonstrably absorbed into the blood stream by way of the alimentary canal and the conclusion that weaning of such infants is not justified are therefore of great interest. It is also interesting to note that at the Hospital for Sick Children, Great Ormond Street, London, it has been the practice to breast-feed such children whenever this can be done, irrespective of the antibody content of the breast milk, and that their clinical progress has not suggested any relationship between the antibodies in the milk and the duration of the haemolytic process.

I wish to make the following comments on these observations. The finding that Rh antibodies are not readily destroyed by the gastric secretion of infants is significant, as it shows that they remain potent and may yet be absorbed from the alimentary canal. There is a fundamental difference between absorption through the placenta and from the alimentary canal. In the former, on entry into the foetal circulation the antibodies come into direct contact with the

come by introducing the element of infiltration; unfortunately for this view, in leather-bottle stomach with almost universal infiltration pain is at a minimum. The rigid fibrosis of carcinoma precludes the distension essential to the genesis of muscular visceral pain. Again the accompanying inflammatory cellulitis provides the explanation—recession or removal of the infective factor in stomach cancer by oral cleansing, gastric lavage, short circuit, etc., mitigates or relieves the pain entirely (incidentally also, as is too little known, the achylia). Hence the paradoxes that a man's best help in getting an early diagnosis of carcinoma of the stomach is to have a filthy mouth, and conversely, that in the edentulous carcinoma of the stomach is peculiarly latent. Pathology is one and indivisible, the most potent cause of fluctuations in symptoms throughout clinical medicine is the ebb and flow of inflammatory oedema.

But now Mr. Kinsella introduces the question of pain and haematemesis. Is this a Greek gift or a very subtle emphasis of the case I have outlined? Haemorrhage from "peptic" ulceration may be a slow trickle (the basis of the occult blood test) from the circumferential inflamed mucosa—gastroscopists will agree the origin is not granulation tissue in the ulcer floor—or brisk, or severe. Brisk, always recoverable, bleedings occur from erosions (the old "acute" ulcers), occurring indiscriminately as regards site. They are small, heal rapidly, and are never followed by chronic ulcer. They involve only the mucous and submucous coats, opening comparatively small vessels, and not holding them open and non-retractable by chronic fibrosis and oedema, and uncommonly involve the gastric musculature. In these erosions pain is but a transient, often absent, feature.

In chronic ulceration brisk haemorrhage may arise from erosions in concomitant gastritis (with clinical features as in the preceding instance), or from the opening of large extramural vessels by an exacerbation of devitalization and digestion. Rigidity of the surroundings prevents "natural" arrest of bleeding. Pain precedes and accompanies the bleeding, and its persistence indicates progression of necrosis and inflammatory reaction. Traditionally such cases have been treated by either complete prohibition of intake or merely sips of water—such a regime leads quickly to a total cessation of gastric function, motor or secretory. Hence the age-old fasting treatment gives as rapid a recession of ulcer symptoms as any of the most elaborate drug and diet treatments, particularly if stimulation of gastric peristalsis by iced water and the epigastric ice-bag is precluded. In fine, the treatment of haemorrhage is that best calculated to diminish ulcer symptoms: persistence of pain, as noted in the Goulstonian Lecture, is of bad prognosis, indicating despite such treatment an extension of the ulceration. That the clot in the floor of the ulcer prevents the deadly HCl from getting at and stinging the ulcer is most difficult to believe from any *a priori* chemical consideration; muscular atony from acute anaemia of haemorrhage is at least a credible accessory factor.

The haemorrhage-pain clinical features of ulceration offer therefore no contradiction but rather a substantiation of the cellulitis-myoegenous view of gastric pain in ulcer and carcinoma. My original letter was a challenge to the radiologists in their claim to demonstrate healing of "peptic" ulcers: with them must now be included the physicians in the indictment that they fail to correlate morbid anatomy with the signs and symptoms of gastric disease.—I am, etc.,

London, W.1.

C. JENNINGS MARSHALL.

Oral Intubation and the Davis Gag

SIR.—I must thank Dr. I. W. Magill (Feb. 28, p. 417) for his observation on the tongue plate for the Boyle-Davis gag, which I described in the *Journal* of Feb. 7 (p. 267)—needless to say I claim no originality for the device, the principles of which must have occurred to every E.N.T. surgeon. I cannot agree, however, that intubation is not advisable for tonsil operations, though it is far from essential. As he admits that it is suitable for the more difficult and lengthy operation of cleft palate, however, I cannot see why it is not, to say the least, preferable for even short cases. After all it is a simple matter to put in a tube, and the increased safety and control of anaesthesia (on both patient and surgeon) are surely adequate compensation for cutting the hourly production rate in children down to five or six dissections.

He puts emphasis on the ability of the surgeon and the anaesthetist. Is the anaesthetist justified in assuming that the surgeon is "capable," by which I presume he means the operation is relatively rapid and avascular? These are optimum conditions—I feel it is safer policy to prepare for the worst.—I am, etc.,

J. S. C. MONRO.

Darlington.

The Danger of Intubation under Trichlorethylene

SIR.—Dr. Gordon Ostlere has recently published two articles in the *Journal* concerning the use of trichlorethylene (April 5, 1947, p. 448, and Jan. 31, p. 195). The first dealt chiefly with the use of curare in "poor-risk patients." It certainly confirmed my own belief and experience in the wide range and usefulness of trichlorethylene especially when used in combination with curare for such cases. In the second article the toxic effects as shown by cardiac arrhythmias are mentioned and Dr. Ostlere points out that trichlorethylene should not be used in the presence of an existing cardiac irregularity, and that it should be replaced by ether where an irregularity occurs and persists with trichlorethylene.

Several fatalities have occurred when this drug has been used, but one cannot always blame the drug directly—in fact it is probably safer to lay the blame in most cases partly to the technique used and/or partly to some concealed or unappreciated condition of the patient which may even have been undetectable. I am unable to present any technical details regarding recorded fatalities with this drug, but I would like to mention two cases in my own experience.

Case 1.—A man aged 49—poor colour and rather tired—was suffering from right renal calculus. B.P. 160/100. Blood urea normal. Left kidney normal. Heart and lungs, n.o.d. It was proposed to perform a right nephrectomy. "Omopon" (pr. 113 (22 mg.), and scopolamine, gr. 1/150 (0.43 mg.), were given and he arrived in the theatre more than usually drowsy. 0.4 g. thiopentone was then administered followed by gas-oxygen and trichlorethylene. Respiration soon answered to carbon dioxide stimulation and brief intubation performed at the first attempt. There was immediate reflex spasm and breath-holding, the breath being held at the expiration of a pronounced cough. In an attempt to relieve the spasm I administered curare 15 mg. and oxygen under pressure. I hoped that the incision might prove a stimulus to the respiratory centre, but almost immediately after the incision had been made the heart ceased to beat. Remedial measures were instituted and the heart eventually restarted by massage by an incision through the diaphragm. Voluntary respiration returned very slowly and then more rapidly, changing later to Cheyne-Stokes respiration. He was then removed to the ward and transferred to an "iron lung," being taken out at intervals. Always there was a return to Cheyne-Stokes respiration. He died thirty-six hours after the incident without regaining consciousness. Post-mortem examination showed marked atheroma of aorta and a hypertensive thick-walled heart. The coronary arteries were pipework in character and so patented by atheroma that their lumina were invisible. The cerebral arteries of similar calibre. Death was therefore due to card. ac. failure as a result of the coronary atheroma and essential hypertension.

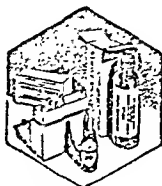
There is little doubt that this patient had not long been ill with it, but I feel he would have died more peacefully and in his home had a deeper plane of anaesthesia been used for the period of intubation.

Case 2.—A well-built young man, over 6 feet tall, was taken to a gland excised in his neck. Exactly the same induction technique was used. Breath-holding occurred following intubation, but the pulse remained full and regular. Here I felt it was justifiable to administer curare. I gave him 10 mg. curare, but the time from the patient in the anaesthetizing room. A gradual relaxation of spasm occurred and a return to normal respiration so that the operation was continued successfully under gas-oxygen and trichlorethylene.

These two cases I think emphasize sufficiently the danger of intubating some patients under too light an anaesthetic, and such cases should be brought out into the open.

Some anaesthetists advise using a cocaine spray before all cases requiring intubation. I would say this is unnecessary as a routine and only serves to upset a number of patients. Some prefer to intubate whenever possible through the mouth. Where relaxation is not required and the patient is well built and possesses a full upper and lower set of teeth the nasal route is often to be preferred. And finally a discussion in this journal has recently been taking place concerning the technique of Dr. Bourne, of intubating under almost maximum doses of thiopentone and curare.

We have therefore two extremes—very light and very deep. In view of possible dangers I consider it unsafe to make intubation under trichlorethylene a routine technique unless the larynx has been well co-anesthetized. Rather would I suggest that laryngoscopy should be performed and a tube introduced under cyclopropane or ether, and then possibly a change made to trichlorethylene as soon as the curare has been given or the patient has settled



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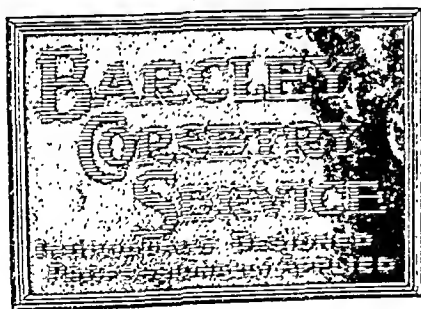
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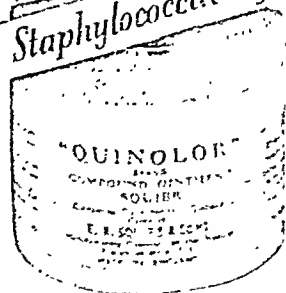
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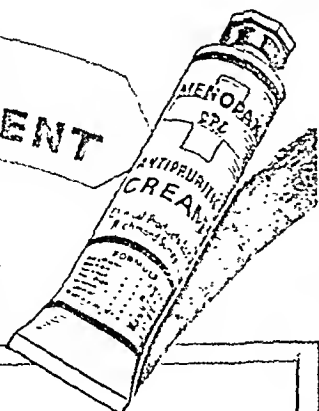
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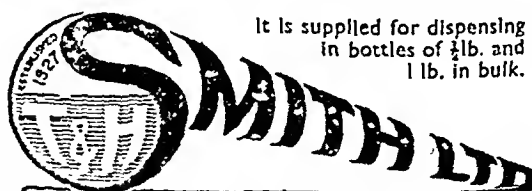
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committees under the Act, retaining our present position with regard to Local Executive Committees. I consider this to be of paramount importance, as it would prevent the election of some of the Minister's stooges. A compromise on the above lines would possibly enable us to enter the Service happily.

The Issue is Freedom

Dr. H. A. FAWCETT (Guildford, Surrey) writes: The issue now is no more nor less than freedom (reasonable and proper) versus power dictatorship (with a clear political and partisan bias), whether vested in one person or a small clique, in the name of a meaningless, abstract ideology called the "State." And although, at the moment, it appears chiefly to affect doctors, it is already (and will be increasingly) the vital concern of everyone, not only in these once blessed isles but all over the world. I do not think that this tremendous issue, now in its first (and maybe its last) great test here, is sufficiently or widely enough realized even in our own profession, and certainly not by the public in general; nor the fact that we as a body are given the privilege and opportunity of leading this first "crusade" against this insidious and growing evil. Moreover, we have a strength and justification (without in any way neglecting our professional duties or causing that suffering and loss inseparable from ordinary industrial disputes and strikes) almost unique, which, if properly exercised in unity, must not only win its narrower and more domestic battle but kindle a torch of hope and encouragement to all who still value legitimate freedom and elementary individual rights. Moreover, once lost, this splendid chance may never come again—not anyway in peace and in order. . . .

Disciplined Use of Liberty

Dr. K. W. TOOP (Croydon, Surrey) writes: We have now to tell the nation what we stand for. We want freedom, but we must convince our fellow countrymen that we mean to make right use of it. We want freedom to improve our health work, freedom to distribute ourselves with regard not to wealth but to usefulness. Can we not publish a plan for that disciplined use of liberty which has always been the backbone of the profession and of democracy?

Appeal to the Nation

Dr. E. H. STRANGE (Rushden, Herts) writes: Our best line for presenting our case is to appeal to the nation, showing that we are marked out for State control . . . because we are necessary agents in the complete State enslavement of the working classes. "Direction of labour" would be ineffective if the loop-hole of physical incapacity is not guarded by controlled State agents. It is useless to rely upon the political opponents of the present Government. The Conservative Party and the Conservative Press are deeply imbued with the modern notion of power politics, the omnipotent and omniscient State, and they do not understand wherein an honourable profession differs from a corps of salaried technicians.

Unpaid Civil Servants

A DOCTOR'S WIFE writes: It strikes me that the main practical factor which will decide whether or not Mr. Bevan's health plan will work is the general practitioner's wife. Should she be unwilling to accept the status of unpaid Civil Servant, neither Mr. Bevan nor his numerous but possibly uninformed supporters in the House of Commons will be able to make their own plan work by July 5 of this year. . . . Fortunately the time has not yet arrived in England when politicians can interfere in the private lives of the individual to the extent of coercing some housewives to use their own homes as surgeries of the State. . . .

Held Together

Dr. R. E. ARANGO (London, W.2) writes: With regard to the doctors and the National Health Service Act, 1946 . . . what they strongly feel is that with the Act as it stands they are being denied their right to work if they choose to stay out.

The Act indubitably states that doctors have the choice of staying out and remaining in private practice, but that is a hollow and valueless concession, worth no more than the ink it is written in; for in reality although the Act ostensibly does not deny them directly the right to work, yet indirectly it forcibly entices the patients away from them towards the "free" Health Service. . . . And then if those who stay out want to sell the goodwill of what remains of their practice, there will be nobody to buy, for the younger doctors will have tended to choose the line of least resistance and entered the Health Service to become eventually State medical slaves. If doctors do not hold together and let the Act be stillborn until a good one be conceived, the price to pay by those who still love and choose freedom and dignity will be but ruin and starvation in their loved profession. . . .

Treatment of Prickly Heat

Dr. A. C. BRYSON (St. Mawes, Cornwall) writes: The interesting correspondence on this subject prompts me to give my experience. Some thirty years ago Dr. Harston, of Hong Kong, published a

book on the treatment of subtropical diseases of children. In this he advocated the use of perchloride of mercury for this complaint—the prescription being aq. colognensis 3ii made up to 7i with lotio hydrarg. perchlor. 1:2,000. This was put up in a sprunk-top bottle with directions to dab freely affected parts and allow to dry. I regret that I cannot give the date of publication as my library was confiscated by the Japanese when I was interned on Dec. 8, 1941.

In the very distressing cases complicated by secondary infection with pyogenic organisms in the scalp and frontal region, untreated by the band of the topee, treatment twice daily with a thick layer of mercurial soap, such as "Afridol," and left to dry for five minutes has seldom failed to give complete relief in two days.

Oxygen Cylinders

Dr. REX BINNING (Hove, Sussex) writes: I am prompted by a recent experience to draw attention to the dangerous and widespread practice of covering the oxygen cylinders used in hospitals and nursing homes with a bag, which is tied round the shoulders of the cylinder and so completely obscures the distinguishing marks painted thereon.

I asked for a cylinder of oxygen and was given a cylinder containing oxygen 93% and carbon dioxide 7%. Fortunately I had taken the precaution of pulling the cover down from the shoulders of the cylinder and thus observed the white and green band, and no harm was done. The British Oxygen Company and Mr. Charles King have gone to considerable trouble by the institution of non-interchangeable couplings to prevent the wrong cylinder being used on anaesthetic machines. It is a pity that their efforts should be completely nullified by theatre owners and others continuing a practice for which there can be no justification.

Herpes Zoster and Chicken-pox

Dr. HOWEL LEWIS (Swansea) writes: The letter by Dr. C. C. H. Chavasse on the above subject (Feb. 14, p. 315) reminds me of two cases in the converse order that I saw recently. A woman brought her young daughter to my surgery one evening with obvious chicken-pox. A week later the mother again saw me. She had developed a moderate attack of intercostal herpes zoster from which she has not yet recovered. It would be interesting to know if this sequence occurs very often. Roxburgh states that it is ten times less common.

Incidentally, how would one allay a severe post-herpetic neuralgia of the cervico-occipital type in an old man of 72? The popular anodynes have been used; a course of pituitary extract (B.P.) was given during the acute stage, and the usual analgesics in various combinations have been used to no effect, not to mention electrotherapy at the local hospital.

Natives of the Tropics

Dr. R. E. ARANGO (London, W.2) writes: Dr. L. Everard Napier states (Feb. 14, p. 317) that during his 26 years in India he referred to the natives of India as the "indigenous inhabitants," but why he did not call them by the simpler terms of "the people" or "the inhabitants" beats me. The only explanation I can conceive is that the foreign rulers of India considered themselves to be the people or the inhabitants that really mattered, and as they (the foreign Britishers) could not very well call the immense multitude around them "foreigners," so they in disdain called them "natives." It is to such a terminology that the people of India have been justly averse and sensitively prejudiced. . . .

* This correspondence is now closed—Ed., B.M.J.

Injection of Diabetic's Skin

Dr. T. S. L. JONES (Whitehaven, Cumberland) writes: The routine preparation of the skin for a hypodermic injection is by swabbing the area with spirit in one form or another. Now a normal person's skin is soft and pliable and offers slight resistance to a hypodermic needle—no more resistance than one would encounter by plunging the needle into a pat of butter. Consequently a hypodermic injection should be almost painless.

The skin of the diabetic, thanks to its daily anointing with spirit, is not a normal skin. It is almost as tough as leather and consequently a hypodermic injection into the tough skin of the diabetic can be a very painful process, broken needles being not uncommon, and periodically the patient has to seek a new area of skin which has not been toughened.

My plea is for the abolition of the tyranny of surgical spirit, and in substitution I would suggest ordinary cleanliness as achieved by the use of soap and water. I instruct my own diabetic patients to bathe the part with soapy water and dry with a towel, instead of swabbing with spirit, and they have all been grateful for my suggestion. Over a period of many months I have not encountered one instance of an injection site becoming infected, perhaps because the skin is in a healthy condition and not dehydrated.

In my own general practice I have not used spirit for a long time when giving a hypodermic injection.

Obituary

R. V. SOLLY, M.D., M.R.C.P., F.R.C.S.

Dr. Reginald Vaughan Solly died in Exeter on Feb. 19 at the age of 83. His father was Edward Harrison Solly, of Congleton, Cheshire. He was educated at Winchester and St. Thomas's Hospital, qualifying in 1887. After experience as a house-surgeon and as clinical assistant to the Skin Department of St. Thomas's Hospital he became house-surgeon at Bristol General Hospital. He graduated M.B., B.S. in 1888 and proceeded M.D. five years later. He took the F.R.C.S. in 1890 and the M.R.C.P. in 1910. He entered general practice in Exeter in the nineties, but had always been specially interested in pathology, and his enthusiasm led him to become the organizer of a separate pathological department at the Royal Devon and Exeter Hospital. In 1911 he was first to hold the new appointment of pathologist to that hospital. The accommodation allotted to him was inadequate, and subsequently a small laboratory was erected for his department and came to be known as "Solly's Temple." His appointment as pathologist involved also his appointment as assistant physician, a post which he held until 1923. He continued as head of the department of pathology until his retirement in 1931, when he became consulting pathologist and a life governor of the hospital. For some years he was also consulting medical officer to the Exeter Dispensary. He was one of the foundation members of the Association of Clinical Pathologists, which has just celebrated its coming of age. For many years he was secretary of the Devon and Exeter Medico-Chirurgical Society.

Dr. Solly was a keen entomologist with a special interest in Lepidoptera, both British and foreign. For over fifty years he was a member of the Field Club of the University College of the South West, which he served as president and lecturer. He had a fine collection of butterflies and frequently visited Southern France, particularly around Hyères, in search of rare specimens. He was an adept dry-fly fisherman, making his own flies, and he found time every week for a fishing expedition, often accompanied by one of his technicians. He spent many happy holidays fishing the Wiltshire rivers around Wylve and Mers. In 1902 he married Frances Anne Laura Buckingham, who predeceased him by a week. His publications included articles on rat bite fever, on Ludwig's angina, and on trichinosis.

L. A. R. writes: "Solly was highly cultured and widely read; of quick, nervous, sensitive, and highly diffident temperament; with a fine sense of humour, quick to an intense anger, which, however, always disappeared equally quickly like an April shower. He was a man of no commercial ambitions or interests, enjoying a wide popularity among his colleagues throughout Devonshire. No memoir of him would be complete without mention of the speeches annually demanded of him at the Exeter and South-West dinner. At this function his speech was always a main event, eagerly anticipated and delivered with a slightly hesitant characteristic of the man, but erudite and containing an element of spontaneity and dry humour."

Dr. James M. Solly, M.P., died suddenly at his home in London on Feb. 9 at the age of 56. He was educated at Queen's College, Belfast, and at Queen's University, where he graduated B.A. in 1911. He subsequently obtained the D.P.H., and the M.D. Later he took the M.R.C.P. For the last twenty years he was a physician on the staff of the Royal Free Hospital, London. Some years ago he was transferred to the staff of the Belfast City Hospital, where he had been clinical lecturer and had also been a member of the Belfast Medical Society. In the General Medical Council he was one of the top of the poll as one of the best of his generation. He was a very full and active member of the British Medical Association. Despite his many achievements he was a man with

less energy he found time to contribute articles occasionally to medical and scientific journals. His opinion was much sought after by his medical colleagues and his advice greatly respected. He enjoyed to the full the confidence of the medical fraternity in Northern Ireland and over the border. In Parliament he was a popular figure, and in the advocacy of his views, often directly conflicting with those of the majority—for example, on the question of the appropriation of hospitals by the Government—he offended no one. He stood for principle and never indulged in personalities. He was a man of the highest moral character and great generosity, lovable both for his sterling qualities and for his cheery optimism. In his own family circle he was seen at his best. To each member of his devoted family his loss is irreparable. He leaves a wife, four sons, and two daughters. To them we offer our sympathy.—E. M. H.

Dr. GEORGE WILSON died at his home in Nairn on Feb. 9 at the age of 80. Dr. Wilson was a native of Strichen, and was educated at Chanonry School, Old Aberdeen, and Aberdeen University. He took his M.A. in 1888, and graduated M.B., C.M. in 1891. He was the senior practitioner in Nairn, where he had settled in 1898. He was in the old Nairn Artillery Volunteers, and later became medical officer to the Inverness battery of the R.H.A., serving in the Middle East in the 1914-18 war. Dr. Wilson took a great interest in local affairs and was medical superintendent of Nairn Hospital and a trustee of Nairn Savings Bank. He had also been visiting surgeon to the Chalmers' Hospital and assistant visiting physician at the Banff District Asylum. In the early years of his practice he did his rounds on horseback and later owned the first motor-cycle in the district. He had been a member of the British Medical Association for over fifty years, and was chairman of the Banff, Elgin, and Nairn Division in 1922-3, and president of the Northern Counties of Scotland Branch in 1929-30. He is survived by his wife and four daughters.

Dr. JOHN WILFRED NUNN, of Hadley Green, Barnet, died suddenly on Feb. 11 at the age of 72. Dr. Nunn, who was born in Penzance, was a student at St. Bartholomew's Hospital, and qualified in 1900. He held hospital appointments at Stamford and at Guildford before settling in Hadley in partnership with the late Dr. Walter Mercer. His elder son, Dr. J. A. Nunn, entered the practice in 1933 and has since continued in partnership with his father. Dr. Nunn was on the staff of the Victoria Cottage Hospital and was medical officer to the Post Office and to the Queenswood School, Hatfield. In his younger days Dr. Nunn was a keen cricketer and lawn tennis player, and he and his wife had been active for many years in the Barnet Arts Club and other local organizations.

Medico-Legal

DEATH OF A DOCTOR

At the Assizes in Leeds on Feb. 25 Mr. Justice Byrne awarded damages of £15,025 with costs to the widow of a doctor. The defendants, the owner and the driver of a motor lorry with which the doctor collided when riding his auto-cycle last April, admitted liability. In the collision the doctor, who was 33, received fatal injuries.

According to a Press report¹ during the hearing of the case Mr. Justice Byrne was shown a document setting out the terms offered by the Minister of Health to general practitioners joining the new National Health Service. Counsel for the widow said that the doctor had bought a Darlington practice in 1945 for £3,000. In the first full year in which he worked there his income was £3,115, of which £763 came from private patients. The practice was growing steadily. Counsel said that if the doctor had joined the new health service the lowest gross income he would have received would have been £2,208. Counsel for the defendants said in view of what might happen to the profession the doctor might not have entered the service and would have had to depend solely on the income derived from private patients.

Mr. Justice Byrne said: "I am inclined to take the view that if he had remained outside the service the number of his private patients would have increased considerably."

¹ *Yorkshire Post*, Feb. 26, 1948.

Medical Notes in Parliament

The Minister and the Profession

Mr. DE LA BÈRE on March 4 asked the Prime Minister whether, in view of the necessity of obtaining the co-operation of a maximum number of the medical profession before July 5, 1948, he would consider appointing an independent arbitrator for the purpose of finding a solution to the present impasse. Mr. ATTLEE answered, "No, Sir." He said that matters which had already been decided by Parliament would not be a proper subject for arbitration.

Mr. DE LA BÈRE inquired whether the Prime Minister was fully aware of the grave position which must arise in July because he had refused to meet the views of the vast majority of the doctors. Did Mr. Attlee know that the people of the country wished to know why the Government had allowed this position to come to pass? Mr. ATTLEE said that did not give any justification for Mr. De la Bère's proposal. Mr. DE LA BÈRE said it gave every justification.

Air-Commodore HARVEY asked whether the Government intended to charge the public for a service if they were not in a position to supply it.

Hon. Members: Answer. No answer was returned, and Mr. WILSON HARRIS then asked would the Prime Minister be prepared to lend a hand himself in future negotiations if he should think that that would be likely to help matters? Mr. ATTLEE said he was prepared to consider any suggestion put before him.

Squadron-Leader FLEMING asked whether the House was to understand that no approach had been made up to date by either the B.M.A. or the Minister of Health upon this matter?

Mr. ATTLEE: To whom?

Squadron-Leader FLEMING: Each other.

Dental Opposition

Mr. BAIRD asked the Minister of Health what steps he was taking to prevent dentists who had publicly expressed their opposition to the National Health Service Act from serving on the local dental committees set up under the Act.

Mr. BEVAN replied on March 5 that he was taking no steps. He hoped that on a closer acquaintance with the National Health Service dentists generally would recognize its merits.

Honorary Staffs' Honorarium.—Mr. HASTINGS asked on March 4 whether Mr. Bevan knew that certain voluntary hospitals now receiving Treasury grants made the receipt of an honorarium by members of their honorary staffs dependent on resignation from their medical advisory committees; and if, in these cases, he would consider withdrawing the grant. Mr. BEVAN said Exchequer help was given before the appointed day to keep the hospitals going. The action mentioned would not in his view justify interference with the domestic affairs of these hospitals. Nevertheless, he deprecated such action.

St. Leonard's Hospital.—On March 4 Mr. HASTINGS asked the Minister of Health whether he intended to publish the report of the assessors appointed to investigate the training of nurses at St. Leonard's Hospital, Shoreditch; and whether a copy would in any case be supplied to the General Nursing Council and the London County Council for their guidance. Mr. BEVAN replied that it was not the normal practice to publish reports of persons appointed to hear appeals on behalf of the Minister of Health. He did not think there were grounds for making an exception in this case. If the bodies mentioned asked to be supplied with a copy of the report he would furnish one confidentially.

Colostomies and Clothing Coupons.—Mr. THOMAS BROOKS pointed out on March 4 that three clothing coupons had to be surrendered before a colostomy surgical belt was supplied. Mr. HAROLD WILSON replied that surgical belts of not more than 6 inches in width specially designed for a number of specified conditions, including colostomy, were available coupon-free, but coupons were required for other types which could not be thus clearly defined because some could be worn in place of other rationed undergarments. The Board of Trade was prepared to consider sympathetically applications for special allowances of coupons for wearers of colostomy appliances subject to the production of medical evidence.

Exchange Control Medical Advisory Committee.—Mr. GLENVIL HALL said on March 2 that as from March 1 no fees would be payable by applicants to receive foreign exchange for medical treatment abroad. In future all applications should be made through a doctor and not by the patient himself. The members of the Exchange Control Medical Advisory Committee were all distinguished medical specialists who since the foundation of the Committee had received no fees except £1,659 from applicants.

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Feb. 27.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included), (b) London (administrative county), (c) Scotland, (d) Eire, (e) Northern Ireland. Figures of Births and Deaths, and of Deaths recorded under each of the 10 principal causes for: (a) The 126 great towns in England and Wales (including London), (b) London (administrative county), (c) The 16 principal towns in Scotland, (d) The 13 principal towns in Eire, (e) The 10 principal towns in Northern Ireland. A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1947					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	35	3	15	3	—	92	11	21	5	4
Deaths ..	—	—	—	—	—	1	—	—	—	—
Diphtheria ..	183	20	15	1	—	217	17	51	19	6
Deaths ..	3	2	1	—	—	2	1	1	—	—
Dysentery ..	191	19	63	—	—	92	10	53	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica, acute ..	1	—	—	—	—	1	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Erysipelas ..	—	51	9	4	—	—	24	7	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years ..	48	—	13	15	3	60	5	14	21	2
Deaths ..	—	—	—	—	—	—	—	—	—	—
Measles* ..	7,775	766	145	52	19	15,765	644	14	33	2
Deaths* ..	—	—	—	—	—	13	—	—	—	—
Ophthalmia neonatorum ..	75	4	12	1	—	59	4	12	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever ..	3	—	3(B)	—	1(B)	—	—	1(B)	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenza ..	78	34	15	9	2	1,132	54	23	3	10
Deaths (from influenza) ..	26	4	2	—	—	135	21	7	4	6
Pneumonia, primary ..	221	27	224	6	6	115	20	57	—	21
Deaths ..	—	—	—	—	—	—	—	—	—	—
Polio-encephalitis, acute ..	—	—	—	—	—	1	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Poliomyelitis, acute ..	27	3	6	2	—	14	—	1	—	—
Deaths ..	3	—	—	—	—	—	—	—	—	—
Puerperal fever ..	—	3	5	—	—	—	3	12	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia* ..	56	8	13	—	—	142	11	13	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Relapsing fever ..	—	—	—	—	—	1	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Scarlet fever ..	1,025	118	327	44	20	1,031	70	215	27	23
Deaths ..	—	—	1	—	—	—	—	—	—	—
Smallpox ..	—	—	—	—	—	—	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Typhoid fever ..	—	1	—	1	6	—	—	—	3	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Typhus fever ..	—	—	—	—	—	—	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Whooping-cough* ..	2,552	155	55	55	110	2,227	212	357	105	32
Deaths ..	—	1	1	—	—	6	2	6	4	—
Deaths (0-1 year) ..	353	37	51	17	7	271	57	103	47	—
Infant mortality rate (per 1,000 live births) ..	—	—	—	—	—	—	—	—	—	—
Deaths (excluding stillbirths) ..	4,801	731	617	167	134	7,590	1,313	931	375	227
Annual death rate (per 1,000 persons living) ..	—	—	—	—	—	—	—	—	—	—
Live births ..	7,954	1,216	963	373	270	12,154	1,574	1,231	327	247
Annual rate per 1,000 persons living ..	—	—	—	—	—	—	—	—	—	—
Stillbirths ..	215	32	26	—	—	256	31	47	—	—
Rate per 1,000 total births (including stillbirths) ..	—	—	—	—	—	—	—	—	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

1 Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

2 Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

3 The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

4 Includes puerperal fever for England and Wales and Eire.

Obituary

R. V. SOLLY, M.D., M.R.C.P., F.R.C.S.

Dr. Reginald Vaughan Solly died in Exeter on Feb. 19 at the age of 83. His father was Edward Harrison Solly, of Congleton, Cheshire. He was educated at Winchester and St. Thomas's Hospital, qualifying in 1887. After experience as a house-urgeon and as clinical assistant to the Skin Department of St. Thomas's Hospital he became house-surgeon at Bristol General Hospital. He graduated M.B., B.S. in 1888 and proceeded M.D. five years later. He took the F.R.C.S. in 1890 and the M.R.C.P. in 1910. He entered general practice in Exeter in the nineties, but had always been specially interested in pathology, and his enthusiasm led him to become the organizer of a separate pathological department at the Royal Devon and Exeter Hospital. In 1911 he was first to hold the new appointment of pathologist to that hospital. The accommodation allotted to him was inadequate, and subsequently a small laboratory was erected for his department and came to be known as "Solly's Temple." His appointment as pathologist involved also his appointment as assistant physician, a post which he held until 1923. He continued as head of the department of pathology until his retirement in 1931, when he became consulting pathologist and a life governor of the hospital. For some years he was also consulting medical officer to the Exeter Dispensary. He was one of the foundation members of the Association of Clinical Pathologists, which has just celebrated its coming of age. For many years he was secretary of the Devon and Exeter Medico-Chirurgical Society.

Dr. Solly was a keen entomologist with a special interest in epidoptera, both British and foreign. For over fifty years he was a member of the Field Club of the University College of the South-West, which he served as president and lecturer. He had a fine collection of butterflies and frequently visited Southern France, particularly around Hyères, in search of rare specimens. He was an adept dry-fly fisherman, making his own flies, and he found time every week for a fishing expedition, often accompanied by one of his technicians. He spent many happy holidays fishing the Wiltshire rivers around Wylve and Mere. In 1902 he married Frances Anne Laura Buckingham, who predeceased him by a week. His publications included articles on rat-bite fever, on Ludwig's angina, and on trichinosis.

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Dr. FREDERICK MCSORLEY, M.P., died suddenly at his home in Belfast on Feb. 9 at the age of 56. He was educated at St. Malachy's College, Belfast, and at Queen's University, where he graduated in 1916. He subsequently obtained the D.P.H., and in 1922 proceeded M.D. Later he took the M.R.C.P.I. and was elected F.R.C.P.I. in 1930. For the last twenty years he had been honorary visiting physician on the staff of the Mater Infirmorum Hospital, Belfast. Some years ago he was also appointed visiting physician to the Belfast City Hospital. He was in daily attendance at both hospitals up to the time of his death. For many years he had been clinical lecturer and examiner for Queen's University, Belfast, and he had also examined for the Royal College of Physicians. In the General Election of 1945 he was returned at the top of the poll as one of the university members of Parliament. His was a very full life and he never spared himself either in the course of his medical or his political duties. He was a member of the British Medical Association and of the Ulster Medical Society. Despite manifold duties which would have overwhelmed a man with

less energy he found time to contribute articles occasionally to medical and scientific journals. His opinion was much sought after by his medical colleagues and his advice greatly respected. He enjoyed to the full the confidence of the medical fraternity in Northern Ireland and over the border. In Parliament he was a popular figure, and in the advocacy of his views, often directly conflicting with those of the majority—for example, on the question of the appropriation of hospitals by the Government—he offended no one. He stood for principle and never indulged in personalities. He was a man of the highest moral character and great generosity, lovable both for his sterling qualities and for his cheery optimism. In his own family circle he was seen at his best. To each member of his devoted family his loss is irreparable. He leaves a wife, four sons, and two daughters. To them we offer our sympathy.—E. M. H.

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Medico-Legal

DEATH OF A DOCTOR

At the Assizes in Leeds on Feb. 25 Mr. Justice Byrne awarded damages of £15,025 with costs to the widow of a doctor. The defendants, the owner and the driver of a motor lorry with which the doctor collided when riding his auto-cycle last April, admitted liability. In the collision the doctor, who was 33, received fatal injuries.

According to a Press report¹ during the hearing of the case Mr. Justice Byrne was shown a document setting out the terms offered by the Minister of Health to general practitioners joining the new National Health Service. Counsel for the widow said that the doctor had bought a Darlington practice in 1945 for £3,000. In the first full year in which he worked there his income was £3,115, of which £763 came from private patients. The practice was growing steadily. Counsel said that if the doctor had joined the new health service the lowest gross income he would have received would have been £2,208. Counsel for the defendants said in view of what might happen to the profession the doctor might not have entered the service and would have had to depend solely on the income derived from private patients.

Mr. Justice Byrne said: "I am inclined to take the view that if he had remained outside the service the number of his private patients would have increased considerably."

¹ Yorkshire Post, Feb. 26, 1948.

Medical Notes in Parliament

The Minister and the Profession

MR. DE LA BÈRE on March 4 asked the Prime Minister whether, in view of the necessity of obtaining the co-operation of a maximum number of the medical profession before July 5, 1948, he would consider appointing an independent arbitrator for the purpose of finding a solution to the present impasse. MR. ATTLEE answered, "No, Sir." He said that matters which had already been decided by Parliament would not be a proper subject for arbitration.

MR. DE LA BÈRE inquired whether the Prime Minister was fully aware of the grave position which must arise in July because he had refused to meet the views of the vast majority of the doctors. Did Mr. Attlee know that the people of the country wished to know why the Government had allowed this position to come to pass? MR. ATTLEE said that did not give any justification for Mr. De la Bère's proposal. MR. DE LA BÈRE said it gave every justification.

Air-Commodore HARVEY asked whether the Government intended to charge the public for a service if they were not in a position to supply it.

Hon. Members: Answer. No answer was returned, and MR. WILSON HARRIS then asked would the Prime Minister be prepared to lend a hand himself in future negotiations if he should think that that would be likely to help matters? MR. ATTLEE said he was prepared to consider any suggestion put before him.

Squadron-Leader FLEMING asked whether the House was to understand that no approach had been made up to date by either the B.M.A. or the Minister of Health upon this matter?

MR. ATTLEE: To whom?

Squadron-Leader FLEMING: Each other.

Dental Opposition

MR. BAIRD asked the Minister of Health what steps he was taking to prevent dentists who had publicly expressed their opposition to the National Health Service Act from serving on the local dental committees set up under the Act.

MR. BEVAN replied on March 5 that he was taking no steps. He hoped that on a closer acquaintance with the National Health Service dentists generally would recognize its merits.

Honorary Staffs' Honorarium.—MR. HASTINGS asked on March 4 whether Mr. Bevan knew that certain voluntary hospitals now receiving Treasury grants made the receipt of an honorarium by members of their honorary staffs dependent on resignation from their medical advisory committees; and if, in these cases, he would consider withdrawing the grant. MR. BEVAN said Exchequer help was given before the appointed day to keep the hospitals going. The action mentioned would not in his view justify interference with the domestic affairs of these hospitals. Nevertheless, he deprecated such action.

St. Leonard's Hospital.—On March 4 MR. HASTINGS asked the Minister of Health whether he intended to publish the report of the assessors appointed to investigate the training of nurses at St. Leonard's Hospital, Shoreditch; and whether a copy would in any case be supplied to the General Nursing Council and the London County Council for their guidance. MR. BEVAN replied that it was not the normal practice to publish reports of persons appointed to hear appeals on behalf of the Minister of Health. He did not think there were grounds for making an exception in this case. If the bodies mentioned asked to be supplied with a copy of the report he would furnish one confidentially.

Colostomies and Clothing Coupons.—MR. THOMAS BROOKS pointed out on March 4 that three clothing coupons had to be surrendered before a colostomy surgical belt was supplied. MR. HAROLD WILSON replied that surgical belts of not more than 6 inches in width specially designed for a number of specified conditions, including colostomy, were available coupon-free, but coupons were required for other types which could not be thus clearly defined because some could be worn in place of other rationed undergarments. The Board of Trade was prepared to consider sympathetically applications for special allowances of coupons for wearers of colostomy appliances subject to the production of medical evidence.

Exchange Control Medical Advisory Committee.—MR. GLENVIL HALL said on March 2 that as from March 1 no fees would be payable by applicants to receive foreign exchange for medical treatment abroad. In future all applications should be made through a doctor and not by the patient himself. The members of the Exchange Control Medical Advisory Committee were all distinguished medical specialists who since the foundation of the Committee had received no fees except £1,659 from applicants.

INFECTIOUS DISEASES AND VITAL STATISTIC

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Feb. 21

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year for: (a) England and Wales (London included), (b) London (administrative county), (c) Scotland, (d) Eire, (e) Northern Ireland. Figures of Births and Deaths, and of Deaths recorded under each of the four causes are for: (a) The 126 great towns in England and Wales (including London), (b) London (administrative county), (c) The 16 principal towns in Scotland, (d) The 13 principal towns in Eire, (e) The 10 principal towns in Northern Ireland. A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1943					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	36	3	15	3	—	9	11	21	3	4
Deaths	—	—	—	—	—	—	—	—	—	—
Diphtheria	180	20	59	13	5	217	16	51	19	6
Deaths	3	2	1	—	—	2	1	1	—	—
Dysentery	191	19	63	—	—	92	10	53	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica, acute	1	—	—	—	—	3	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	51	9	4	—	—	59	7	4
Deaths	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years	—	—	—	15	—	—	—	—	21	—
Deaths	43	7	13	5	1	6	5	12	5	2
Measles*	7,209	765	845	52	19	15,755	644	300	33	21
Deaths†	—	—	—	—	—	13	—	2	—	3
Ophthalmia neonatorum	79	4	12	1	—	59	4	12	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever	3	—	3(B)	—	1(B)	—	—	1(B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenza,	78	39	15	9	2	1,139	84	20	3	10
Deaths (from influenza)	25	4	2	—	—	135	21	7	4	6
Pneumonia, primary	221	29	224	40	—	—	115	25	25	23
Deaths	—	—	9	—	—	—	—	—	—	—
Polio-encephalitis, acute	3	—	—	—	—	1	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Poliomylitis, acute	27	3	6	2	—	14	—	1	5	—
Deaths	3	—	—	—	—	—	—	—	—	—
Puerperal fever	—	—	3	8	—	—	3	12	—	1
Deaths	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia,	86	8	13	—	—	142	11	13	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	1	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	1,825	118	327	44	30	1,031	73	215	20	23
Deaths	—	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	2	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid fever	1	—	1	6	—	3	—	—	3	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough*	2,552	155	55	55	11	2,227	212	337	103	32
Deaths	—	1	1	1	—	9	2	6	4	—
Deaths (0-1 year)	355	37	51	17	—	572	67	103	47	—
Infant mortality rate (per 1,000 live births)	—	—	—	—	—	—	—	—	—	—
Deaths (excluding stillbirths)	4,801	731	617	167	134	7,896	1315	931	395	229
Annual death rate (per 1,000 persons living)	—	—	12.5	10.4	—	—	—	19.4	—	—
Live births	7,954	1216	998	373	270	10,194	1532	1231	397	291
Annual rate per 1,000 persons living	—	—	20.1	23.3	—	—	—	24.5	—	—
Stillbirths	215	32	26	—	—	250	33	40	—	—
Rate per 1,000 total births (including stillbirths)	—	—	25	—	—	—	—	31	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the figures are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

¶ Includes puerperal fever for England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Vaccination and Inoculation

British subjects travelling abroad, particularly to the Tropics or sub-Tropics, may be exposed to the dangers of infectious diseases not normally prevalent in the United Kingdom. In a recent notice issued by the Ministry of Health, the Department of Health for Scotland, and the Ministry of Health and Local Government for Northern Ireland it has not been practicable to give for every country details of the diseases against which travellers from the United Kingdom should protect themselves in their own interest or against which a particular country requires persons entering it to be protected. Travellers are therefore advised to apply for details to the representative in the United Kingdom of the country to which they propose to travel. The following information may, however, serve as a general guide.

(a) All travellers abroad are advised to be effectively inoculated against typhoid and paratyphoid fever.

(b) The health authorities of certain countries—e.g., Australia—and some countries in the Tropics and sub-Tropics may require travellers to produce evidence of recent vaccination against smallpox—i.e., evidence that they have been vaccinated not more than three years and not less than fourteen days previously.

(c) Travellers to parts of the Far East where cholera is endemic are advised to be inoculated against this disease.

(d) Inoculation against typhus is advised for travellers to countries—e.g., in South-East Europe and North Africa—in which that disease exists.

(e) Travellers who have been in or who pass through those parts of Africa or South America where yellow fever is considered to be endemic are reminded that, when they enter other countries in which yellow fever does not actually exist but where the conditions favour its development—e.g., India—they may be detained at frontier quarantine stations if they do not possess a valid certificate of inoculation against yellow fever—i.e., a certificate issued not less than ten days and not more than four years previously. Special arrangements have been made for yellow fever inoculations to be given free of charge at centres in the United Kingdom.

When a traveller has been vaccinated against smallpox or inoculated against cholera, typhus, or yellow fever he should obtain, and carry with him, a certificate to that effect on the International Form. A certificate of inoculation against yellow fever will be issued on this form by the doctor carrying out the inoculation: for the other diseases the necessary form can be obtained by the traveller from the company with whom he has arranged his transport.

Discussion of Table

In England and Wales decreases occurred in the number of notifications of scarlet fever 97, acute pneumonia 83, diphtheria 31, whooping-cough 24, and cerebrospinal fever 18, while increases were recorded for measles 1,030 and dysentery 27.

The largest increases in the incidence of measles appeared in Lancashire 203, Warwickshire 147, London 117, Surrey 116, and Middlesex 102. The notifications of scarlet fever declined in most areas of the country; the largest fall was London 32, and the only exception to the general trend was a rise of 30 in Glamorganshire.

Small decreases in the incidence of acute pneumonia were recorded throughout the country; the largest fall was Durham 33. The largest of the local variations in the returns for diphtheria were decreases in Lancashire 11 and Durham 8. The local trends of whooping-cough fluctuated, and the largest change in trend was a decrease of 38 in London.

The chief centres of dysentery were Yorkshire West Riding 67 (Sheffield C.B. 25, York C.B. 25); Lancashire 40 (Blackpool C.B. 15); Middlesex 23; and London 19. The largest returns of acute poliomyelitis were 3 cases notified in London and in Yorkshire West Riding. Administrative areas with more than one case were Bristol C.B. 2 and Leeds C.B. 2.

In Scotland an increased incidence was recorded for measles 46, dysentery 17, and diphtheria 6. The rise in the notifications of dysentery occurred in the north-eastern area; 11 cases were notified in the city of Aberdeen and 10 in Banff County. The other large returns of dysentery were Edinburgh 14 and Glasgow 9. The notifications of diphtheria in Glasgow rose from 25 to 30; half of the total cases recorded in the country were notified in this city.

In Eire an increase was reported in the notifications of whooping-cough 36, primary pneumonia 15, and scarlet fever 12, while a decrease was recorded for measles 25 and diarrhoea and enteritis 9. The incidence of measles decreased through-

out the country. An outbreak of whooping-cough involving 14 persons was reported from Wicklow, Rathdrum R.D.

In Northern Ireland the total notifications of scarlet fever fell by 10. Whooping-cough reappeared in Belfast C.B. with 11 cases.

Week Ending February 28

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,710, whooping-cough 2,631, diphtheria 173, measles 7,312, acute pneumonia 732, cerebrospinal fever 31, acute poliomyelitis 24, dysentery 145, paratyphoid 3.

Medical News

Specialists to Visit Africa

The Secretary of State for the Colonies has appointed 18 specialists nine of whom will visit East Africa and nine West Africa. The Nuffield Foundation will finance the scheme for six years. The experiment originated from discussions between Prof. H. J. Seddon and the late Dr. W. H. Kaunitz. It is hoped that the visitors may be of help to colonial medical staffs, particularly those working in isolated posts.

Portuguese Medical Visitor

Prof. Augusto P. Celestino Da Costa, Professor of the Faculty of Medicine in the University of Lisbon, is spending a fortnight in Britain under the auspices of the British Council. He is Director of the Service of Clinical Analyses in the Lisbon State Hospitals, President of the Portuguese Anatomical Society, and Director of the Portuguese Institute of Histology and Embryology, which he founded. A visitor to Britain before the war, Prof. Da Costa is now renewing and making fresh contacts with colleagues working on research in histology and cytology.

Sir G. Gordon-Taylor in Greece

Sir Gordon Gordon-Taylor is visiting Greece for a three weeks' tour to lecture for the British Council on war surgery.

Medical Golfing Society

At a meeting of the Medical Golfing Society held recently under the presidency of Dr. A. Hope Gosse, Mr. A. C. Palmer was appointed Captain, and Dr. A. Lesley Lankester Honorary Treasurer.

Prize for Essay on Colonial Tuberculosis

A prize of 100 guineas will be awarded by the Council of the N.A.P.T. for an essay on "The Control of Tuberculosis in a British Colony." The competition is open to medical men and women in the British Colonial Medical Service who are of not more than ten years', or less than five years', medical standing. At least three years must have been spent overseas in a medical capacity. Competitors should describe their own proposals for a practical scheme for the clinical, social, and administrative control of tuberculosis, either in the British Colonies as a whole or in one or more of them separately. Writers should give their own opinions based on personal experience of public-health and anti-tuberculosis work. Essays should be sent to Dr. Harley Williams, National Association for the Prevention of Tuberculosis, Tavistock House North, Tavistock Square, London, W.C.1, to arrive not later than March 1, 1949.

Health and Air Travel

Under the Public Health (Aircraft) Regulations, 1948, all in-coming aircraft, except those plying between the British Isles, will be met by medical officers from April 1. On arrival the commander of the aircraft will report the state of health on board, and passengers will give the names of the places in which they have been during the past 14 days. Passengers showing no symptoms of an infectious disease will be given a card setting out the precautions they should observe if they fall ill within 21 days after arrival, including showing the card to their doctor. If there is any doubt about the nature of the illness, the doctor is asked to inform the medical officer of health for the area at once.

Holiday Milk for Mentally Defective Children

Milk will be available for mentally defective children attending occupation centres whole-time during the holidays. The children should attend the school centres for holiday milk distribution.

Wills

Dr. John William Hunter, of Ipswich, left £4,544; Dr. Samuel Tonge Brooks, of Bacup, Lancs., £5,109; Dr. Charles Forbes Maclean, of Balham, London, S.W., £13,590; Dr. William Grahame Cobb, of Birchington, Kent, £20,433; and Dr. John Cunningham, of Stewarton, Ayrshire, £45,614.

COMING EVENTS

Medical Research Society Lecture

The fourth Medical Research Society Lecture will be given by Dr. Geo. E. Burch, professor of medicine in the University of Tulane, on "Radio-sodium Studies in Congestive Heart Failure" at St. Mary's Hospital Medical School, Paddington, London, W., on Friday, March 19, at 5 p.m.

Rheumatic Diseases

A concentrated week-end course on the rheumatic diseases will be held at the Rheumatism Unit, St. Stephen's Hospital (London County Council), Fulham Road, S.W., on March 19, 20, and 21. The lecturers will include Prof. J. M. Mackintosh, Prof. B. W. Windeyer, Dr. Francis Bach, Dr. Grace Batten, Dr. Philip Ellman, Mr. A. G. Timbrell Fisher, Dr. David Shaw, and Dr. A. G. Signy. Sir Adolphe Abrahams will preside at the inaugural address on March 19.

Criminal Justice

A conference on criminal justice will be held on March 21, with Dr. H. Mannheim in the chair. Lectures will be given at Oxford House, Mape Street, Bethnal Green Road, E.2, on the treatment of juvenile offenders, women offenders, and men offenders. Limited accommodation and meals are available at Oxford House, to which application should be made as soon as possible.

Association of Sea and Air Port Health Authorities

The forty-ninth annual meeting of the Association of Sea and Air Port Health Authorities of the British Isles will be held at Swansea on Wednesday, Thursday, and Friday, May 12, 13, and 14. The provisional programme includes the following papers: May 12, "The Romance of the Port Health Service and of its Association," by Dr. N. Gebbie; May 13, "History of the Swansea Port," by Mr. E. V. Swallow, and "Some Experiences of a Naval Hygiene Officer 1939-47," by Surgeon Captain H. M. Willoughby, R.N.V.R.; May 14, "The Disinfestation of Ships and Cargoes," by Mr. C. P. Heywood, and "The Egyptian Cholera Outbreak, 1947," by Dr. R. Barrett. Afternoon visits will be arranged at a later date. The honorary secretary of the association is Dr. H. C. Maurice Williams, Health Department, Civic Centre, Southampton.

Society of Chiropodists

The annual convention of the Society of Chiropodists will be held in London on Thursday, Friday, and Saturday, April 22, 23, and 24. The proceedings will be officially opened at Friends House, Euston Road, N.W., by Sir Alfred Webb-Johnson, President of the Royal College of Surgeons of England, on April 22, at 2.30 p.m.; and will be followed, at 3 p.m., by a lecture by Mr. N. C. Lake on "Surgery in Vaso-spastic Conditions of the Leg and Foot." On April 23, at 11 a.m., Prof. F. Wood Jones, F.R.S., will deliver a lecture at the Royal College of Surgeons of England (Lincoln's Inn Fields, W.C.) on "The Emergence of Man"; and on April 24, at 9.30 a.m., at Friends House, Dr. Reginald T. Brain will speak on "Common Skin Diseases affecting the Feet and Nails." There will be a reception by the president of the society and Mrs. Hanby at the Savoy Hotel on April 23, from 7 to 7.30 p.m., followed by a dance, buffet supper, and cabaret. Admittance to all lectures and functions will be by ticket only, and applications must reach the secretary of the society at 21, Cavendish Square, London, W.1, by April 1.

Edinburgh Refresher Course

A fortnight's refresher course at Edinburgh University begins on Monday, May 3, at 9 a.m. It is intended primarily for demobilized medical officers (Class II) and for insurance practitioners. Fee for graduates not claiming expenses from Government sources, 10 gns.

C.M.F./M.E.F. Physicians Reunion Dinner

The reunion dinner of the C.M.F./M.E.F. Physicians will be held at the Apothecaries' Hall, Black Friars Lane, Queen Victoria Street, London, E.C., on Saturday, April 10. Anyone interested should communicate with the honorary secretary, Dr. A. Willcox, 66, Harley Street, London, W.1.

Buckston Browne Dinner

The Buckston Browne Dinner of the Harveian Society of London will be held at the Royal College of Surgeons of England, Lincoln's Inn Fields, W.C., on Thursday, June 17.

American Meetings

The Third Inter-American Cardiological Congress will be held in Chicago at the Michael Reese Hospital on June 13-17. This will be followed on June 18-19 by the Annual Meeting of the American Heart Association, and by the meeting of the American Medical Association during the week beginning June 20. Inquiries should be addressed to the Secretary of the Third Inter-American Cardiological Congress, Michael Reese Hospital, Chicago, Illinois, U.S.A.

SOCIETIES AND LECTURES

Monday

EDINBURGH CLINICAL CLUB.—At B.M.A. Scottish House, 7, Drumhugh Gardens, Edinburgh, March 15, 8 p.m. *Business Meeting* (Current Affairs).

HUNTERIAN SOCIETY.—At Talbot Restaurant, London Wall, E.C., March 15, 7 for 7.30 p.m. Dinner-meeting. "Neuritis." Discussion to be opened by Dr. Philip Ellman, Dr. Alden Turner, Mr. Dudley Buxton, and Dr. F. S. Cooksey.

Tuesday

CHADWICK TRUST.—At the Sir Edward Meyerstein Lecture Theatre, Westminster Hospital Medical School, 17, Horseferry Road, Westminster, S.W., March 16, 2.30 p.m. "Adulteration of Food and its Detection," by J. R. Nicholls, D.Sc., F.R.I.C.

EUGENICS SOCIETY.—At Burlington House, Piccadilly, London, W., March 16, 5.30 p.m. "Mental Health Survey in a Rural Population," by Dr. W. Mayer Gross.

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—March 16, 5 p.m. *Pathological Demonstrations* by Dr. I. Muende.

INSTITUTE OF LARYNGOLOGY AND OTITIS, 530, Gray's Inn Road, London, W.C.—March 16, 5.15 p.m. "Injuries of the Ear," by Mr. E. D. Davis.

ROYAL PHOTOGRAPHIC SOCIETY.—At 16, Prince's Gate, London, S.W., March 16, 7 p.m. "Stereoscopy," Lecture by Prof. D. Harris.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL, University Street, Gower Street, London, W.C.—March 16, 4.30 p.m. Sydney Binger Memorial Lecture "Pulmonary Oedema," 17th Bernal Lecture by Prof. G. R. Cameron, D.Sc., F.R.S., F.R.C.P.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHYSIOLOGY, Gower Street, W.C.—March 16, 5 p.m. "Some Aspects of General Physiology," by I. E. Bayliss, Ph.D.

Wednesday

HARVEIAN SOCIETY OF LONDON.—At 26, Portland Place, London, W., March 17, 8.30 p.m. Harveian Lecture. "Alcoholism and Abstinence Realization," by Prof. Th. Alajouanine.

LONDON ASSOCIATION OF THE MEDICAL WOMEN'S FEDERATION.—At B.M.A. House, Tavistock Square, London, W.C., March 17, 8.30 p.m. Discussion: "Juvenile Delinquents," to be opened by Dr. John Bowlby, Dr. Dorothy Makepeace, and Mrs. Madeline Robinson, J.P.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE, 23, Portland Place, London, W.—March 17, 3.30 p.m. "Postural Defects in Childhood and Adolescence" (illustrated), by Dr. F. S. Cooksey.

ROYAL MICROSCOPICAL SOCIETY.—At B.M.A. House, Tavistock Square, London, W.C., March 17, 5 p.m. for 5.30 p.m. Ordinary meeting. "Application of the Barnard Ultra-Violet Light Technique for the Study of Living Cells," by Dr. R. J. Ludford; "New Development in Visual Light Microscopy," by Mr. J. Smiles, A.R.C.S.

Thursday

BRITISH INSTITUTE OF RADIOLOGY, 32, Welbeck Street, London, W.—March 18, 8 p.m. Presidential Address: "The Place of Physics in the Training of the Medical Radiologist," by Prof. G. Sierd.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—At Royal Army Medical College, Millbank, London, S.W., March 17, 7.30 p.m. Laboratory meeting of the Society. Various demonstrations will be given.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, S.W.—March 18, 4.30 p.m. *Neurological lecture-demonstration*, by Dr. A. Feilberg.

STAINCLIFFE COUNTY HOSPITAL, Heald's Road, Don'tbury.—March 18, 8 p.m. "Some Aspects of Dermatological Treatment," by Dr. J. T. Ingram.

WELLCOME HISTORICAL MEDICAL LIBRARY: UNIVERSITY AND RESEARCH SECTION, LIBRARY ASSOCIATION: MEDICAL SUB-SECTION.—At Royal College of Surgeons, Lincoln's Inn Fields, London, W.C., March 18, 6.30 p.m. "Some Literary Surgeons," by Mr. V. Zachary Cope.

Friday

FACULTY OF RADIOLOGISTS.—At Royal Society of Medicine, 1, Wimpole Street, London, W., March 19, Joint meeting with British Institute of Radiology and Section of Radiology of Royal Society of Medicine. Symposium on *Diagnostics of the Alimentary Tract*, 2.30 p.m. (a) "Diagnostics of the Oesophagus," Operators: Dr. A. S. Johnstone and Mr. A. L. d'Abreu. (b) "Diagnostics of the Stomach, Duodenum and Small Bowel," Operators: Dr. R. Fawcett and Mr. Harold Edwards. 8.30 p.m. (c) "Diagnostics of the Large Bowel," Operators: Dr. J. L. A. Grant and Prof. Charles Wells. A discussion will follow.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—At Leeds General Infirmary, March 19, 8.30 p.m. "Diseases of the Anal Canal and Rectum," by Mr. C. Neuman Morgan.

ROYAL INSTITUTE OF PHILOSOPHY.—At University Hall, 14, Gordon Square, London, W.C., March 19, 5.15 p.m. "Truth," by Prof. A. J. Ayer.

ROYAL SANITARY INSTITUTE.—At Town Hall, Manchester, March 19, 10 a.m. "Public Health Planning," Paper by Prof. A. Tetting.

Saturday

KENT PAEDIATRIC SOCIETY.—At the Star Hotel, Maidstone, March 20, 2.30 p.m. "The Maladjusted and Delinquent Child."

APPOINTMENTS

The Committee of Privy Council for Medical Research have appointed Harold Percival Himsforth, M.D., F.R.C.P. (Professor of Medicine in the University of London), to be a member of the Medical Research Council.

After being educated at King James's Grammar School, Huddersfield, Prof. Himsforth studied medicine at University College Hospital, where he qualified in 1928, obtaining the University Gold Medal. He proceeded M.D., again with Gold Medal, in 1930, and was elected F.R.C.P. in 1938. He gave the Goulstonian lectures for 1939 and has published numerous papers including many on diabetes mellitus.

John Cecil Wilson McIhven, M.R.C.S., L.R.C.P., has been appointed deputy chairman of the Prison Commission.

Dr. J. F. Fraser has been appointed the first full-time medical officer of health for Pontefract, Knottingley, Featherstone, and the Osgoldcross Rural District.

Michael Kremer, M.D., B.Sc., F.R.C.P., has been appointed honorary assistant physician to the National Hospital, Queen Square.

DELANEY, PATRICK J., M.B., B.Ch., D.P.H., Medical and Organizing Secretary of the Medical Association of Eire.

ESHER, F. J. S., M.B., Ch.B., D.P.M., Psychiatrist, Sheffield Regional Hospital Board.

FRASER, A. M., M.D., D.P.H., Senior Administrative Medical Officer and Secretary, Scottish Northern Regional Hospital Board.

GARLAND, HUGH G., T.D., M.D., F.R.C.P., Physician in Charge, Department of Neurology, General Infirmary at Leeds.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, London, W.C.—*Part-time Out-patient Medical Registrars:* Dorothy W. Wells, M.B., Ch.B., M.R.C.P., D.T.M.&H.; J. J. Kempton, M.D., M.R.C.P., D.C.H.

LENNOX, MARY, M.B., B.Ch., D.P.H., Port Medical Officer, Barry, Glam.

NOTTINGHAM GENERAL HOSPITAL.—*Honorary Assistant Consultant Psychiatrists:* I. J. Davies, M.D., D.P.M., and H. Fisher, M.D., D.P.M. *Medical Specialist:* R. Gwyn Evans, M.B.E., M.D., M.R.C.P.

RAEBURN, H. A., M.D., F.R.C.P.Ed., Senior Administrative Medical Officer, Scottish South-Eastern Regional Hospital Board.

ROGERS, K. B., M.D., Clinical Pathologist, Children's Hospital, Ladywood Road, Birmingham.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Armin.—On Feb. 29, 1948, at Bath, to Dr. Margaret Armin, wife of Dr. Richard Armin, a daughter.

Davies.—On March 4, 1948, at Woking, to Betty (née Benjamin), wife of Lieutenant A. Michael Davies, R.A.M.C., a son.

Milton.—On Feb. 24, 1948, at Walbrook, Banehory, Kineardineshire, to Dr. Jane Crystyan (née Salkeld), wife of Dr. David Milton, a daughter.

Ronchetti.—On Feb. 28, 1948, at Nuffield House, Guy's Hospital, London, S.E., to Sylvia (née Helme), wife of Dr. John Ronchetti, a son—John Kirkland.

Scott.—On March 3, 1948, at Nuffield House, Guy's Hospital, London, S.E., to Esmé (née Pascall), wife of Dr. Leslie Scott, a daughter.

DEATHS

Amdor.—On Feb. 22, 1948, at Royal Infirmary, Cardiff, Alfred Amdor, M.B., Ch.B., D.P.H., aged 40.

Badenoch.—On Feb. 22, 1948, at Hermon Hill Hospital, Wanstead, William Minty Badenoch, M.B., Ch.B.

Bowes.—On Feb. 25, 1948, at "Winhill," Manchester Road, Wilmslow, Cheshire, Paul Bowes, M.D.Ed.

Hurlock.—On Feb. 25, 1948, at Horsebrook House, Calne, Wilts, James Cecil Burton, M.R.C.S., L.R.C.P.

Cahalane.—On Feb. 20, 1948, Michael John Cahalane, M.B., Ch.B.Glas., Squadron Leader, R.A.F.V.R., aged 55.

Clarke.—On Feb. 24, 1948, at Hove, Joseph John Clarke, L.R.C.P.I., D.P.H., aged 86.

Dawes.—On Feb. 21, 1948, at Edenbridge, Kent, Christopher Dering Dawes, M.R.C.S., L.R.C.P., Lieutenant-Colonel, late I.M.S., aged 75.

Durran.—On Feb. 22, 1948, at Edinburgh, Donald Edward Durran, M.B., Ch.B.Ed.

Gardner.—On Feb. 27, 1948, at "Coombehurst," Church Stretton, Shropshire, Henry Willoughby Gardner, M.B.E., M.D., F.R.C.P., aged 86.

Hunter.—On Feb. 24, 1948, at Hutton House, Chilton, Ferry Hill, Co. Durham, Matthew Hunter, M.B., Ch.B.Glas.

Laing.—On Feb. 27, 1948, at 5, Princes Street, Arbroath, David Laing, T.D., M.D., aged 86.

McLean.—On Nov. 30, 1947, at Sydney, N.S.W., Leonard Allen Windsor McLean, M.B., Ch.B.

McVean.—On Feb. 26, 1948, at 24, Forest Road, Bournemouth, W., John Duncan McVean, M.B., C.M.Glas., aged 88.

Martin.—Recently, at 11, Waterloo Avenue, North Strand Road, Dublin, Conor Martin, M.B., B.Ch.

Mathias.—At Burry Port, Idwal James Mathias, M.B., B.S., aged 33.

Pilliet.—On Feb. 14, 1948, at a Nursing Home, Folkestone, Mary Amelia Pilliet, M.B., Ch.B., of Wingate Villa, 210, Canterbury Road, Folkestone, Formerly Assistant Medical Officer, London County Council.

Pollard.—On Feb. 25, 1948, at Royal Halifax Infirmary, Percy Lund Pollard, M.B., Ch.B., of East Lea, Lea Avenue, Halifax, aged 66.

Rivers.—On Feb. 28, 1948, at Redruth, Cornwall, Charles Henry Rivers, M.D., M.R.C.P., aged 76.

Rogers.—On Feb. 25, 1948, Alford Rogers, L.R.C.P.&S.Ed., of Montrose, Sewardstonebury, E., and late of Highams Park, Chingford, E.

Smith.—On Feb. 28, 1948, at Ashfield Park, Clogher, Co. Tyrone, N. Ireland, Henry Smith, C.I.E., M.D., M.Ch., M.A.O., Lieutenant-Colonel, late I.M.S., retired, aged 90.

Tavendale.—On Feb. 28, 1948, killed in a car crash, William John Tavendale, M.B., Ch.B., aged 32.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their question which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Killing Habits of Leopards

Q.—In this area (Nigeria) a leopard society is active, and often have to decide at post-mortem examination whether death was due to human or animal killing. I should therefore like to know: (a) How does a leopard usually kill, and what mark would be expected? (b) What part of the body is a leopard likely to eat first? (c) Will leopards eat intestines when muscle (of leg, etc.) is present? (d) Is it possible for a leopard to sever skin to simulate an incised wound?

A.—The leopard, like the lion, hunts by night, but, whereas the lion usually hunts in company and only when hungry, the leopard hunts alone and displays a greater inclination toward hunting and killing for their own sake. He is likely to lie in wait, probably in a tree, from which he springs down on his victim. At the moment of impact the claws sink in to establish a grip, from which there is little or no chance of release and the teeth are plunged into the neck, either at the back or front, depending on the readiness of access. Possibly the victim's throat will be torn out, and the blood drunk as it flows from the wound. Thereafter the leopard, like the lion and a number of other animals, will show a preference for the entrails of the victim, to which access is obtained by tearing open the abdomen with claws and teeth. The muscular portions of the body are likely to be ignored. The body will be dragged into cover for the latter part of the leopard's activities. This summary of the killing habits of the leopard is based on opinions expressed by Mr. T. H. Gillespie, F.R.S.Ed., F.Z.S. It supplies most of the details requested and also goes a long way towards answering the basic question, which may be paraphrased as follows: How is one to form an opinion on whether a killing has resulted from a genuine attack by a leopard or from an attack by men endeavouring to simulate the work of a leopard?

As in a variety of other medico-legal problems, it seems probable that the answer may depend at times not only on the post-mortem findings but on the fullest possible investigation of all the available evidence, including the identity of the victim, the presence or absence of motive, the time and place of the killing, signs of disturbance or human activity at the locus, signs of dragging, etc. No doubt the men of a leopard society may at times be extremely sedulous in their efforts, and for this reason such seemingly important details as the presence of claw-fragments or leopard's hair might not be conclusive evidence. The demonstration of specific saliva stains would probably be impossible or impracticable. Certain of the wounds produced by a leopard might undoubtedly resemble incised wounds, but the presence of true incised wounds would be strongly suggestive of some other agency. It is improbable that "leopard men" can avoid all inconsistencies and discrepancies which are detectable if looked for carefully. The opinion of the doctor may be an important factor in assisting the investigating authorities in coming to a decision, but it is unlikely to be the only one. Conversely, the doctor should acquaint himself with all possible information on the case before making his examination and forming an opinion.

In an interesting book entitled *Human Leopards*, by K. J. Beatty (Hugh Rees, Ltd., London, 1915, now out of print), the activities of leopard societies in Sierra Leone are discussed, and accounts given of a number of trials which took place there in 1912 and 1913. Apparently a three-pronged knife was sometimes used to simulate the claws of a leopard, but in spite of this and of the fact that the murderer(s) might wear a leopard skin, it does not seem that the methods employed ever bore any very baffling resemblance to a true leopard killing.

Penicillin for Blepharitis

Q.—How should penicillin be administered, for how long, and in what dosage in a case of blepharitis which fails to respond to routine treatment with sodium bicarbonate lavage and ung. hydrarg. oxid. flav.?

A.—Patients with blepharitis are usually either under- or ill-nourished. Attention to the general health is therefore a first consideration. Lavage with sodium bicarbonate and the application of ung. hydrarg. oxid. flav. is not a particularly good method of local treatment. It is best to avoid lotions of any kind, as they only make the skin sodden; ung. hydrarg. oxid. flav. is an unsatisfactory medicament, as many people are sensitive to mercury and, moreover, this ointment is unstable and frequently contains highly irritating products of decomposition. Any local treatment of blepharitis requires the removal of crusts before the application of ointments. Crusts are best removed by washing them off with pledgets of cotton-wool soaked in hydrogen peroxide, 10 vol., or olive oil. The lid margins should then be dried and either painted with liquor tincturiorum or covered with a thin film of penicillin ointment containing 1,000 units of crystalline (not commercial) penicillin per gramme, the base being a mixture of petroleum jelly and liquid paraffin, 90 and 10 parts of each respectively. The application of liquor tincturiorum has the disadvantage that the lid margins are deeply stained. If the application is made only at night most of it washes off with the morning toilet. Penicillin ointment should be used three or four times a day. Blepharitis generally responds to either of these methods of treatment within two to four weeks. Recurrences are, however, likely unless attention is paid to the general health. There is no need for systemic penicillin treatment.

Chronic Suppurating Bone Cavity

Q.—In the local treatment, apart from surgery, of a chronic suppurating bone cavity would the local application of penicillin and a sulphonamide powder relieve in some degree the offensiveness associated with the discharge?

A.—A chronic suppurating bone cavity usually becomes valled-in by sclerotic and poorly vascularized bone, in the depths of which the infecting organisms can remain safe from the influence of chemotherapeutic agents, whether they be applied locally or systemically. The cavity may contain an equestrium which similarly harbours the offending organisms. Moreover, the bacterial infection often becomes a mixed one, and may include organisms which are either naturally immune to chemotherapeutic drugs or which have acquired a resistance to them. These factors unfortunately minimize the possibility of significantly diminishing the offensiveness of the discharge simply by the local application of penicillin and a sulphonamide powder. Nevertheless there could be no harm in trying the effect of such applications, in the hope that by altering the bacterial flora the nature of the discharge might be modified. In cases unsuitable for surgical treatment the odour associated with the discharge can be largely overcome by enclosing the affected part, whether encased in plaster or not, in a bag or leevé made from special filter cloth. This is a coarse material impregnated with carbon particles. Its use was described by Jeddou and Florey (*Lancet*, 1942, 1, 755), and it has subsequently been found of value in the above type of case.

Secondary Signs of Syphilis

Q.—Are mucous patches of the mouth and pharynx more common in cases in which the primary sore arose on the lip rather than the genital area? I would be grateful if you could quote me any specific authority on the subject.

A.—Doubtless mucous patches in the mouth are commoner when the primary chancre is on the lip than when it is on the genitals, since lip chancres are often undiagnosed till secondary signs appear. There is, however, no reason to suppose that the site of the chancre determines the occurrence of mucous patches, since these lesions are "secondaries" and correspond to rashes of the skin; they are merely evidence of generalization of the infection and of the spirochaetes acting on epithelium. The writer knows of no specific authority on the subject, but the explanation seems obvious when the pathology of the condi-

tion is considered: spirochaetes do not cause mucous patches by being transmitted direct from the primary lesion, but by being carried to the mucous membranes in the general circulation.

Pemphigus Vegetans

Q.—What is the right treatment for a case of pemphigus vegetans? Is the disease incurable and always fatal? Is "stovarsol" by mouth of any value, and, if so, in what dosage?

A.—Pemphigus vegetans is usually fatal. Sometimes it responds to unfiltered x-ray therapy in small dosage and to sulphonamides by mouth. Suramin ("antryptol," I.C.I.) intravenously, 1 g. weekly, may control pemphigus, including pemphigus vegetans. The arsenicals are usually disappointing, but stovarsol has been recommended by M. Oppenheimer and D. Cohen (*Arch. Derm. Syph.*, Chicago, 1943, 47, 40-2) in a dose of 0.5 g. half an hour before breakfast on the first day, followed by 0.75 g. for the next two days; then three days' rest, after which treatment is resumed, dosage being reduced and intermissions lengthened. The drug should be stopped if there is pruritus or other ill-effect.

Cataract

Q.—(a) Is it best to leave a cataract unoperated upon as long as the sight of the other eye is fairly good? (b) Is there any danger in allowing a mature cataract to become hypermature, and will an operation in such a case ultimately be essential? (c) After a successful operation, can the sight of the eye be so corrected by lenses as to enable reading to be undertaken with fair results and without undue discomfort or strain? Would it be possible to drive a motor-car provided that the sight of the other eye remained fair?

A.—(a) As a good working rule a patient much prefers 6/12, even with a glass, in an unoperated eye which still has some power of accommodation to 6/6 in an aphakic eye with no such power of adjustment. It is impossible to use an operated and an unoperated eye together and so regain binocular vision unless a contact glass is fitted to the aphakic eye. Having regard to the fact that such a glass can be worn on an average only for four hours in the twenty-four, and that many cataract patients are incapable of the manipulation required in putting in and taking out the glass, it is practicable in but few cases. The advantage of regaining the temporal field of vision or what was the blind side is sometimes outweighed by an annoying diplopia. Where the cataract is obvious there is cosmetic gain from its removal. All these points must be considered before an operation is performed.

(b) A hypermature cataract may very occasionally be ruptured and the lens material escape into the anterior chamber and cause an irritative iritis. Otherwise it is unnecessary to operate.

(c) After a successful operation the patient, provided the eye is healthy, can see 6/6 and J1 easily. Reading can be sustained for long periods without strain. So long as the patient can read a number-plate at the prescribed distance there is nothing to prevent him from driving a car. There are many people driving to-day with only one effective eye.

Lichen Planus

Q.—Can you throw any new light on the aetiology of lichen planus, and what is the latest treatment?

A.—Nothing very new has been found regarding lichen planus, but there is a growing body of opinion that associates it with an infective agent, possibly a virus. A number of clinical features support that conception, including a resemblance to warts, the occasional zosteriform distribution, the occasional onset after the fashion of pityriasis rosea, and its development in affections originally diagnosed under one of these labels. The provocation of lichen planus by metallic and other drugs and by emotional shock is a further point of resemblance, but no actual virus has been demonstrated. Attempts to cure patients by filtrates made from ground lichen lesions have given indifferent results.

There is no specific therapy, and arsenic and mercury and, more recently, calciferol have their advocates. In the main

the course of lichen planus is suggestive of a psychosomatic disorder, and response to treatment seems often to relate to psychological factors rather than to any particular method of treatment.

Swelling in Boy's Breast

Q.—What is the differential diagnosis and treatment in the case of a boy aged 14, in perfectly good health, who has been referred to me in connexion with a small swelling in the upper half of the right breast? There is no pain or tenderness on pressure, but what appears to be a tiny cyst can be felt. It seemed to be a case of simple adolescent mastitis, but some question has been raised as to the possibility of new growth.

A.—The description of the swelling in this boy's breast makes the diagnosis of adolescent mastitis almost certain. The possibility of growth is so remote at this age that in the absence of fixity or accompanying glandular enlargements it can be disregarded. Presumably the effect of rubbing from braces or of other trauma has been excluded. Firm strapping and patience are all that are required in the way of treatment, but if pain is present a course of short-wave diathermy may prove beneficial.

Dextro-amphetamine Sulphate

Q.—Some proprietary tablets are now on the market the active ingredient of which is dextro-amphetamine sulphate. This drug is of value as a cerebral stimulant; have you any information about the dangers of its use? Is it a habit-forming drug?

A.—There is no reason to think that dextro-amphetamine has essentially different properties from ordinary amphetamine sulphate, or that the dangers attaching to its use, especially the danger of addiction, are more serious. However, it has not been prescribed widely enough or for long enough for anyone to be sure about this. The danger of addiction with amphetamine sulphate is very small, as there is no tendency to develop tolerance with prolonged use. Accounts have been published of a few patients, all of psychopathic personality, who have taken 50 or 60 mg. daily over prolonged periods; and the psychiatrist sees, very rarely, a toxic confusional psychosis brought on by such a heavy dosage self-administered. There are also a relatively large number of persons who habitually take small doses of amphetamine (5 to 20 mg. daily) for minor nervous symptoms, apparently without ill effect. As a general rule habitual takers can discontinue the drug without much in the way of deprivation symptoms. It may be assumed that the same considerations will apply to the dextrorotatory preparation.

Nocturnal Frequency in Elderly Men

Q.—Nocturnal frequency of micturition is very common in elderly men. This does not appear to be associated always with an enlarged prostate gland. What other causes produce it, and what can be done about it?

A.—Nocturnal frequency in elderly men is usually associated with the existence of residual urine, even although per rectum the prostate is not felt to be enlarged. The residual urine should therefore be tested by the passage of a catheter under scrupulously aseptic conditions. The most frequent other causes are infection and polyuria, due to such a condition as granular kidney.

Organisms in Nose and Throat

Q.—A routine swabbing recently gave the following result: "*Streptococcus viridans* predominant; no haemolytic streptococci isolated; right and left nostrils, pure growth of *Staph. aureus*." Is the presence of *Str. viridans* in a mother a potential danger to her child? Is it just a normal inhabitant? What treatment would you advise, if any?

A.—*Str. viridans* is a normal inhabitant of the mouth and pharynx, and is likely to be found in culture from a tonsillar swab in any healthy person. The presence of *Staph. aureus* in the nose, on the other hand, although common, is a morbid condition (pathogenicity being assumed, the best evidence of which is a positive coagulase test). Such nasal carriers can infect patients under hospital conditions (producing, for

example, pemphigus in infants and surgical sepsis). Presumably the same sort of thing can happen in ordinary life, and if there are special reasons for safeguarding the health of a particular child the condition might be treated by the insufflation of sulphathiazole.

NOTES AND COMMENTS

Treatment of Chilblains.—E. H. writes: In the answer to "Treatment of Chilblains" ("Any Questions?" Feb. 14, p. 330) I did not see this simple remedy mentioned. I find that both my own and my family's chilblains are cured by two or three exposures to an artificial sunlight lamp applied locally to hands and/or feet. We usually need one course about November when the cold weather starts, and often have to repeat it in January.

Persistent Hiccups.—Col. N. J. C. RUTHERFORD (Farnham, Surrey) writes: I am interested in Dr. J. D. Laycock's letter (Feb. 21, p. 378). Though not wounded in battle I underwent a major operation for cholecystitis in Guy's Hospital during 1933. The condition was complicated by old adhesions and entailed a good deal of pulling about. In 24 hours I started to hiccup and kept it up for eleven days. All the well-known remedies were tried, including CO₂, atropine, morphine, posture, etc. I could eat light meals and sleep when doped, but the moment I awoke I was off again hiccuping. Finally a sailor son insisted on trying a couple of liqueur glasses of Bols, a Dutch aniseed liqueur. Being the eleventh day, this treatment acted as a charm and stopped the hiccups. The late Mr. Fagge, who did the operation, informed me afterwards in his cheery fashion that "he had never seen a fellow hiccup so long and get over it. But he always felt sure that I would survive!" Nobody thought of hyoscine—or pincappie juice.

Noah Morris Memorial.—We are informed that a committee has been convened for the purpose of having erected a students' memorial to the late Prof. Noah Morris, of the Department of Materia Medica, Glasgow University. The committee represents the Students' Representative Council, both Unions, G.U.A.C., the two University medical societies, and *Surgeo*—the University medical journal. In view of Noah Morris's high reputation as an outstanding teacher and his keen interest in student affairs it is felt that present and past students taught by him would like to contribute to the memorial. Will those who would like to do so please send donations to the Clerk to Council, Glasgow University Students' Representative Council, Pearce Lodge, The University, Glasgow, W.2. Cheques should be made payable to the Students' Representative Council.

Absence of Orgasm.—Dr. JOAN MALLESON (London, N.W.) writes: I think the reply given under this heading (Feb. 28, p. 426) is somewhat incomplete as it stands. A partial or complete vaginal anaesthesia is an exceedingly common hysterical condition and by no means limited to the obviously "neurotic" woman. Inhibition of feeling can include the clitoris too; it is sometimes total, but more commonly partial, in which case the absence of final orgasm can be very frustrating. It is true that some cases of frigidity are secondary to inadequacy or precipitancy on the husband's side (if so, this fact should have been given in the case history), yet even so, if there were no intrinsic inhibition such a wife would have achieved orgasm—sleeping or waking—during the ten years of marriage. In the average case of vaginal anaesthesia it can be detrimental to imply that the fault lies with the husband, for this may be quite untrue and will inevitably cause the husband to feel baffled and hopeless and the wife to feel critical. Fortunately some cases achieve a considerable degree of improvement during the course of life, and an infinitely small proportion of such cases seek psychotherapeutic help, which may relieve them. Perhaps because there is so little effective therapy for this disorder there is a natural tendency for the patient and physician, and even the old-fashioned sexologists, to search for physical or marital explanations. The former are almost non-existent, and with careful history-taking the husband's contribution can usually be fairly accurately assessed. The physician can at least help by advising about dyspareunia, inadequate lubrication, etc., and by explanation and reassurance.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Antilegion, Western, London*. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY MARCH 13 1948

British Medical Association

SPECIAL REPRESENTATIVE MEETING

The Special Representative Meeting of the British Medical Association will be held at B.M.A. House, Tavistock Square, London, W.C.1, on Wednesday, March 17.

MOTIONS AND AMENDMENTS OF DIVISIONS

THANKS TO COUNCIL AND HEADQUARTERS STAFF

Motion by NUNEATON AND TAMWORTH: That this Special Representative Meeting before proceeding with the business of the day places on record its gratitude on behalf of the whole medical profession to Dr. Dain and the other members of the Council for their untiring efforts, especially during the past three months, in addressing meetings of Divisions and otherwise making known the important matters at stake in the Health Service to be set up by the Act of 1946. It also congratulates Dr. Hill and the Headquarters Staff on the efficient manner in which they have carried out the duties falling to them and especially in the difficult task of keeping in touch with members in all branches of the profession.

NATIONAL HEALTH SERVICE ACTS, 1946 AND 1947, AND ACCEPTANCE OF SERVICE

Motion by the CHAIRMAN OF COUNCIL that the following recommendation be adopted:

That the Representative Body, reaffirming the whole-hearted desire of the medical profession for a comprehensive health service available to everyone, urges that in the public interest such changes should be made in the Acts of 1946 and 1947 as are necessary to maintain the integrity of medicine and to prevent doctors being turned into State servants, with harmful consequences to patient and doctor alike. The Representative Body therefore expresses the hope that the Government will make it possible for the profession to co-operate by making such changes and states its view that it is not in the best interests of the public or of medicine for members of the profession to enter the Service until such changes are made.

Amendment by NOTTINGHAM: That the following be submitted for the Council's recommendation: (1) That the Representative Body reaffirms the whole-hearted desire of the medical profession for a comprehensive health service available to everyone, and

(2) That the provisions of the National Health Service Acts, 1946 and 1947, are detrimental to the interest of the public and the medical profession alike, and that it is not in the interests of either for the profession to enter the Service under the conditions laid down therein, and

(3) That the Government be urged to make such changes in the Act as are necessary in order to enable the medical profession to enter the Service freely and with good will.

Amendment by GREENWICH AND DEPTFORD: That the following be substituted for Council's recommendation:

The profession having emphatically expressed their opinion through the plebiscite that they would not enter into service under the Acts of 1946 and 1947, the Special Representative Meeting expresses the hope that the Government will forthwith introduce legislation to amend the Acts, so that the medical profession can provide an efficient health service for the people.

Amendment by OXFORD: That for the words "whole-hearted desire of the medical profession for" there be substituted the words "acceptance of the medical profession of."

Amendment by CITY OF EDINBURGH: (i) That after the word "everyone" in line 4, there be inserted the words "declares its willingness to co-operate with the Government and to reopen negotiations through its representatives with a view to the establishment of such a service, but"

(ii) That for the words "integrity of medicine" there be substituted "independent status of medicine."

(iii) That after the word "Government" in line 11 there be inserted "and Parliament."

Amendment by CLEVELAND: That after the words "patient and doctor alike" there be added "In view of the attitude of the present Minister of Health to doctors and the Representative Body, it is obvious that he will never have the confidence of the profession."

Amendment by MARYLEBONE: After the word "co-operate" in line 12 insert the word "willingly."

Amendment by GUILDFORD: That the following words be added to Council's recommendation:

That, in view of the recent B.M.A. plebiscite result, which expressed a 90% disapproval of the National Health Act in its present form, the Representative Body, whilst agreeing with a comprehensive health service available to everyone, requests that it should be postponed until the necessary hospitals have been built and equipped, and the personnel for a complete service have been trained.

Rider by BRADFORD: If the profession is to co-operate in a comprehensive service the essential freedoms must be preserved.

RESOLUTIONS RELATING TO FUTURE SETTLEMENT

Motion by CARDIFF: That the ownership of goodwill by the practitioner, abolition of basic salary and of direction, and the right of appeal to the Courts, be regarded as essentials in any settlement with the Minister.

Motion by SOUTH-WEST ESSEX: (1) This meeting is strongly of opinion that ownership of practice goodwill and the abolition of basic salary are the two issues of fundamental importance for the successful independence of general practitioners.

(2) In the event of negotiations being resumed between the Minister and the B.M.A. and/or following amendment of the Act to the satisfaction of the Negotiating Committee and the Representative Body, it is the desire of the Representative Body that neither Consultants nor General Practitioners should agree to such terms till both sections of the profession are mutually satisfied with them.

Motion by OXFORD: (1) That this meeting considers that the presence of the basic salary element of remuneration is the most important single item in the National Health Act, 1946, which may eventually lead to a salaried State medical service, and instructs its representatives to support any measures which are advised, either to eliminate the basic salary element or to ensure that it will not be used to bring about a fully salaried service.

(2) That in the opinion of this meeting the disposal of the goodwill of general practices should remain in the hands of the profession and not pass into those of the Government.

Motion by READING: That except where special circumstances justify it, the remuneration of general practitioners should be by capitation payment in proportion to the number of persons on a doctor's list and that this principle, which the R.B. regards as fundamental, should be embodied in the Act.

Motion by CITY OF ABERDEEN: That the Representative Body should now ask the Negotiating Committee to offer to

reopen negotiations with the Minister with a view to securing above all else that the principle of payment of general practitioners by capitation only should be established by statute.

Motion by CITY OF ABERDEEN: That service should be accepted by the profession only when the terms of the whole service including Consultants and Specialists are known.

Motion by EAST NORFOLK: That no final solution of differences with the Minister is acceptable, unless it contains a clause that there be no alteration in the terms of service except in agreement with the freely elected representatives of the profession.

Motion by LEIGH: That terms and conditions of service having been satisfactorily arranged should not be altered by Regulation alone, but only after discussion, negotiation, and agreement with representatives of the profession.

Motion by PLYMOUTH: That the Act be amended to guarantee freedom of expression to doctors in all matters relating to the clinical and administrative aspects of the National Health Service in which they are engaged.

APPROACH TO PRIME MINISTER

Motion by BIRMINGHAM CENTRAL: That the Negotiating Committee should approach the Prime Minister forthwith with a view to reopening negotiations.

Motion by READING: That in view of the fact that the medical profession is sincerely anxious to procure the best possible medical service for the country and that all suggestions, which they consider essential amendments to the Health Act, have been regarded as efforts to extort concessions for their own benefit; and that general practitioners have been threatened with heavy financial loss if they do not enter on July 5 a service to which they conscientiously object—this meeting suggests that the Council of the B.M.A. approach the Prime Minister with a request that appointed representatives of the profession may meet a Cabinet Committee to discuss outstanding differences, in the hope that all our energies may be once more directed to constructive effort instead of controversy.

POSTPONEMENT OF SERVICE

Motion by HARTLEPOOL: That the implementation of the National Health Service Act (1946) be postponed *sine die* and that the British Medical Association draw up in outline a scheme of medical service which would be good for the nation and could be carried out.

Motion by READING: That the suggested arrangements for the correction of maldistribution of doctors (except that of financial inducement to under-doctored areas) should be suspended for two years—and be reviewed at the end of that time.

Motion by CITY OF EDINBURGH: That in so far as the medical profession believe that a complete health service cannot be made available to everyone in July 1948 because of lack of staff and other facilities, it is suggested that particular consideration be given to the possibility of introducing the service by stages as this becomes possible.

ADVICE TO PRACTITIONERS

Motion by CARDIFF: That to ensure uniformity of action, the Association be asked to give immediate and concrete guidance on the procedure to be followed by all practitioners

(a) When approached individually by the Minister with an invitation to join the Service;

(b) When approached by members of the public to be accepted on a new National Health Service List.

Motion by GLOUCESTERSHIRE: That this meeting calls on the Council of the British Medical Association to instruct doctors how they shall act when patients present them with the new medical cards for their signature.

Motion by SUNDERLAND: That the Representative Meeting should determine new methods whereby practice may be carried

on in a satisfactory manner should the Minister insist on introducing the National Health Act, as it now stands, on the appointed day.

Motion by SOUTH-WEST ESSEX: In the event of Council's instruction being that we should refuse service after July 4—no certificates of incapacity should be issued by those practitioners not taking part in the Service.

Motion by CHESTERFIELD: That practitioners who feel impelled, for any reason, to take service under the National Health Act should be asked to give an undertaking that they will refuse to accept panel patients now on the lists of doctors who have refused service, or the dependants of such patients, unless or until a general settlement has been reached.

Motion by EASTBOURNE: That the Council should make a statement on current reports that certain persons, who are in favour of the Act in its present form, are advising patients not to enrol with any doctor who is opposed to the Act in its present form, and indicate the appropriate course of action to be followed by any doctor in these circumstances.

ALTERNATIVE SCHEMES

Motion by GUILDFORD: That in the event of a complete deadlock persisting between the profession and the Government, the Council be instructed to draw up and submit to the profession an alternative scheme based upon the 1944 S.R.M. motion by Marylebone, December 5, 1944.

Motion by GLOUCESTERSHIRE: That it is desirable that a comprehensive statement be made by the British Medical Association as to the form of a National Health Service acceptable to and approved by its members. In view of the shortage of personnel and hospital beds throughout the country, an opinion should be expressed as to when such a service could be expected to function adequately.

PRESENTATION OF THE PROFESSION'S CASE TO THE PUBLIC

Motion by HARROGATE: That this meeting urges the immediate necessity of putting the doctors' case more clearly before the general public by every possible means with greater force than hitherto has been the case.

Motion by SUNDERLAND: That a simple statement of the doctor's position be placed before the general public at once and that this statement should be followed up by an intensive publicity campaign.

GENERAL

Motion by BIRMINGHAM CENTRAL: That as this is a fight for freedom which cannot be conducted by appeasement or kid-glove methods the Representative Body should press for withdrawal of certification prior to July 5.

Motion by PLYMOUTH: That the appointment of medical representatives to bodies set up for administration of the Act should only be made after agreement with the elected representatives of the profession.

Motion by PLYMOUTH: That this meeting is of opinion that the profession should stand by the position as revealed by the plebiscite results.

Motion by BIRMINGHAM CENTRAL: That the Minister having agreed to accept the Spens Report on remuneration for general practitioners, the proposals for payment to doctors in his statement to the profession should be referred to that Committee for their consideration.

Motion by GREENWICH AND DEPTFORD: That the profession, having expressed its view emphatically through the plebiscite, this Special Representative Meeting instructs the Council not to be influenced by any "Quislings" however exalted they might be.

Motion by BRADFORD: That there should be adequate provincial representation on the proposed London Liaison Committee, and that the new Committee so formed should represent all consultants.

Motion by PRESTON: That this Meeting recommends that in addition to an advisory capacity the Central Health Services Council be granted executive power.

Motion by SOUTH-EAST ESSEX: That this meeting strongly deprecates the abusive comments made by the Minister of Health in Parliament upon our democratically elected representatives.

Motion by SOUTH-EAST ESSEX: That this meeting expresses its confidence in the Council and the Representative Body, and endorses the policy of the Association during the negotiations with the Ministry of Health.

Motion by GLOUCESTERSHIRE: That Council be instructed to approach the British Dental Association and other ancillary health services in order to establish a common front with all those who are in opposition to the National Health Service Act, 1946, in its present form.

Motion by OXFORD: That this meeting affirms its confidence in the deliberations of the Representative Body, and believes that any recommendation they may make will be based on fair and reasonable discussion.

Motion by MARYLEBONE: In view of the continued misleading statements made by the Minister of Health and supported by some sections of the Press, this meeting wishes to place on record its opinion that the British Medical Association is thoroughly representative of the medical profession and that the Council and the Representatives on the Negotiating Committee could not be elected more fairly or freely.

Motion by SOUTH BEDFORDSHIRE: That this meeting reaffirms the fact that the opposition of the medical profession to the National Health Service in its present form is not connected with parliamentary party politics.

INDEPENDENCE FUND

Motion by EASTBOURNE: That the Council should give the profession some indication of the amount it wishes to be subscribed by individual members of the profession and should state whether this should be in the form of a cash donation or a guarantee.

Amendment by SOUTH-EAST ESSEX: That the Independence Fund be based on guarantees and contributions, and that, if the guarantors be called upon, only 20% be payable in the first instance.

Motion by CLEVELAND: (1) That all other funds be merged in the Independence Fund.

(2) That contribution to the fund should be on the basis of 10% in cash, the remainder by guarantee.

(3) That, subject to the maintenance of a fighting fund, the remainder be available to young practitioners wishing to buy a share in practice, and that the interest thereon should not exceed 1/2%.

Motion by GLOUCESTERSHIRE: That in the event of moneys coming from sources outside the profession, these shall be placed in a separate fund.

Motion by GLOUCESTERSHIRE: That Headquarters should create machinery by which, in the event of a dispute, each district can be kept informed as to what is happening in its own and other districts.

Motion by HUDDERSFIELD: That the Representative Meeting be asked to suggest a suitable form of voluntary pledge or undertaking to be entered into by members meeting in informal groups in any particular district.

Motion by BUCKINGHAMSHIRE: That this meeting requests the B.M.A. and the Insurance Acts Committee to proceed forthwith with the preparation of bonds between practitioners to ensure a united front, which bonds should be put into use in the event of the Council of the B.M.A. advising practitioners to decline service.

MEDICAL MEMBERS OF REGIONAL HOSPITAL BOARDS AND LOCAL EXECUTIVE COUNCILS

Amendment by MARYLEBONE: That medical members of Regional Hospital Boards and local executive councils be requested to continue their membership, for the time being, of these bodies.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Poplar.

Non-County Borough Councils.—Dartford, Radcliffe (limited to future appointments), Tottenham, Wallisend.

Urban District Councils.—Denton, Droylsden, Houghton-le-Spring, Huyton-with-Roby, Portlady, Redditch (restricted to new appointments), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

B.M.A. LIBRARY

The following books have been added to the Library:

- Ackerman, L. V., and del Regato, J. A.: Cancer. 1947.
Bamford, T.: Poisons. Second edition revised by C. P. Stewart. 1947.
Bancroft, F. W., and Pilcher, C. (Editors): Surgical Treatment of the Nervous System. 1946.
Beaumont, G. C.: Medicine. Fifth edition. 1943.
Behrend, M.: Diseases of the Gallbladder and Allied Structures. 1947.
Binger, C.: The Doctor's Job. 1946.
Boyd, W. C.: Fundamentals of Immunology. Second edition. 1947.
Brunschwig, A.: Radical Surgery in Advanced Abdominal Cancer. 1947.
Burn, J. L.: Recent Advances in Public Health. 1947.
Carling, Sir E. R., and Ross, J. P. (Editors): British Surgical Practice Vol. I. 1947.
Cecil, R. L.: Textbook of Medicine. Seventh edition. 1947.
Chamberlain, E. N.: Symptoms and Signs in Clinical Medicine. Fourth edition. 1947.
Cyriax, J.: Rheumatism and Soft Tissue Injuries. 1947.
Dewberry, E. B.: Food Poisoning. Second edition. 1947.
Doggart, J. H.: Children's Eye Nursing. 1945.
Edwards, W.: The Art is Long. 1947.
Elman, R.: Parenteral Alimentation in Surgery. 1947.
Engel, S.: The Child's Lung. 1947.
Etheredge, M. L.: Health Facts for College Students. Fifth edition. 1947.
Ewing, I. R., and Ewing, A. W. G.: Opportunity and the Deaf Child. 1947.
Fishbein, M.: A History of the American Medical Association. 1947 to 1947. 1947.
Fishbein, M. (Editor): A Bibliography of Infantile Paralysis. 1939-1944. 1946.
Harris, D. T.: Experimental Physiology for Medical Students. Fourth edition. 1947.
Hentschel, C. C., and Cook, W. R. I.: Biology for Medical Students. Fourth edition. 1947.
Johnson, W. M.: The Years After Fifty. 1947.
Joslin, E. P.: Treatment of Diabetes Mellitus. Eighth edition. 1946.
Jung, C. G.: Essays on Contemporary Events. 1947.
Katz, L. N.: Electrocardiography. Second edition. 1946.
Khoo, F. Y.: Bone Dysplasias. 1945.
Leonard, F. E.: A Guide to the History of Physical Education. Third edition revised by G. B. Affleck. 1947.
Lockhart-Mummery, J. P.: Nothing New Under the Sun. 1947.
McIntyre, A. R.: Curare. 1947.
Mazer, C., and Israel, S. L.: Diagnosis and Treatment of Menstrual Disorders and Sterility. Second edition. 1946.
Micks, R. H.: Essentials of Materia Medica, Pharmacology and Therapeutics. Fourth edition. 1947.
Ogilvie, R. F.: Pathological Histology. Third edition. 1947.
Peters, J. P., and Van Slyke, D. D.: Quantitative Clinical Chemistry. Second edition. Vol. I. Interpretation. 1946.
Pikinin's Conduction Anesthesia, edited by J. L. Southworth and R. A. Hingston. 1946.
Robson, J. M.: Recent Advances in Sex and Reproductive Physiology. Third edition. 1947.
Rubin, I. C.: Uterovaginal Insufflation. 1947.
Smith, A. (Editor): Medical Research: a symposium. 1946.
Stephens, G. A.: Hormones and Vitamins. 1947.
Todd, A. T.: Treatment of Some Chronic and "Incurable" Diseases. Second edition. 1947.
Wadsworth, A. B.: Standard Methods of the Division of Laboratories of the New York State Department of Health. Third edition. 1947.
Wharton, L. R.: Gynecology. Second edition. 1947.
Williams, R. T.: Detoxication Mechanisms. 1947.
Williamson, G. S., and Pearce, L. H.: Biologists in Search of Material. Second edition. 1947.
Witmer, H. L. (Editor): Psychiatric Interviews with Children. 1946.

The Home Office announces that Dr. James Cunningham, whose registered address is Abbey Street, Ballyhaunis, Co. Mayo, is no longer authorized under the Dangerous Drugs Acts to be in possession of or to supply dangerous drugs.

Association Notices

ELECTION OF MEMBERS OF COUNCIL

Notice is hereby given that nominations of candidates for election as members of Council 1948-9 (a) by the following Branches, (b) by Public Health Service members, and (c) by women members must be forwarded in writing so as to reach me not later than Saturday, April 17, 1948.

Twenty-two Members by Branches in Great Britain and Northern Ireland

	No. of Members of Council to be Elected by Group
Group A.—North of England	1
Group B.—East Yorks; Yorkshire	1
Group C.—Isle of Man; Lancashire and Cheshire	2
Group D.—Derbyshire; Leicestershire and Rutland; Lincolnshire; Nottinghamshire	1
Group E.—Bedfordshire; Cambridge and Huntingdon; Essex; Hertfordshire; Norfolk; Northamptonshire; Suffolk	1
Group F.—Berks, Bucks, and Oxford; Birmingham; Staffordshire	1
Group G.—North Wales; Shropshire and Mid-Wales	1
Group H.—South Wales and Monmouthshire	1
Group I.—Metropolitan Counties	4
Group J.—Bath, Bristol, and Somerset; Gloucestershire; Worcestershire and Herefordshire	1
Group K.—Dorset and West Hants; South-Western; Wiltshire	1
Group L.—Southern; Surrey	1
Group M.—Kent; Sussex	1
Group N.—Aberdeen; Dundee; Northern Counties of Scotland; Perth	1
Group O.—Edinburgh; Fife	1
Group P.—Glasgow and West of Scotland (Glasgow Division)	1
Group Q.—Border Counties; Glasgow and West of Scotland (Five County Divisions); Stirling	1
Group R.—Northern Ireland	1

Public Health Service Members

Two members of Council are nominated and elected by members of the Association employed in the Public Health Service as defined in By-law 1 (3). Candidates must be members of the Public Health Service as so defined.

One Woman Member

One woman member of Council is nominated and elected by women members of the Association.

Nominations

The nominations must be on the prescribed forms, copies of which can be obtained on application to me. A notice will be published by the Council in the *British Medical Journal* (Supplement) on May 8, 1948, of the candidates nominated. Where contests occur, voting papers will be issued on May 15, 1948, containing the names of all duly nominated candidates, from the Head Office, British Medical Association, Tavistock Square, London, W.C.1, to each member in the Group, or to the Public Health Service members, or to women members. A notice will be published by the Council in the *Supplement* of June 5, 1948, giving the results of the elections where there have been contests.

CHARLES HILL,
Secretary.

Diary of Central Meetings

MARCH

- 16 Tues. Special Conference of Local Medical and Panel Committees, 11 a.m.
- 17 Wed. Special Representative Meeting, 10 a.m.
- 24 Wed. Council, 10 a.m.

Branch and Division Meetings to be Held

CLEVELAND DIVISION.—At St. Luke's Hospital, Middlesbrough, Thursday, March 18, 2.30 p.m. Clinical demonstration of Modern Psychiatric Methods followed by a tour of the Hospital.

EAST HERTS DIVISION.—At County Hospital, Hertford, Thursday, March 18, 9 p.m. Address by Mr. R. Rowden Foote: A Practical Survey of Varicose Problems. The address will be preceded by a report on the Special Representative Meeting on March 17.

GREENWICH AND DEPTFORD DIVISION.—At Chiesman's Restaurant, 33, Lewisham High Street, London, S.E., Thursday, March 18, Annual Dinner and Dance.

HYDE DIVISION.—At Dukinfield Town Hall, Wednesday, March 17, 8.30 p.m. Dr. George Fletcher: Some Healing Cults.

SOUTH ESSEX DIVISION.—At Oldchurch Hospital, Romford, Friday, March 19, 9 p.m. Clinical meeting. (1) Medical film on Government Scheme for Rehabilitation; (2) Clinical Address by a member of the Staff.

SUNOERLAND DIVISION.—At Sunderland Royal Infirmary, Friday, March 19, 7.45 p.m. Clinical demonstration by Messrs. J. M. H. Ross and J. A. Weir; Address by Prof. A. A. Gemmel: Some Aspects of Domiciliary Midwifery.

TUNBRIDGE WELLS DIVISION.—At Kent and Sussex Hospital, Tunbridge Wells, Clinical Week-end Meeting. Saturday, March 13, 2.30 p.m., Dr. Evan Bedford: Hypertensive Heart Disease; 3.45 p.m., Mr. F. A. Williamson-Noble: Eye Emergencies in General Practice; 5 p.m., Prof. Chassar Moir: Post-Partum Haemorrhage and Obstetric Shock; 8.45 p.m., Dr. Gordon Masefield: Common Sense Psychiatry. Sunday, March 14, 10.45 a.m., Prof. Henry Cohen: The Diagnosis of Backache; 12 noon, Mr. W. M. Mollison: The Acute Ear; 2.15 p.m., Dr. A. C. Roxburgh: Skin Diseases in General Practice; 3.30 p.m., Mr. A. Lawrence Abel: Some Common Diseases of the Rectum and Anal Canal (with cinematograph film). Fee for lectures £1 ls. Sunday, March 14, 5 p.m. At Kent and Sussex Hospital, Tunbridge Wells, Special Divisional Meeting. Instruction of Representatives for Special Representative Meeting on March 17.

WESTMINSTER AND HOLBORN DIVISION.—At City Hall, Charing Cross Road, London, W.C., Thursday, March 18, 8 p.m. Agenda: To hear reports by the Representatives on the Special Representative Meeting held on March 17.

Meetings of Branches and Divisions

METROPOLITAN COUNTIES BRANCH

The first of a series of five lectures arranged by the Metropolitan Counties Branch for medical students and newly qualified practitioners was given by Sir Crisp English at B.M.A. House on Nov. 4, 1947. Dame Louise McIlroy presided. Dr. A. French, Hon. Sec. of the Branch, welcomed a large audience. Sir Crisp English took "Patients" as his subject. He pointed out that the best possible results for the individual patient could be achieved only by a study of human nature, aptitude in handling a sick man's mind, and the application of common sense, combined with modern technical treatment. He quoted Sir Frederic Treves, who used to say: "Always explain matters to your patient in simple easily understood language; if you cannot do this, you may be sure that you do not understand or grasp the facts of the case yourself. Medicine is common sense." The doctor must be a good listener, and it was important that he should be able to deal with anxious relatives. The lecturer went on to discuss the range of ages of surgical patients, the need for early post-operative rising, and the different approach called for in the case of mothers, fathers, sons, daughters, and young children. Elderly patients presented special problems, particularly when operation was necessary. Sir Crisp English continued with some account of medical men, scientists, lawyers, and business men as patients, and concluded his lecture with a list of the things that a doctor should not do.

Prof. F. A. Maguire, of Sydney, then described the special difficulties of practice in Australia, and Dr. E. A. Gregg, President of the Metropolitan Counties Branch, moved a vote of thanks to the lecturer.

H.M. Forces Appointments

ROYAL NAVY

Temporary Surgeon Lieutenants (R.N.V.R.) J. M. Cliff and P. D. A. Durham have been transferred to the Royal Navy.

ROYAL NAVAL VOLUNTEER RESERVE

Surgeon Lieutenant-Commanders T. Colver and H. R. Vickers, V.R.D., have been placed on the Retired List.

Temporary Acting Surgeon Lieutenants R. Graham, R. Dwyer, A. P. Cornwell, S. K. Earner, J. P. Finnegan, D. A. Macfarlane, and D. E. E. Jones to be Temporary Surgeon Lieutenants.

ARMY

Major-General E. A. Sutton, C.B., C.B.E., M.C., K.H.S., late R.A.M.C., has retired on retired pay.

Colonels A. C. Jebb, and J. H. G. Hunter, late R.A.M.C., having completed four years in the rank, are retained on the Active List supernumerary to establishment.

Colonel C. O. Shackleton, late R.A.M.C., having attained the age for retirement is retained on the Active List supernumerary to Establishment.

Colonel G. D. Harding, late R.A.M.C., has retired on retired pay.

Lieutenant-Colonel T. B. H. Tabuteau, from R.A.M.C., to be Colonel.

HOUSEHOLD CAVALRY, R.H.G.

War Substantive Surgeon Captain P. R. Westall, from Emergency Commission, to be Surgeon Captain.

BRITISH MEDICAL JOURNAL

LONDON SATURDAY MARCH 20 1948

EPILEPSY*

BY

Sir CHARLES SYMONDS, K.B.E., C.B., D.M., F.R.C.P.

Physician for Nervous Diseases, Guy's Hospital

Now and again in the history of medicine the invention of a new instrument suddenly lights up the path of clinical observation so that many things which have been seen dimly, become clear. Speculation is replaced by knowledge, which in turn shows the way to further speculation. Thought advances at a bound. At such a moment it may be forgotten that had it not been for all the patient and careful examination of what had already been seen this advance could never have been made, and that further progress must still depend upon clinical observation, helped, but not replaced, by the new method. The electroencephalogram (E.E.G.) has thrown a light into many dark places on our way to the knowledge of epilepsy, but I would remind you at the outset that although the existence of an abnormal discharge of energy in the cerebral cortex coincident with epileptic attacks has only recently been proved by electrical methods, Hughlings Jackson seventy years ago conceived the idea that such a discharge must be the basis of epilepsy, and his views have been accepted by neurologists since that time as the basis of further speculation.

One of the ways in which the E.E.G. has helped the neurologist is in testing clinical hypothesis. For example, a man aged 30 came to me in 1947 with the story of two recent generalized epileptic attacks. There was a family history of epilepsy. The patient also complained of twitching in his eyes, which had gone on continuously since he could remember. This symptom was easily observed, for it occurred two or three times in every five minutes. The eyelids closed briskly but not so completely as to prevent one seeing an associated upward movement of the eyeballs. The whole episode lasted about a second. This complaint had been diagnosed as a tic or habit spasm, but it was not quite like a voluntary movement. Incomplete closure of the eyes as a voluntary movement is not associated with visible upward movement of the eyeball. Considered in its setting the symptoms suggested an epileptic discharge for this reason, and I made a note that I thought it must be epileptic though I had never seen a case with such frequent, circumscribed, and stereotyped motor expression. There, before the advent of the E.E.G., the observation would have ended in suspicion without proof. The electrical record showed a typical epileptic discharge with each episode of blinking. Confirmation in a case of this kind is of great value, for we have all many times seen little attacks in which the diagnosis has been doubtful, and with increasing experience we have all probably become less inclined to exclude epilepsy as the cause, because we have continued

to observe new and sometimes quite peculiar variants happening, at first alone, but later as the aura of an undoubted fit. Now we have at least the chance of getting confirmation, though a negative record would still leave doubt, for in these very brief myoclonic episodes there may be no detectable electric discharge.

Epileptic Variants

There are many variants of epilepsy of whose nature we can be sure without the aid of the E.E.G., but which because they depart so far from the "ordinary" attack are apt to escape recognition. I suppose that loss of consciousness with or without convulsive spasm is the criterion most widely used in practice for the diagnosis of epileptic attacks. It is not sufficiently appreciated that in many attacks consciousness is not lost but disturbed. The sufferer may be aware of all that is going on around him, may hear and understand what is being said, but is for the time being unable, as he says, to collect his thoughts or reply to a question. There is in fact not loss of consciousness, but confusion, which may be of the mildest degree. As Gowers put it, the effect of an epileptic attack upon the stream of consciousness may vary from a complete interruption of its flow to a mere ruffling of the surface.

Apart from convulsive spasm there may be a momentary loss of power, and on the sensory side a great variety of abnormal feelings constituting the epileptic aura, which may occur without disturbance of consciousness. The chief characteristic of all these slight attacks is their suddenness and brevity. It would be impossible here to attempt any classification of epileptic variants. I shall select one or two for example.

First, the attacks called myoclonic. Anyone who has witnessed a generalized convulsion will have observed that sometimes after this is over there is occasional twitching of the limbs, which may continue for a while after the patient has regained his senses. Myoclonic twitching of this type often precedes an epileptic attack, and it may be the only symptom of an attack. Usually it is confined to the arms, and is especially apt to occur during the first hour or two after waking. There is no disturbance of consciousness, but sudden jerking movements of one or both arms which may interfere for the moment with dressing or shaving. The experienced patient knows when this happens that he may have a fit, but quite often the myoclonus passes off without this. The movements are fractions of a generalized convulsion. In rare instances such myoclonic twitching may be the only evidence of

*Annual oration to the Harrogate Medical Society, 1947.

epilepsy in a patient who never has any generalized convulsion or disturbance of consciousness, and may occur with great frequency

Next let me take a rare form of attack. Ramsay Hunt (1922) noted many years ago that a patient might sometimes fall without any disturbance of consciousness at all. Recognizing the epileptic character of these attacks, he called them "drop seizures." I have met with several examples of this kind of attack, and two families in which several members were afflicted. I recently saw a married woman of 62 whose only complaint was of falling attacks. These she had had since the birth of her first child when she was 26. They tended to occur in series at long intervals, and she had had five in as many weeks before I saw her. All were exactly the same. They occurred only when she was standing; without warning and without any impairment of consciousness she fell to the ground, as a rule forwards on hands and knees, often bruising herself. She was immediately able to get up without assistance. These attacks were never precipitated by laughter or other emotion, being thus distinguished from the well-known phenomenon of cataplexy. Her mother, who died at 65, had exactly similar attacks during the last ten years of her life, and an older sister also has them.

Focal Symptomatology

All these peculiar phenomena of the epileptic attack should, I think, be classified under the heading of focal symptoms because symptoms which are so specific must be related to the site of maximal epileptic discharge. This was the conception of Hughlings Jackson, derived from clinical observation long before modern methods had provided opportunity for precise observation. Seeking proof to support his theory, he found a case in which convulsive spasm in a single limb was associated with a sear in the appropriate area of cortex due to a depressed fracture. Hence the extraordinary notion that Jacksonian epilepsy and traumatic epilepsy were the same thing. Jackson used a case, which happened to be traumatic, to prove his argument that a lesion of a particular part would cause a particular kind of attack. To anyone who reads his papers it must be perfectly clear that this was all he meant. He was concerned with the localization of the lesion, not with its pathology. He was well aware that focal symptoms might occur in cases of brain tumour, or in what is called idiopathic epilepsy. Dr. James Collier used to say that the commonest cause of a Jacksonian attack was idiopathic epilepsy—a broad generalization which I believe is true when the idiopathic attacks are accurately observed, for there is very often an initial symptom of the attack which indicates a focal origin.

Penfield's (1946) observations in recent years have enriched our knowledge of focal symptomatology. With painstaking accuracy he has recorded the effects of electrical stimulation of different areas of cortex in patients subjected to craniotomy under local analgesia. His experiments have confirmed in the most striking way many of the conclusions reached by Hughlings Jackson from clinical observation. Jackson, for example, first described two kinds of attack associated with lesions of the anterior temporal lobe—the hallucinatory attack of taste or smell, and what he called the dreamy state. Penfield was able to produce both kinds of attack by stimulation of the anterior temporal cortex and of no other part of the brain. These attacks therefore have great localizing value, and the descriptions given by patients are characteristic. The smell or taste is always the same, always unpleasant, never quite like any normal taste or smell. The dream, which may include both hallucinations and illusions, has the dreamlike com-

bination of unreality and familiarity. In many cases both of organic disease and of idiopathic epilepsy Penfield was able to reproduce by stimulation attacks which the patient recognized as the same as those which happened spontaneously.

From what I have said you will appreciate that when we recognize a focal origin for the attack this does not imply an organic basis. Nevertheless the story of focal attacks in a patient with idiopathic epilepsy is usually different from that of a patient with a cerebral tumour and the difference seems to depend upon the existence in idiopathic epilepsy of an abnormal state of the cortex as a whole, which makes it easier for the epileptic discharge to spread. The focal attack of idiopathic epilepsy may remain focal if the discharge is a slight one, but a more severe discharge will tend to spread. Consequently the patient often has minor attacks which consist of nothing but what we call an aura; but if there is a major attack consciousness is lost and convulsion, if it occurs, is generalized. By contrast, the discharge from an organic lesion is often restricted whatever its degree. The patient may have focal convulsions or sensory phenomena of considerable extent and rapid recurrence with no loss of consciousness or generalized convulsion. Such attacks recurring in stereotyped form usually indicate a coarse lesion—most often, of course, a tumour.

Modern Methods of Pathological Diagnosis

The preliminary sifting is made from the clinical data. Fits beginning under the age of 20 in those with a positive family history are idiopathic unless there is some strong clinical evidence to the contrary. The same is true of fits beginning in this age period which have continued for several years even though the family history is negative. But when we meet with a recent history of fits in an adolescent with negative family history and clinical examination, a radiograph of the skull is worth while. It is a simple procedure, and now and again will reveal some gross abnormality. For example, an otherwise healthy girl of 16 had a single fit with generalized convulsion and loss of senses. The onset was with spitting as if she wanted to get rid of something unpleasant—suggestive of a temporal lobe focus. Clinical examination was negative, and there was no family history of attacks. The radiograph showed a calcified tuberculoma in the right temporal lobe.

In adults the onset of the fits demands more detailed investigation. Past head injury, middle-ear or sinus infection, encephalitis, and cerebral syphilis are uncommon but important causes, and anyone who has lived in India should have the limbs x-rayed for evidence of cysticercosis. Radiographs of the skull should be done as a routine—calcification is quite common in the gliomas, which are the commonest of cerebral tumours. The E.E.G. is useful, and doubtless when apparatus is available will be considered indispensable. In 50% of idiopathic epileptics the record is of positive diagnostic value, and in another 25% it shows abnormalities which are suggestive. An organic lesion if fairly near the surface shows focal slow wave activity. An air encephalogram completes the investigation. Useful information can be obtained by the injection of 30 c.cm. by lumbar puncture—a procedure which as a rule upsets the patient only for a day or two. If epilepsy is symptomatic of a removable tumour (meningioma) there will very probably be a filling defect, though normal pictures are compatible with an infiltrating glioma. No one quite knows how many of the patients without apparent hereditary or other cause starting to have fits in adult life eventually prove to have tumours. It is commonly estimated at 50%.

Natratss (1943) has questioned this belief on the basis of a follow-up of 81 cases whose first attack was after the age of 40, finding that of 57 who could be traced 16 had died in less than twelve years, but only nine of proved organic cerebral disease. The course in the others, both dead and survivors, had been that of idiopathic epilepsy. My impression is that his figures, though small, are near the truth. A considerable number of idiopathic epileptics have their first attack after 30, and idiopathic epilepsy is a very common disease.

Causation

About the causation of idiopathic epilepsy we have much still to learn, but the E.E.G. has taught us a good deal about the hereditary factor. Its familial incidence has of course been long recognized, though in only about a quarter of the cases, and then curiously enough more often in siblings, aunts, and uncles than in either parent; but Lennox and the Gibbss (1940) have recorded the following observations. They examined E.E.G. of 183 first-degree relatives of 94 patients with clinical epilepsy and found abnormal E.E.G.s in 60% as compared with 10% of 100 persons with no personal or family history of epilepsy. In 53 instances records were obtained from both parents, and in only 5% were both normal. Even more startling was the finding that in 35% both parents showed an abnormal E.E.G. Of the relatives with abnormal E.E.G.s only 1 in 3 had clinical epilepsy. Lennox and his collaborators conclude that the abnormal E.E.G., presumably associated with an epileptic tendency, may be inherited as a dominant trait. The risk of an epileptic offspring having epileptic children is great only if the mate also carries the trait. Thus if a person with epilepsy will choose a mate who has a normal brain rhythm his chance of having any offspring with epilepsy is greatly reduced. His chances of normal offspring are greater than those of parents both of whom have no present or family abnormality but have brain waves of abnormal frequency.

The E.E.G. has therefore become an indispensable aid to the doctor who is asked for advice about the risk of inheritance by a person about to marry who has a personal or family history of epilepsy. The answer is that if the proposed mate has no personal or family history of the disease and has a normal E.E.G. the risk is negligible.

It is fairly safe to assume from the available data that the most important cause of idiopathic epilepsy is an inborn liability to abnormal cortical discharge. If this is granted we still want to know what are the conditions which from time to time precipitate this discharge. We know that most people may have epileptic attacks under certain conditions—for example, extreme degrees of cerebral anoxia or hyperglycaemia—but in idiopathic epilepsy no such conditions are required. The attacks as a rule occur without any apparent cause. In a very small proportion of the cases the opposite is true—the attacks occur only with a specific precipitant. These cases of so-called reflex epilepsy form an interesting group. The best-known example probably is acusticomotor epilepsy, in which a sudden noise precipitates an attack, but there are many others. Coughing, micturition, and sexual orgasm, for instance, may be specific precipitants, or sudden contact of particular parts of the body. In this last group sometimes local contact will provoke a focal attack in the part touched, and electrical records can show the arrival of the sensory impulse in the cortex, the local epileptic discharge, and the resulting muscular contraction occurring in a time sequence corresponding with the known rate of conduction of the nervous impulse.

The artificial production of attacks in epileptics is often possible by alkalosis induced by over-breathing, or by

extreme hydration brought about by a high fluid intake and injections of "pitressin," but there is no evidence to suggest that these causes are commonly of any clinical importance.

Age is certainly important. Infants are peculiarly susceptible to fits, but it is certain that in many cases infantile convulsions are evident of an abnormal liability in this direction. The proportion of infants with convulsions who later develop epilepsy is higher than of those who have not had them: a history of infantile convulsions is commoner in epileptics than in non-epileptics; and a history of infantile convulsions is more often obtained among the relatives of epileptics than of non-epileptics: all these differences are significant and the point has an important bearing upon treatment. An infantile convulsion, especially if without adequate precipitating cause, should be the occasion for inquiry into the family history, and if this is positive regular and protracted sedative treatment should be given.

A striking feature in many cases of epilepsy is the time at which the attacks occur. They may occur only during sleep or between certain hours of the day, often during the first hour or two. A monthly rhythm is frequently noticed in women on account of the relation to menstruation, but is also to be observed in males. Periodicity of the attacks, however, may be seen at much longer intervals of months or years (Griffiths and Tylor Fox 1938). Such periods must always be looked for and taken into account in treatment. Without this it is impossible to estimate the efficacy of drugs.

Diagnosis of Epileptic Attacks

I shall confine myself here to the distinction between epilepsy and syncope, which I think may be a very difficult problem. Syncope as a rule has an obvious cause—for example, long standing, especially on an empty stomach, sudden emotion, or intense apprehension—and it is fairly safe to say that a sudden attack of falling with loss of consciousness without such a cause is not syncopal. It is not so safe to assume that an attack of this kind provoked by emotion is not epileptic. In some persons with reflex epilepsy emotion may be the precipitant, and it may be a particular kind of emotion. In a syncopal attack there is usually some warning—dimness of vision, weakness, uncertainty of balance. But this is not an absolute rule. A person may fall in a faint with little or no warning; and, conversely, a minor epileptic attack may be preceded by similar sensations. If the epileptic attack is closely observed twitching of face or hands is commonly seen—symptoms which at first might be considered diagnostic of epilepsy. But this is not true. If the cerebral anoxia resulting from syncope is severe enough an epileptic discharge with twitching is the result. The following case illustrates the difficulties of differential diagnosis.

In 1937 I saw a boy aged 13 with the history that in the previous six years he had had five attacks of unconsciousness. The first occurred when he had a tooth out with local anaesthesia, the second on getting up after influenza, when at lunch he suddenly slid unconscious under the table. The third happened when he was standing in a row of boys at school waiting to be examined by a doctor, the fourth also at school while waiting to be inoculated, the fifth when because of the recent attack he was taken to see his family doctor, who gave the following account. "While I was listening to his heart and chest I looked up at his face and noticed he was very white. He then fell. At first he was pale; his lips then became cyanosed, and at the same time I noticed twitching of fingers and hands. This lasted only a few moments; his colour then immediately returned and he got up and said he was all right." The only relevant fact in the family history was that a maternal uncle had from childhood

always fainted easily when frightened—if, for example, he saw an accident. The patient himself had had a serious head injury in a car accident at the age of 3, being severely confused for a fortnight. I decided in favour of syncope, and heard no more of him till he was 21 and an officer in the Guards.

The story then was that he had had no further attacks till he was at Sandhurst, when while listening to a lecture on first aid he had suddenly lost his senses and fallen from his seat on to the floor. A year later he had a similar attack while being medically examined. The medical officer was convinced from his observation that this was an epileptic attack and sent him to a neurologist with this diagnosis. While the neurologist was listening to his heart it suddenly slowed to a rate of about 20 a minute and then stopped for an estimated period of 45 seconds, during which the report stated "he had a fit, rolling eyes, rigidity, and a few convulsive movements." The neurological diagnosis was Stokes-Adams disease, and he was recommended for invaliding. The E.C.G. and E.E.G. were normal.

Dr. Denis Williams then staged an attack. Preparations were made for simultaneous recording of E.E.G. and E.C.G.; a rather large needle was produced and the patient was told that it would be stuck into his arm and would be painful. He at once became pale, with marked slowing of the heart beat; his lips became cyanosed and he was momentarily confused. There was no abnormality in the E.E.G. My conclusion was that these attacks were neither epileptic nor symptomatic of heart block, but severe syncopal attacks with a specific emotional precipitant. I gave considerable weight to the family history. However, I advised that he should see Dr. Parkinson, who was confident that they were not Stokes-Adams attacks but gave his opinion against the diagnosis of syncope. His arguments, which he has kindly allowed me to quote, are of great interest. "I know that in extreme instances of fainting convulsions can occur, but rarely. Ordinary faints seldom persist from age 8 to 21 years; the warning is longer, and lesser degrees are common in the same individual. You will gather that in my opinion they might be severe faints, but I incline personally to regard them as of an epileptic nature."

It is my own opinion that we have here an example of what might justly be called reflex syncope. I have met with several comparable examples, and all have had these features in common: (1) a specific liability to faint at the sight of blood, or an accident, or the account or thought of injury or illness; (2) a tendency for this liability to begin in youth and persist into adult life; (3) the occurrence in some attacks of epileptiform convulsions; and (4) a family history of similar liability.

Anticonvulsant Drugs and E.E.G.

The E.E.G. has been of a certain value in providing scientific proof of the efficiency of anticonvulsant drugs. Many patients who are subject to repeated attacks show between these attacks very frequent brief discharges on the E.E.G. which are characteristic of an epileptiform explosion. These are known as subclinical attacks, and it can be shown that their frequency can be diminished or even abolished by sufficient doses of phenobarbitone. Another interesting demonstration is the effect of concentrated mental activity in inhibiting these subclinical attacks, confirming the impression of all experienced clinicians that epilepsy is most apt to occur when the mind is empty and least when it is active and busy. Unfortunately the impression of many lay persons is the opposite, and the doctor is often expected to prescribe prolonged absence from school at the onset of epilepsy—advice which is sometimes given with harm to the patient.

The most important contribution of the E.E.G. to treatment, however, is in connexion with the new drug "tridione." The normal E.E.G. consists of a fairly regular 10-a-second rhythm of low-voltage discharges. Of all patients with clinical epilepsy 25% show rhythms within

normal limits; 50% show abnormality of an irregular kind—usually medium-voltage slow-wave activity; 25% show runs of slow- or fast-wave activity which is characteristic of epilepsy. In this group—the epileptics with epileptic E.E.G.s—there are different kinds of abnormality in the E.E.G. which corresponds roughly to different varieties of attack.

In what is clinically called grand mal—loss of senses with generalized convulsions—the E.E.G. shows bursts of high-voltage fast waves or spikes. Attacks of similar pattern but lesser degree, which the clinician might well call petit mal—brief loss of senses with widespread but slight and momentary tonic and clonic spasm—are associated with the same type of E.E.G.—i.e., the grand mal type of E.E.G. A new name is needed for these attacks, and, based upon the E.E.G. findings, the somewhat ambiguous title "minor grand mal" has been used to describe them. The term has some practical value because attacks with this type of E.E.G., whether grand mal or minor grand mal, respond on the whole better to phenobarbitone, with or without "epanutin," than to other drugs.

Another type of E.E.G. is that in which there is a series of medium-voltage flat-topped slow waves. This is found to be associated with attacks in which confusion and disordered behaviour are the outstanding features, with little or no muscular twitching. These so-called psychomotor attacks respond best to epanutin.

The third type of E.E.G. is characterized by alternating slow and fast waves of rather high voltage—the so-called wave-and-spike complex. This again is subdivided into a round wave followed by a sharp spike—the so-called dome-and-dart E.E.G.—which is characteristic of true petit mal, and a more rapid alternation of flat-topped wave and spike known by electro-encephalographers as the petit-mal variant. Of practical importance here is that if attacks are associated with the dome-and-dart E.E.G. they are likely to be controlled by tridione and are equally unlikely to be influenced by any other anti-epileptic drug. The dome-and-dart E.E.G. is invariably found in what at one time was called pyknolepsy. The main characteristics of this variety of petit mal are an onset in childhood; the daily occurrence of frequent, brief, stereotyped attacks of loss of consciousness seldom accompanied by muscular twitching, except in the face; preservation of the intellectual functions; and a relatively good prognosis. It was recognized before the advent of tridione that the attacks not infrequently ceased at puberty never to return. Other clinical varieties of what the electro-encephalographer calls a true petit mal because of the association with a dome-and-dart complex are brief myoclonic attacks and attacks in which there is sudden falling with loss of consciousness but without twitching. Lennox (1947a) has reported the effects of treatment with tridione in 166 patients with true petit mal, having the characteristic E.E.G.: 31% became entirely free from attacks, 32% had less than one-fourth the previous number; 20% improved to a lesser extent, and 17% are unimproved. By contrast, tridione given to patients with uncomplicated grand mal brought about improvement in only 20%, and actually made 50% of the patients worse. Patients with psychomotor attacks are not so often the worse for tridione, but they do not do so well as with epanutin. I have mentioned that the clinical pattern of true petit mal varies, including very brief loss of consciousness with twitching, if any, confined to the face; myoclonic twitching without loss of consciousness; and attacks of falling with momentary disturbance of consciousness. All three of these clinical variants are equally amenable to tridione. The shorter the history and the younger the patient the better the result of treatment.

Tridione is dispensed in 0.3-g. capsules. The initial daily dosage for infants is one capsule a day, for those aged 2-4 years two capsules a day, for those 5-16 years three capsules a day, and for adults three or four capsules a day. If after one month the attacks are not controlled the dose is increased by one capsule at monthly intervals until relief is secured, toxic symptoms occur, or the dose is doubled. The maximum improvement is usually in the first month, but Lennox reports the case of a child of 8 having 50 to 70 attacks a day in whom at the end of six months the dose was raised to seven capsules daily with final disappearance of the attacks.

The commonest toxic symptom is photophobia, which occurs in about half the cases. It is very seldom severe enough to require cessation of treatment, though sometimes the patient may have to wear dark glasses in sunlight. Rashes have been observed in 14% of cases treated, usually acneiform and confined to the face, sometimes generalized and like that of measles. This calls for cessation of treatment, which is begun again when the rash has subsided, starting with one capsule every other day and gradually increasing the dose to the required level. Most patients acquire tolerance. Much more important, but apparently rare, is the danger of agranulocytosis. Lennox reports three deaths from this cause, and it follows that a fortnightly white blood count is essential for all patients taking tridione. Lennox recommends that a leucocyte count below 4,000 together with polymorphonuclears less than 40% should be an indication for at least temporary discontinuance.

Social Problem of Epilepsy

The epileptic in society has not hitherto been given much sympathy or help. He is obviously disqualified from many professions and trades, but most epileptics are intelligent and normal persons apart from their attacks, and quite able to earn their living. In the U.S.A. it has been estimated that 1 in 200 of the population are epileptic, and there is no reason to suppose that the incidence in this country is less—which means that there are something like a quarter of a million persons suffering from this malady in Great Britain. Supposing half of these to be educable and employable the problem deserves special consideration not only on account of its size. A good deal has been done in America to bring the public to a sense of their responsibility in this matter. There is, however, an instinctive repugnance among healthy people not so much for the disease as for the sight of an attack, and it is for this reason that I believe schoolmasters and parents on the one hand and employers on the other may successfully resist the humanitarian appeal for the epileptic to be admitted more freely to the normal social group. More epileptic schools and self-supporting colonies therefore seem to be the answer.

One problem which most of us must have encountered is that of the epileptic who wants to drive a car, and often does so whatever medical advice may have been given. The applicant for a licence has to answer the question "Do you suffer from epilepsy?" and is told that if in doubt regarding the answer he should get professional advice. The responsibility for declaring a liability to fits clearly lies with the applicant, but it is presumably the responsibility of the applicant's medical attendant to inform him that he has such a liability. Many patients have consulted me who have had one or more epileptic attacks but as the result of treatment have been free from attacks for so long that they claim, not unreasonably, that they should no longer be considered liable to fits as applicants for a driving licence. I have sought from the Ministry of Health and from the Home Office a definition of epileptic liability for purposes

of the Road Traffic Act with no very satisfactory result. My inquiries were related to two separate cases—one that of a man whose fits had been traumatic and who after surgical removal of a bone fragment which had penetrated the dura had remained free for two years. The other patient, a young farmer, had had two attacks of the idiopathic kind. I advised regular dosage with phenobarbitone and told him on no account to stop this without seeing me again. He returned six years later, having continued regularly with his treatment, with no further attacks. Owing to the death of his father he was now in a position in which inability to drive a car was a very serious handicap.

I am informed that the Ministry of Transport in drawing up the regulations for driving licences were advised by a committee of experts appointed by the B.M.A. and were advised that "once an epileptic always an epileptic," and that any person who has at any time suffered from fits should be refused a driving licence. No legal ruling, however, was made, and the answer to my specific question in 1946 was that there is no provision in the law which defines the time which must elapse from the occurrence of a seizure before an applicant for a driving licence may be certified as not being liable to fits. "The legal department takes the view that subsequent liability under the circumstances is entirely a medical question." This to my mind is an unsatisfactory state of affairs, placing as it does an onus upon the practitioner. For his own protection he would probably be wise to inform his patients that the occurrence of a single epileptic attack is a permanent disqualification for a driving licence. This also may be the ideal advice for the protection of society, but is it practically fair? As Lennox (1947b) points out, driving accidents must be at least a hundred times more often due to chronic alcoholism than to epilepsy, but the applicant is not required to state that he has never been under treatment for alcoholism. Nor are patients with known coronary disease debarred. I have known two who have had coronary occlusion when driving, in each case resulting in a serious accident. I think it is time that legal machinery should be set up which would enable the epileptic who has been free from attacks for a specified period to state his case before an impartial tribunal. This would not only be safer to the epileptic but would also be in the public interest. I have no doubt that at present many epileptics are driving to the danger of the public who might be deterred from doing so by a law providing a specified period of freedom from attacks.

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The annual report of the Institute of Child Health of Birmingham University has recently been published. The Institute attaches great importance to postgraduate training, dividing it broadly into three main types: (1) for those doctors who intend to specialize in paediatrics; (2) for general practitioners who want a refresher course; and (3) for medical men who want to specialize in administration. The Institute has received large numbers of applications from postgraduate students in Britain and abroad, and during 1947 received students from India, Palestine, Italy, Poland, Malia, and South Africa. Some of the main lines of research carried out at the Institute are outlined in the report as follows: (1) The nutrition of premature infants. This work is sponsored in part by the Medical Research Council and is being carried out at the Premature Baby Unit at Sorrento. (2) Protein digests in premature, wasted, and marasmic infants. (3) Infections in infancy—nature, reactions, and treatment. (4) Protein and fat metabolism in coeliac disease. (5) Aplastic anaemia, kernicterus, and other haematological problems. (6) Causes of stillbirth and neonatal death.

A PSYCHO-ANALYTIC CONCEPT OF THE ORIGIN OF DEPRESSION*

BY

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General interest in the psycho-analytic psychopathology of depression may have been kept in the background for a long time owing to the rapid development of interest in the psychopathological understanding of the less complex symptoms common in neurosis, such as anxieties, phobias, obsessions, etc. The psychopathology of schizophrenic symptoms, where the mechanisms sometimes seemed obvious and apparent but where the psycho-analytic treatment was not then helpful, interested more analysts in the early days than did the psychopathology of manic-depressive symptoms. Nevertheless since 1911, when Abraham first discussed depression, the psycho-analytic psychology of normal sorrow, depression, mourning, and grief, and the psychopathology of abnormal depressions have gradually developed until now concepts have been worked out which are to a considerable degree new and can be stated simply. Such new concepts have been found to be of essential value in psycho-analytic attempts at therapy and investigation of depressed states regardless of the degree of severity, regardless of the sex, and more or less regardless of the age—children as young as 2½ years and adults in the sixth decade having been treated.

The earlier work of analytic writers (Abraham, 1911, 1916, 1924; Sigmund Freud, 1917; Rado, 1927; Jones, 1929) was invaluable. The background of theoretical construction already developed was necessary to make the recent development possible. With the recent work courage was needed to make the new observations. The work done in this country in the past 15 to 20 years, chiefly by and under the stimulation of Klein, has brought much clarity to the problem of abnormal depressed states, and incidentally points the way to further work with schizophrenia. Klein published her first conclusions on this subject in 1935. She has added much to our knowledge of the technique of investigation and attempts at therapy, and has added (1940) to our theoretical constructions.

Most of the views I am putting forward are based on evidence personally obtained during the psycho-analytic treatment of neuroses with depression and with manic-depressive states in different sexes of different ages from late infancy to late life (Scott, 1946).

First Appearance of Depression

To introduce the subject a brief outline needs to be given of how the infant develops to a stage which allows depression to appear for the first time. What follows after this stage of development has been reached is the history of the different forms depression assumes at different periods of life. Just as the early stages of love and hate are significant in understanding their later development, so also may the varieties of adult depression become understood to a greater degree if we can become clearer about the genesis of depression in human life.

Regardless of different views about the source or nature of instinct, it can be said that from an early age the infant breathes air, sucks milk, passes water and stool, moves about, and sleeps. These activities are normally pleasant. If any of these activities is frustrated the infant becomes angry. Regardless of how intense or diffuse his anger may

become, regardless of how many organs he uses to vent his anger, he will first show his anger in the situation where the frustration is; for instance, if breathing is frustrated he will breathe angrily, if sucking is frustrated he will suck angrily.

From the earliest period of life one aspect of each of these pleasant or angry activities is its direction, namely, the direction of movement or interchange between what can be called the outer and the inner worlds, or the direction of interchange between this inner world and the outer world—for instance, breathing in, breathing out, swallowing in, vomiting out, etc.

Only slowly in the developing scheme of things are "people" as the adult knows them included. Earlier the world consists of what adults would call "parts"—breasts, faces, hands, etc. Only slowly in the scheme of things does a "self" as a "whole person" or "other people" as "whole people" develop. Only slowly do distinctions between what are later called perceptions, memories, images, etc., arise. Along this line of development crucial points can be discovered, and it appears that at one of these crucial points depression becomes possible for the first time. Previously only simpler affects, such as anger, pleasure, pain, fear, etc., are possible. It is in relationship to the manner in which these early depressive feelings arise and are dealt with that we can see the hope of understanding the symptoms of later depressions and understand how they can be dealt with. It is here that we see the beginnings of the development of normal tolerance of depression, of normal ways of dealing with depression, and also the beginnings of pathological depressed states.

"Good" and "Bad"

Let us follow some of these early sequences in greater detail. Hunger may lead to sucking a breast or breast substitute and to pleasure. Through the feelings of breathing, sucking, smelling, touching, swallowing, etc., the feeling of a "good something" going into or entering the inner world occurs. Technically this something is customarily referred to as an "object." During or following such an experience the child may pass water or stool or sleep with pleasure without as yet clearly appreciating with the same clarity as it later will that there is "a something" or "an object" associated with the experience of evacuation. Nevertheless he is already beginning to realize that an interchange between the outer and the inner world and between the inner world and the outer world is occurring. The general feeling of an infant feeding and later evacuating and sleeping is that both the inner and the outer world are "good" and that a "good" interchange in each direction has occurred.

On the other hand, hunger may not be followed by such a satisfying experience. Instead it may be followed by frustration and bellowing and gnashing of toothless gums, by angry movements, by passing water and stool in his rage, and so forth. This leads to the feeling that the inner and outer worlds are "bad" and that any object differentiation in the inner or outer world is into many "bad" objects, and that any interchanges between the inner and the outer world, which may have occurred in either direction, have been bad. Such a bout of anger may, of course, be followed later by satisfaction, but this type of satisfaction will be different from what it would have been had the bout of anger not preceded it. Similar experiences are repeated and repeated. The series of pleasures, frustrations, and annoyances build up memories, on the one hand, of attitudes to the inner and outer worlds in which the omnipotent infantile loving imagination has had free play, and, on the other hand, of persecutory attitudes to the outer and inner worlds in which omnipotent infantile hateful imaginations have had free play. Here much may be learned

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THE SIGNIFICANCE OF HARRISON'S GROOVES

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The origin of the term "Harrison's grooves, or sulcus," has hitherto been obscure. Three standard medical dictionaries—Dorland's, Stedman's, and Gould's—attribute the eponym to Edward Harrison (1766–1838); but no account of the deformity can be found in any of his works (Edward Harrison, 1806, 1810, 1820). Dr. Charles Singer told us that because of this uncertainty Sir Frederic Still was unable to include a note on the grooves in his *History of Paediatrics*.

Samuel Gee (1870) and W. Fox (1891) both refer to Edwin Harrison's method of determining the height of the diaphragm by means of the lateral thoracic grooves, which were apparently common in the early part of the last century. In following up this clue we have been successful in exhuming the original description of the grooves.

Edwin Harrison (1779–1847), a physician to the St. Marylebone Infirmary, wrote no books and few papers. However, the pages of the *London Medical Gazette* for the years 1835–7 reveal that he was interested in the grooves as a physical sign in examination of the chest. The first inkling comes from an article by a Dr. Williams on Oct. 3, 1835. He refers to the grooves, and states that "the chief object of this communication is to announce them to the profession as original observations of my friend, Dr. Harrison, whose peculiar repugnance to authorship deters him from doing so himself." Then, in July, 1836, Clendinning (in a paper which is printed next to Marsh's original description of his test for small quantities of arsenic) gives more details and an acknowledgment to Harrison. Finally, in 1837, Edwin Harrison managed to overcome his "peculiar repugnance to authorship," and we have a note which included the following observations:

"2. On moving the hand along either side of the chest vertically, on what may be considered as the median line, it will sink into a depression corresponding to the height of the diaphragm on that side.

"3. A depression, or depressions, between the ribs can be felt or seen, or both felt and seen, at each abdominal inspiration, indicating (at least in the physiological state) the presence of the diaphragm in that part of the chest.

"... If it should turn out that my opinions are not so original as I believe them to be, I trust that I shall always be found ready to make the avowal."

Theories of Causation

The mechanism of the formation of the grooves has also remained obscure, and has been the theme of many fairy-tales told to students in their early clinical days. Rilliet and Barthez (1843) first expressed the view that the grooves correspond to the attachment of the diaphragm to the ribs, and this error has been repeated in textbooks up to the present day (Holt, 1939; Nelson, 1946; Paterson and Moncrieff, 1947). Seventeen years later Jenner (1860) pointed out that the grooves are level with the upper surfaces of the liver, spleen, and stomach, whereas the diaphragm is attached to the margins of the ribs and costal cartilages diagonally along the thoracic outlet. This observation was given publicity by Charles West (1874)

in what was for many years a standard textbook on children's diseases.

Rilliet and Barthez (1843) also postulated a gap between the attachments of the major muscles of thoracic respiration and those of the diaphragm: they suggested that the negative intrathoracic tension is in that area able to overcome muscular resistance and so produce indrawing of the ribs. Jenner (1860) was unable to find this gap. Examination of a cadaver confirms his observation. The ribs and cartilages are clothed closely in muscular attachments, and the insertions of serratus magnus interdigitate most intimately with those of the external and internal oblique muscles. Moreover, the line of insertion of serratus magnus runs diagonally across the site of Harrison's grooves.

Jenner (1860) considered that the determining cause of the deformity was atmospheric pressure, aided by the elastic contractility of the lungs. He stated that if the thoracic wall were made of cast-iron the diaphragm would descend only so fast as the air could enter the lungs. If the chest wall were soft, or if there were obstruction to the entry of air into the lungs, recession of the wall would be expected to occur. This recession would occur at the most yielding part of the wall—that is, on either side of the sternum, at the costochondral junctions, and at the anterior ends of the ribs. The abdominal viscera would prevent the collapse of the lower ribs.

Herlitz (1945) states that he has observed hiccupping in infants, and that in them reaction of the chest wall occurs at the same site as Harrison's grooves. Hiccup is due to involuntary contraction of the diaphragm, which sucks in air so suddenly that the vocal cords are drawn together. After this the negative pressure in the thorax must become very great. If further proof of the role of non-expansion of the lung be needed, try the experiment of pinching a newborn baby's nose while its mouth is kept shut. Recession of the ribs at the site of Harrison's grooves then occurs. Dupuytren (1847) noted an association between the grooves and an enlargement of the tonsils in children at the breast, but the children he described seem to have been suffering also from rickets and bronchitis. Fisher (1946) noted the development of a unilateral groove in a child suffering from pulmonary collapse following measles.

Rogers-Harrison (1842) attributed the grooves to the habit of grasping infants tightly round the chest when lifting them. Rees (1850) thought that they were due to the infant's arms being folded across its chest and bound too tightly with swaddling-clothes. McGonigle (1931) stated that they were due to the abdominal enlargement which is found in rickets pressing the lower ribs outwards.

Jenner's reasoning does not adequately explain why Harrison's grooves should develop where they do. Recession of the chest wall, according to him, should occur along the line of the costal cartilages on either side of the sternum, but in fact this type of vertical groove is commonly seen only in severe rickets, when the anterior ends of the ribs and costal cartilages are softened by disease. There must be some other explanation to account for the extremely frequent development of the transverse Harrison's grooves. Here it is necessary to refer back to the theory of the muscular gap. Although no such gap exists, it is nevertheless true that at the site of Harrison's grooves there is a neutral zone between two parts of the thorax, each moving in a slightly different direction. Thus the upper ribs move upwards and forwards, rotating outwards, while the lower ribs move outwards and backwards, increasing the transverse diameter of the upper abdomen (Johnston, 1932). It would seem likely, therefore, that increased negative intrathoracic tension would tend to cause buckling in of the chest at the hinge between these two movements rather than anywhere else.

Method of Study

The present investigations were undertaken in order to provide some factual basis for discussion, and in the hope of stimulating thought and research in the future. The full results and the analysis are given in a work already published by one of us (J. Naish, 1947).

The following groups were studied: (1) 500 children selected at random from 23 primary schools in the City of Bristol; (2) 25 children who were diagnosed as suffering from rickets eight years previously; (3) 100 children attending a clinic for asthmatics; and (4) 36 children suffering from congenital heart disease.

The depth of the grooves was measured with a home-made instrument, which was calibrated in fractions of an inch. This instrument was applied vertically to the chest at the site of the maximum depth of the groove. A light even pressure was used in order to avoid sinking the flat edges of the instrument into the skin. The width of the measuring blade prevented this from sinking into an inter-costal space and so giving a false reading. Girls at about the age of puberty could not be examined because development of the breasts interferes with these measurements.

Control Group

The 500 children, whose ages ranged from 5 to 12, were examined at routine school inspections at 23 primary schools in the City of Bristol. The incidence of the grooves is given in Table I. Analysis of the full figures showed

TABLE I.—Incidence of Harrison's Grooves in Control Group

Harrison's Grooves	No. of Children	Percentage of Total
Absent	272	54.4
Unilateral .. .	17*	3.4
Up to 3/16 in. (0.48 cm.) deep ..	177	35.4
3/16 in. or more deep .. .	34	6.8
Total:	500	

* 13 (77%) of these were left-sided. This finding contrasts with the statement that the grooves are commoner on the right side (Holt, 1939).

but there was no significant difference of incidence between males and females or between separate age groups.

A full examination was possible in only 354 of the 500 cases; in the rest (146), owing to the absence of the parents or some other cause, a satisfactory history could not be obtained. The incidence of grooves in the 354 children was not significantly different from that in the whole group (45.2% as against 45.6%).

Positive Results.—(1) Harrison's grooves occurred more often in those who had suffered from pneumonia in early life. (2) The association of the grooves with bronchitis, measles, and pertussis in early life was probable, but not statistically significant. (3) From the parents' statements it also seemed that grooves occurred more often in children who had suffered from greater degrees of upper respiratory disease (frequent colds or sore throats and ear disease) in infancy and early childhood, but this finding was not significant. (4) Grooves occurred with significant frequency in children with pigeon breasts, and in these children there was often other evidence of past rickets. (5) Grooves were found to be commoner in the children of poorer parents.

Negative Results.—(1) Breast-fed children were no less liable to develop Harrison's grooves than bottle-fed children. (2) Vitamin D fortification of diet in infancy did not reduce the incidence. (3) Neither present objective evidence of past rickets nor smallness of stature was associated with an increased incidence.

In addition the grooves occurred in a number of healthy children who had no history of previous disease.

The association with pneumonia is shown in Table II. The grooves occur more often and are deeper in those

who have had pneumonia, especially during the first year of life or on more than one occasion. The results are significant.

TABLE II.—Association of Harrison's Grooves with a History of Pneumonia

Harrison's Grooves	No Pneumonia	Pneumonia Occurred			
		At 2 Years or Over	Between 1 and 2 Years	Below 1 Year	Twice or More
Absent ..	179	10	3	1	1
Unilateral ..	9	2	0	1	1
Up to 3/16 in. deep	107	5	2	3	7
3/16 in. or more deep	17	3	0	2	1
Totals: ..	312	20	5	7	10

The social and economic conditions of the 121 children selected at random were investigated by Miss E. C. Moynagh, lady almoner at the Bristol Royal Hospital. On the basis of the average weekly income of the household during the first two years of their lives, the children have been separated into two groups, with a dividing-line at 10s. per head. The results show that grooves are more common in poverty-stricken households (Table III). The difference is significant.

TABLE III.—Association of Harrison's Grooves with Poverty

Grooves	No. with Average Income Over 10s. per Week per Person	No. with Average Income Under 10s. per Week per Person
Absent ..	37 (59.6%)	18 (30.5%)
Present ..	25 (40.4%)	41 (69.5%)

Rickets

Dr. Corner (1944) recorded the cases of a large number of children who had been diagnosed as suffering from rickets eight years previously. She kindly allowed us to examine her records, and we chose 60 children in whom the evidence of rickets in infancy had been unequivocal. Only 25 mothers were able to bring their children for re-examination. This poor response was due chiefly to population movements during the war. The results are set out in Table IV. Of the 25 children examined 16 (64%)

TABLE IV.—Evidence of Past Rickets Correlated with Depth of Harrison's Grooves

Case No.	Age When Diagnosed (months)	Evidence of Rickets in Infancy in 1938					Depth of Harrison's Grooves in 1946
		Rib Beading		Craniotables	Plasma Phosphatase (units/100 ml.)	Radiological Rickets	
		Minor	Marked				
1	11	—	—	—	23.5	Yes	Absent
2	2	Yes	—	—	23.5	—	"
3	15	"	—	—	13.5	Yes	"
4	2	—	Yes	—	24.0	—	"
5	5	—	—	Yes	19.5	—	"
6	12	—	Yes	—	—	Yes	"
7	3	Yes	—	—	30.0	—	"
8	4	"	—	—	18.0	—	"
9	N.K.	—	—	—	—	—	"
10	10	Yes	—	—	17.0	—	Minimal*
11	2	"	—	—	21.5	Yes	Left unilateral
12	6	"	—	—	18.0	—	Minimal*
13	1	"	—	—	30.0	—	"
14	12	—	—	—	17.0	—	"
15	3	—	Yes	—	22.0	—	"
16	3	Yes	—	Yes	50.0	—	3/16 in. deep
17	2	"	—	—	20.0	—	"
18	2	"	—	Yes	80.0	—	"
19	19	"	—	—	12.5	—	"
20	14	"	—	—	78.0	Yes	"
21	2	—	Yes	—	13.0	—	"
22	4	Yes	—	—	25.0	—	1/8 in.
23	8	"	—	—	13.0	—	3/16 in.
24	5	—	Yes	—	56.0	—	1/8 in.
25	8	Yes	—	—	—	—	"

* Minimal = One side less than 1/8 in. (0.32 cm.) deep, but grooves present on both sides.

had grooves. A high proportion of those with deep grooves had shown either unequivocal clinical evidence of rickets in infancy or very high plasma phosphatase values, or else had been diagnosed after the age of 6 months.

In drawing conclusions from these findings it should be understood that treatment has probably modified the course of the disease, particularly where the diagnosis was made early. There are two unknown factors in each case: (1) the duration of rickets before diagnosis, and (2) the extent of bone-softening before treatment was instituted. It is tempting to postulate that the children with the highest plasma phosphatase values are those with the greatest degree of bone-softening. This is supported by the results in Table IV, but the number of children examined was too small for significant results to be obtained.

Asthma

We examined 100 children at the Bristol Children's Hospital in 1946. All were suffering from chronic bronchial asthma and were attending a special clinic under the care of Dr. Corner. There were 65 boys and 35 girls, whose ages ranged from 3 to 13. Of these 79% had Harrison's grooves, and 36% had grooves at least 3/16 in. (0.48 cm.) deep. There is a significant difference, therefore, between the incidence in this group and that in the control group. Deep grooves occurred more often in children in whom asthma developed early in life, but the difference in incidence is not significant. There was, however, a significant association between the occurrence and depth of the grooves and the duration of the asthma. This is shown in Table V. A history of pneumonia had no influence on the incidence of the grooves in these children.

TABLE V.—Harrison's Grooves and Duration of Asthma

Grooves	Duration of Asthma Less than 4 Years	Duration of Asthma 4 Years and Over
Absent	15	6
Less than 3/16 in. deep ..	18	25
3/16 in. or more deep ..	3	33
Totals: ..	36	64

(Note: We have been unable to gain access to the paper written by J. Brock in 1942 entitled "Über Pseudorachitis Asthmatica.")

Congenital Heart Disease

A. E. Naish (1945) records eight cases of congenital heart disease seen in infancy with marked inspiratory indrawing of the lower intercostal spaces. There was no evidence of rickets or upper respiratory obstruction in these children, and in only one was the heart grossly enlarged. He told us that five of them were observed for three years, and in that time three died and two developed Harrison's grooves.

We examined 36 unselected children with congenital heart disease attending Prof. C. Bruce Perry's cardiac clinic at the Bristol Royal Infirmary. The results are shown in Table VI. The numbers in each group are too small to be analysed separately, but the incidence of grooves in cases other than those of apparently uncomplicated pulmonary stenoses and of patent interventricular septa was significantly greater than in the control group.

TABLE VI.—Harrison's Grooves in Congenital Heart Disease

Grooves	Controls	Pulmonary Stenosis or Patent Interventricular Septum	Other Congenital Heart Disease
Absent	272	11	2
Present	228	12*	11*

* Including three cases in infancy with marked indrawing of lower intercostal spaces at the usual site for Harrison's grooves.

Summary and Conclusions

Reference is made to the original description of lateral thoracic grooves by Edwin Harrison.

Theories as to their causation are summarized. The theory that the grooves are caused by the insertions of the

diaphragm has been disproved several times and should be abandoned.

A study was made of a sample of 500 Bristol school-children, 25 cases of past rickets, 100 cases of asthma, and 36 cases of congenital heart disease.

Harrison's grooves occurred in 45.6% of normal school-children between the ages of 5 and 12 years. Grooves at least 3/16 in. deep were present in 6.8%. The grooves were often found in children known to have had severe rickets in infancy; on the other hand, in milder cases or cases diagnosed and treated early their incidence was not different from the normal. They occurred very frequently in children with the deformity known as pigeon breast, which is almost certainly due to severe rickets. In these children vertical grooves on either side of the sternum are often also present. Whistler (1645) noted: "At first the sternum is depressed, but as the disease progresses it projects." The conclusions reached by Dalyell and Mackay (1923) that Harrison's sulcus is valueless as an early sign of rickets has been borne out by this study; while the older observations that the grooves develop (frequently in association with a pigeon breast) in severe rickets has been substantiated.

The grooves occurred more often in children who had had pneumonia, particularly if they had suffered from the disease in the first two years of life. They also occurred frequently in children who had had bronchitis, measles, pertussis, or severe upper respiratory infections in early life, but the statistical significance of these findings could not be proved. The heaviest incidence was in children suffering from asthma, and the longer the asthma had persisted the more likely were the grooves to be present.

These results seem to support the suggestion that the most important factor in the production of Harrison's grooves is deficient expansion of the lungs.

Grooves were also frequently found in children with severe grades of congenital heart disease. The explanation of this is not clear. Sheldon's (1938) suggestion that the probable cause of indrawing of the intercostal spaces is pulmonary atelectasis occurring as a complication of the heart disease seems to fit in with the known facts, but this has not been confirmed.

We wish to express our gratitude to Prof. C. Bruce Perry for his help and advice during this investigation; to Dr. Beryl Corner for allowing us access to her cases and records; and to Miss E. C. Moynagh for her work on the social and economic conditions of some of our cases. We would also like to thank Dr. J. Brierley for advice on anatomical considerations, Dr. George Smart for assistance with statistical calculations, and Mr. G. F. Home, librarian of the Royal Society of Medicine, for helping us to find Harrison's original description.

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"MYANESIN" AS A RELAXANT IN CHILDREN

BY

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$\alpha : \beta$: dihydroxy- γ -(2-methylphenoxy)-propane ("myanesin," British Drug Houses Limited) is obtainable in 10-ml. ampoules of a 10% solution. Its use as a relaxant in anaesthesia was first described by Mallinson (1947), and its pharmacology has been discussed by Berger and Bradley (1947). Unlike curare, myanesin does not appear to interfere with voluntary movements, but only with spinal reflexes, and therefore, presumably, with muscle tone. It may be suggested that its site of action is the internuncial neurones, which might account for the fact that respiration is not inhibited for long periods. Toxicity is low.

Myanesin has been used by me since February, 1947. In adults its action was not so marked as that of curare, and it was enhanced by ether and by thiopentone, while its effect was minimal when only nitrous oxide or cyclopropane was the anaesthetic used. Further, although abdominal relaxation might occur, laryngeal spasm was not prevented. It therefore seems that its use in adult surgery is limited, although it may be of value in cases in which the respiratory depression caused by curare may be a source of alarm.

Relaxation may be obtained for abdominal surgery in infants by a number of methods. Deep ether anaesthesia is open to obvious dangers; local analgesia is time-consuming, and comparatively large doses of the agent may be needed, and even then relaxation may not be perfect; spinal analgesia, while being unsuitable psychologically for children over 2 years of age, is difficult to give to younger infants, and there are obvious hazards associated with it. Curare, in my hands, has given good relaxation, but has always been associated with profound respiratory depression. This may be serious in the infant, owing to the difficulty of controlling it: closed and semiclosed methods of anaesthesia are contraindicated on account of the "dead-space," while without endotracheal intubation it is almost impossible to inflate the lungs and not distend the stomach. It is questionable whether intubation, with consequent narrowing of the glottis, is advisable in very small infants.

Myanesin was administered to 44 children between the ages of 24 days and 4½ years. The results have been satisfactory. In all cases maintenance of anaesthesia was with open ether, induction being with ether, nitrous oxide, or ethyl chloride. There were 16 cases of intussusception, 16 of

pyloric stenosis, and 12 of appendicitis, with or without peritonitis. Anaesthesia was maintained in first plane, third stage; in cases lasting up to 20 minutes it was found that one dose of myanesin sufficed, and that no more ether was required after the peritoneum had been opened. Recovery was extremely rapid, and the post-operative condition was always better than would have been expected had other means been employed. Respiratory depression lasting 15 to 30 seconds occurred in one-third of the cases; in one case respirations were completely inhibited for nearly half a minute. After the initial depression the tidal air assumed normal proportions. There were no obvious changes in pulse rate, although blood pressures were not taken. There were no deaths during operation, but two occurred after operation, in neither case ascribable to myanesin. Relaxation came on rapidly and was good for 10 to 25 minutes after injection, its extent being sometimes obscured by pre-existing distension of the bowel. Clinically, no effect upon bowel movements or tone could be seen.

The injection of myanesin was made into the intravenous drip, if one were set up, or into the longitudinal sinus at the posterior angle of the anterior fontanelle, for at this point the sinus is wider than in front and the approaching edges of bone direct the needle automatically into the vein. Blood is aspirated before injection, but it is unlikely that intrathecal injection would be dangerous. The dose was in the order of 2 ml. per stone (6.35 kg.) of body weight.

The following cases, selected from the series, illustrate the dosage and effect of myanesin in children.

Case Reports

Case 1.—Pyloric stenosis. Aged 24 days. Weight 9 lb. 3 oz. (4.17 kg.). General condition good. Rammstedt's operation. Induction and maintenance with open ether. Myanesin 1.5 ml. into the longitudinal sinus at six minutes. Slight respiratory depression for 30 seconds. Relaxation excellent and still present at the conclusion of operation at 26 minutes. Child began to cry as the last suture was inserted. No ether had been given after the peritoneum was opened. Recovery uneventful.

Case 2.—Pyloric stenosis. Aged 4 weeks. Rammstedt's operation. Induction and maintenance with open ether. Myanesin 1 ml. at eight minutes. Operation concluded at 19 minutes. Relaxation good. No respiratory depression. Recovery uneventful.

Case 3.—Pyloric stenosis. Aged 6 weeks. Weight, 7 lb. 2 oz. (3.23 kg.). Rammstedt's operation. Induction with open ether, maintenance with ether-oxygen endotracheally with Ayre's T-piece. Myanesin 0.75 ml. at five minutes. Operation concluded at 19 minutes. Relaxation poor at first (? underdosage), although there was slight respiratory depression for 15 seconds. Relaxation good during closure. Recovery uneventful.

Case 4.—Pyloric stenosis. Aged 8 weeks. Rammstedt's operation. Induction and maintenance with open ether. Myanesin 1.5 ml. into the longitudinal sinus at seven minutes. Operation concluded at 20 minutes. Relaxation excellent. Respirations completely inhibited for 20 seconds after myanesin had been given. This inhibition of respiration caused some alarm while it lasted, but there was no change in colour. When respiration was resumed it was at first rather shallow, but it became normal after a further 30 seconds. Recovery uneventful.

Case 5.—Intussusception. Aged 3 months. Weight, 11 lb. 5 oz. (5.13 kg.). Induction and maintenance with open ether. Myanesin 3 ml. at five minutes. Operation concluded at 27 minutes. No respiratory depression. Relaxation good; reduction of the intussusception intraperitoneally. Recovery uneventful.

Case 6.—Intussusception of three days' standing. Aged 4 months. Weight, 10 lb. 10 oz. (4.82 kg.). General condition fair. Intravenous drip (plasma) set up two hours before operation. Induction and maintenance with open ether. Myanesin 1.5 ml. was administered at seven minutes, with slight respiratory

depression for 30 seconds. Intraperitoneal resection of the intussusception was impossible and resection of a portion of the gut with end-to-end anastomosis was undertaken. At 38 minutes a further dose of 1 ml. was administered. Operation was concluded at 57 minutes. Only small quantities of ether were employed from time to time to maintain anaesthesia in the first plane, and the child started to cry while the skin was being sutured. Death occurred five hours later.

Case 7.—Intussusception. Aged 7½ months. Weight, 19 lb. (8.62 kg.). Induction and maintenance with open ether. Myanesin 2 ml. into the longitudinal sinus at six minutes. There was slight respiratory depression for five minutes. Operation concluded at 14 minutes. No ether was administered after the myanesin had been given. Relaxation was excellent. Recovery uneventful.

Case 8.—Intussusception. Aged 11 months. Weight, 18 lb. 8 oz. (8.39 kg.). Induction and maintenance with open ether. Myanesin 2 ml. at 13 minutes into the longitudinal sinus. Operation concluded at 33 minutes. No ether administered after the peritoneum was opened. Relaxation was excellent. Recovery uneventful.

Case 9.—Appendix abscess for 48 hours. Aged 1 year 10 months. General condition bad. Induction and maintenance with open ether. Myanesin 3.5 ml. into the intravenous drip saline at two minutes, and a further dose of 1.2 ml. at 16 minutes. Operation concluded at 32 minutes. There was no respiratory depression, but relaxation was not quite so good as usual. Death occurred from peritonitis on the fifth day.

Case 10.—Appendicitis. Aged 3 years 11 months. Induction with ethyl chloride, maintenance with open ether. Myanesin 5 ml. at three minutes. Operation concluded at 16 minutes. There was no respiratory depression. No ether was administered after the peritoneum was opened. Relaxation was good. Recovery was uneventful.

Case 11.—Appendicitis with abscess. Aged 4 years 6 months. Temperature, 103° F. (39.4° C.). Pulse, 150 before operation. Induction with nitrous oxide, maintenance with open ether. Myanesin 3 ml. at three minutes and 1.5 ml. at 23 minutes. Operation concluded at 33 minutes. Small quantities of ether were required from time to time. There was no alteration in the pulse rate during operation and no respiratory depression. Relaxation was good. Recovery uneventful.

The 44 cases to which myanesin was administered were *unselected*. The results achieved seem to indicate that relaxation in infants can be obtained with greater ease and safety with myanesin than with any method previously employed. The lack of anxiety which was felt during operation, even about patients gravely ill, is a fair measure of the success obtained with this drug.

Summary

Various methods of obtaining relaxation in children not having proved entirely satisfactory, myanesin was used with success in 44 cases. There were no deaths or post-operative complications attributable to it, in spite of the serious general condition of some of the patients. Relaxation was good and of sufficient duration to render a second dose unnecessary, save when the operation was somewhat prolonged.

The technique of administration is described, and the dosage employed in eleven cases is given in detail.

Anaesthesia was maintained in every case with ether, and it was usual to find that little or none was required after the myanesin had been introduced.

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TREATMENT OF GOLD DERMATITIS BY BAL

BY

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The use of BAL (2,3-dimercaptopropanol) in the treatment of gold dermatitis has been reported on in this country by Peters *et al.* (1947) and by Slot and McDonald (1947), and in the U.S.A. by Cohen, Goldman, and Dubbs (1947), by Ragan and Boots (1947), and by Lockie, Norcross, and George (1947). Its efficacy seems to be due to its ability to form relatively stable ring compounds with gold salts, thereby diminishing the reaction with the tissues and increasing urinary excretion from the system (Peters *et al.*, 1947). The following account is of its action on two cases of gold dermatitis seen recently.

Preparation and Mode of Administration.—The preparation used was 5% BAL in arachis oil, with 10% benzyl benzoate. It was administered by deep intramuscular injection into the buttock or thigh. The site of injection was subjected to light massage for a few minutes afterwards, as it was thought that this might diminish any pain and tenderness and possibly lessen the danger of inflammation and abscess formation. The dosage was 2 ml. four times on the first day, 2 ml. thrice daily for three days, 2 ml. once daily for nine days, and thereafter 2 ml. every alternate day.

Case 1

A lorry driver aged 45 had suffered from rheumatoid arthritis over a period of fifteen years. In 1942 he was given a series of gold injections (preparation and total amount prescribed unknown). After 12 injections the course had to be stopped because of the development of a rash involving both axillae, perineal and scrotal areas, legs, and trunk. He at the same time had what appears to have been a severe stomatitis. There was apparently no amelioration of the rheumatoid arthritis.

A second course of 16 injections of "myocrisin," totalling 0.985 g., was given between May 20 and Sept. 30, 1947. There was apparently a marked improvement in his primary condition, the E.S.R. falling from 123 mm. to 28 mm. in the hour (Westergren), but the patient himself noticed little change in the pain or the disability. On Oct. 7 (one week after finishing his course) a rash appeared, and on Oct. 21 he was admitted to the Royal National Hospital for Rheumatic Diseases, Bath.

On admission he was a typical case of long-standing rheumatoid arthritis, with an extensive exfoliative dermatitis of seborrhoeic type involving almost the whole body, being particularly severe on the scrotum and in the axillae. There was oozing in the scrotal area, and generalized itching which caused great discomfort. BAL therapy was started on Nov. 10 and discontinued on Nov. 21. A total of 32 ml. was given. On Nov. 18 an area of inflammation (redness, heat, pain, and induration) developed in the right buttock at the site of an injection. This resolved after treatment with local heat and parenteral penicillin. There were no other complications. No amelioration of symptoms occurred until the sixth day after the beginning of treatment, when the itching stopped and it was noticed that the dermatitis was improving.

The patient continued to improve, and on Dec. 8 the rash had almost completely disappeared, only pale pink discoloured areas in various places remaining. He noticed no change in the condition of the arthritis. Corrected suspension stability by the method of Collins *et al.* (1939) was 82% in the first hour at the beginning of treatment and 59% in the first hour on Dec. 8.

Case 2

A miner aged 43 gave a history of typical rheumatoid arthritis dating from January, 1946. He was first admitted to this hospital on Nov. 12, 1946, when he was treated by

rest, physiotherapy, balneotherapy, and myocrisin. Ten injections of myocrisin were given whilst he was an in-patient, and the course was to be completed by his private doctor after discharge. Immediately after the twelfth injection, in February, 1947, he developed a massive generalized exfoliative dermatitis involving almost the whole of his skin surface. The total dosage of myocrisin given by then was 0.86 g. He was readmitted to hospital on June 3, when it was found that there had been a dramatic improvement in his arthritis; he now had no obvious manifestations of the disease, and the corrected suspension stability had improved from 58% in the first hour on the previous admission to 92%. However, a generalized exfoliative dermatitis involved the whole of his body, including scalp and face, associated with severe itching.

He was admitted for the third time on Oct. 21, when his general condition was found to be unchanged. His dermatitis had become more chronic: very little skin surface was not involved, and there were large areas of induration, especially over parts subject to pressure and where he had scratched himself. BAL therapy was started on Oct. 24 and concluded on Nov. 21, a total of 56 ml. having been given. There was no marked improvement until Oct. 30, when the itching ceased completely and the exfoliation was noticed to be less severe. The condition steadily improved, the rash gradually disappearing and the areas of induration becoming softer. On Dec. 1 only pinkish discoloured patches remained, and these were confined to those parts where the dermatitis had been most severe and the induration maximal. There were no complications during the treatment. Corrected suspension stability in the first hour was 83% at the beginning of treatment and 88% on Nov. 28.

Discussion

In these two cases the effect of BAL on gold dermatitis was dramatic. This was particularly so in Case 2, in which the condition was very severe and had existed for nine months before treatment was started. No other case of over three months' standing relieved by BAL can be found in the literature, and in one case of three months' standing the dermatitis proved resistant to BAL (Ragan and Boots, 1947).

The occurrence of inflammation at the site of injection is of interest. Similar complications have been reported (Lockie, Norcross, and George, 1947), but in view of the striking relief of symptoms it is not felt that this is an indication for stopping treatment.

An interesting point emerging from both these cases is the time interval of six days after institution of treatment before improvement began. No such regular period has been noted in other reports.

Frequent blood counts, corrected suspension stability estimations, and urine examinations were done, but no significant change was noticed during the course of treatment. There were no complications except the inflammatory reaction in the buttock already described.

Ragan and Boots (1947) suggest that after relief of dermatitis by BAL, symptoms of rheumatoid arthritis previously improved by aurotherapy might recur within a month. No such change has yet been noted in these two cases. Both have now been under review for four weeks. In Case 1 the fall in corrected suspension stability after treatment was stopped was not considered significant from this point of view, because of the associated inflammatory complication.

Summary

Two cases of dermatitis due to aurotherapy treated by BAL are described, one of a more chronic type than any so far described in the literature.

The type of preparation of BAL and its method of administration are detailed.

The complications are discussed.

The return of symptoms of rheumatoid arthritis after therapy has not been noted in these cases.

The same time interval of six days between institution of treatment and relief of symptoms occurred in both cases.

I should like to express my thanks to Dr. J. B. Bennett for kindly allowing me to treat these cases, and to Dr. G. D. Kersley and Dr. H. J. Gibson for their encouragement and help in preparing this paper.

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"AMELLIN" FOR DIABETES

BY

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(From the Diabetic Clinic, King's College Hospital)

"Amellin," an extract of *Scoparia dulcis* (broom), has been claimed by Nath¹ to have an important therapeutic action in diabetes. A critical study of his papers gives no clear evidence of this; indeed, the reasoning is so widely divergent from current views on carbohydrate metabolism as to be an argument against his thesis. However, since amellin appears to have inspired some credence in India it seems desirable to give it a trial.

In two cases this was done, and the results, after careful investigation, show no effect of this substance on diabetes. Some details are here recorded of one case without an another with insulin. Both patients were supplied with a mixture of amellin, calcium gluconate, and lactose, and were instructed to take a measured 5-gr. (0.32-g.) dose by mouth thrice daily for three months.

Case 1.—A factory worker aged 57 was found to have diabetes in May, 1946, but before this trial had received no treatment other than restriction of his daily carbohydrate to 180 g. The blood sugar had gradually fallen from 348 mg. per 100 ml. at the onset to 144 mg. per 100 ml. in November, 1946. Thereafter his diabetes became progressively worse, so that heavy glycosuria and hyperglycaemia (blood sugar, 252 mg. were constant by July 2, 1947. Insulin was obviously necessary at this stage, but was withheld in order to test amellin. After three months of treatment with this drug his weight had fallen by 1½ lb. (680 g.), traces of ketone bodies accompanied his glycosuria, and the blood sugar was 348 mg. per 100 ml. His general health had declined to a state comparable to that at the onset of his disease. When protamine-zinc-insulin, only 16 units daily, replaced amellin, his weight rose by 3½ lb. (1.59 kg.) the urine became sugar-free, and the blood sugar four hours after breakfast was 206 mg. per 100 ml., while his general health showed the usual improvement.

Case 2.—A Civil Servant aged 47, who in the course of a routine medical examination in 1938 was found to have diabetes had since the inception of treatment kept detailed records of his tests and progress. When amellin was begun on June 2, 1947, his urine contained large amounts of sugar by reason of his low renal threshold, but ketones were absent and the blood sugar five hours after his single mixed daily dose of 24 units of protamine-zinc with 12 units of soluble insulin was only 46 mg. per 100 ml. The soluble insulin was reduced by 4 units and amellin started with no alteration in his daily carbohydrate. On Sept. 3, 1947, after three months of amellin, the urine showed traces of ketone bodies with heavy glycosuria, the blood sugar four hours after insulin was 125 mg. per 100 ml., and his weight had fallen by 7 lb. (3.18 kg.). His previous record

showed comparable variations, and it was obvious that amellin had not made the slightest difference to the closely studied pattern of his progress.

This test was undertaken on the suggestion of Dr. R. D. Lawrence and Prof. F. G. Young at the request of the Medical Research Council and the (then) India Office. Acknowledgment is due to Prof. M. C. Nath for his kindness in supplying a sample of amellin for the test.

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THE PRE-ERYTHROCYTIC STAGE OF HUMAN MALARIA, *PLASMODIUM* VIVAX

BY

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AND

P. G. SHUTE

In the issue of *Nature* dated Jan. 24, 1948, Shortt and Garnham reported the finding of pre-erythrocytic forms of *Plasmodium cynomolgi* in the liver of *Macaca mulatta*. A more detailed description of the appearance of these parasites, as seen on the sixth and seventh days of the incubation period, was given later by Shortt, Garnham, and Malamos (1948). *P. cynomolgi* being so closely similar in its morphology and life-cycle to *P. vivax* of man, it was reasonable to infer that, at a corresponding stage of the incubation period of an infection the pre-erythrocytic stage would also closely resemble that of *P. cynomolgi*.

The affiliation to the London School of Hygiene and Tropical Medicine of the Ministry of Health's Malaria Laboratory at the Horton Hospital for Mental Diseases, Epsom, where malarial treatment of general paralysis is carried out as a routine, supplied the means of verifying this supposition, and suitable arrangements were made through Dr. G. Macdonald, Chairman of the Tropical Course Subcommittee of the Council of the London School of Hygiene and Tropical Medicine. As there was at the time no suitable patient about to undergo this treatment at Horton Hospital, we applied to the Bucks County Mental Hospital, Aylesbury. The superintendent, Dr. J. S. I. Skottowe, who had a patient requiring malarial infection by mosquito-bites, was lad to co-operate with us, and transferred the patient to Horton for treatment, at the same time obtaining his consent and that of his wife to the performance of a biopsy on the liver during the incubation period of the infection.

Infection of the patient was effected by feeding upon him, on two successive days, a large number of *Anopheles maculipennis atroparvus* mosquitoes infected with *P. vivax* and by the intravenous inoculation of isolated salivary glands of a certain number of the same mosquitoes. Seven days after the first feeding by mosquitoes a biopsy was performed on the liver under local analgesia by Mr. E. J. Radley Smith. The material, when examined in sections, revealed the presence of plasmodial masses studded with hromatin particles very similar in appearance to those previously seen in the case of infection of the monkey with *P. cynomolgi*. The forms seen measured up to 42µ

in diameter and showed in some instances the vacuoles noted in the case of *P. cynomolgi*.

There seems no doubt that these bodies are the pre-erythrocytic forms of *P. vivax* in man. The material in our possession is being studied and further observations will be communicated when completed.

In recording this finding we wish to express our indebtedness to Dr. Skottowe for his help in obtaining a suitable patient requiring treatment by mosquito-induced malaria; to Dr. W. D. Nicol, superintendent, Horton Hospital, for admitting this patient and for making all the arrangements for our investigation; and to Mr. E. J. Radley Smith, who performed the biopsy of the liver. The technical operations connected with this investigation were most efficiently carried out by Messrs. W. Cooper and E. Blackie, and Misses Wall, Stedman, and Marjion.

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Medical Memoranda

Allergy to Penicillin

The personal experiences outlined in the following case report may be found of interest.

CASE HISTORY

The patient, a general practitioner aged 34, had a personal and family history of migraine, and a family but not personal history of hay-fever. On May 8, 1947, he fractured the neck of the femur. Open reduction was carried out under general anaesthesia on May 12, and reduction in imperfect position was maintained by a Smith-Petersen "pin." Convalescence was interrupted by 20 to 25 stitch abscesses between June 1 and Sep. 1. A keloid scar developed. He had a fixed flexion of 35-40 degrees and a nocturnal pyrexia of 99.8° F. (37.7° C.) throughout. There was a leucocytosis of only 10,650. On Oct. 10 radiographs gave no evidence of bony union, and the condition was unaltered. Comparative radiographs showed possible bone abscess in the great trochanter. The "pin" had not shifted. From Oct. 21 to 25 inclusive he was given 500,000 units of penicillin intramuscularly three times a day (total 7,500,000 units). There was no history of previous penicillin therapy.

The immediate results of penicillin therapy were: pyrexia abolished, fixed flexion reduced to 10 degrees, regression of keloid scar, great diminution of pain, and general condition much improved. There was no change in this encouraging state (except that a radiograph on Nov. 11 showed the first sign of callus) until Nov. 12 (17 days after cessation of penicillin therapy), when he was awakened at 4 a.m. by irritation of the left eyelid. During the day general simple urticaria developed, with lesions up to 4 cm. square. Next day the condition was the same. Very little of the body was unaffected. "Benadryl" in full dosage was given without benefit. The temperature was 99.6° F. (37.55° C.), and the pulse 100. On the 14th the swelling was less of the cutaneous and more of the subcutaneous tissues ("angioneurotic oedema" or Quincke's disease). Adrenaline hydrochloride in doses of 5, 5, 8, 10, 10, and 15 min. (0.3, 0.3, 0.5, 0.6, 0.6, and 0.9 ml.) was given at intervals, with no benefit. The temperature was 99.8° F. (37.7° C.), and the pulse 90-110. Two "antistin" tablets were given thrice daily on the 15th and 16th, with no benefit. Oliguria and dysuria were present.

On the 17th periauricular swelling of various joints (large and small) occurred. Each lesion lasted about 36 hours after a precipitate onset. No benefit was derived from 1/2 oz. (14 ml.) mist. sed. salicyl. two-hourly. The temperature was 99.2° F. (37.3° C.), and the pulse 90. He had epigastric discomfort and diarrhoea. "Anthran" was tried without effect.

In addition intermittent oedema of fauces, glottis, and tongue occurred from Nov. 18 to 21, and from the 19th to the 24th asthma and paroxysmal rhinorrhoea occurred intermittently by day and night. This was relieved by ephedrine 1 gr. (65 mg.) by mouth. He had considerable pain in the hands and feet and severe pruritus all over the body, especially on a change of temperature. His temperature was still 99.2° F. The pulse was steady except during asthma.

In view of dermatographism and the obviously "vascular-permeability" nature of the residual symptoms a course of 20 mg. of vitamin K (synthetic) twice daily was started on Nov. 23. Whether by coincidence or not, the pruritus ceased immediately and there were no further joint lesions.

I would like to thank Sir Arnold Stott and Dr. P. J. W. Melligan for their care and sympathy during the above troubles.

R. A. SHAWYER, B.M., B.Ch.

Reviews

DANCE OF THE GENES

Genetics, Medicine and Man. By H. J. Muller, C. C. Little, and Laurence H. Snyder. (Pp. 158; illustrated \$2.25 or 12s. 6d.) New York: Cornell University Press. London: Geoffrey Cumberlege (Oxford University Press). 1947.

The material of this book originally consisted of six Messenger Lectures on the evolution of civilization delivered at Cornell University in 1945. The Messenger Lectureship was founded to provide an annual course for the special purpose of raising the moral standard of American political, business, and social life. Although it is somewhat difficult, after reading this book, to imagine how the lectures can directly serve such praiseworthy purposes, they nevertheless must have been both enjoyable and instructive. Three geneticists, each outstanding in his own field, delivered them to a general audience, giving an account of the fundamental principles of genetics, parental influence and the growth of individuality, and the special genetics of man.

Prof. H. J. Muller, simple yet meticulously accurate in statement, presents an account of genetic fact and modern theory. It is doubtful whether anyone who is not already acquainted with the subject-matter of a more pedestrian textbook of genetics would be able to appreciate fully the significance of what Prof. Muller has to say, but those who know the elementary principles of the subject will find most attractive his account of the nature of the genetic material, the nature of the genetic effects of mutations, the gene and the origin of life, the dance of the genes, and gene equilibria in populations. Dr. C. C. Little, Director of the Roscoe B. Jackson Memorial Laboratory, Bar Harbor, recently completely destroyed by fire, draws deeply on his experience as a geneticist working on the mouse. He enjoys unique facilities and uses them to bridge the gap between formal genetics and the processes of development, linking genetics with both physiology and psychology. In his second lecture Dr. Little discusses problems of growth, normal and abnormal, and individuality, in so far as genetic factors influence them. Prof. Snyder in his two lectures presents an astonishingly comprehensive account of the special genetics of man, which must be of particular interest to all who practise medicine. There has been no better short statement of the main facts of human genetics than this.

F. A. E. CREW.

CLINICAL CHEMISTRY

Quantitative Clinical Chemistry Interpretations. By John P. Peters, M.D., M.A., and Donald D. Van Slyke, Ph.D., Sc.D. Volume I. Second edition. Part I. (Pp. 1042. 38s. 6d.) London: Baillière, Tindall and Cox. 1946.

The rapid progress of clinical chemistry imposes a Herculean task upon the authors of such a standard work as this. The first edition appeared in 1931, and by 1937 they decided that the production of a second edition was the only alternative to the book becoming obsolete. They have had wholly to rewrite the text, and to subdivide "Interpretations" into two volumes. In this, the first of these two volumes, they consider the overall energy exchanges and the metabolism of the three major food-stuffs—carbohydrates, lipids, and proteins; in the second they will be concerned with plasma proteins, water, and inorganic elements. They have retained the excellent bibliography embodied in the first edition and brought it thoroughly up to date. In each section the authors first discuss the chemistry and physiology of the substance in question, and then the application of this knowledge to clinical medicine. No better work of reference could be desired by the physician interested in the diseases of metabolism, and an excellent index facilitates use. The authors have fully maintained the high standard that they set themselves in the first edition, and one can only regret that this edition, like its predecessor, will also become obsolete and may not again be re-edited by the same authors.

O. L. V. DE WESSELOW.

HEROIC SURGERY

Radical Surgery in Advanced Abdominal Cancer. By Alexander Brunswick, M.D. (Pp. 324; 118 figures. 42s.) U.S.A.: University of Chicago Press. Great Britain and Ireland: Cambridge University Press. 1947.

This book contains the detailed account of the operations performed upon a series of 100 patients suffering from advanced cancer of one or more of the abdominal viscera. After perusing the book everyone will agree that Dr. Brunswick is a bold, skilful, courageous, and optimistic surgeon. As the author says in the foreword, such heroic surgery would not have been possible without modern aids—blood transfusion, skilled anaesthesia (he favours continuous spinal), the maintenance of fluid and nitrogen balance, and chemotherapy. The fourth chapter, in which he discusses these supportive measures, is worth special study. The author does not allow the idea of prognosis to affect his definition of "operable." He defines an operable neoplasm as "one that can be excised regardless of where or how much spread has developed." Here of course we are on debatable ground, for decision to excise depends so much upon the experience, skill, and judgment of the individual surgeon. It is quite likely that many surgeons would have deemed some of these cases inoperable, certainly the one which led to the most extensive operation of all, in which were excised the whole of the stomach, much of the left lobe of the liver, the spleen, the body and tail of the pancreas, the transverse colon, nearly all the omentum, most of the left upper quadrant of the abdominal wall, and some of the retroperitoneal tissues. The author states that the patient (a young man of 28) was quite comfortable for several weeks, but he died two months after operation. The impression made upon the reader's mind is similar to that which he experiences when first he reads of the charge at Balaclava. The results appear to justify this extensive surgery. Though of the 100 patients 34 died as the result of the operation and 17 obtained no palliation, yet 30 were distinctly relieved and 19 survived in good condition for varying periods; 13 were still living (at the time of publication), with an average period of survival of 40 months.

The author frequently mentions the work of other surgeons in the text, but gives no definite references; this detracts from the value of the book to other surgeons. Moreover, we were surprised not to see anywhere a reference to the extensive and dramatic operations performed by Gordon-Taylor and by Grel Turner, who have both done pioneer work of this kind. Most of these operations would be possible only in the hands of a very experienced surgeon, and we would earnestly caution the young surgeon not to attempt the heroic before he has graduated successfully in the hard school of routine major surgery of the abdomen. For the experienced surgeon this book will be a stimulus and an encouragement.

V. ZACHARY COPE.

RECENT GYNAECOLOGY

Progress in Gynecology. Edited by Joe V. Meigs, M.D., and S. H. Sturgis, M.D. (Pp. 552; illustrated. 35s.) London: William Heinemann (Medical Books), Ltd. 1947.

Dr. Joe V. Meigs and Dr. S. H. Sturgis have published this up-to-date account of recent work in gynaecology for the special requirements of those ex-Service doctors who were unable to read the literature during the war. They asked individual American specialists to write chapters on subjects which were their particular interest in the specialty. The contributors represent a "Ministry of All the Talents" in American gynaecology; the high quality of their work is most impressive and the book as a whole is outstanding. Almost without exception each chapter is full of information concisely arranged and clearly expressed.

Schiller's article is particularly noteworthy for depth of thought and his discussion of biological progress and experiment. John Rock writes on "The Causes and Relief of Infertility" with that peculiar, graceful condensed style which is unrivalled in the prose writings on gynaecology, and of which the author tells me he is quite unconscious. Similarly, Edward Davis's chapter on "The Gonadotrophins in Gynaecology" is excellent, as is that by Reifstein on "The Relation of the Adrenal Cortex to Gynaecology." Dr. Meigs himself has

written on enterocele and on Wertheim's operation, the latter article being particularly important because of his observations on the blood supply to the ureter.

One criticism which has been expressed is that the contributors are too restricted to the neighbourhood of Boston and New York. Hamblen's article alone is insufficient to cover the whole subject of functional uterine haemorrhage, and some of his views are by no means generally accepted. Counsellor's article on the treatment of vesico-vaginal and other pelvic fistulas is too short, although it is well concentrated. The elaboration of Taussig's operation, though well described, is perhaps not theoretically sound; nevertheless, Nathanson's description is beautifully written and illustrated. With the possible exception of Neuweiler's *Gynäkologische Diagnostik* this book is perhaps the most important on gynaecology in the last ten years. It can be read with enjoyment, and every paragraph contains some useful information. Marlowe's "infinite riches in a little room" is perhaps an apt description.

WILFRED SHAW.

CHILDREN'S DISEASES

Diseases of Children. Edited by Donald Paterson, M.D., F.R.C.P. and Alan Moncrieff, M.D., F.R.C.P. Volume I. With contributions by 29 contributors. Fourth edition. (Pp. 771; illustrated. 30s.) London: Edward Arnold and Co. 1947.

The fourth edition of Garrod, Batten, and Thursfield's famous textbook is in many respects a new book. Not only has it lost its last link with the original editors, but many of the contributors are newcomers since the last edition was published in 1934. It has changed its format by dichotomy, and owing to the post-war difficulties of reproduction and delivery the second twin is likely to be born many months later than the first. This volume is a handsome child, of which the two parents and twenty-seven godparents can feel that the prospects of survival are excellent. When we come to examine its internal structure, we still find some of the familiar landmarks—for example, the opening chapter on heredity—but the first part ("General Considerations") is rather a hotchpotch. The account of vital statistics, growth and development, and feeding appear here logically enough, but those of treatment of talipes, hare-lip, and undescended testicle seem out of place in such company. There is a useful section on water and electrolyte control summarizing much of Gamble's work, and others on practical procedures, drug therapy, clinical pathology, and anaesthetics.

The second part ("Diseases of Children") is presented in a more orthodox way and is arranged under systems, though the newborn baby, nutrition, metabolism, allergy, and tuberculosis are separately considered. There is some overlapping between the account of tuberculosis and the section on the respiratory system which is perhaps inevitable. Chapter XV has evidently been misnamed, or should have been combined with Chapter XVII. There are the inevitable startling transitions which always occur in a work by several authors. What a world of difference, for instance, lies between the child who arrives at hospital with abdominal pain (medical aspect of) and the one with abdominal pain (surgical aspects of). One wonders where the child would go who simply had abdominal pain (or where, for that matter, the child with an ischio-rectal abscess: possibly having hunted under "Rectum," we should find it described in the second volume). The editors have also allowed themselves considerable latitude over the reproduction of x-ray photographs as positives or negatives. Thus, infantile rickets appears as one, late rickets as the other; and the legend on p. 324 describing a "dense white line" in scurvy (which is reproduced in the illustration as a dense black line) has evidently so confused somebody that Trummerfeld's zone appears to have been touched up with dense white, and a little extra white added beyond the calcified matrix to give full measure. In view of the advances which have been made in endocrinology in recent years the chapter on this subject is rather disappointing, and we note that over half the seventy-one references are more than twenty years old. Apart from these minor criticisms, however, the authors maintain a high standard throughout, and since the production was undertaken at a time of great difficulty it reflects much credit on editors, contributors, and publishers alike.

R. W. B. ELLIS.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

Science News 6. (Pp. 144. 1s. 6d.) London: Penguin Books. 1948.

Some recent advances in science described for the layman

Nutrition and Diet Therapy. By A. E. Pavy, S.R.N., D.N. (Pp. 304. 12s. 6d.) London: Faber and Faber. 1948.

A detailed account for nurses.

Psychoanalytic Psychiatry. By A. A. Brill, M.D., Ph.D. (Pp. 259. 15s.) London: John Lehmann. 1948

A collection of lectures on psycho-analysis

Handbook on Fractures. By D. Eve, Jr., M.D., F.A.C.S. (Pp. 263. 25s.) London: Henry Kimpton. 1947.

A profusely illustrated manual on the treatment of fractures.

Education and Health. By R. Gamlin, M.A., M.B., D.P.H. (Pp. 372. 12s. 6d.) London: James Nisbet. 1947.

A work on health and hygiene intended primarily for school-teachers.

Modern Plastic Surgical Prosthetics. By A. M. Brown, M.A., M.D. (Pp. 293. 35s.) London: William Heinemann. 1947.

A general account of prosthetic devices and their manufacture, with emphasis on those intended for facial reconstruction.

Illustrative Electrocardiography. By J. Burstein, M.D., and N. Bloom, M.D. 3rd ed. (Pp. 369. No price.) New York and London: D. Appleton-Century. 1948

A practical survey of electrocardiography, with many illustrations.

The Biology of Melanomas. Edited by R. W. Miler and M. Gordon. (Pp. 466. 55; members, 54.) New York Academy of Sciences. 1948.

Papers on pigmented neoplasms in man and animals.

The Past Won't Die. By McKnight: Malmor. (Pp. 120. 6s.) London: Hurst and Blackett. 1948.

A crime story.

Gastritis. By R. Schindler, M.D., F.A.C.P. (Pp. 462. 50s.) London: William Heinemann. 1947.

A monograph on the pathology, clinical aspects, and treatment of gastritis.

The U.F.A.W. Handbook on the Care and Management of Laboratory Animals. Edited by A. N. Worden, M.A., B.Sc., M.R.C.V.S., A.R.I.C. (Pp. 368. 31s. 6d.) London: B. T. B. Tindall and Cox. 1947.

Contains also an appendix on statistical analysis.

A Summary of Surgery for Nurses. By S. Taylor, M.A., M.Ch., F.R.C.S. (Pp. 93. 5s.) London: Faber and Faber. 1948.

Alphabetically arranged synopsis of surgery.

Über die Kaliumbestimmung in Biologischer Substanz. By W. K. Rieben. (Pp. 73. Paper 9 francs; stiff covers 12 francs.) Benno Schwabe and Co.

Biochemical estimation of potassium.

Thromboendangitis Obliterans des Gehirns. By F. Livero. (Pp. 248. 24 Swiss francs.) Benno Schwabe. 1947.

A monograph on thrombo-angitis obliterans of the brain.

Hypnotism Today. By L. M. Leaven, B.A., and J. Bordenaux, B.A., M.A. (Pp. 278. 25s.) London: William Heinemann. 1947.

The theory and practice of hypnotism and its use in psychotherapy.

Counseling in Schools of Nursing. By H. P. Gordon et al. (Pp. 279. \$3.00.) New York and London: McGraw-Hill Book Co. 1947.

Discusses the management of student nurses.

Liber Jubilatis J. Rodhain. (Pp. 409. No price.) Brussels: Imprimeur du Roi. 1947.

A collection of papers on tropical medicine.

BRITISH MEDICAL JOURNAL

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TOWARDS A DECISION

This week's *Journal* goes to press on the eve of the Special Representative Meeting held on Wednesday to consider the Council's recommendation and to receive the results of the plebiscite. Some of the motions and amendments of divisions were published in last week's *Journal* and give some indication of the trend of opinion, especially among general practitioners. The plebiscite has given the representatives an overwhelming vote of confidence in the policy at present followed. Some 40,000 doctors have expressed disapproval of the Act in its present form, and it is obvious that unless some changes are made very large numbers of doctors will refuse to enter the Service on July 5, and that in any case a service will be begun which can give no satisfaction to anyone, least of all to the public. Mr. Aneurin Bevan in the debate in the House of Commons a month ago said that he desired the enthusiastic and harmonious co-operation of the medical profession in the Service of which he is part architect. After he had made this statement an overwhelming majority of all sections of the medical profession told him that they disapproved of his Act, but since the publication of the plebiscite results he has made no move to inquire into the causes of this disapproval and no attempt to secure the co-operation he considers desirable. The Government has, in fact, said that the Service will start on July 5 whether the medical profession wants to work in it or not. If the opposition to the Act had come from one section only of the profession and had been based on some selfish concern about remuneration, this attitude on the part of the Government could have been understood. In view of the policy of the Labour Party in favour of a whole-time State service, opposition from general practitioners and consultants might have been foreseen. But the vote of no confidence in the Government's Act on the part of those who have freely chosen whole-time service surely must indicate to the Government and the public that the National Health Service Act in part or in whole is an unsatisfactory instrument for providing a medical service for the nation. It is therefore idle for anyone to suppose that the medical profession will agree to work in the new Service under the Act in its present form.

We do not, of course, know what resolutions may have been passed by the Representative Body by the time this issue of the *Journal* is published. But we may note that the recommendation of the Council put before it was couched in moderate and unprovocative terms. Propagandists will no doubt make the usual stupid remarks about

this being an indication of weakness, without reflecting that to be reasonable at the moment of strength is a sign of wisdom. The medical profession is now in the position of having to decide what its ultimate object is. There would seem to be two courses open to it. The plebiscite result can be interpreted as a root-and-branch opposition to the Act as a whole. This is undoubtedly the attitude of some of those who have voted. If this were, in fact, the attitude of the majority of those who expressed disapproval, then the ultimate object would be the removal of the Act from the Statute Book. If the great majority of consultants and general practitioners refused to enter the Service the Act would die a natural death, and a different one would have to be put in its place. Some consider that even if it were amended in certain respects the main effect of the Act—namely, the nationalization of the medical profession—would be unaltered. Many thoughtful medical men see this as part and parcel of the principal political theme of the contemporary world—the relation between the State and the individual. Mr. Butler said in the House of Commons that “you cannot nationalize conscience”; still less can one nationalize the intimate relationship existing between the sick person and his physician. Even if the Act were amended the Minister of Health, a political figure will still have enormous power and what amounts to an autocratic control over the medical profession.

The alternative object would be to reopen negotiations with a view to obtaining satisfactory safeguards against the introduction of a full-salaried State medical service. The British Medical Association, in declaring opposition to the Act in its present form, has implied that if the present Act were altered by amendment service under it could be made possible. The Negotiating Committee, of which the B.M.A. formed half the membership, presented a statement to the Minister last December which he considered raised objections to all the principal provisions of the Act. From the standpoint of general practice, criticism has been directed principally at certain features of the Act and certain proposals of the Minister. Mr. Bevan in December made some minor concessions to consultants and specialists, but in spite of this they expressed their disapproval of the Act by an overwhelming majority. It may well be, therefore, that the consultants, who include the teachers of Medicine, are less concerned with the details that interest the general practitioners, and more concerned with the effect of the Act upon the free development of Medicine under the monopoly control of the State.

The Representative Body may have stressed those matters of special interest to general practitioners, who constitute the majority of doctors. But if negotiations are reopened they must include matters that affect all branches of the profession as well as those that concern the general practitioner. There is no need to enumerate them here or engage in the pointless task of trying to arrange them in order of priority. Of overriding importance is the preservation of the professional and individual freedom of the practising doctor. Should it be possible to reopen discussions with the Government, the central fact of independence must be kept in the forefront and not obscured by a preoccupation

with this or that detail. In negotiation there is always "give" as well as "take." To secure concessions concessions must be made. But no concession could be made that would open the door to the introduction of a whole-time salaried State medical service. We believe Mr. Bevan when he says that it is not his intention to introduce such a service, and it is no reflection upon him to say that this expressed intention is no safeguard to the medical profession, because it would not be binding on his successor in the new Government that will be formed after a General Election to be held within two years from now. There is nothing in the present Act which offers the safeguard required, and the logical conclusion is that nothing short of an amending Act would provide this safeguard.

At the moment of writing the decisions of the Representative Body are not known. They may be related principally to the position of the general practitioner. The British Medical Association, however, has among its members all sections of the medical profession. In proportion, in fact, the consultants and specialists are as well represented in membership as are the general practitioners. The B.M.A. is therefore representative of the profession and is conscious of its obligation to the profession as a whole. It will therefore be essential to take into account the attitude and opinion of the consultant world if these find corporate expression through its organizations. Since the publication in January last year of the letter by the three presidents the Colleges have refrained from any positive expression of opinion except in so far as they contributed to the work of the Negotiating Committee. They cannot, however, long remain silent, and it is much to be hoped that the Colleges will discover what are the views of their fellows and take steps to make them public, hampered though they may be by a machinery that does not include what the Webbs have described as "the devices of advanced democracy."

It is becoming the fashion to compare medical men with miners and other manual workers. Those who do this do not pursue the argument by stating that the miners wanted nationalization in order to pursue their necessary and honourable task with a contented mind. Medical men have asked not to be nationalized because they feel that if they are they will not be able to work with a contented mind. But while the miners are granted their wish, the medical men are denied theirs. This method of consent by compulsion is misnamed "Democracy." Both the Government and the medical profession wish to see that the public has an efficient medical service. The Government claims that their Act will provide this, but we repeat once more that if this Act, even amended, comes into operation on July 5 the public will be disillusioned, and will have a less efficient medical service than at present, for the reason that it will be impossible by July 5—or even for years to come—to provide the necessary number of hospitals, doctors, nurses, dentists, and other health workers. Not to mention health centres. We suggest that it is still not too late for the Government to review this position so that both the public and the medical profession may co-operate in their fight against disease and in the maintenance and promotion of health.

THE WORLD FOOD POSITION

Sir John Boyd Orr, director of the Food and Agriculture Organization of United Nations, told the third conference of that body when it assembled last autumn that the position was no better than it had been the year before, and that unless the war-devastated countries were provided with machinery and fertilizers for the harvest of 1948 the severe food shortage would last for at least two years more. He said also that, taking into account the probable increase in world population, food production would need to be doubled during the next 25 years to provide everybody with a diet capable of maintaining health and working efficiency. Meanwhile the continuing shortage calls for the fullest use of all available sources of food supply, prevention of avoidable waste, protection of vulnerable groups, and careful watch on the nutritional position in general.

If this is a world crisis at least world opinion and resolution are mobilized to meet it. After the first World War the League of Nations measured itself against the prevailing need but took little cognizance of food problems. The word "nutrition" or "food" does not appear in its covenant. It set up organizations to deal with health, with the drug traffic, with social questions, with the resettlement of refugees, but not specifically with famine, though later in its history there was formed the Technical Commission on Nutrition, which has done valuable work, to be continued, it is hoped, under F.A.O. But the United Nations had scarcely been established before F.A.O. became one of its instruments. It was conceived at Hot Springs in 1943, held its first conference at Quebec in 1945, its second at Copenhagen in 1946, its third at Geneva in 1947, attended by representatives of fifty nations. Under its encouragement 34 countries—this was the number last year and is probably now exceeded—have set up national committees. Regional offices have been established or are projected for Europe, the Middle East, Asia, and Latin America. Two regional conferences are planned, in Latin America and in the Far East. The staff of the Organization in Washington, numbering something like 400, is organized in about six divisions—agriculture; economics, marketing, and statistics; fisheries; forestry; nutrition; and technical and administrative services. There is also the nucleus of a division of rural welfare. The work is assisted by six standing advisory committees. The report of the meeting of the Advisory Committee on Nutrition, held at Geneva last September under the chairmanship of Lord Horder, is summarized elsewhere in this issue. The Director of the Organization has sent a cable to Lord Horder approving a suggestion that material in the possession of the Advisory Committee should be made available to the Nutrition Committee set up not long ago by the British Medical Association. Thus a useful liaison between the Association and F.A.O. will be established.

The subject of nutrition and food requirement is extraordinarily well documented. At every meeting the results of new studies become available, and instructions are given for yet more. When the Advisory Committee assembled at Geneva it had to absorb about twenty reports and memoranda. The ordinary man may feel some impatience at so much preliminary surveying when the important

thing is to get more cereals and roots under cultivation and develop animal husbandry, but the object of these reports and the expert consideration they receive is to avoid the wastage and misuse of food which with marginal resources can be ill-afforded. The recent F.A.O. conference was reminded that the very increase of agricultural production achieved by exporting countries in their efforts to relieve the world shortage may well lead to unmarketable surpluses. An observer back from Greece has told how some of the food sent by U.N.R.R.A. wilted in Athens shops, the Greek preferring his traditional bread and olives. The feeding of the world is, after all, a task for experts. If the world managed to survive in an earlier period without the expert it was only because of seeming abundance, and even then there were regional famines and ill-balanced diets for large populations. Indeed, the conclusion of the World Food Survey by F.A.O. was that before the recent World War half the population of the world was underfed in that it subsisted on a diet inadequate to maintain normal health, to allow for normal growth in children, and to furnish energy for normal work.

One of the present tasks of F.A.O. is to collate all research projects in the field of nutrition in various countries, to construct an index of nutrition workers and institutions, and to disseminate information wherever it is wanted. A useful achievement is the co-operation between F.A.O. and the World Health Organization, almost the youngest of the nine or ten specialized agencies of United Nations, and now, twenty-five countries having ratified its constitution, to be established on a permanent basis. The first co-operative effort of the two organizations is a report on child nutrition, intended for the guidance of the International Emergency Children's Fund for the rehabilitation of children and adolescents in the war-devastated countries. This fund is making plans to provide supplementary food, especially dried skimmed milk, for millions of such children. A point emphasized at the recent conference was the need for increasing the amount of dried skimmed milk available, and at the same time there was a Belgian proposal, referred to the divisions, that a study be made of the distribution of fresh milk in different countries. With the improvement of herds in pastoral regions and an increase in mixed farming, a more abundant milk yield may go far to help matters.

At a recent meeting in Rome experts on nutrition problems in Europe considered ways of improving the production and consumption of fruits and vegetables. The Nutrition Division is concerning itself with aspects of cereal technology, cereals in most countries contributing half the calories in the diet. Another special activity of F.A.O. is the collection of data on school meals, on which a preliminary report was made to the conference. School feeding is regarded as one of the most effective ways of ensuring improved nutrition.

Food is a world problem, but, as the report of the third conference states, "problems of nutrition differ in various parts of the world, and it is necessary to attack them on a regional basis." It is here that a world organization proves itself of greatest service. It is able to review national or regional problems relating to food and agriculture in such

a way that the activities and programmes in one region or country can be correlated with those in others. The lessons learned in one part of the world can be applied elsewhere. The experience of one country can supplement that of its neighbour and make good its deficiencies, and accepted principles of a general character can be modified to meet a local situation, having due regard to dietary habits and nutritional state. That is what, through many channels, the F.A.O. is doing.

TYRANNY IN THE UNIVERSITY

Those of us who were at school in the halcyon days before 1914 when we learnt of the murder of Socrates, of the trials by the Inquisition, or of the horrors of the slave trade were easily led to think that such things could never happen again. We thought that with material progress there must also be spiritual progress. But the spirit of tyranny is just as active to-day as ever it was, and the centralization of power in one country after another makes its task easier than ever before. The technique of tyranny is now familiar—infiltration, the political coup from either the right or left by a determined minority not afraid to use force, the purge of newspapers and the radio, the closing of frontiers, the banning of foreign literature, and finally the control of universities and teaching.

In Europe this has now become such a matter of course as scarcely to excite a nine days' wonder. It is perhaps less well known that the same thing has been happening in the New World. When we announced¹ the election as a foreign member of the Royal Society of Prof. Bernardo A. Houssay, the distinguished physiologist and Nobel Prize Winner for 1947, we referred to the fact of his dismissal from the University of Buenos Aires. Since then things have gone from bad to worse, and now there are no fewer than 1,073 members of the staffs of the six Argentine Universities who have been either summarily dismissed or compulsorily retired, or have voluntarily resigned. A pamphlet has recently been issued by the Federation of Societies for Defence and Advancement of the Democratic and Free University of Argentina entitled "The Enslavement of the Argentine University." The preface of this pamphlet outlines very clearly the present situation in the country:

"During the current political crisis, for our country the major one in fifty years, the university professors of Argentina, responding honourably to the democratic tradition and to the demands of citizenship, have opposed themselves firmly to the advances of a dictatorship which arose from the militarist movement of 1943. In doing so, they complied with their civic duties, inescapably imposed upon them by their position as teachers of the youth. It was not only the professors who raised their voice against the dictatorship. The students of all the Argentine universities responded similarly in the defence of the basic institutions of the country, gravely endangered at this sad hour of our political evolution.

"The Decree of Intervention, pronounced in May, 1946, was an act of vengeance against this patriotic attitude; its aim was to dismiss from their posts all who, maintaining their duties as teachers, also complied with their civic duties. The Government dismissed all the Rectors, the great majority of the Deans, and a large number of Professors, whose lives had been dedicated to teaching and to scientific research. No consideration was given to, nor respect shown for, the prestige which the work of these savants had brought to Argentine science.

"Through the vindictiveness of the Government, the students of Argentina have received the most impressive lesson of their careers; but happily for the future of the country, they have

¹ *British Medical Journal*, 1947, 2, 698.

protected and cherished their high ideals without equivocation. In all manner of means they have expressed their respect and regard for their dismissed professors, who had undertaken their civic and patriotic activities only because of high moral concepts and at risk to their personal interests. Many students have been imprisoned, suspended, or dismissed; some have had to continue their studies out of the country, finding it impossible to do so in the halls of the Argentine universities.

"Time cannot erase the humiliation which has been heaped, not on the professors themselves, but really on the dignity of the university professions. Despite the formal return to constitutional law, the universities have undergone actually no change either with respect to acts of the Government or the decisions of professors and students. The Government maintains the Argentine universities in the same state of vassalage; students and professors continue their protest against the situation.

"Through the imposition of the new laws, the Free University will disappear, and with it justice and right for the professors, freedom to teach, and stimulus to investigators who will never feel secure in their classrooms and laboratories. With the dismissal of the group of professors who gave lustre to the nation's universities and examples to the youth, and with authority, through the new laws in other hands, the universities will have ceased to be fountains of learning and will have become mere technical schools and mouthpieces for the bureaucracy of the Government."

We believe that this sort of thing "can't happen here." Nevertheless there are danger signs. The publication of any scientific periodical can easily be impeded, delayed, or even suspended by failure to allot the necessary paper. The import of scientific books or periodicals from abroad is already controlled and curtailed. Men of science are having a hard fight to maintain their integrity against the demands for secrecy of Government Departments, and in research institutes there is the tendency for commercial interests to muzzle and hamper the spirit of unfettered scientific curiosity. Since our universities are now largely financed by Government grants there is temptation for the Government to exercise control—no doubt in the public interest. But who is to interpret public interest—the omniscient "omni-incompetent" State, or those who in the universities preserve the values of our civilization?

FRESH THOUGHTS ON HARRISON'S GROOVES

Publications of purely clinical findings are all too few, and there appears elsewhere in this issue a paper by two young physicians—Dr. J. Naish and Dr. H. R. E. Wallis—regarding the significance of Harrison's grooves, which is in every way a happy choice of subject. These authors point out for the first time that this physical sign was the observation of one Edwin Harrison and not of the better publicized Edward Harrison, and that the former indeed wrote very little. Having cleared up this obscurity they then turn to the question of the actual mechanism of the formation of the grooves. Much confusion regarding this point exists even to the present day, and they are certainly not produced at the attachment of the diaphragm to the ribs, as many textbooks continue to assert. The suggestion now put forward is that these transverse depressions occur in a zone between the upper ribs, which move upwards, forwards, and rotate outwards, and the lower ribs, which move outwards and backwards—thus increasing the transverse diameter of the upper abdomen. In the presence of increased negative pressure in the thorax the point most likely to buckle would be at that zone where the two movements diverge, a point that has been termed the "muscle gap."

A study of various groups of children in Bristol led Naish and Wallis to conclude that as many as 45% of

normal school-children have detectable grooves, and about 7% have grooves as deep as 3/16 in. There is no reason to think that the grooves are particularly common in mild rickets, though they are frequent in severe forms of the disease, and the contention that Harrison's sulcus is valueless as a sign of early rickets is again confirmed.

The connexion between bronchitis, whooping-cough, measles, or any severe upper respiratory infection in early life and the development of these sulci could not be proved on statistical grounds, although the deformity was more common in children who had suffered from these diseases. In asthma, on the other hand, the incidence was heavy, and long-standing asthma was the commonest aetiological factor.

A curious finding was the frequency in which the condition was associated with congenital heart disease, but no firm explanation is offered. Indeed the exact mechanism of the development of these grooves remains in some doubt, though the presumption is that it is associated with conditions producing increased intrathoracic traction. Be that as it may, this paper is a very useful contribution to the lore of clinical signs.

TESTOSTERONE IN ANGINA OF EFFORT

John Hunter observed that Nature resorts to vascularity when she has work to do. Prodigious in most things, Nature needs encouragement, and the patient needs help with exogenous coronary vasodilators in cardiac effort pain: for there seems little doubt that the relief from pain given by nitroglycerin and other related drugs is due to augmented coronary blood flow. Although it is now generally agreed that the symptom of cardiac effort pain, or angina of effort, originates in myocardial ischaemia, the many remedies which have been suggested should remind us that the unsolved problems include the influence of temperament, emotion, and suggestion, the absence of correlation between the severity of the pain and the extent of ischaemic myocardium, the impracticability of finding out what would happen in any individual case if we did nothing, and the difficulty of assessing the action of a drug in a disease where all other symptoms are dwarfed by the purely subjective symptom of pain.

Prolonged treatment of angina of effort with testosterone propionate has been increasingly advocated in the last few years. Waldman¹ has reviewed the results of this treatment in 74 cases in the literature. He has added ten cases of his own in which, unlike many of the other cases, there was adequate regard for control periods and in which full use was made of those electrocardiographic criteria which are reasonably supposed to indicate myocardial anoxia. His conclusions were that testosterone propionate in no way replaces the well-established coronary vasodilators such as nitroglycerin in the treatment of acute attacks but that when it is given in 25-mg. doses intramuscularly twice weekly for a minimum period of eight weeks it usually produces a sustained improvement. Side effect could be regarded as insignificant. Lesser² more recently reported a series of 109 cases which he treated with testosterone propionate, some of his earlier cases having been included in Waldman's review. His conclusions appear to rely less on controls or objective criteria than on the size of his series. The dosage and period of treatment are much the same as those given by Waldman, but both authors stress that "individualization" is necessary and some patients need treatment for five or six months before prolonged improvement occurs. In Lesser's series of 109 cases 9

¹ *J. clin. Endocrinol.*, 1945, 5, 385.

² *Ibid.*, 1946, 6, 549.

improved—51 of these to such an extent that each "was able to increase his physical activity without precipitating an anginal attack for a period of at least two months after testosterone therapy was discontinued." As Lesser points out, it would be most unusual for the almost uniform improvement to occur spontaneously in such a large series, and he attributes these good results to testosterone propionate, adding a warning against intensive therapy, to which he attributes acute cardiac failure in one of his patients who was given 25 mg. of testosterone propionate daily for one week.

There are several concepts of the mechanism of testosterone therapy in angina of effort, summarized by Waldman. All of them seem very speculative, and they are perhaps best passed over with the thought that many respectable drugs of accepted therapeutic value have had even stranger origins. More extended and carefully controlled trials are necessary before the long-term treatment of angina of effort with testosterone can be established.

THIRTY-MILLION VOLT X RAYS

Further details can now be given of the 30-million electron volt synchrotrons which are being built for the Medical Research Council and the Atomic Energy Research Establishment of the Ministry of Supply. In so far as their medical use is concerned the generation of x rays of such voltage will substantially increase the ratio of depth to surface dosage, compared with either existing x-ray equipment or radium bomb irradiation.^{1,2} The synchrotron is merely one possible method of accelerating x rays to the required high voltage, and the x rays are generated, as with ordinary equipment, when the electrons thus accelerated hit a metal target. The particular combination of magnetic and electrical acceleration which the synchrotron achieves was first demonstrated, as an experimental system, by the Telecommunication Research Establishment at Malvern, and subsequent development up to the manufacturing stage has been in the nuclear physics laboratories of the General Electric Company at Stafford, where a demonstration of progress to date was given recently.

The first of the synchrotrons, destined for the Atomic Energy Research Establishment, is now physically complete and at an advanced stage of testing; the second and third to be produced will go to the Medical Research Council. In external form they are cylinders about four feet in diameter, and their weight is about three and a half tons. Whilst a formidable piece of equipment, the synchrotron is reasonably compact considering the high energies produced. The x-ray beam emerges from a fixed point (the target) and, with reference to the synchrotron, its direction remains constant. The beam is about 15 degrees in total width—and the word "total" should perhaps be emphasized, since beam-widths are often measured to half intensity. For medical use, provision will be made for the rotation of the complete synchrotron about its axis, and with gimbal-mounting direction of the x-ray beam will be a simple matter. The synchrotron, thus given effective mobility in three dimensions, will be set up in the treatment room so that patients will lie beneath it, in general at about a metre from the point of emergence of the beam. Control will necessarily be remote, since workers in the department must obviously not be continually exposed to stray radiation. A small television apparatus has accordingly been designed which will enable those responsible to observe continuously from the control room the condition and position of the patient. Thus, if the patient had moved so

that the beam was no longer being correctly directed treatment could at once be suspended.

A further piece of equipment, which was also shown, is of experimental rather than therapeutic interest. This is a pulse-operated generator, designed to provide extremely high doses of x rays for short periods. With individual pulses of irradiation of only about half-a-millionth of a second duration—a similar length of time to that used in some forms of radar equipment—a dosage equivalent to 2,500,000 r per minute can be attained—roughly fifty times greater than the highest rate about which published information is available. For comparison, the accepted safety limit in atomic energy plants is 0.1 r in a full eight-hours working day, and, below this again, radiation-recording equipment is available which will give a full-scale reading at one-tenth of the permitted rate; finally, at one-tenth of the latter, and at one-hundredth of the permitted level for atomic energy workers, we reach the inevitable permanent background of irradiation provided by cosmic rays. The total range in rate of dosage between cosmic radiation and the experimental pulse generator already mentioned is accordingly of the order 10^{12} to 1—a figure which is perhaps more eloquent than a verbal description of the engineering progress which has been made.

Further developments in this field include a 300-million electron volt synchrotron planned for the department of physics at Glasgow University. A similar machine is under construction at the Massachusetts Institute of Technology. Prof. Kerst, of the University of Illinois, Urbana, also plans to accelerate electrons to 300-million volts with the older betatron type of equipment which he himself developed. Although 300-million volt x rays are thus already within sight, it appears unlikely that for therapeutic purposes there will be any advantages in going much, if at all, beyond the 30-million volt generators now available.

INTERNATIONAL CONGRESS OF INDUSTRIAL MEDICINE

The 9th International Congress of Industrial Medicine will be held in London from September 13–17 of this year under the patronage of the King and the Queen. The last Congress was held ten years ago, and the first in 1906. The success of past Congresses has been in no small measure due to the inspiration of Prof. Carozzi, who is taking an active part in securing the success of the Congress to be held this year. As is befitting in an industrial country, the Government is officially sponsoring the Congress, and the following Ministers have agreed to serve as Vice-patrons: Mr. Ernest Bevin, Mr. G. A. Isaacs, Mr. Aneurin Bevan, Mr. James Griffiths, Mr. G. R. Strauss, and Mr. H. T. N. Gaitskell. Lord Moran and Sir Alfred Webb-Johnson have accepted office as Presidents of the Congress; Mr. T. E. A. Stowell is Chairman of the British Committee and Dr. Donald Hunter of the Planning Committee. The programme of papers is not yet complete, but it has been decided that various sections will deal with such subjects as: Young Persons in Industry; the Determination of Dusts in Air; Administration and Training; Pneumoconiosis; Dermatology; Burns; Industrial Medicine in the Tropics; and the Training of Industrial Medical Officers. There will be a discussion on rehabilitation, and arrangements have been made to visit various rehabilitation centres, clinics, and hospitals. The official languages of the Congress are French and English, and those who wish to have further information should communicate with the Organizing Secretary, Room 501, Garden Court Wing, B.M.A. House, Tavistock Square, London, W.C.1.

¹ *British Medical Journal*, 1947, 1, 571.

² *Ibid.*, 1947, 2, 101.

THE FOOD CRISIS AND THE F.A.O.

RECOMMENDATIONS OF ADVISORY COMMITTEE ON NUTRITION

The Food and Agriculture Organization of United Nations has standing advisory committee on nutrition, which held its first meeting at Copenhagen in 1946 and its second at Geneva in September of last year. The second meeting, which took place under the chairmanship of Lord Horder, was attended by thirteen members from eleven countries and three observers and lasted for nine days.

One matter to which the Committee drew attention was the agenda of the regional conferences which F.A.O. is arranging. It was considered that these conferences should centre on three main subjects: (1) the most important problems of nutrition in the region concerned, with special regard to areas within the region in which malnutrition is particularly serious; (2) practical measures for improving nutrition; and (3) a follow-up by means of national organizations. One of the practical measures recommended is to devise programmes for certain demonstration areas "calling for the co-operation of experts in nutrition, agriculture, animal husbandry, fisheries, sociology, cultural anthropology, and home management. These demonstration areas would serve as training grounds for field nutrition workers."

On the question of school feeding, on which a large amount of information has been collected, the Committee felt that the Nutrition Division of F.A.O. might do more than present a picture of the situation in different countries; it should attempt to provide guidance for those concerned in the organization of school feeding. School meals should, wherever possible, be rich in protective foods, and should effectively supplement home meals. "Definite merit attaches to the 'mid-morning snack' which is in vogue in some countries."

Another recommendation was that the Division should prepare and periodically revise tables of food composition for international use, should encourage research on composition of foods, methods of analysis, and correct identification, description, and classification of foods, and should support the study of chemical composition and physiological value of foods which have been insufficiently investigated, and of products newly recognized as food.

A series of recommendations were also made concerning food technology: that there should be a study of the comparative nutritional value of different types of rice produced in different parts of the world; that dried skimmed milk should receive attention; that more use might be made of soya bean products in the emergency; that dried yeast had nutritive value as a supplementary food for human beings; and that more information should be obtained on the subject of synthetic digestible fats and their nutritive value.

Education in Nutrition

The Committee reinforced the view which it expressed at its previous meeting in 1946, that education in nutrition is of prime importance, that it should begin with the child, that school feeding is itself a valuable means of nutrition-teaching; also that "the family doctor, being in a key position, should be taught the principles of nutrition in his preclinical studies, and should be familiar throughout the whole of his clinical training with the many ways in which degrees of malnutrition enter into disease processes." The report adds: "The crux of the position, admittedly unsatisfactory, seems to lie in the question, Who shall teach the teacher? The answer, in great measure, lies with the universities."

Other subjects on which the Committee made recommendations included the preparation of memoranda on the technique and interpretation of diet surveys, physiological requirements for calories and nutrients, and the assessment of nutritional status. The Committee reaffirmed its view that lessons of value for the future can be drawn from the study of nutrition and food management during the war and its aftermath, and recommended that the Nutrition Division should keep itself informed about relevant studies in this field which have been made in different countries.

In the course of its sitting the Committee received a deputation from the League of Red Cross Societies, which pointed out that it represented a very large body of voluntary workers

experienced in the handling of school meals and in education in nutrition, and the Committee drew the attention of the Director-General to this fact and expressed the hope that ways and means of collaboration between the F.A.O. and the League might be found.

Of the many documents before the Committee one of the most valuable was a text prepared by one of its members, Dr. Isabella Leitch, of the Rowett Institute, Scotland, entitled "Preliminary Notes on Vital Statistics and Standards of Living," in which the relations between mortality, occupation, social and economic status, and nutrition were discussed. This analysis is to be developed further on the nutritional side, and is likely to clarify an issue of great interest and importance to F.A.O.

WORLD FOOD SITUATION

Prof. J. R. Marrack, who holds the chair of chemical pathology at the London Hospital Medical College, addressed the Anglo-Austrian Society in the theatre of the British Council on March 11 on the organization of world food supplies. Mr. A. L. Bacharach presided.

During the recent war, said Prof. Marrack, the United States managed to produce more food than ever before for its own people and for export, and it was realized that here was an example of what might be done, through a proper system of production and regulation, towards eliminating malnutrition throughout the world. At the Hot Springs Conference in 1945 the problem was seen to be not the production of the food but the ability of the consumer to pay for it. Even though farmers set themselves to produce as much food as possible, if the power of buying was restricted the depression of the early 'thirties would be repeated.

It was unfortunate that the scheme envisaged at the Hot Springs Conference was not put into force at the end of the war. U.N.R.R.A. was formed not only for the administration of relief but to rebuild the economies of the occupied countries of Europe, but unfortunately, in the final draft scheme for U.N.R.R.A., although the second purpose remained in its name, rehabilitation was in fact dropped and the scheme became one merely of emergency relief. U.N.R.R.A. had supplied food only to those countries which could not afford to pay for it, and the countries which could afford to pay had started a scramble for inadequate supplies. Thus the whole idea of supplying each country according to need fell to the ground.

Disappointed Hopes

Out of the Hot Springs Conference arose the Food and Agriculture Organization of United Nations. Prof. Marrack held that this Organization should have been enabled to buy and hold stocks of food, to supply countries in need, and to administer finance in such a way as to give farmers throughout the world the necessary farming equipment. Sir John Boyd Orr had contemplated the building up of buffer stocks of food so that when there was abundance the Organization could buy and supply to areas where food was scarce. But what had emerged in the end, instead of an international body to buy stocks, was an agreement that individual countries should buy. Prices had been fixed for wheat—the key commodity—and an agreement had been made whereby three out of the four great producing countries would during the next five years produce at amounts which a large number of consumers would take. This gave security to farmers, but it did not give international control of food production, nor did it include arrangements for holding back buffer stocks for relief and improvement of nutrition all over the world. The scheme was essentially a restrictive one, whereas Orr's original scheme was one of expanding economy, ensuring freedom from unemployment by stimulating food production and making sure that malnutrition should cease.

Prof. Marrack contrasted effectively the relative lack of achievement in the application of science to agriculture and the achievements in recent years in medicine. If in agriculture and agricultural economy the same scientific methods had been pursued with the same conviction and enthusiasm, in the prevention of diseases of animals and plants, in the planning of production and regulation of distribution, the spectre of malnutrition might no longer haunt the world. He concluded by saying that the western nations of Europe could not unite for a better purpose than to run a food organization.

GUY'S HOSPITAL DENTAL SCHOOL

The annual clinical meeting of Guy's Hospital Dental School took place on March 6, when the departments and theatres were crowded with old students for a full programme of demonstrations and exhibits. The emphasis in the exhibition was on preventive dentistry. The x-ray department showed the advantages of intraoral stereoscopic projections. The prosthetic laboratory contained some interesting models in acrylic resin, and this material found various uses in the conservation-room. Among the pathological and experimental specimens in the research laboratory were the results of an investigation on the effect of prematurity on tooth enamel. Radiographs and photographs indicated that where there had been no illness in pregnancy the position of the infant's teeth was well marked, the neonatal line corresponding to the degree of prematurity; but where there had been severe constitutional disturbances there was evidence of interrupted enamel deposition and altered structure. In the conservation-room some work on the use of penicillin in root canal therapy was demonstrated. Various methods for the prevention of dental caries were illustrated: the application of sodium fluoride in distilled water; the use of zinc chloride and potassium ferrocyanide; and a mouth-wash and dentifrice based on the effect of ammonia nitrogen on the growth of the lacto-bacillus acidophilus. It was stated that the regular use of this mouthwash and tooth-powder had been shown to produce a marked reduction in the oral lacto-bacillus counts, but confirmatory evidence of a reduction in actual caries was still awaited.

The preclinical department showed the methods of stress analysis which had been adapted for the study of stress distribution in the different parts of a clasp with the object of reducing high stresses and consequent danger of breakage. The making of copper dies of the teeth as a means of ensuring accuracy and hardness for fillings, crowns, and bridges was also shown. Besides the various demonstrations, operations for osteoma of the jaw, for ankylosis of the temporomandibular joint, and for other conditions were undertaken.

Nova et Vetera

CENTURY OF CERTIFICATION

That the provision of certificates worried medical practitioners 100 years ago is shown by the following letter that appeared in the "Provincial Medical and Surgical Journal," the predecessor of the "B.M.J.," on March 22, 1848.

Baptism of Sick Infants

SIR,—May I beg the favour through the medium of the *Provincial Journal*, of inquiring of my professional brethren, how they are in the habit of treating certain applications made to them under the following circumstances?

It appears that the clergy in the diocese of Norwich, and, most probable, the same is the case elsewhere, are instructed that the baptism of infants shall only be performed in strict conformity with the rubric, and that the practice of a preliminary baptism or "naming," as heretofore customary, should be discontinued. In complying with this ordinance, the clergy, as if by a mutual understanding, have set apart one Sunday in each month, and it is expected all children born in the intervening period, shall on this day be brought to the font, attended by the required sponsors. Now, it happens not unfrequently, that an infant is attacked with sickness previous to the advent of this important day, and the parents, anxious to secure it a christian burial, and perhaps, if imbued with faith in the doctrine of baptismal regeneration, dreading the death of their infant unregenerate, apply to the minister to have it baptized. The answer is—"Unless you bring a certificate from a surgeon, stating that the child's life is in imminent peril, the rite cannot be performed." Hitherto I have declined giving the necessary document, as I can only regard such a demand on the part of the clergy as tending to fasten unduly a solemn responsibility on the medical profession, which naturally belongs to themselves.

I am, Sir,

Your most obedient servant,

JAMES COOPER.

Filby, Great Yarmouth, Norfolk.
March 3, 1848.

Preparations and Appliances

A DEMONSTRATION WALKING CALLIPER-BOOT

Mr. HORACE DAVIES, visiting orthopaedic surgeon, Birkenhead Municipal Hospital and Whiston County Hospital, writes: It is often difficult to demonstrate in a convincing way to students and nurses the principle of the weight-bearing walking calliper. We have to rely mainly upon the patient's word that his heel is not in contact with the boot. This is particularly difficult in children, especially if the calliper has to be worn for a lengthy period, and constant adjustments are necessary. The heel-boot space can, of course, be shown by removing the back of the boot, but this is of use only in a demonstrative model. A serviceable method enabling normal use of the calliper is shown in the accompanying photograph. An oblique

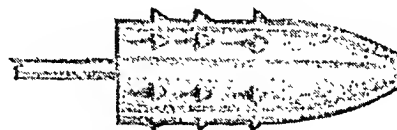


piece of the boot is removed from the inner side and replaced by "perspex." The plastic is inserted from the top, between the leather and the lining, and then cemented into position using a waterproof plastic glue. Through this window the heel and the space below can easily be seen and adjustments of calliper length made with precision.

ROUGHENED NEEDLE-HEAD FOR TREATMENT OF VARICOSE VEINS

Mr. R. ROWDEN FOOTE, London, W.1, writes: This needle-head is a modification of that on the Stevenson needle, and presents the following advantages: (1) its "nutmeg-grater" surface scarifies the venous intima and allows a more perfect thrombosis than when a sclerosant only is employed; (2) gentle manipulation of the pliant shaft will traumatize the intima

Enlarged View



Bell & Croyden, London

without unnecessary damage; (3) the rocket-shaped nose of the needle facilitates the entry of this instrument into the vein. The shaft is usually 12 in. (30 cm.) long, and it is fitted with a "record" needle mount.

This instrument was made for me by John Bell and Croyden, Wigmore Street, W.1. I am indebted to Mr. Proudfoot for his patience and interest, and for the many specimens of this needle constructed before I was finally satisfied.

The Australian Commonwealth Director of Tuberculosis, Dr. H. Wunderly, believes that Australia could wipe out tuberculosis in 20 years if sufficient money were available. After examining the conditions in each State during the past six months, he has presented a report on the incidence of the disease to the Minister for Health.

Reports of Societies

RUPTURE OF CERVICAL INTERVERTEBRAL DISK

he subject for discussion at a meeting of the Section of Neurology of the Royal Society of Medicine on March 4 was rupture of the intervertebral disk in the cervical region. Dr. C. FORSTER-DROUGHT presided.

Dr. W. RUSSELL BRAIN said that the problem presented itself in patients who complained of symptoms of irritation of a posterior root in the cervical region, or of compression of the spinal cord in the neck, or in some cases of both. Some had a protruded intervertebral disk without arthritis, some had protrusion with arthritis, and some had arthritis without protrusion; the protrusion might be cartilaginous alone or both arthralgous and bony. The condition might be the result of trauma or it might be associated with chronic inflammation.

Disk protrusions were common in the cervical and lumbar regions, rare in the thoracic. Both cervical and lumbar regions ad greater mobility than the thoracic spine, and were specially exposed to trauma—in the lumbar region by strains due to weight-lifting or by falls on the buttocks, and in the cervical region by the effects of violent movements of the head. In the cervical spine the intervertebral disks were larger, relative to the vertebrae, than in the lumbar region. The posterior longitudinal ligament extended opposite each intervertebral disk, but did not reach the disk margin. If the central fibres were ruptured the disk protruded backwards in the mid-line, but if that did not happen or the disk protruded somewhat to one side it tended to extend laterally.

No doubt the earliest changes were vascular. The veins were the first vascular structures to be compressed, and since the flow in the veins was upwards the effect of compression was to produce oedema of the segments of the spinal cord immediately below the site of compression. The first effect of an anterior or antero-lateral protrusion would be an oedema of the anterior or antero-lateral areas of the cord at the site of compression and in a few segments immediately below. It was an interesting point whether the arterial blood supply also suffered; on general grounds it would be expected to suffer after.

Clinical Findings

Dr. Brain illustrated his further remarks with ten surgically verified cases, from one of which post-mortem material was also available. Most of the ten were middle-aged or elderly; only two were under forty. Only two had symptoms of the root irritation type alone; in the remaining eight the spinal cord was compressed. These numbers did not represent the relative frequency of the two clinical pictures. Trauma appeared to have been a factor in only two of the cases; osteoarthritis of the cervical spine was present in at least seven and might be fairly diffuse or limited to the articulations adjacent to one intervertebral disk. In one of these patients protrusion occurred during pregnancy, which was interesting in view of the relation of pregnancy to herniation of the lumbar intervertebral disk. Patients in whom trauma was an important factor seemed to be, on the whole, younger than those with osteoarthritis and more likely to develop root irritation than compression of the cord. The site of the disk protrusion was between the fifth and sixth cervical bodies in five of the cases, between the fourth and fifth in two, and in the other three cases it was between the second and third, the third and fourth, and the sixth and seventh, respectively.

Four principal ways in which the protrusion might manifest itself could be distinguished: an acute onset of symptoms, especially pain, involving the neck and one upper arm; insidious and perhaps remittent onset of the same character and distribution; insidious onset with root symptoms referred to one upper arm, together with evidence of lesion of the spinal cord; and finally, and much less commonly, there was the insidious onset of a progressive spinal cord lesion alone. The acute onset of symptoms involving the neck and one upper limb seemed often to follow trauma. The history of compression of the spinal cord

was quite short in a number of cases; in five of the ten patients it varied from two to nine months; others had a history extending over two or two-and-a-half years, and in one case ten years.

The most prominent symptom was pain, usually described as shooting or burning in character, and sometimes as agonizing. Sensory loss was usually slight and patchy, involving cutaneous rather than deep sensibility. A severe degree of muscular wasting, weakness, and hypotonia was uncommon. When the cord was involved above the cervical enlargement the signs of a pyramidal lesion were evident in all four limbs. One conspicuous feature was the frequency of wasting of the small muscles of the hand. In eight of the nine cases in which the cerebrospinal fluid was investigated some abnormality was found.

As with herniated lumbar disks, recovery from the symptoms of root irritation might follow conservative measures. Prolonged immobilization should be tried; operation should be carried out in those comparatively few patients who suffered from persistent pain in the neck or upper limb or from serious muscular wasting and weakness, or from spinal compression.

Surgical Approach

Mr. G. C. KNIGHT spoke of the importance of the relation of mid-line protrusion to the anterior spinal artery. Thrombosis of the anterior spinal artery in the lower part of its course was likely to have an ascending effect on the cord. He had seen a permanent paraplegia result from thrombosis in that artery. In true protrusion there was evidence of a progressive tendency towards herniation. The protrusion might increase in size and tend to involve more and more of the cord. He had seen three cases which appeared to form a localized spondylitis deformans, and in one case the bony changes in the spine were unilateral. In a traumatic case where there was possibly displacement of the disk as a whole pain could be felt not only in the usual localities but in the supraclavicular and suprascapular regions, and sometimes even in the precordia, leading to a misdiagnosis of the condition as coronary disease. Determination of which root was involved was better based on the paraesthesia than on the distribution of the pain.

Myelography was valuable at all levels. The best treatment for any protruded disk was "a long waiting list." Care should be taken not to operate on these cases unnecessarily or too soon. Rest in the position of greatest comfort to the patient would cure or relieve the majority. Flexion of the head away from the side of the lesion was usually the most comfortable position, but occasionally the opposite might be true. Manipulation was dangerous in disk protrusions. The indications for operation were fairly clear-cut. In a state of established compression, operation was indicated after conservative treatment had failed. He discussed the operative procedures. The single root compression could be tackled adequately by hemilaminectomy. In cord cases a full laminectomy was required.

Dr. J. W. D. BULL gave an interesting survey of the anatomy of the subject. On examining the size of the lower cervical canal the distinction from the lumbar canal was very striking. The tumour in the lumbar disk, when there was maximum protrusion, might be compared to the size of a cherry; on the other hand, in the cervical disk, it was about the size of a red currant. In radiographic examinations it was advisable to take four projections: the standard antero-posterior and lateral, and also two oblique. The antero-posterior view should be taken last after having seen to what extent the vertebral bodies were angulated in the lateral views. So far myelography had not helped very much in the diagnosis of ruptured cervical disk.

Conservative Treatment

Dr. ALDREN TURNER spoke in favour of conservative treatment. His remarks were based on 46 personal cases, in all of which there was pain at the back of the shoulder and down the outer side of the arm, and in some of the cases in the neck and the upper part of the chest. On examination, pain was accentuated by movement of the neck. Neurologically they all showed some signs of interference with function. Very few had radiological evidence of osteoarthritis. None of these patients was operated on. One of them was lost sight of; the

other 45 were followed up until the pain was better. They were treated in bed with four or five pillows below the neck, a sling on the arm, and a mild analgesic. Within less than three weeks 31 were relieved of the pain, and within four weeks a further 9. The remaining 5 were more resistant, and it was from 5 to 12 weeks before the pain ceased. Although the pain was relieved the paraesthesia continued, and he believed might continue for weeks and months. It was as well to warn patients of this fact.

In some further discussion Mr. J. E. A. O'CONNELL said that the average lumbar disk was 25 times as heavy as the average cervical one; nevertheless, quite small cervical protrusions had been known to produce severe clinical symptoms and signs. There were, in his view, four groups of cases of cervical disk protrusion: (1) Cases with cervical and brachial pain, the signs and symptoms showing themselves in the distribution of one cervical root. In this group, with conservative treatment, the prognosis was very good. He had seen 50 cases, of which only one underwent operation. (2) Cases in which at the onset there might be only neck pain and pain in one limb, but symptoms and signs of cord compression then appeared quite suddenly. He had had four cases of this kind in which he had removed unmistakable protrusions which were severely affecting the cord, causing not only compression but contusion as well. (3) Cases in which there was evidence of a severe lesion in the cervical cord developing acutely after trauma. (4) Cases of minor injury to the cervical cord associated with head injury. The features of these cases were stiff neck, weak limbs, and characteristic reflex changes, especially interference with the radial reflex. The lesion responsible he believed to be a cervical disk protrusion.

PSYCHO-ANALYSIS IN HOSPITAL

At a meeting of the Section of Psychiatry of the Royal Society of Medicine on March 9, Prof. Sir DAVID HENDERSON presiding, a discussion took place on "The Application of Psycho-analytic principles to the Hospital In-patient."

Dr. JOHN RICKMAN defined the aim of psycho-analytical therapy as being to enable the patient to disclose as fully and freely as possible the history of his development, including that of which he had been unconscious. This disclosure the doctor must meet with sincerity of purpose and dispassionately, and he must not lose patience in the face of failure. These qualities were also prerequisite for research. Discovery of the cause and solution of the problem of mental pain were not possible unless the patient experienced relief of suffering in the course of treatment, then he would co-operate in both research and therapy. "No research without therapy; no therapy without research." Invariably there was a strong but unconscious tendency on the part of the patient to defend himself against the research, and this defence process affected both patient and doctor, for if the latter had not worked out his own past experience he would unwittingly co-operate with the patient's defences in greater or less degree, thereby nullifying both the investigating process and the content of the therapy. The aim of psycho-analytical procedure was to facilitate the patient's re-experience of the uncompleted and unconscious emotional situations of the past.

In this, Dr. Rickman went on, there was nothing incompatible with the exhibition of sedatives, shock therapy, surgical interference with the brain or other organ, nor even with the restriction of social locomotion (certification). All these could be pursued along with psycho-analytical therapy, provided—a most important proviso—that every event was referred back to the broad kind of social relationship between doctor and patient known as transference. In the psycho-analytical treatment of the hospital in-patient complications arose from other simultaneous doctor-patient relationships—with the medical superintendent and the house-physician, for example, as well as with the analyst. The role ascribed to each of these persons in the patient's fantasies had to be discerned separately, and it might well happen that the patient would play off one doctor against another, so that the situation became exasperating. But in the long run it would work out satisfactorily if there was co-operation between the analyst and the other doctors concerned.

Relation of Analysis to Other Treatment

Dr. E. STENGEL said that psychiatry could not afford to neglect any approach which promised to contribute to the understanding of mental phenomena. Most cases in mental hospitals were not accessible to psycho-analysis in the ordinary sense, and what could be practised was in the main applied psycho-analysis. Psycho-analysis was thought of too frequently mainly as a therapeutic procedure, and the fact was overlooked that its contribution to mental science consisted of certain fundamental formulations. There was still a tendency amongst psychiatrists to judge the significance of psycho-analysis from its value as a therapy, and to forget, as Ernest Jones had put it, that psycho-analysis had provided psychiatry with an interpretive, a dynamic, and a genetic approach.

He had found it particularly helpful in cases of schizophrenia with remissions to study the patient's reaction by the application of psycho-analytic principles; this had helped him in arriving at a correct assessment of improvement. Dr. Stengel added that the understanding of mental illness did not preclude the possibility that it was an organic disease. On the other hand, the organic nature of the illness did not imply that it could not be influenced psychologically. It had been said that the neurological approach to mental illness, from which the primary clarification was expected, was incompatible with psycho-analysis. For his own part, he saw no difficulty in combining the neurological and the psycho-analytical approach. Some of Freud's concepts had much in common with those of Hughlings Jackson. Psycho-analysts did not claim a monopoly in their approach, but they did claim that for the solution of a great number of scientific problems it was indispensable, and they looked forward to the time when more trained psycho-analysts would work in mental hospitals.

Dr. CLIFFORD SCOTT gave a lengthy and detailed account of the application of psycho-analysis to a manic-depressive female patient at the Cassel Hospital in 1936-8. This patient, who was aged 20 when treatment began, was subject to emotional outbursts in the course of the treatment, but there was eventually an improvement in behaviour and certain homosexual fantasies gave place to normal sexual inclination. After discharge from hospital, treatment was continued for eighteen months, and when last heard of two years ago the patient was well. In such cases, if time was available, if colleagues were co-operative, and if psycho-analytical methods were persistently used, great improvement could be achieved and much good material from the point of view of psychological research would become apparent.

Advantages of Institutional Treatment

Dr. W. H. SHEPLEY agreed that there were certain disadvantages in treating patients analytically in an institution, particularly where the patients were in contact with other doctors, but the advantages far outweighed them. One advantage was that doctor and patient lived in the same community and were familiar with the same events—events which formed an important element in the patient's dreams. There were certain patients who could be treated only by physical methods, such as insulin or shock therapy, and only by resort to physical methods did the patient become accessible to psycho-analysis. He held that the remissions obtained by physical methods of treatment were not satisfactory; in his experience relapse invariably occurred if reliance was placed upon such methods alone, but when the patients had been made accessible to psycho-analysis and treated over a long period—a year or more—subsequent relapse might be avoided. Many of the patients themselves were acutely aware that physical methods alone meant ultimate relapse. It was an advantage in securing the patient's co-operation if he knew that psycho-analytical methods were undertaken to support the favourable results of the physical therapy.

Dr. IRENE YATES said that there were difficulties in treating patients in the wards, but with patience and strict honesty in approach they could be overcome. The psycho-analyst must be prepared to explain to the patient why he was doing certain things. Respect should be paid also to the patient's own "tempo" both in hospital management and in psychological treatment. The patient himself would often tell one what to do and what not to do. "I feel as if I had been run over

by a train," said one woman, "and cut to pieces. Leave me alone in bed and I shall come together." Matters should be allowed to unfold slowly, the psychotic patient being allowed to talk his own language, and the analyst talking that language too.

Dr. C. R. BIRNIE said that in the treatment of psychotic patients by psycho-analysis a more active type of therapy was necessary than was usually countenanced by the Freudian school. A point to be borne in mind was that in the attempted psycho-analytical treatment of patients in mental hospitals the situation was liable to become complicated because in the fantasy of the patient the nurse might become the "mother" or "sister" as the case might be. It was very desirable, therefore, to have mental hospital nurses who could appreciate the psycho-analytical view.

Dr. E. H. ROSENBERG said that the use of the psycho-analytical method of investigation would throw light on a number of problems. It was important in psychotic illness to make some estimate of how far the morbid process was capable of arrest. She regretted that the discussion had not emphasized more the administrative difficulty which arose in treating hospital in-patients.

Dr. E. BIERER said that in modern mental hospitals psycho-analytical principles had been understood for many years, and he thought the openers had been preaching to the converted. Dr. Stengel had criticized the "short" method, but how was it possible to apply in practice in a mental hospital the full unabridged Freudian analysis?

Change of Attitude

Sir DAVID HENDERSON, the President, said that while the attitude of psychiatry might have changed, that of psycho-analysis had changed also. Psycho-analysts had developed a philosophy which was of extreme importance, but viewed as a therapeutic procedure he had no hesitation in saying that there was still wanting a technique which would give results in mental hospitals. Psycho-analysis as a therapeutic measure in mental hospitals had not justified itself to the extent that had been hoped. He was not gainsaying the contribution which Freud and others, including in this country Ernest Jones and Edward Glover, had made to the knowledge and understanding of the personal equation, but he still believed that from the point of view of therapy, taking it all through, it was a most disappointing procedure. Dr. Stengel was trying to get the best of both worlds, suggesting that physical and psycho-analytical methods needed all to be balanced up together. The plea for such integration was certainly significant of a change of attitude.

Dr. RICKMAN, in reply, said that if short methods were employed in mental hospitals they should be carried out only by those who were trained and kept refreshed in full psycho-analysis. Dr. STENGEL thought that those who practised the short treatment should call themselves psychotherapists; there was nothing wrong in the name. Dr. CLIFFORD SCOTT also urged that only those who had had experience of psycho-analysis extending over a long period should be permitted to use the abridged treatment.

AETIOLOGY OF INFLUENZA AND THE COMMON COLD

A meeting of the Medical Society of London on March 8 was devoted to a discussion of the aetiology of influenza and the common cold. Mr. W. E. TANNER, the president, was in the chair.

Dr. CHRISTOPHER H. ANDREWES, F.R.S., said that such a discussion must take note of a number of upper respiratory diseases among which influenza and the common cold stood out more or less clearly. The others included the affection unfortunately named atypical pneumonia and febrile catarrh, which the Americans had recently been referring to as undifferentiated acute respiratory disease, or "A.R.D." This was an infection usually febrile, more severe than the common cold, and probably having as one of its manifestations an exudative pharyngitis and tonsillitis with which streptococci were not associated; its incubation period was apparently five to seven days.

Epidemic influenza might be caused by one or other of two serologically unrelated viruses known as A and B. There was good reason for thinking that they covered most of the epidemics, though in some epidemics it might be difficult to demonstrate the presence of either of them. He exhibited a chart prepared by Dr. S. D. Collins, of the U.S. Public Health Service, showing the distribution of outbreaks of influenza from 1920 to 1943. The distribution appeared to be entirely irregular until it was recognized that there were two viruses concerned. Immunity to virus B lasted rather longer than immunity to virus A. Outbreaks of influenza in which virus A was concerned might be said to occur in a two or three years' cycle, whereas those in which the aetiological agent was virus B occurred in a cycle of four to six years, but it was not yet known why epidemics arose when they did. The irregularities in epidemics might be explained by variation in the antigenic structure of the virus, and when a little more was known about its structure it might be possible to predict epidemics with more certainty.

Certain evidence suggested that a new strain of influenza might travel about from country to country. A recent paper by M. D. Eaton (*California Medicine*, 1947, 67, 234) in which the seasonal incidence and geographical location of outbreaks were discussed made it difficult to avoid the conclusion that A and B viruses travelled about the world. The World Health Organization had established an influenza centre which would receive strains from laboratories in all countries, compare them antigenically, and try to build up a picture of influenza as a world-wide phenomenon. It was possible that the pandemic of 1918-19 was not peculiar in its rapid spread all over the world; in other years epidemics might spread with equal rapidity, though with less virulence. Immunization against influenza looked promising two years ago with good results reported from the United States, but last year there was complete failure both in the United States and in this country. This failure was probably due to the appearance of a variant of influenza A, antigenically remote from the strains used to make the vaccine.

Common Cold

Much less was known about the aetiological agent of the common cold. It was possible to transmit colds to human volunteers with filtrates from the nasal washings of cold sufferers. Dr. Andrewes spoke of the results of such transmission to volunteers at the Common Cold Research Unit at Harvard Hospital, Salisbury. Filtrates produced in about half the subjects symptoms of varying degrees of severity, from the really "heavy" cold to something which could hardly be called a cold at all; 50% of the subjects were immune. It was believed that they had succeeded in transmitting colds in series from one person to another, and therefore some confidence was felt that the agent was a virus. He had an open mind on the question whether certain colds might be due not to a filtrable agent but to bacteria—whether there might not be the "pneumococcal colds" of which their bacteriological colleagues spoke.

The incubation period in the production of a cold was, as a rule, two or three days, though this was in curious contrast to some reports from America, where quite a number of different groups had recorded incubation periods of less than twenty-four hours. It seemed fairly certain that the mere bringing together of the virus and the susceptible person was not enough to produce a cold. It was not known what the other factors were nor how important they might be. Was it possible that a great many people carried the aetiological agent of a cold in their noses until something happened to upset the balance between host and parasite and a cold followed? He had no doubt that specific immunity did play a part, but he also had the feeling that non-specific factors might dominate the situation in this country. Efforts to grow the virus in eggs and to infect experimental animals were continuing, but the whole picture remained for the present highly confused.

Epidemiological Characteristics

Prof. C. H. STUART-HARRIS said that of the group of respiratory tract disorders only two were sufficiently defined—namely, the common cold and influenza. The common cold could be described as a relatively trivial ailment, usually afebrile, but

certainly one of the most troublesome that afflicted mankind. Many conditions had been grouped under "influenza." At least four different entities, partial entities, or syndromes were recognized—influenza, the common cold, febrile catarrh, and atypical pneumonia. Since the viruses of influenza were most accessible to study, more was known about them. Influenzas A and B, though clinically indistinguishable, corresponded reasonably closely with what was reported of past epidemics. There was no reason to think that the two were dependent on each other or connected in the immunological sense. During the last fifteen years there had been three fair-sized epidemics of influenza A, and in between there had been certain "rumblings" and occasionally rather sharp waves due to influenza A or sometimes to influenza B, and now and then influenza B predominated. The cycle of two or three years had been fairly well obeyed by influenza A; the cycle of four to six years for influenza B had been obeyed in the States, but less certainly in this country. The clinical picture was relatively uniform, the emphasis always being on symptoms of a general febrile character—headache, shivering, malaise, and anorexia. Among respiratory symptoms cough was most frequent; the coryza was not to be confused with that attending the streaming cold. In any outbreak, and particularly in the years of localized outbreaks, a proportion of cases did not yield serological evidence of either virus. It was characteristic of most outbreaks of influenza that the cases remained uncomplicated.

Febrile Catarrh

Localized outbreaks of febrile catarrh, Prof. Stuart-Harris continued, had been recorded frequently in the past, and cultures had been shown not to yield influenza virus. No one had yet succeeded in recovering the aetiological agent in this disease, but there were certain broad facts about febrile catarrh which were interesting and justified the view that it was a distinct entity or group of entities. In an Army camp it was found specially to attack the new recruits; the incidence among the seasoned troops was much lower. On the other hand, the seasoned troops were attacked by influenza. Most cases of influenza came on quite suddenly, whereas febrile catarrh had much less commonly an acute onset, usually starting with a little cough or cold, the fever coming on a day or two later. Sore throat, hoarse voice, and substernal chest pain were common. But the clinical picture of febrile catarrh was not uniform and some cases resembled streptococcal tonsillitis. As for atypical pneumonia, this was relatively rare in Great Britain, and there were only sporadic cases among British troops during the war at a time when the Americans were experiencing considerable outbreaks.

Secondary Invaders

Dr. FREDDY HIMMELWEIT said that a number of pathogenic organisms, and especially pneumococci, had been looked upon, ever since the discovery of the influenza virus, as secondary invaders, responsible only for complications which might vary from individual to individual and from epidemic to epidemic. In his view, however, these secondary invaders might not only aggravate the primary infection but play an essential part in causation. He believed that they facilitated infection by the virus by destroying the inhibiting action of the mucin of the upper respiratory tract.

The discussion, in which Sir JAMES WALTON, Dr. WILFRID OAKLEY, Dr. GEORGE GRAHAM, and Dr. CARLYLE LYON took part, resolved itself largely into a recital of personal experiences in combating colds. Sir James Walton said that he had found *Strep. viridans* vaccine highly protective. Mr. V. E. NEGUS mentioned nasal defence. The reason why some people never had colds was because of the efficiency of their ciliated epithelium. The cilia were very resistant, but could not work without a covering of mucus.

Dr. J. B. W. ROWE suggested that in the case of the people of Spitsbergen, who were said to get infection only when the ships visited the island in the summer and to be free from colds during their isolated state in the winter, the reason for the manifestation might be the change of diet which followed the arrival of the ships with food. Some allergic factor might play a part in the aetiology of the cold. Dr. W. H. BRADLEY remarked that the winter of 1947-8 had been phenomenal in

the fact that deaths from influenza had been the lowest on record and deaths from pneumonia much lower than usual. On the suggestion just made, was it possible that this had anything to do with the food we had not eaten? Mr. JOHN BUNYAN said that a large number of people suffered from gingivitis, which might afford a foothold for the invasion of the virus.

Dr. ANDREWES, replying to the discussion, said that Dr. Himmelweit's theory needed a good deal of further consideration before it could be accepted. He did not think at this stage they could justifiably reverse their opinion on the relative parts played by the virus and bacteria in causing these infections. The one thing that was clear about vaccines was that many people placed implicit faith in them. In the United States a mixed catarrhal vaccine was given to a number of students and records were made of the incidence of colds among them during the following year. Of those who received the vaccine 55% reported benefit. But a corresponding number had received not the vaccine but a saline injection, and an even larger proportion of these students reported benefit, and some of them wrote to the doctors concerned asking whether they could be told, in confidence, the formula of the preparation which had proved so effective.

CONTROL OF POST-PARTUM HAEMORRHAGE

A meeting of the North of England Obstetrical and Gynaecological Society was held in Manchester on Feb. 6 with the president, Mr. J. E. STACEY, in the chair.

Mr. K. V. BAILEY (Manchester) showed a film illustrating a safe manoeuvre for stimulating the uterus to retract in cases of third stage and post-partum haemorrhage, and also an additional method of infant resuscitation. After mentioning the dangers and disadvantages of the usual methods of controlling the uterus, of fundal massage, and of expression of the placenta, Mr. Bailey demonstrated a method of stimulating the uterus by gentle stretching of the lower segment which was achieved by stroking the uterus upwards with the ulnar border of the hand. In some cases when the infant required resuscitation he advocated laying it face downwards on the palm of the left hand with its head hanging down to drain the air passages. Artificial respiration was achieved by throwing the whole child upwards for about three-quarters of an inch, inspiration being encouraged during its "flight" and expiration when it settled back on the hand. Both procedures were discussed by several members of the society, and there was general agreement that stretching of the lower segment by various methods was of value in the control of post-partum haemorrhage.

Dr. S. BENDER (Liverpool) discussed a case which presented as tuberculosis of the cervix and which macroscopically resembled carcinoma of the cervix. Dr. A. A. GEMMELL (Liverpool) described a case of fibroid in the cervical stump after subtotal hysterectomy. Six other published reports of this condition were discussed, and Dr. Gemmell suggested that incomplete removal of ovarian tissue at the time of hysterectomy might favour the subsequent development of fibroids in the cervix, and that the rapid growth which appears to be a feature of these fibroids might be due to early degenerative changes consequent upon a poor blood supply. Finally Prof. D. DOUGAL (Manchester) gave an account of an interesting case of carcinoma of the body of the uterus and fibroids treated with radium and subsequently by hysterectomy.

The sixth and final dinner meeting of the 1948 session of the Chelsea Clinical Society was held on March 9 at the South Kensington Hotel, with the president, Dr. Neil MacLay, in the chair. There were nearly a hundred members and visitors present to hear a discussion on "Medical Experiments in Nazi Camps" opened by Major A. Keith Mant, R.A.M.C., whose work with the British War Crimes Commission made his contribution particularly valuable. An interesting discussion ensued in which Dr. Pitts, Mr. Gwynne Evans, Dr. Stuart Webb, and Dr. Eckenstein joined, and finally Major Mant replied. The annual dinner of the society will be held on May 11.

Correspondence

Bad for the Public

SIR.—None can tell for certain what made so very many in the profession say "No" in the plebiscite, but I am quite unable to believe that it was no more than zealous support for the Association's four points or even their immediate implications. There must be many besides me whose hopes, raised a little by that impressive demonstration of unity, will fall below zero unless the declared basis of our objection is broadened and deepened.

I believe the majority was so great partly because a free profession, with a great record of service in peace and war and almost a monopoly in knowledge and understanding of medicine, has been treated as so much technical labour, and partly because it sincerely believes the Act to be in many fundamental respects a disastrous blunder. Mr. Bevan rightly observes that our quarrel is not at bottom with him: it is with the plan, and it goes back to the start. No Royal Commission, invited to examine the country's medical services and to plan their extension and ultimate perfection, could ever have recommended anything like this Act. It has never been a single-minded endeavour to give the people first-class medical care—let alone health. It has been from the outset largely concerned to implement "Assumption B" on an appointed day and to equalize medical attention regardless of quality. Its motives and ideals are not medical or hygienic but political.

The result is a plan which bids fair to reserve the practice of real medicine and surgery to the hospitals, while outside the practitioner plays his part in the ordering, repeating, and dispensing of medicines, the directing to specialists, and above all in that "careful certification" of the Beveridge report.

Mr. Bevan does not blush to suggest that we take on 4,000 or more potential patients—blind, seemingly, to the fact that he who does so must bid farewell to the practice of medicine. No reward is offered for work performed or for excellence of any kind. Good honest private practice is made as difficult as possible. Charlatanism is, to put it mildly, in no way discouraged, and the temptation to see other men's patients behind their backs is greatly increased. Collective bargaining and trade unionism, alien to a free profession, clearly await us. None of the benefits the practitioner might have hoped for—ancillary services at call and better access to hospitals—is to be his, at least for years to come. Even the queerly named "health centre" is indefinitely postponed. Finally, we are to be involved in a fiasco—the opening of a non-existent show for which all have been compelled to buy tickets.

All this is at least as bad for the public as for us. What is bad for medicine and for the doctor cannot be good for a medical service and those it serves, nor can it be supposed to be good for the credit of Parliament or the Government. The profession has expressed disapproval of the Act, and I believe it means what it says. The Act is bad. To have a stand-up fight about it on four points, none of which touches the quality of medical practice or the place and function of the general practitioner in the projected service, seems to show a distaste for facing realities almost equal to that of Parliament itself. The whole future of medicine is at stake. Are we not strong enough and brave enough to demand postponement of the relative parts of the Act and a constructive reconsideration of the medical service on a medical basis?—I am, etc.,

London, N.W.3.

LINDSEY W. BATTEN.

Freedom of Consultants

SIR.—The professional freedom of consultants is vital to the public, for it is to consultants that disputed points of certification and other questions of controversy are ultimately referred. Great play has in the past been made of the desirability of a detached position for the Royal Colleges from which they may descend in order to inaugurate a compromise between the Minister on the one hand and the B.M.A. on the other. This argument is allowable so long as questions of principle are

not involved, but no man with a true respect for the integrity of medicine will compromise upon this vital point of consultant freedom.

The political mind is distinguished from the scientific mind by its blind spot where principles are concerned and its obsession with manipulation and manoeuvre. All actions and statements at the present juncture must be judged by the profession on this issue of principle and on this alone.—I am, etc.,

London, W.1.

GEOFFREY BOURNE.

The Minister's Confusion

SIR.—The statement recently made in Parliament (Feb. 9, by the Minister of Health shows a deplorable ignorance of what precisely is entailed in the sale of goodwill of a medical practice (see *Journal*, Feb. 14, p. 323: "The Government regarded it as inconsistent with a civilized community and a reasonable health service for patients to be bought and sold (my italics). That existed in no other country, and was a blot on our medical system. . . . So far as the Government was concerned there could not be any question that the health service must not contain the buying and selling of public practices").

Apparently the Minister still confuses the buying and selling of a farm (where the cows, pigs, hens, etc., even if dissatisfied with the newcomer, are not free to select another farmer) with the buying and selling of the goodwill of a medical practice (where the patients, if dissatisfied with the newcomer, are quite free to select another doctor). It must be stressed that no patients are in any way bought or sold. It is merely the goodwill—i.e., the probability (no more) that a proportion, perhaps 66-90% of the patients of the retiring doctor will give the incoming doctor a trial (and then not necessarily remain one of his patients). Private patients remain free, as always, to change their doctor at will. Panel patients are actually informed officially of the change in practice, and they are therefore at liberty to select a new doctor within the next month; and after that time they can of course change in accordance with N.H.I. regulations.

The Minister's statement was made, presumably after due forethought, in opening a Parliamentary debate. It was not subsequently retracted or modified. It was made by the Minister, who has held office—the same office—for two and half years, and therefore has had ample time to discover the true facts. Indeed it was his bounden duty so to do before initiating the N.H.S. Act. He has failed in this duty.

Owing to his confusing the buying and selling of the goodwill of a medical practice with the buying and selling of patients he has misled himself and Parliament. He has piloted an Act through Parliament based on his misunderstanding of a fundamental principle. In consequence of his error many provisions (which would otherwise have hardly seemed necessary) have been incorporated in the Act, or regulations to be made under it, which are repugnant to a big majority of the medical profession.

If the Minister could clearly grasp this fundamental distinction then his objections to the buying and selling of goodwill might well be overcome, and he could then explain to Parliament that he had misled them and recommend that the amendments so earnestly desired by the profession be reconsidered.

If the right to sell goodwill remains, the severe penal clauses designed to prevent concealed sale of goodwill, ambiguity over partnership agreements, direction (or negative direction), and perhaps even basic salary (for the main admitted object of this is to enable a doctor to subsist while building up a practice)—all these difficulties would be settled. This would leave only the question of appeal to the courts, the equitable implementation of the Spens Report, and freedom to publish to be settled.

Regarding appeal to the courts, I feel that under the Act as it stands injustice to any practitioner is unlikely. Nevertheless it is hard to see why the Minister should object to the findings of the Executive Committee and of his Tribunal being challenged in the High Court. If the proceedings in these investigations have been fairly conducted and a just verdict passed, then surely the High Court will merely confirm the decision; and if the decision is reversed then there must at least be doubt about the practitioner's guilt. The Minister's refusal to allow appeal to the Courts suggests that he is not really so sure of justice being done by the Executive Committee and Tribunal.

I consider freedom to publish letters, articles, or books on all medical matters (including clinical subjects and the organization and administration of the Health Service) without having to seek permission from individuals or authorities should be specifically incorporated in the amending Act of Parliament. Mr. Bevan's reply on Feb. 12 to Col. Stoddard-Scott on this subject appears inadequate, as it is not binding on his subordinates or successors.

Regarding remuneration, though a capitation fee is not intolerable I personally would prefer payment per item of service—thus resembling private practice, which is usually preferred by patient and doctor alike. Also it might diminish unnecessary work inflicted on doctors by Government authorities. If the Treasury had to pay, say, 3s. 6d. for a consultation and 1s. for a certificate each time a hyperthyroid patient had to see the doctor for no reason other than a renewal of a milk priority it might soon be found possible to require these at longer than one-monthly intervals. Or a "repeat medicine as required" prescription might after all be acceptable for mag. trisil. co., etc., for a gastric-ulcer patient or insulin for a diabetic. Nor might a doctor's consultation be necessary to confirm addiction to tobacco.

It is generally conceded that in the past private practice has partly subsidized panel and club practice. Now it seems likely our income will be reduced by 10-25%, our expenses increased by 5-10%, and our work increased by 10-25%. This is hardly as recommended by the Spens Committee.—I am, etc.,

Rugby.

R. PRESTON HENDRY.

Leavening the Commonplace Mind

SIR,—It is not clear from the last paragraph of Dr. F. M. R. Walshe's excellent letter (Feb. 28, p. 407) whether he advocates a firm stand against the National Health Act in its present form or against any change in the *status quo*. That the latter is the more probable is suggested by his reference to "a retrograde political ideology" and later "a ruthless and levelling force" which must be resisted. The pleasure engendered by the force and clarity of his exposition of "first things first" is apt to lull us into accepting not only the diagnosis, with which few of us could disagree, but also the treatment prescribed.

Wilfred Trotter said (*Journal*, July 17, 1926): "In biological inquiry an abstract conception, though professedly no more than a convenient summary of experience and constantly subject to the censorship of facts, is apt to acquire a quasi-vitality of its own through which it loses its immediate dependence on experience and comes to dominate instead of serving. The danger arises not so much from the extreme cases of conceptions which easily show as flagrantly inconsistent with facts but from ideas primarily good and sound which have been endowed with a prestige that in their very nature they could not deserve." If we take the liberty of substituting the word "sociological" for "biological" we find these remarks most apt to the present trend of events.

Socialism, though originating from "ideas primarily good" appears to-day to be an abstract conception flagrantly impervious to the censorship of at least some of the facts, one such being the impossibility of "nationalizing conscience." It certainly appears in our own case to promise to dominate the profession rather than serve the community. We are tempted to believe, therefore, in our moral obligation to resist what Dr. Walshe describes as "a ruthless and levelling force" and what I have somewhat euphemistically called a "trend of events."

In filling in my plebiscite form I found myself on the verge of signifying approval, for though as it stands the Act contains many apparent and real injustices, incongruities, and absurdities which automatically make us revolt against it I had to confess that I found in it nothing iniquitous (using the word in its worst interpretation) except the extent of the power with which the Minister is to be endowed. It cannot be said that the present state of medicine from the patients' point of view contains no iniquities. However, the Minister's future power coupled with his recent provocative manner finally overcame my fear that the profession by its disapprobation might amend the Act out of existence.

If socialist ideology is an abstract conception which has acquired "a quasi-vitality of its own through which it has come to dominate instead of serving," the same may be said of our conception of the *status quo ante* which we call free enterprise. I do not deny that free enterprise is in itself an "idea primarily good," but it is a system in which its advocates also ignore the censorship of facts, the most important of which is the monotonous recurrence of

war with its attendant "corpses, cripples, rags, smithereens, and ruin," to use a phrase of Shaw's.

Though evolution is another abstract conception, one of its component experiences is the relentless revolt of the masses, which to-day faces us with concrete reality. I believe this revolt to be primarily directed against social injustice and the power of money. I believe this "levelling down" process, which feature of the revolt must be repudiated by the professional classes, is due, first, to a failure by the masses to distinguish between the hereditary money owner and excessively rewarded shareholder on the one hand and the successful business man or talented professional man on the other; secondly, it is due to a failure by the latter to recognize against whom the revolt is really directed.

It would appear, therefore, that two extremes of action present themselves for our choice. We can be reactionary and strive for an indefinite postponement of this Act or we can, after fighting for the four main amendments, accept the "inevitable" grudgingly and with docility. The former reaction would eventually be crushed by public opinion, the latter would show an inertia which, if followed by other sections of the community, would lead to communism as we now see it. Both lines of action would result in the death of the ethics, integrity, and intellectual freedom of the medical profession, the one murder, the other suicide.

I submit that there is a middle course capable of acquiring a real vitality of its own which would in time endow the medical profession with the prestige it could so richly deserve. In other words the future health service is going to be what we make of it. I suggest we exceed our present demands and insist on an altered executive whereby the profession would be more adequately represented and the supreme authority a council rather than one man. A united and contented profession with security for its own unassailable freedom, guaranteed by law, would be potentially the greatest power for good that this country has seen for a century. The "qualities of rare excellence" will be capable of removing the "imperfections" only through the medium of a comprehensive service. It is up to the profession as a specialized minority to reassert its place as an influential unit in the mass rather than submit to virtual extinction by fighting to the death outside it or by resignation. The commonplace mind is in dire need of good leaven. This must come from within.—I am, etc.,

Liverpool, 17.

ARTHUR S. WIGFIELD.

Adulation

SIR,—The general impression given by the very long letter from Dr. Stephen Taylor (March 6, p. 463) referring to the present Minister of Health repeats the phrase "but for him . . ." no less than three times in a single paragraph, which ends with the pompous phrase, "in battle, he will neither give nor ask for quarter."

Dr. Taylor's sincere but fulsome adulation of Mr. Bevan as a hero almost implies that this Minister can do no wrong and that it is really rather wicked even to criticize him and at a mild misdemeanour to hold a different opinion from his own. This quasi-religious tone applied to a Minister who, after all, is merely a man and a politician is as absurd as it is irritating and displays the sort of attitude which, carried to an extreme, might lead to the suggestion that a portrait of Mr. Bevan be placed upon the wall of every doctor's surgery. If we are to indulge in idolatrous adulation let us think of men and women who have been of some real service to the science and art of medicine.—I am, etc.,

London, W.4.

JOHN C. C. LANGFORD.

Why Compulsion?

SIR,—“If you declare war, you will lose.” Dr. Stephen Taylor (March 6, p. 463) is, on his own admission, a Labour M.P. “who happens also to be a doctor” [*sic*] and his prediction can be relegated to the category of propaganda of the “inevitable, bound-to-come” type to which Labour-Socialists are so addicted (cp. Dr. Stark Murray: “We are unquestionably going to have a Service which is free at the time of use”). It is sufficient to point out that the Australian medical profession in similar circumstances has successfully rejected a comparable Act.

His instance of the General Strike of 1926 is singularly unfortunate from the point of view of his argument. That event was an attempt by direct action to subvert the British Constitution and overthrow Magna Carta in favour of a dictatorship of the proletariat. It failed through the common sense of the

people. The National Health Service is a more subtle attempt to achieve the same end by fifth-columnry masquerading under the guise of constitutional methods; and please God it will fail also. If that is an incorrect reading of the situation, why the need for compulsion? Why is the patient denied the right to contract out of the Service? We are asked to believe at one and the same time (1) that this Act represents the will of the people, and (2) that the people must be coerced into it by the methods of totalitarian compulsion we have seen in action in Nazi Germany. We are told that the Service would not pay financially unless everyone contributed; that is to say, it cannot stand on its own feet by its own merits but has to be bolstered up by force. A "great Health Service" indeed! It stands utterly condemned out of the mouths of its own protagonists.—I am, etc.,

St. Germans, Cornwall.

W. H. SPOOR.

Change the Appointed Day

SIR.—Dr. C. H. Barber (March 6, p. 472) may find it alarming that so many of his confrères are dispassionately analysing the main points of difference between the Negotiating Committee and the Minister and finding themselves lacking that zeal for self-immolation which apparently animates him and the majority, but it is a factor with which he and they must reckon. Truly the points of difference are not the expression of sacred principles at all, but only the expressions of a desire, which is widespread in the profession, to avoid a full-time salaried service. This could equally well be achieved by adopting some ace-saving formula such as that suggested by Dr. Joan Wagstaff Feb. 21, p. 358)—namely, that the basic salary be designated an "expenses allowance" and that amending legislation be introduced to limit the Minister's power to vary this above the ceiling limit of such reasonably agreed minimum expenses as every doctor must incur. Dr. A. C. Mowle well says (March 6, p. 468) that this is the only point on principle which the Government can concede, and it will save the face equally of the Minister and the B.M.A.

I am not at all clear whether the wording of the resolution to be put forward to the Representative Body by the Council Supplement, Feb. 28, p. 29) is intended as an ultimatum to the Government, or whether it is intended as an olive branch to procure reopening of negotiations. If the latter, as I hope, say I suggest that it would be more helpful and more in accord with the hope of a settlement if the final clause were deleted and the Government simply invited to make it possible for the profession to co-operate in the new Health Service by making certain changes by the appointed day? I have no desire to reach, but neither have I any intention of allowing my pig-headedness to start me charging down a slope into the sea.—I am, etc.,

South Molton, Devon.

R. A. NASH.

Monotonous Repetition

SIR.—Thanks to Mr. Colm Brogan's article (Jan. 31, p. 209) even the merest tyro in politics can see his predictions being fulfilled in the arguments of favoured Labour M.P.s. Dr. Stephen Taylor's letter (March 6, p. 463) may seem mild in tone, but the litterite method is there for all to see. The main point is to keep telling your adversary with monotonous reiteration that he is bound to fail, and that resistance is therefore useless. By this tactic the enemy hopes to secure victory without a battle. I quote the relevant tactical repetitions from Dr. Stephen Taylor's letter. (1) "Any attempt to frustrate the law by extra-parliamentary means is bound to end in failure." (2) "In battle, he [Mr. Bevan] will neither give nor ask for quarter" (this to frighten the enemy). (3) "If the B.M.A. decides to continue the fight, the public will be gravely injured [sic] . . . and the ultimate defeat of the B.M.A. is certain." (4) He assumes that the public are entirely with the Socialist Party, and say that "for the public, defeat of the B.M.A. is certainly preferable to capitulation of Government and Parliament to the B.M.A." (5) "If you declare war, you will lose."

It seems that no Government has ever been holier than the present Government. No one was holier than Hitler. No German wanted to see Hitler defeated. No one in Britain wanted to see the present Government defeated! It is worth reminding Dr. Stephen Taylor and Mr. Bevan that in Australia

the doctors defeated the Socialist Government by refusing their services to the Government. The public did not suffer gravely. The doctor's prime duty is to serve his patients, and we can serve them and utterly ignore the efforts of the State to enter within the doctor-patient relationship.

In the General Strike of 1926 the workers who struck received no pay, because they were entirely dependent on payment from employers or the State, when strike-pay ran out. This was the lesson that the arrogant T.U.C. and the Labour Party learnt. The strike fizzled out in 11 days. Cardinal Bourne spoke against the immorality of the strike, which imposed considerable hardship on practically all the people in the country merely because the T.U.C. wished to gain their points.

We have the moral right to stay out of this Socialist State Service, and to keep the State from interfering in the doctor-patient relationship, by possessing our souls, our consulting rooms, and our practices. We shall still serve our patients, even if we have to treat them all as private patients. If we hold firm the State will have to climb down.—I am, etc.,

Slough.

N. C. HYPER.

Freedom of G.P.s

SIR.—It is rumoured that the Negotiating Committee will have to capitulate on the right to buy and sell the goodwill of medical practices because they will not receive the support of the Opposition in the House of Commons. If this rumour is correct, and if this attitude is going to be adopted by the profession at large, let me say most emphatically that it is a wrong attitude. We must realize now, and more especially with the result of the recent plebiscite in front of us, that we must press for an amendment of the Act as a united profession, and not rely on the support of any political party—we must be prepared to oppose the Opposition if necessary.

The whole of our freedom as general practitioners is at stake, and do not let us forget, especially those of us who are practising in congenial areas, that the freedom of the junior and future general practitioner is also at stake. The right to buy and sell the goodwill of our practices is the keystone on which our professional liberty is built. Surrender this and we have direction—negative direction, they say, but still direction. So long as we retain this right we can go where we like, practise where we like and are liked, and we can choose our successor to take over a practice which we have built up by our own efforts and which is very dear to us.

Take the case of a doctor who has worked hard for ten to fifteen years in a busy industrial area and then wishes to take a smaller and more congenial practice in another district. What chance will he have? In theory, as much chance as anyone else, but in actual practice not an earthly chance. And then there is the case of the doctor who will want to move to a better type of practice. How is this going to be attained? Suppose the owner of the practice dies—are we going to have compulsory billeting of the newcomer on the widow until he can find a house, to practise from? To pursue the matter further, if the sale of goodwill is abolished it will ultimately lead to the direction of the patient to other doctors who are less successful, because in any practice—be it private or State—there will always be goodwill, for each doctor will always attract a certain type of patient and repel another. If one wants to take a suitable partner or assistant, must this also be decided by the Medical Practices Committee?

The Negotiating Committee and the medical profession must not agree to the abolition of the buying and sale of goodwill, for if they do our freedom as general practitioners will go and we will become members of a full-time State medical service, be it Labour or Conservative in origin, and payment by basic salary or capitation fee and the right to appeal to the courts will mean nothing. We will be State servants and our future movements will be controlled by the State.

During the next few months we have a heavy responsibility, but we must shoulder it ourselves and realize that in so doing, in addition to preserving our own liberty, we are fighting for the freedom of our patients. Do let us remain united and not be side-tracked by fears which are without foundation. Tell the public what we stand for and we will have their support. All the individual patient is interested in meantime is—"Am I going to be allowed to retain my own doctor?"—I am, etc.,

Aberdeen.

DUNCAN McLELLAN.

A Fantasy in One Act

SIR,—May I call attention to the problem of the well-established G.P. of twenty or thirty years' standing, with a panel—usually built up, not bought—of under a thousand? Not on principle, not for politics, but from purely practical considerations many of these doctors must refuse service under the Act.

If the Service does not mean more attention for more people, it is not needed at all. If it does, the busy doctor and his harassed wife and household, already pestered from 8.30 a.m. to 11.30 p.m. with 'phone, bell, and messages, apart from night emergencies, already bolting meals almost invariably interrupted, already struggling with inadequate assistance to keep the house warm and clean—if it does, I say, the hunted leisureless doctor and his unpaid self-sacrificing wife must say "No" before coronary thrombosis says it for them. An eighty-hour working week and twenty-four-hour seven-day duty do not call for more sacrifice on the part of the doctors and their families but for some amelioration of their conditions of work. If the scheme is started before clinics are available to halve the doctors' clinical and administrative work it will prove a fantasy in one act, and, far from giving more doctors to the people, must deprive them of the services of some doctors who have so far been found sufficiently satisfactory to make them intolerably overworked.—I am, etc.,

London, N.E.

JOHN RUBRA.

State Control

SIR,—Now that the medical profession have shown by an overwhelming majority by the plebiscite that they reject the proposed service it is to be hoped that a repetition of 1912 will not occur and that some doctors will not, as the Cabinet puts it, "break away" and become blacklegs to the cause.

In the present panel system prescribing is done by a armulary, and, should a doctor order a proprietary preparation which to his own satisfaction and with his experience he has found to give better results than mist. A.B. or pil. X set out in the National Health *Formulary*, he will be a lucky man if the hand of authority does not descend on his head and an admonition given telling him he must not write his own prescription when mist. A.B. or pil. X is in the *Formulary* and would do. His independence to practise where he so wishes is taken away and he would merely become a slave to the supply and demand of a specified area. Has such a state of affairs ever been known in the history of medicine? Again, even if there was a right of appeal, to whom could the doctor appeal? The courts of law could only deal with appeals on a point of law—viz., interpretation of the Act—and should a special tribunal be appointed the odds are on the members of the same striving to uphold the Minister's decision.

Again, the doctors are offered "compensation." Was not the whole country promised payments of our post-war credits when hostilities ceased? Have we received them? If the present economic crisis—as it is doing—gets deeper and deeper into the morass, we will no doubt say "goodbye" to the payment of these credits. What guarantee can we possibly have of receiving compensation for our practices, etc.?

Mr. Bevan believes doctors will be discouraged by means of the basic fee from taking too many patients. Take a look at the present panel lists. A doctor is allowed 2,500 panel patients and another 1,500 if he has an assistant. In purely or mostly panel practices where the doctor has a full panel the number of patients the same doctor will have under the Health Scheme is at least 7,500 (allowing one wife and one child on the average for each insured patient). Even if the remuneration is alluring with such a number, can any doctor honestly say that he can give a first-class service to 7,500 souls, or be expected to do so? Such is impossible.

Let Mr. Bevan start his Service on July 5 with his 4,100 doctors, but let all those doctors who have now voted against the scheme stand fast by their guns, because no one, nothing, can survive that battery of power which the doctors have at their disposal. After July 5 let the doctors carry on on the present basis. Let them say openly to the patient, "I am not in the Service; I will treat you; you pay me and send the account to the State if you wish."

Those who insist on State attention will go to one of the 4,100, but it will not be many days before they return to their original practitioner. But if the doctors *en masse* should ever

once give any form of free treatment once the scheme comes into being, then the purpose for which we have voted and all the efforts of the B.M.A. on behalf of the profession will truly be wasted.—I am, etc.,

London, E.C.4.

C. ST. J. DE VERE SHORTT,
Barrister-at-Law.

The Plebiscite Results

SIR,—Let no one be deceived by Mr. Aleck Bourne's plea (March 6, p. 464) to overlook the results of the plebiscite. I for one would be disappointed to feel that the value of my vote and the long considerations which preceded it had been rendered void as a result of his letter. He can hardly be so optimistic as to expect his attempt to be anything but in vain. His appeal to minimize the value of its results is to be regarded as anything but a compliment to 56,000 practitioners who have given much time, thought, and worry to the whole problem. Mr. Bourne might with equal hope attempt to throw doubt on the reliability of the maternal and infant mortality rate, but in these instances he would be on surer and firmer ground by reason of his special qualification and experience. 'No! Mr. Bourne's insinuations will assuredly fall off us as water off a duck's back, and his observations can perhaps best be described in the words of Benjamin Disraeli as "a chaotic mass of heterogeneous inconsistencies."—I am, etc.,

Windsor.

PHILIP H. WILLCON.

G.M.C. to Mediate

SIR,—It is with extreme reluctance that I venture to add to the voluminous correspondence in the *Journal*, but in view of the deadlock now existing between the profession and the Government perhaps there is something in the following suggestion of an elderly practitioner (78) still in general and panel practice. It is that some use be made of the General Medical Council to bring the disputants together. We know that this body is very jealous of the standard of conduct required of all qualified medical practitioners, so why not enlarge its functions and powers to advise the Government in the present crisis as to what course should be adopted to insure the whole-hearted co-operation of the profession to make the National Medical Service a success? If there is anything in this idea of mine I must leave it to others better qualified to consider it. It would at least remove the issue out of the political arena—a very real stumbling-block.—I am, etc.,

Wymondham, Norfolk.

ALEX. P. AGNEW.

Active Resistance

SIR,—On April 1 or thereabouts we shall be receiving intimation that N.H.I. will cease and that N.H.S. will take its place on July 5. About this time or shortly afterwards we shall be invited to join the new Service and presumably to accept patients who will be treated under it when it starts. Yet as late as March 17 all the B.M.A. will have done is to offer to the Representative Body a resolution once again asking the Minister very politely whether he will not oblige the profession by reconsidering his attitude.

It has been made more than abundantly clear to most of us that the Minister will not be surprised at this and is ready for it, that he has every intention of starting his Health Service if necessary with only a "skeleton" staff, that he intends to rely on the attraction of an immediate substantial income (for it will be substantial, with so few joining) to draw in any beginners or waverers, and that he has every hope of doubling his numbers in six months and of causing a landslide within a year. I am, for one, heartily disgusted at the lack of vision in submitting a resolution of this kind so late in the day to a person who far from understanding the genuine desire to establish a good health service which lies behind it will only regard it as a sign of weakness on the part of the "old gentlemen of the B.M.A." Surely none can expect any useful purpose will be served by putting it to one whose ideas of powerful negotiation are based on strikes, lock-outs, picketing, and so forth. If all the B.M.A. propose to do at this late hour with its overwhelming majority mandate is to pursue this form of passive resistance culminating no doubt in a last-minute advice to the profession not to join the Service then we are fighting a losing battle in which we do not stand a chance. I for one, opposed as I am to the Act, do not propose to throw away the capital value of my practice in the pursuit of such a policy of futile passive resistance.

The sort of resolution I had hoped to see, not on March 17 but at least two weeks earlier, was one regretting the unaltered decision of the Minister to force his measures on the profession in spite of its clearly expressed opinion against them and stating that the B.M.A. would have now no option but to recommend immediate and forceful measures to prevent him doing so. Far from recommending that members who have accepted appointments for various committees should continue with them at present, a date in the very near future (such as a week's time) should have been set for their resignation. A token certificate strike of one week should have been prepared, with a permanent certificate strike to follow if this did not produce results. Prompt resignation from the panel on a named date (irrespective of the three months' notice necessary) should also have been provided for without waiting for intimation on April 1. Breach of contract? Of course it is! Illegal? Quite possibly. But so also are various unofficial strikes which lead the Government to appoint committees to negotiate and arbitrate. Not satisfied with this an invitation to be present at, say, Piccadilly Circus at 2.30 p.m. on some suitable weekday could be issued to the profession, and if any of us felt such a gathering beneath our dignity they might be reassured by the fact that several thousand medical students from the whole of the University of London, to say nothing of a few interested bystanders, would not.

This is the sort of argument that Labour leaders understand, and methods calculated to be effective in a dispute between, say, two faculties of a university can hardly be expected to make any impression on them. If the B.M.A. really means business it will certainly not be afraid to publish this letter. If, as Mr. Bevan thinks, it is going to give in but is only stalling, then I propose to sign on the dotted line, and I want to see action now if I am to refrain from doing so.—I am, etc.,

London, W.9.

A. LEWIS.

Confidence Between Practitioners

SIR.—The struggle for freedom in which we are engaged is a serious one, and all our resources will be necessary for success. The issue will depend on the morale of the individual doctor and on his confidence that other doctors will not accept his patients on their lists. This confidence can easily be achieved if local groups get from those general practitioners who are unwilling to undertake not to enter the Service an assurance that they will not accept other doctors' patients on their lists while the fight is on. This assurance will be given by many who will not undertake to keep out of the Service. If this action is taken by local groups all over the country our victory is inevitable.—I am, etc.,

Brookley, S.E.4.

WM. A. MACILRATH.

Enter and Improve

SIR.—The Council of the B.M.A., which should be able to speak with authority, believes that it is the whole-hearted desire of the medical profession to have a comprehensive health service available to everyone. The Acts of 1946 and 1947 are supported by all parties in Parliament, although details of these compromise measures are criticized. Our profession also must claim its right to criticize the National Health Service in its conception and operation, and to press for any alterations which it may consider desirable in the interest of the public and the profession. The present strong position of the profession results from its unity. The B.M.A. represents almost the entire profession.

We will weaken our position if we try to prevent the operation of the Acts by advising doctors not to join the Service. Such advice would not be accepted by the whole profession and would destroy our unity, which it is essential to maintain, and would appear to public opinion as an attempt to nullify the decisions of Parliament and so lose us support in our efforts to amend and improve the working of the Service.—I am, etc.,

Orpington, Kent.

L. M. FRANKLIN.

Contracting Out of Service

SIR.—It is high time we congratulated the dentists on the stand they are making against the principle of "working down to a price instead of up to a standard," as motor-car makers say. As to ourselves, the Government is trying very hard to make us general practitioners undertake a great addition to the amount of work we do under the contract system. But there is implicit in all work done on this basis a principle disadvantageous to

the sick man. The limitation and uniformity of reward tends to limitation of effort on the doctor's part and the elimination of rivalry and every other stimulus to the attainment of an increasing professional efficiency. Lost is "the spur that the clear spirit doth raise"—and more so still for the consultants. Under contract the advantage we derive is from the work we do not do. Our actual work is the burden. By convention we seldom refer to this aspect, and have schooled ourselves not even to think of it. It must have occurred to many that the possession of extra skill may turn out to be a definite drawback to its owner, carrying as it does an added responsibility. His rival who sends the case to hospital will get just the same monetary reward.

I suggest, therefore, that it is high time we made another effort on behalf of that section of the community which has in the past had our services privately. Many of these will wish to do so still, it is fair to assume, and the attempt to coerce them will give rise to a great wave of resentment as soon as they realize the implications of it. These people should be allowed to contract out of that part of the new Service which applies to the function of the G.P.s. The Government will have kept faith when it has provided the Service. That is all it "promised" to do. Compulsion is not only unreasonable but unfair. If applied at all, it should be only to those who are obviously unable to pay privately. Surely the depths of abysmal absurdity are reached when medical men are taxed in order to provide funds from which they are to be paid for doctoring not only each other but their own individual selves! We should add this contracting-out business to the list of principles on which we absolutely refuse to yield. We are under no obligation to give way on any of them. There should be no compromise. Every one of them is essential. No one will argue that it is proper to compromise on any of the time-honoured Ten Commandments, forming as they do the basis of all decent civilization.

Finally, we should not enter into any agreement with the Government until matters have been settled with the consultants. They may need our help. There is no real hurry. Another Government will carry on if this does not, and so will the healing art.—I am, etc.,

Doncaster.

W. REGINALD WILSON.

Stop Fighting

SIR.—In your issue of March 6 you publish two letters, one from Dr. Stephen Taylor (p. 463) and one from Mr. Aleck Bourne (p. 464). I wish particularly to refer to Dr. Taylor's letter. I must say that in my opinion it is a good sound letter, well expressed, and with fair, reasonable sentiments. Naturally he favours and supports Mr. Bevan, and states clearly that in his opinion Mr. Bevan really favoured the profession when the final stages of the Act were under consideration in the House of Commons. He says that but for Mr. Bevan many points which we as a profession object to would still have been embodied in the Act. I am afraid that members of the profession have looked at the Act more from a political point of view than from what is really good in a medical service.

We as a profession have stated that we favour a comprehensive medical service provided we could agree with one that suits the profession as well as the public. In my opinion we should consider what is favourable and reasonable, and acceptable to the public, and not entirely what suits ourselves. Personally I think that the good points in the Act outweigh the "prickly points" which we allow to prick us. We ought to endeavour to come to an agreeable settlement, which ought to and will benefit the doctors and also those who are placed in our care. Surely the little points which we object to can be rectified. The higher qualities of man—namely, his intellect and his reason—should have predominant consideration rather than his lower ones, such as "fight" and "force." I believe that if we abandon these terms, so freely used in all our controversies, we shall succeed; for as Dr. Taylor states, referring to Mr. Bevan, "In any reasonable attempt to find a solution and make a success of the Health Service, he will play fair; in battle, he will neither give nor ask for quarter." Let us therefore act upon our intellect and reason and abandon the spirit of fight and power, otherwise in the long run I am afraid we stand to lose.

I sincerely hope that a solution on these lines will be arrived at, and that a good medical service can be formulated and carried out in practice. The profession have asked for it for the past thirty years, and the public are clamouring for it, and naturally it is difficult to come to an agreement on all points favourable to us, and we must be prepared to give and take. Attempts have been made by former Ministers of Health and nothing has come of their efforts. I refer to Mr. Ernest Brown and Mr. Willink. In the present Act there is much that we can consider more favourable to us than unfavourable, and by reason we can and ought to eliminate those things which prick us. We have in our leaders all those accomplishments which are necessary, provided only that we drop the spirit of fighting and gaining victory. I do hope and pray that this will be so.—I am, etc.,

Cardiff.

ARTHUR T. JONES.

Spectator in Eire

SIR,—May I as an interested spectator claim the honour of congratulating the B.M.A. on its gallant stand? It is heartening to us who may presently face the same set-up here to witness your all-out mobilization against this threat to submerge the profession in the State almighty.

If shackling the freedom of the doctor is justifiable on the grounds that he is a key man in the modern State, then what of the shopkeepers? Food, clothing, shelter are the basic needs of the citizen; after these comes medicine, but well down the list. If it is imperative to harness the doctor to the State machine it follows that all those who serve more essential needs must be roped in—namely, the grocer, the butcher, the baker, the draper, *et hoc genus omne*. This is but a logical extension of the new Health Bill. Hence the grocer must be salaried or put on a limited income, must open his shop where directed, be liable to dismissal without protection of the law courts, give up goodwill in his business as immoral, and in general renounce all freedom of human enterprise.

The average citizen sees nothing in this fight but a squabble between the Minister and the doctors about selfish interests. Many who are now complacent would think seriously if they realized that the doctor fights a menace to-day that will threaten them to-morrow. Our democracy is slipping. The continual shift to the left can end only in the Russian quality of democracy, that sombre way of life whereby man's honour and freedom on earth perish utterly.—I am, etc.,

Galway.

C. CONOR O'MALLEY.

Basic Salary

SIR,—The one and only thing the whole profession appear to be united about is their fear of being converted into salaried State servants. Their dislike of basic salary arises chiefly from this fear. Surely, therefore, this is the main point to be settled, and it could be easily settled by the insertion into the Act of a clause making the basic salary permanent at £300, unless by the mutual consent of the Minister and the profession. Apart from this fear, judging from former expressions of opinion, there does not appear to be any deep dislike of the basic salary as such. Once this objection is settled the other points appear capable of settlement on similar lines. It is as well to realize that when this matter is settled it will probably be settled by compromise. It is up to the Minister to invite the B.M.A. to consult with him with a view to settling this dispute as quickly as possible.—I am, etc.,

Paignton, S. Devon.

P. M. GARRY.

Whole-time Medical Officers

SIR,—I am very sorry to note from your leader (Feb. 28, p. 397) that you apparently approve of the objectionable references to whole-time medical officers in Prof. Dible's recent letter to *The Times*. If the B.M.A. has a good case against the N.H.S. Act it will not be improved by gratuitous attacks on a not unimportant branch of the profession. To say, as Prof. Dible does, that whole-time medical officers have, above all their other alleged deficiencies, no zeal is in my opinion an unnecessary insult and in my experience untrue.

I should have thought that at this time at any rate Prof. Dible would have preferred to encourage a united professional front.

He should not bolster up his case by belittling a body of men whose choice of work may not be his own but who nevertheless are carrying out their duty to their patients conscientiously and to the best of their ability. Whole-time service does not of itself necessarily mean a lack of professional enthusiasm. I challenge Prof. Dible to tell me where there is a more zealous body of medical men and women than are to-day to be found in the whole-time municipal hospital service of this and many another city.—I am, etc.,

Leicester.

E. K. MACDONALD.

Plums and Patronage

SIR,—Taunts have been thrust at the B.M.A. for presuming to recommend the continuance of the sale and purchase of practices. Doctors have been called mercenary dealers in bodies and souls. Why the doctor, who dispenses medicines, should be so stigmatized any more than the grocer, who dispenses food, is difficult to understand. In each case the purchaser considers an expenditure that places him in the position of making a livelihood worth while. In neither case is compulsion brought to bear upon the clients to continue their patronage except in the matter of availability, which would apply equally were no payment for goodwill made. In both cases the situation has arisen by evolution in response to the law of supply and demand. It brings reward to the man who has been industrious, and checks exploitation of such industry by those who want to get something for nothing. Should remuneration in the Health Service be by capitation fee, the purchase and sale of practices could continue as before and provide the same safeguards.

Quite apart from what it would have saved me at the beginning of my career I entertained the feeling that their abolition was desirable, in that it would place the doctor on a higher ethical level than the business man in this matter, as already does the way the doctor handles his discoveries, which he does not patent but gives freely to the world. Second thoughts indicate that this feeling is idealistic rather than expedient. Even in the Health Service some of the practices that come to be relinquished will be plums compared to others. If they are going without money and without price, who is to get the plums? One can see the ropes being pulled in the allocation committees with various members working for their own protégés. As the committees can be filled almost entirely by the Minister, the plums would fall most naturally to the good Socialist or good Conservative, depending upon what Government happened to be in power. An opening would also be made for the unscrupulous receiving backhanders as *purchase price* for their votes and influence in favour of certain candidates, a practice not uncommon in other walks of life.

The continuance of sale and purchase, though it may have drawbacks, would seem to be less likely to stir up human resentments and more conducive to fair dealing than a situation which exposes the disposal of practices to the vagaries of the unscrupulous and the whims of political patronage.—I am, etc.,

Glasgow, S.3.

W. MELVILLE CHRISTIE.

Public Opinion

SIR,—It is a heartening sight to see the members of the depressed or sweeper class of the profession at last moved to protest, and as a newly enrolled member of the League of Doctors' Wives may I put forward a fresh point?

You are no doubt aware that the general public is not, unfortunately, 100% behind the doctors in their opposition to the Act in its present form. As a professional lecturer I am bound to say I am not surprised, as the B.M.A.'s "publicity" has been to say the least, confusing to the layman, and emphasis has been laid on the wrong points. The public does not care a Shinwell's cuss how a doctor is paid, or whether he is paid, and the word "buying and selling of practices" have loomed too large in the newspapers. The impression has grown that this is a financial squabble, and the public has suffered a rude shock to its idealism for a doctor, as they well know, is a dedicated being with no interest save the fight against disease, and with a soul above such sordid details as remuneration. Nobody likes an idol to have feet of clay, and the Minister of Health is a sufficiently clever strategist to take full advantage of his public sense of disillusion.



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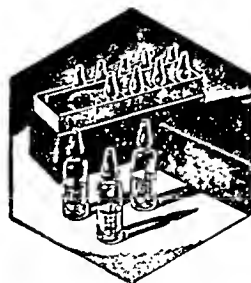
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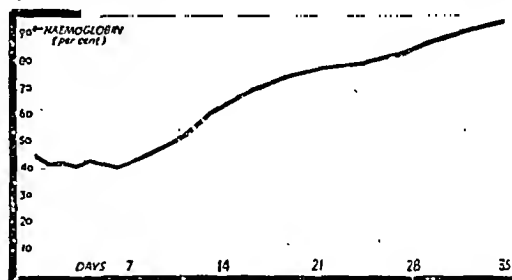
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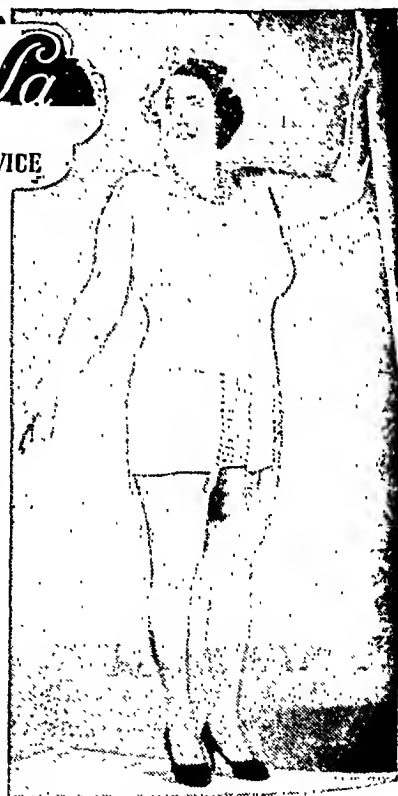
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On the other hand, the public is very much interested in the rights of a citizen, and in my humble and diffident opinion much more emphasis should have been laid on this aspect of the Act. For example, the notorious paragraph 42, which provides the tribunal for the dismissal of "any person . . . whose continued inclusion would be prejudicial to the efficiency of the service . . ." No mention is made in this paragraph of professional efficiency or otherwise, and in its present form it provides an extremely handy weapon for political or racial tyranny of the worst order.

Is it too late for the publicity of the B.M.A. to take a slightly different line? One cannot expect doctors to know all the tricks of advertising agents, nor would one wish it; but in the present situation the full support of the public would make all the difference between certainty of success and the possibility (almost unthinkable) of being obliged to yield to financial blackmail.

Incidentally I have just returned from a lecture tour in which I spoke at the Education Offices in Ipswich. A large board in the main hall was attractively set out with anti-B.M.A. propaganda. The letterpress ended with a jubilant paragraph to the effect that doctors would be obliged to yield for financial reasons.—I am, etc.,

Scarborough.

GWENDOLINE BAKER.

Branch Managers

SIR,—So now the doctors' wives are up in arms. Rightly so. Why should they be caretakers and dustwomen for businesses that's all they will be) belonging to the State? The doctors in Northern Ireland (though some don't know it) will cease to own their practices on and after July 5. Are these doctors going to accept service as branch managers for a multiple concern and work 24 hours daily? No other employees are asked to do it. Should we? Certainly not.—We are, etc.,

Belfast

E. J. A. DOUGAN.
H. P. LOWE.

Passage of Vitamin E to the Human Foetus

SIR,—In the annotation (Feb. 28, p. 400) on the passage of vitamin E to the human foetus you make the following statement (now repeated so often that I suspect its elimination from textbooks will not become possible for two generations even should it be proved incorrect): "Evidence that it is required by human beings is still inconclusive. It has repeatedly been claimed that vitamin E is of use in the treatment of habitual abortion, but sceptics have pointed out that abortions are often followed by full-term gestation even without special treatment."

In support of these statements you give a reference to some publications between 1933 and 1939. Surprisingly enough you make no reference at all to a more recent publication in which precisely this point was considered. In 1940 I summarized all the published records about the treatment of habitual abortion with vitamin E and compared, on certain assumptions which I hope were clearly stated in the paper, those figures with the expectation of full-term delivery in a habitual abortant, as shown by Malpas's previously published figures. The conclusion reached was that there was an overwhelming probability against the successful gestation in the treated patients being due to chance and not to the vitamin-E therapy.

My arguments may or may not have been sound; to the best of my knowledge they have not been criticized in the intervening eight years. Had a valid criticism been sent to you, Sir, it would presumably have been published for reasons identical with those that led you to publish my own contribution to which I have just referred (*British Medical Journal*, 1940, 1, 890).—I am, etc.,

Greenford, Middlesex.

A. L. BACHARACH.

The Posterior Pituitary and Labour

SIR,—Dr. G. W. Harris has summarized (Feb. 21, p. 339) the evidence relating to the theory that the posterior pituitary contributes to the processes of labour. I would like to record an observation which suggests that a discharge of pituitrin-like substance occurs with each uterine contraction of labour. In 1941 a woman who had borne one child and fed him until recently from the breast was in labour with her second child.

She happened to develop a measles rash at the same time. While the rash was being looked at, beads of milk were seen to stand out on the nipples with each uterine contraction, as they do from a lactating breast during the "draught" (a process corresponding to the letting-down of milk in cows) or after injection of pituitrin. Since the "draught" is believed to be due to secretion from the posterior pituitary, the expulsion of the drops of milk was taken as evidence that a similar secretion was occurring with, or was preceding, each uterine contraction. An injection of pituitrin at the conclusion of the second stage in this case caused the expulsion of more drops of milk.

The fact that this visible expulsion of milk during labour is exceptional—and I have not seen it since—is perhaps because the breasts rarely contain enough free-flowing secretion at term. Its rarity does not therefore necessarily rule out the tempting conclusion that labour proceeds from a series of discharges of pituitrin-like substance which acts on the prepared uterus and which is rapidly rendered inactive.

If there is indeed a fresh discharge from the pituitary evoking each contraction it is curious that an injection of commercial pituitrin given during the first stage alters the whole course of labour. Possibly the extracted active substance is more stable than the form secreted physiologically, or the crescendo of labour is produced by some cumulative action.—I am, etc.,

Essex, Surrey

MAVIS GUNTHER.

Rectal and Vaginal Temperature

SIR,—May I offer some remarks in reply to the criticisms levelled against the use of the rectal temperature readings in the study of ovarian activity? During the past five years I have been using temperature readings whenever possible in thousands of cycles; some of the findings were published some time ago (*Lancet*, 1945, 2, 663). This procedure was chosen after extensive trials for several reasons.

1. Whereas it may be easier to persuade some types of patients to take an oral reading, there are an equal number who prefer to take a rectal reading as they are afraid of breaking the thermometer on the teeth. This particularly applies to hospital patients pressed to employing thermometers.

2. Mouth-breathing at night, and even for a short time on waking, does lower the temperature and obscures the pattern of the temperature cycle in some women. This is not compensated, as suggested by Miss Joy L. James (Feb. 21, p. 368), by closing the mouth for five minutes before taking the reading, since this precaution delays the recording and may thereby involve a misleading reading through a rise from waking level.

3. The absolute level of the temperature is of importance, for it reflects the endocrine activity of the ovary, a matter of clinical importance quite apart from the biphasic nature of the curve.

If records by different workers are to be compared, it is essential that the discrepancies introduced by the different procedures and by the variable individual difference between rectal and oral readings should be eliminated.—I am, etc.,

London, W.1

MARY BARTON.

Scepisis Scientifica

SIR,—It seems to me that Prof. Geoffrey Jefferson, in his lecture "Scepisis Scientifica" (Feb. 28, p. 379), avoids the main problem in modern medicine, which is by what means and in what manner do we temper scientific thought with scepticism and at the same time avoid the paralysis of science by a completely pragmatist attitude. That the predominant influences in present-day medicine are crude forms of empiricism, relativism, and pragmatism there can be no doubt. Scepticism has by a one-sided and false development become elevated to the role of a scientific religion. It is useful to examine the historical origins of this situation and to attempt to reveal how this "hypertrophied" development of scepticism does in fact operate as a paralysing influence in medicine.

Woodger, in his inexplicably and unwisely neglected work *Biological Principles*, demonstrates that the main philosophy influencing biology as a whole is that of the so-called phenomenologists, Mach, Avenarius, Pretzoldt, Karl Pearson, etc., who have revived and extended the subjective-idealist scepticism of Bacon, Locke, Hobbes, and Hume. The phenomenologists argued that as our knowledge is only relatively true, since those things which are "true" to-day are no longer true to-morrow, and as our

imperfect senses are incapable of accurately reflecting objective reality; so we are excluded from the possibility of any real knowledge.

For such a philosophical standpoint carried to its logical conclusion, truth and untruth, objective fact and illusion, scientific knowledge and primitive superstition, are all equally valid, and the scientist accepting these views is automatically led to empiricism and pragmatism. With Dewey, he is forced to believe that knowledge is an instrument which depends on our interests and advantages, and he eventually develops a completely cynical approach to his subject. It is especially the great complexity, the enormous number of mutually interconnected processes in living matter, together with the comparative lack of success of medical investigation when superficially compared with the so-called exact sciences—physics, chemistry, and mathematics—which make the medical worker particularly liable to adopt such an attitude.

Thus there has arisen in biology on the one hand a neo-vitalism which claims that the living organism is "unknowable" and that all we can do is lead a despairing "hand-to-mouth" existence of accumulating more and more facts in a strictly empirical manner. On the other hand, the superficial appearance of exactness and logic of the physical sciences has stimulated some medical men to "impose" on medicine the principles and methodology of these sciences, in the mistaken impression, which Prof. Jefferson appears to share, that "the only sciences which have succeeded in producing immediate conviction and durable results are mathematics and those in which mathematics enters to a very great degree." The latter medical workers (among whom we cannot include Prof. Jefferson, in my opinion one of the truly great figures of contemporary medicine) seek to explain biological phenomena as mere extrapolations of physico-chemical phenomena, and mechanically attempt to reduce biology to physical, chemical, and mathematical terms. Thus we constantly see, for example, medical workers attempting to obtain from statistical assessments information which such procedures are incapable of producing. They forget that from statistics we are unable, by means of them alone, to come to any other than purely quantitative conclusions; that for conclusions which involve qualities other additional methods of investigation and reason are necessary. Unfortunately we have not sufficient space to illustrate further the exact manner in which the philosophical conceptions described above operate in present-day medicine, but we may profitably examine the epistemological basis of these conceptions.

Views such as those held by the phenomenologists and the pragmatists have as their basis the isolation and exaggeration of but one aspect of human knowledge—the fact that it is "limited. Knowledge is limited and relative because it is an endless approximation to external reality," and because every theory depends on the limits set by the historical experience of social practice. Knowledge advances in a contradictory manner, but scientific experience, handed down from one generation to another, is each time enriched by new scientific discoveries and is all the time increasing the possibility of adequate knowledge of objective reality. By exaggerating and isolating one aspect of knowledge—its limitations, its relativity—the phenomenologists and pragmatists distort it and produce a sterile and despairing empiricism.

In fact, biological phenomena, sociological principles, etc., are no less real and "exact" because they cannot be expressed in terms of physics or mathematics. Biology, however, has considerably lagged behind the development of the latter sciences because, by reason of its subservience to outmoded philosophical systems, it has remained in the stage of the empirical collection of facts, a stage which physics, for example, has long since outstripped. All sciences proceed through this empirical stage in their development, but in order to make further advances they have also to construct fundamental principles, generalizations derived from the facts, which give to the science an operable theoretical basis. As Walshe has said, the season of synthesis of the innumerable available facts of medicine is long overdue, and one may add to this that this season will not appear until medicine rids itself of scientific pragmatism.

One last point: I strongly disagree with Prof. Jefferson's comparison between that giant of philosophy, Bacon, and Wilfred Trotter. The latter, whose philosophical stature has in my opinion been greatly exaggerated by medical men, has not written anything of which I am aware which can be compared either in originality of thought, lucidity of exposition, or logical development with Bacon's philosophical works. His eminence as a medical philosopher is mainly derived from "the flatness of the surrounding country."—I am, etc.,

London, S.W.3.

A. McPHERSON.

Pyopericardium

SIR.—Lieut.-Col. A. L. Wingfield (March 6, p. 451) concludes his interesting report of a case of pyopericardium treated with apparent success by aspiration and penicillin instillation by saying: "The final outcome remains conjectural, but eventual pericardial symphysis appears inevitable, although there are no signs of it at present."

This statement helps to perpetuate the great confusion of thought concerning chronic pericardial disease, for although it must be agreed that diffuse adherence (symplysis) between the two layers of serous pericardium is probably an inevitable sequel to recovery from a pyopericardium, such adhesions do not produce symptoms or signs during life.

I think it is probable that the author means that there are no signs of chronic constrictive pericarditis (Pick's syndrome), which is the best definition employed to describe thickening and loss of elasticity of the pericardium with consequent limitation of diastolic filling of the heart (chronic cardiac tamponade). Tuberculous infection, usually healed, is thought to be the most common cause of this syndrome, but there may well be a risk of its occurrence following suppurative pericarditis treated successfully by penicillin without drainage, although so far as I know it has not yet been reported. Further experience should decide this point: meanwhile it would appear unwise to dogmatize on the future of the operation of pericardiectomy.

"Adherent pericardium" is still used indiscriminately to describe (1) simple adhesions between the pericardial layers which do not cause symptoms or signs, (2) chronic constrictive pericarditis which causes chronic cardiac tamponade, and (3) mediastino-pericarditis (adhesions between the pericardium and the chest wall) which is supposed to cause massive enlargement of the heart but is probably not an entity at all.

It isn't fair on the student.—I am, etc.,

London, W.1.

OSWALD S. TUBBS.

The Colonial Medical Service in Aden

SIR.—Of late much attention has been focused on health services. Having very recently returned from Aden, where we served in the R.A.F.V.R., we consider that a little open criticism of the backward conditions under which the Colonial Medical Service has to work in that colony should be laid before your readers. We do not desire that this should be interpreted as a deterrent to any doctors intending to join that service, but rather that it should stimulate rapid action in the matter of improvement or at the very least acquaint your readers with undoubted facts with which the Colonial Office cannot but be acquainted.

For a period of approximately six months we acted as surgeon and anaesthetist respectively at the Civil Hospital in Aden when that hospital possessed neither; and for the whole of our tour in Aden we were associated in many ways with the Colonial organization from our respective positions as officers in charge of the surgical and medical divisions at the R.A.F. Hospital. Let it be stated here that we do not gainsay our fortune in being allowed such access to medicine nor the friendly and co-operative way in which we were treated by all the staff at the Civil Hospital, who, working under dreadful conditions with difficult patients, did sterling work. We merely criticize existing inadequacies.

The population of Aden is in the neighbourhood of 80,000, a great increase having taken place during the recent war. Hospital accommodation was hopelessly small—so much so that even the acceptance of only emergencies necessitated patients being on the floor between beds. The existing "wards" were outdated, unequipped, and impossible to keep clean; one lavatory basin sufficed for roughly 70 patients. Lack of accommodation, inadequacies of design, and out-of-date equipment meant that even with the best will in the world the overworked staff could not keep the place or the patients clean. Dirt and flies abounded—the latter despite the fact that in other parts of Aden with similar surrounds flies were considerably less common than in this country. There were no out-patient departments worthy of the name, and the majority of surgical out-patients were seen outside and dealt with as well as such a situation permitted. When it was necessary to examine them more thoroughly they had to be laid on the operating table in the minor theatre, dirt and all. Patients waited in the sun. The main operating theatre was just adequate in size, but it was not until a strong letter was written by one of us that air-conditioning was instituted. Previously two fans over the table circulated the air, while an open window overlooking the dirty active town acted as a ventilator.

Equipment was limited, and essentials such as scalpel blades and rubber gloves were often missing and had to be borrowed from the R.A.F. It is reliably reported that a certain surgeon on one occasion had to use scissors to make his skin incision for an abdominal operation. There was no anaesthetic machine. For head-and-neck surgery a Heath-Robinson arrangement of borrowed equipment was used. A catheter was attached to rubber tubing and this in turn to a funnel. On to a piece of gauze wrapped over the funnel the ether was dripped. There was no alternative. There were no adequate resuscitative measures available except from R.A.F. sources. If we needed saline, plasma, or blood we had to supply them and the transfusion set. The local saline was so pyrogenic that it was unusable. Oxygen cylinders were supplied, but as there were no workable masks they were of limited value. Sterilization of all dressings was carried out by the R.A.F.

Ancillary medical services were elementary. A workable x-ray unit was only fitted some weeks before we left. Pathological services were limited to the most simple investigations, and more complicated procedures were carried out by the R.A.F. Practically all the public-health aspect of the work was done by the R.A.F. laboratory.

The control of endogenous diseases, considering the primitive sewage system and appalling housing conditions, appeared to be of little avail. Amoebiasis, for example, was widespread and tuberculosis common. Owing to the very limited accommodation available only a small number of cases of the latter disease likely to respond to conservative treatment were hospitalized. Advanced cases spread the disease.

We have made no attempt to list all the inadequacies—space does not permit—and while appreciating that some good has been done by the Colonial Medical Service in Aden nevertheless the general impression created is more than disappointing. Plans, we believe, have been prepared for some time for building a new hospital, but it should be obvious that many defections are unconnected with buildings. In concluding it is worth remembering that Aden is a "shop window" for Great Britain, and that a great many nationalities pass through the port. We felt that no poorer advertisement than the existing medical arrangements could be offered.—We are, etc.,

D. P. VAN MEURS,

W. D. WYLIE,

Late Wing Commanders, R.A.F.V.R.

Belmont, Surrey.

Pulmonary Embolism

SIR,—I welcome Mr. Reginald S. Murley's criticism (Feb. 28, p. 415) of my article "The Aftermath of Gastrectomy," which was of course no more than a brief summary of a huge subject. Even so I should have devoted more than six lines to an aftermath as serious as pulmonary embolism. However, I am not totally ignorant of modern views on the subject regarding the importance of deep peripheral thrombosis. When Mr. Murley says that my statement, "Thrombosis usually arises in the abdominal wall, or, as in two of these cases, from extension of the thrombosis of haemorrhoids . . ." is preposterous, I disclaim all responsibility and place it fairly and squarely on the shoulders of Nature, since these cases were proved by post-mortem examinations which I personally witnessed—the clots being traced respectively into the azygos and iliac veins (in one a mass of clot still projected into the superior vena cava from the vena azygos major). Nature has an awkward habit of being "preposterous" and oft-times interferes most inconsiderately with our ideas.

I should like to add that as a house-surgeon I was brought up to believe in the value of post-operative leg massage and exercises, introduced in those far-off days by Rutherford Morison, and this practice has been followed throughout my surgical life. However, as the figures in my article reveal, I have not been able to avoid pulmonary embolism by such simple measures. The modern extension of this idea and the introduction of reliable anticoagulants will it is hoped reduce the incidence of this dire complication, but I think I was right in saying that it still remains "a bugbear," which the O.E.D. gives as "an object of (needless) dread."—I am, etc.,

NORMAN C. LAKE.

London, W.1.

Bone Conduction in Otosclerosis

SIR,—The report in the *Journal* of Feb. 14 (p. 308) of a paper on bone conduction in otosclerosis, read by Dr. R. R. Woods at a meeting of the Section of Laryngology and Otology of the Royal Academy of Medicine in Ireland, focuses attention on the gain in bone conduction in the operated ear which occurs after the fenestration operation for otosclerosis.

In this connexion I would like to emphasize the considerable lengthening of bone conduction which may occur in the unoperated ear after a fenestration operation on the other ear. This lengthening of bone conduction is a matter of clinical importance, as the following case illustrates.

A man aged 47 consulted me for bilateral deafness getting steadily worse during the last three years. He complained of moderate buzzing noise in each ear. On testing the hearing of the right ear, conversational voice could not be heard distinctly at a distance greater than one-and-a-half feet; with the left ear loud conversation could only be heard occasionally at about one inch. On testing bone conduction with a 256 tuning fork it was found to be lengthened by a few seconds on the right mastoid bone and to be reduced by about 50% on the left mastoid bone. The ear drums were normal in appearance and the eustachian tubes were freely patent.

As a result of the reduced bone conduction in the left ear it was thought that there was likely to be a considerable degree of nerve deafness in this ear. On the other hand, the findings with the right ear indicated that a good result to the fenestration operation on this ear was likely. A right fenestration operation was therefore performed. During the second week after this operation the hearing to conversational voice with the right ear improved to hearing at a distance of about twenty feet. At the same time hearing to conversational voice with the left ear improved to about one foot, and bone conduction, using the same 256 tuning fork, was lengthened to normal for this fork.

In view of the improved bone conduction in the left ear it was decided to do a second fenestration operation on this ear. As there was very little giddiness this was done three-and-a-half weeks after the first operation. The patient began getting up four days after the second operation, as there was even less giddiness after this operation than after the first operation. During the second week after the operation the hearing with the left ear became as good as the hearing with the right ear.

The patient was discharged from hospital six weeks after the first operation, and was back on duty as a commercial traveller two weeks later. It is now six weeks since he left hospital, and all tinnitus has subsided and he is hearing conversational voice at about twenty-four feet in each ear.

The lengthening of bone conduction described above is one manifestation of a syndrome which I call contralateral concomitant auditory facilitation of the fenestration operation. Usually in the less marked cases of bilateral deafness the syndrome is marked by considerable improvement in hearing to conversational voice by the unoperated ear.—I am, etc.,

London, W.1.

W. H. B. MAGUIRE, M.D.

Calciferol in Tuberculosis

SIR,—Under dispensary conditions my experience with calciferol in tuberculous cervical adenitis has not been so satisfactory as that obtained by Dr. G. B. Dowling *et al.* (March 6, p. 430) treating cases in institutions. Over a period of four months seven out of eight cases given 100,000 units of calciferol daily by mouth showed a slow improvement which could easily have been due to the other general measures employed. In one case the glands broke down and operation for an abscess was required.

From this it would appear that once a case is under suitable conditions calciferol acts by giving a stimulus to the defence mechanism of the body. Such an action has been noted in six cases of advanced pulmonary tuberculosis. Three or four weekly intramuscular injections of 300,000 units of calciferol improved the general condition, reduced the degree of fever, and induced a gain in weight. No adverse toxic effects were seen in treating these cases of pulmonary tuberculosis.

One other case received 6,000,000 units by injection in 26 days. There were no deleterious effects, nor was any improvement noticed.—I am, etc.,

Walsley

R. GREENVILLE MATTHEWS.

Retroperitoneal Haemorrhage in Pregnancy

SIR,—Dr. J. Kenworthy Ogden's report of this case (Feb. 28, p. 389) is of great interest. It does not appear necessary to try to correlate the aetiology of retroperitoneal haematoma with toxæmia of pregnancy. The post-mortem findings confirm the presence of massive spontaneous intraperitoneal haemorrhage with no definite bleeding point. The first reported case of this condition was by Barber in 1909. The patient, aged 32 collapsed two days after labour. At operation no definite

bleeding point was found. She recovered. There was no mention of toxæmia of pregnancy in this case.

In the absence of high blood pressure and arteriosclerosis the heart is incapable of raising the blood pressure sufficiently high to cause rupture of a normal artery, and some congenital or developmental defect must precede spontaneous rupture. Bruce (1937) suggested that the hæmorrhage in this group may be due to rupture of a miliary aneurysm or a "junctional area." Bruce's suggestion was soon confirmed by Schuster (1937), who described a case of multiple aneurysms of the splenic artery which she believed were of congenital or developmental origin in a case of familial hæmorrhage telangiectasis. Shallow, Herbut, and Wagner (1946) demonstrated defects in the muscle coat of the inferior pancreaticoduodenal artery associated with a ruptured congenital sacular aneurysm at the first bifurcation and three small fusiform dilatations in the more distal parts.

At post mortem it is often difficult to demonstrate the bleeding point in this type of massive spontaneous intraperitoneal hæmorrhage. However, careful dissection of the affected part and sectioning of the neighbouring vessel will demonstrate the cause—a ruptured miliary aneurysm or congenital defect of the arterial wall.—We are, etc.,

Liverpool.

A. C. BREWER.

R. MARCUS.

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Cancer of the Lung

SIR,—With reference to recent correspondence I wish to draw your attention to the fact that in a small research (confined to males) carried out here it was found that the incidence of cancer of the lung fell more heavily on smokers than non-smokers—correction for age having been made. Unfortunately the number of cases investigated was too small to be statistically significant.

Our ignorance of the fundamental cause or causes of cancer is almost completely unrelieved. We know that in a small proportion of cases the inciting cause is the repeated application of a carcinogenic agent contained in tar, soot, oil, or other substance. The apparent increase in cancer has been almost entirely in cancers of inaccessible parts of the body.

Improved methods of diagnosis—of which radiology is the chief—are accountable in part for the greater frequency with which a diagnosis of cancer of the lung is now made. Also it is possible that more people develop cancer of the lung because more people live to the age at which cancer usually occurs. Gassing during the first world war and its sequelae apparently did not predispose to lung cancer.

Whether tars or other agents contained in tobacco act as carcinogenic agents in the lung is a disputed question. A complete statistical survey of smokers and non-smokers on this point has yet to be made. The quality and amount of tobacco consumed, the frequency of inhalation, age, sex, race, and all other relevant factors would have to be included in such an investigation.—I am, etc.,

Public Health Department, Halifax.

G. C. F. ROE.

Intervertebral Disk Lesions

SIR,—Dr. Michael Kelly (Feb. 28, p. 416) rightly draws attention to the well-known observation that pain is not a characteristic feature of lesions known to produce pressure on nerve trunks. As was shown by Lewis and Pochin,¹ in nerve paralysis from pressure touch fails early, motor power next, "fast" pain later, and delayed pain last. Before pain sensation is lost transitory hyperalgesia may occur, so that the earliest signs of nerve pressure are alternating periods of numbness and cutaneous tingling in the area of distribution. Pain such as that of the sciatic syndrome does not occur.

On page 424 of the same issue, however, your adviser's reply under "Any Questions?" follows traditional thought in suggesting that the sciatic pain of disk lesions is due to pressure or stretching of nerve-roots. That may be so, but there is at least some evidence that other factors are involved. Kellgren and Lewis² demonstrated that irritation of a deep somatic structure such as an interspinous ligament by injection of hypertonic

saline resulted in pain throughout the corresponding sclerotome with accompanying muscle spasm. We can aver from personal experience and self-experiment that the pain produced by so stimulating the fifth lumbar interspinous ligament is clinically and subjectively indistinguishable from that occurring spontaneously in an L5-S1 disk lesion.

Now, primarily, herniation of the nucleus pulposus is a joint lesion which produces strains on surrounding ligamentous structures and may finally give rise to nerve-root or spinal compression. Such a joint disorder might reasonably be expected to produce pain throughout the corresponding sclerotome, irrespective of whether or not nerve pressure occurs. In fact, a large proportion of patients in whom the diagnosis is subsequently confirmed by operation never present any acceptable objective evidence of nerve pressure such as muscle weakness, anaesthesia, or loss of deep reflexes.

Before the phenomena are clearly understood two facts must be explained. (1) Application of a short plaster corset, even without preliminary extension, may rapidly relieve pain, although the area of anaesthesia persists or, as in one case under our observation, actually increases. Clearly such benefit cannot be due to relief from nerve pressure, but it may well be the result of immobilizing, at least partly, the grossly deranged spinal joint and thereby diminishing the deep segmental pain arising therefrom. (2) We have found that in many cases of undoubted disk prolapse temporary relief from pain follows injection of the corresponding interspinous ligament with 1% procaine solution. This cannot be the result of relief from nerve pressure though the change may be explicable upon the basis of the theory recently propounded by Cohen.³

The understanding of the pain mechanisms involved in these cases is a matter of some importance. In most instances the primary necessity of treatment is the relief from pain, a problem as yet incompletely solved. Fuller understanding of the manner in which pain is produced will surely pave the way to more universally satisfactory results.

It is generally accepted that on clinical evidence alone the level of a lumbar spine disk lesion cannot be confidently predicted. It may be that the present conception of sciatic pain as the result of root compression is responsible for this difficulty, and if it were regarded as a deep segmental pain due to joint disturbance this difficulty might be resolved. Over-simplified views of the pain mechanism in this condition are liable to follow a mechanical interpretation of the functions of the central nervous system.

The problem is a complex one and, clearly, many questions remain to be answered. We are at present engaged in an investigation of this subject and hope to communicate our findings in due course.—We are, etc.,

J. DONALDSON CRAIG.

A. W. LIPMANN-KESSEL.

London, W.2.

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- ¹ *Clin. Sci.*, 1938, 3, 141.
² *Ibid.*, 1939, 4, 47.
³ *Lancet*, 1947, 2, 933.

The Extent of Neurosis

SIR,—Stimulated by the correspondence on this subject I decided to classify the patients I saw during a period of twelve weeks—from Nov. 9, 1947, to Jan. 31, 1948. Some of the facts and figures emerging may be of interest. The practice under review is a large mixed-private and panel practice in a town of some 25,000 inhabitants, extending also to some of the neighbouring villages. It is run by four partners, who share the work as equally as possible, apart from the fact that nearly all the anaesthetics are done by one partner, and a very large proportion of the midwifery by another. This accounts for the rather disproportionately small showing of these two types of work in the figures following, since the work is that of one partner out of the four.

A total of 3,200 patients were seen; of these 1,744 were surgery attendances, 1,074 were visits to patients in their own homes, and 382 to patients in the local cottage hospital. 2,241 were "old patients," while 959 were first attendances.

Among the acts of service were included: minor surgery, 43; injections, 82; anaesthetics, 3; obstetric attendances, 43 (including 16 antenatal and 4 post-natal examinations); life insurance, 6; examination for entrance to Civil Service, etc., 10.

Not included in the total of acts of service above was the dispensing of medicine on 656 occasions and the making of 50 telephone calls on behalf of patients. Furthermore, the paper work in the course of this period, apart from record-keeping, included the writing of 1,034 prescriptions and the issuing of 879 certificates of various kinds, as well as the notifying of 21 cases of infectious

concerning the developing attitude to the external world, to the body, and to the inner world of phantasy, memory, constructive thought, and so forth; and further work in this field should lead to our understanding of much that we are ignorant of in the psychopathology of schizophrenia.

Love and Hate

But it is the next step in development to which I wish to refer specifically. Sooner or later *sufficient integration occurs for the infant to realize that the memories of the loving satisfying breast and the hated frustrating breast are of one and the same breast, and that memories of the happy, sucking mouth and of the angry, frustrated, hungry mouth are of the same mouth.* I said "sooner or later"—the time will depend at least on the degree of maturity at birth, the constitutional intellectual endowment, and the quality of the previous emotional development. In other words an integration seems to occur in which the belief in a continuing self, or what would later be called a part of the self, emerges and the belief in continuing people in the environment, or what would later be called parts of these people, emerges. Coincident with this integration a new affective state arises. The realization that maximal love and maximal hate can be expressed by the same bodily organs, that both maximal love and maximal hate can be felt towards the same object, and that this object can be both satisfying and frustrating or can appear to be loving and hating is crucial. Another way of saying the same thing is that the earliest form of depression is the feeling which emerges, first, out of the realization that it is the same self that can both love and hate; secondly, out of the realization that the ego can hate and love the same object; and, thirdly, out of the realization that the same object or person can be gratifying or frustrating or can appear to be loving or hating. Whether or not this new feeling is tolerated—whether or not it is accepted as a fact of developing human experience—is certainly important. Tolerance is related at least to whether love is believed to be greater than hate or hate is believed to be greater than love. When the store of love is greater than hate love can be used quickly to overcome, to annul, to repair the effects of hate. Love can be used following separation from or death of a loved person to keep the memory alive and to keep alive the belief in a capacity to love and be loved, and consequently to believe that people worth loving and people who may love one still exist in the outer world. The more normal methods of dealing with depression thus arise.

The Genesis of Depression

There are many ways in which a partial and incomplete tolerance of a depressive situation may arise, and these lead to the many forms and symptoms of the abnormal depressive states of all degrees of severity. The many ways in which the intolerance of the depressive situation is shown are at least related to whether the angry impulses, acts, and imaginations are greater than the loving ones. If the anger is greater than the love—if the memories (or their symbolic substitutes) of the many aggressive acts, impulses, and imaginations are greater in strength than the memories of love—then arise hopelessness and depressive anxieties connected with the belief that one can do only bad things and that only bad can be expected of one. This may lead to a situation in which the self has to be destroyed to protect from one's badness the people and objects which go to make up one's inner and outer worlds. The self will be destroyed actually in suicide, or symbolically in a temper tantrum or a fit.

The situation I have tried to describe is the earliest example of one which will be repeated over and over again during later life. The changing ways the repetitions are

dealt with have much to do with personality development and character, but an essential relationship to the realization that the person can both hate and love, and that the same objects can be both loved and hated and believed to be lovable and hateable, remains and is crucial. Subsequent developments concerning the realization of one's self as a "whole person" and of other people as "whole people, and of one's self as of a certain sex and of other people each belonging to a certain sex, bring in many complexities, but the importance of the original situation remains. From the onset much—in fact most—of the developments mentioned have occurred unconsciously. Most of the normal ways of dealing with depression have developed unconsciously, as also have the various defences against depression.

The beginnings of depressive feelings related to the integrations already mentioned are concerned with the concepts of a continuing self and of other continuing persons. These beginnings are more in relation to what we would call in adulthood parts of a self or parts of another person. Nevertheless, soon the emphasis shifts as further development occurs to the conception of whole people—to the whole self and the whole people in the environment. Throughout life the conception of what a whole person is, the conception of what a human individual is or is worth, what a lifetime is or is worth, is continually changing and developing, and it is difficult to say what is the best or most useful formulation of a "whole person." At the present stage of human evolution, and being a part of our complicated discontented civilization, one would hesitate to generalize concerning "wholeness," but at least one can be tolerably sure that the study of what a "good whole person" is is intimately connected with the study of healthy and unhealthy ways of dealing with the depressive situation.

Connected with the integration which results in the belief in a whole self and in whole people (which often lasts more or less a lifetime with relatively little alteration) the conscience begins to develop in an elaborate form. One might have thought that the complicated nature of the good and bad conscience in depressive states would have forced psychiatrists long ago to realize the need for using methods of investigation which would bring to consciousness further details regarding their development. Analytic methods bring to consciousness details of what has come to be called the super-ego. The super-ego is both a great hindrance and a great help. Gradually more concerning its development has been elucidated. The super-ego is a much more elaborate, inhibiting, and stimulating unconscious construct than all that is connoted by a good and bad conscience. With adults, of course, the manifold implications of conscience and the super-ego have their importance in the symptomatology of depressive states. Nevertheless, depressive states and depressive anxieties (guilt, remorse, regret, etc.) can arise in connexion with simultaneous love and hate of part objects which are realized to have a continuing existence. In the analysis of depressed children and manic-depressive adults the content of analysis may deal mostly with memories (or their symbolic substitutes) of repetitions of coincident love and hate of part objects, but part objects which are realized to have a continuing existence. It is this situation which appears to contain the most significant ego and object relationship for the understanding of the genesis of depression.

The content of behaviour and speech of the depressed person deals with his attempt to discover a satisfactory way of dealing with the realization that his hate for some person is greater than his simultaneous love for the same person, without at the same time denying that it is he who feels both love and hate and without denying that it is to the same person that he feels both love and hate. The manifold

symptom-picture has to take account of the nature of the loving and hating impulses, acts, and imaginations at the early stage of development, when the integration already mentioned began. At this period the impulses, acts, and imaginations are predominantly oral. Nevertheless all organ activities which can reach consciousness may play some minor part at this time. Indeed, I think it is difficult to substantiate the view that there is an early period when some organs—for instance, the genital—play no part whatever.

Age of Onset

There is disagreement about the age at which depression can first occur, but I believe there is much evidence that it often occurs early in the first six months of life. It must also be remembered that the tests of reality which can be made at such a period are of an infantile type. The intensity and explosiveness of the infantile satisfactions and rages interfere with perception of reality, both inner and outer. The way each satisfaction and each rage is shown colours the outer world and the inner world by rapidly acting and by complicated types of introjection and projection. The effects of these mechanisms lead to many of the later complexities of depressive states. Regardless of how old the person is, if he has not dealt successfully with the infantile depressive situation he will be left throughout life with an infantile attitude to the dangers of realizing that he is a being who can both love and hate simultaneously and can feel both feelings simultaneously for the same person. If treated he may be brought face to face with the intensity of the complicated feelings appropriate to his present-day situation and may for a time suffer more severely while he is learning to deal healthily for the first time with depression.

In such a brief presentation little other than conclusions can be put forward and nothing can be said about the earlier analytic views. The conclusions I have mentioned do not contradict these earlier views. They do little else than elaborate earlier views in the developmental sense. Nevertheless a few brief sketches of the sort of patient whose study has led to these conclusions can be given.

Illustrative Cases

Case 1.—A boy aged 2 years and 1 month became severely disinterested in everything and everybody, following a seemingly successful weaning at 9 months. He became constipated. He was slow and quiet, and showed no interest in learning to speak. During seven months' treatment he became able to deal more normally with the depressive anxieties and situation already described. The subsequent mood-changes were such that in retrospect it was easy to recognize his earlier state as a severe anergic depression. In analysis he showed by play florid content of depressive type. He did not speak a word during analysis, but began to learn to speak at home. By play he could show much more complicated content than he could expect to speak of for years. He did nevertheless make tests of oral projective activity by yelling in rage once and by making a few sounds easily recognizable as signs of considerable pleasure.

Case 2.—A woman of 20, who had for at least 10 years gradually become more disinterested and depressed and later suicidal, showed during more than four years' treatment how homosexuality and severe masochistic and sadistic imaginations were the unhealthy attempts to cope with her forgotten wish to deal with the effects she believed her early aggression has had on her mother. Following much noisy dissatisfaction during the first month of her life, during which she had been breast-fed, she was seemingly satisfactorily weaned. She showed no open oral aggression from the first month of life till many months after the beginning of her treatment. Only after learning to deal with almost simultaneous or at least very rapidly alternating hateful and loving impulses and acts of extreme intensity during treatment, which occurred in a hospital environment, was she able to begin to use her adult capacities to deal

with the implications of her previously persistent infantile depression. During the crucial stages of her treatment her emotions were nearly, if not indeed quite, epileptic in intensity. During treatment stuporous states were interrupted by attacks of rage which, I think, were related to epileptic furor. Such rages were followed by disturbances of consciousness. Later intensely energetic loving outbursts occurred. These gradually lessened. The alternating love and hate gradually lessened in intensity as the depression connected with the realization that both were, had been, and would be felt towards the same people became more tolerable.

Case 3.—A man of 59 developed an agitated depression. During treatment he showed how a deep attachment to a grandfather in infancy might have led to the development of adult homosexuality had the grandfather not died at 60, when the patient was 4. The patient did not grieve openly then, but his super-ego became to a large extent modelled on this grandfather. During treatment, when he realized the degree of his identification with his grandfather and when he realized that he had unconsciously feared his own death at 60, he began to be able after the lapse of 55 years to mourn the death of his grandfather openly. He then became able to plan a life modelled on a scheme based more on the memory of the ambivalent love and hate for his own mother, whom he had ceased to feel for in his infancy when he gave his love to his grandfather. Had he coped more healthily with depression in infancy he might not have become so pathologically attached to his grandfather. Thus he might have avoided a severe depression at 59, when his age was nearing that at which his grandfather died. Such a history demonstrates how difficult it would have been to predict, for instance, when he was 40, that he was seriously predisposed to an illness at 59.

One could also sketch many failures, but unfortunately the chief point with regard to the psychopathology of psychoanalytic failures is that the data on which one might base inferences to explain why they were failures cease to be collected. Here I would make a plea to those who have under observation depressed patients who have had analytic treatment and are still unable to deal healthily with depression to report the later developments. I am confident that the patients' previous analysts would co-operate.

Conclusion

I do not think I can do better than suggest that the implications of the simple formula already outlined regarding the onset of depressed states be investigated fully. I restate the formula: out of the realization that at one and the same time it is possible for a person to love and hate, and out of the realization that such love and hate can be felt for one person, emerges the human capacity for depression, both normal and abnormal. The vicissitudes of the imbalance between the loving and hating impulses determine the normal or abnormal subsequent development with regard to the capacity to deal healthily with depression.

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Many students find *Essentials for Final Examinations in Medicine*, by John de Swiet (J. and A. Churchill, 9s.), of value during the harassing weeks before their final examinations, and it has now reached a third edition. No great changes have been made, but the author has brought it up to date by including new sections on penicillin, pellagra, and other changing aspects of medicine, and has added an index. It is no light undertaking to attempt to compress even the salient features of general medicine into so small a compass, but the author has succeeded reasonably well. A few minor inaccuracies are present, but for the most part the information is sound and clearly presented.

**LUTON CHILDREN'S HOSPITAL,
HOUSE SURGEON (B2)**

Applications are invited from registered medical practitioners, male and female, for the appointment of House Surgeon (B2), vacant mid-April, 1948. Salary at the rate of £200 per annum, with full residential emoluments. R practitioners holding A posts may apply, when the appointment will be for six months, otherwise renewable for further six months. Applications should be submitted by March 25, 1948.—Bart. Milner, House Governor.

**LOWESTOFT AND NORTH SUFFOLK
HOSPITAL (108 beds)
TWO HOUSE SURGEONS (A)**
(one Senior and the other Junior)

Applications are invited immediately from registered medical practitioners (male or female) for the appointment of two House Surgeons (A)—one Senior and the other Junior—to fill vacancies on April 1 and May 1 next respectively. Salary for the Senior post at the rate of £250 per annum, and for the Junior post at the rate of £200 per annum, and in each case with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may also apply, when the appointment will be for six months. Applications to be sent to the Honorary Medical Superintendent.

**LEICESTER ROYAL INFIRMARY
ORTHOPAEDIC HOUSE SURGEON (B2)**

Applications are invited for the post of Orthopaedic House Surgeon (B2), required for April 1. Salary £200 per annum. Applications should be R practitioners holding A posts may apply, forwarded immediately to the House Governor and Secretary.

**MANSFIELD AND DISTRICT GENERAL
HOSPITAL (245 beds)
CHIEF ASSISTANT**

to the Accident and Orthopaedic Services. Applications are invited for the post of Chief Assistant to the Accident and Orthopaedic Services. 2 beds are allocated to this work and there are numerous Out-patient Clinics and a special Rehabilitation Centre. The appointment will be full-time on-resident and private practice will not be permitted. Commencing salary will be £1,000 per annum and the appointment in the first instance will be for the period up to the establishment of the National Health Service in accordance with the terms of the Ministry of Health Circular 202/46. Candidates must be Fellows of a Royal College of Surgeons and preference will be given to those with previous experience in Traumatic as well as Orthopaedic Surgery. Applications, giving names of three referees, should be forwarded as soon as possible to be considered.—A. Ashworth, House Governor and Secretary.

**MANSFIELD AND DISTRICT GENERAL
HOSPITAL, NOTIS (245 beds)
CASUALTY OFFICER (B2)**

Casualty Officer (B2) required as soon as possible or busy department. R practitioners who now hold A posts may apply. If held by an R practitioner the appointment will be limited to six months. Salary at the rate of £250 per annum, with full residential emoluments. Applications to the undersigned as soon as possible.—A. Ashworth, House Governor and Secretary.

**METROPOLITAN HOSPITAL
Kingsland Road, London, E.8**

Applications are invited from registered medical practitioners for the following posts:—
HOUSE SURGEON (A)
CASUALTY OFFICER AND DEPUTY
RESIDENT ANAESTHETIST (Combined post) the salary for each post will be £150 per annum with full residential emoluments. Appointments will be held for six months, and practitioners within three months of qualification and liable under the National Service Acts may apply. The posts will be vacant in the second week of April, and applications should reach the undersigned not later than March 31, 1948.—Frank Chambers, House Governor and Secretary.

**MERTHYR GENERAL HOSPITAL (120 beds)
RESIDENT SECOND HOUSE SURGEON (A)**

Applications are invited from registered medical practitioners for the appointment of a Resident Second House Surgeon (A), male, including practitioners within three months of qualification who are liable to service under the National Service Acts. The appointment will be for a period of six months. Salary at the rate of £200 per annum, with board and lodging. Applications to the Secretary, Merthyr General Hospital, Merthyr Tydfil.

**MOTHERS' HOSPITAL OF THE SALVATION
ARMY, Clapton, E.5 (Maternity—107 beds)
SENIOR RESIDENT MEDICAL OFFICER (B1)**

Vacant May 1, 1948. The appointment is for six months and recognized for M.R.C.O.G. Salary £220 per annum with board, residence and laundry. Women practitioners now holding B2 posts may apply. Applications, with testimonials, to be sent to the Secretary-Superintendent as soon as possible.

**MOTHERS' HOSPITAL OF THE SALVATION
ARMY, Clapton, E.5 (Maternity—107 beds)
JUNIOR RESIDENT MEDICAL OFFICER (B2)**

(Female)
Vacant April 24, 1948. Salary £150 per annum board, residence and laundry. Appointment for six months and recognized for M.R.C.O.G. Applications as soon as possible to Secretary-Superintendent.

**NATIONAL HOSPITAL FOR NERVOUS
DISEASES, Queen Square, London, W.C.1
RESIDENT SURGICAL OFFICER (B1)**

Applications are invited from registered medical practitioners for the appointment of Resident Surgical Officer (B1). The appointment will be for one year in the first instance, the successful applicant being eligible for reappointment for a maximum period of three years. Suitably qualified R practitioners holding B2 appointments are invited to apply. Applications from R practitioners now holding B1 appointments cannot be considered unless they have been selected by the R.A.M.C. Candidates should have a higher surgical qualification and should have experience in neuro-surgery. Applications are invited from demobilized members of H.M. Forces. The proportion of salary payable by the hospital will be at the rate of £300 per annum with full residential emoluments. Applications to be sent to the undersigned not later than March 31, 1948.—H. Ewart Mitchell, Secretary.

**NOTTINGHAM CITY HOSPITAL
Hucknall Road, Nottingham**

Resident Assistant Obstetric and Gynaecological Officer (B1)
Applications are invited from registered medical practitioners (male or female) for the appointment of Resident Assistant Obstetric and Gynaecological Officer (B1). Applicants should have held previous house appointments and have had experience in obstetrics and gynaecology. The post is approved for the M.R.C.O.G. Salary £455 to £555 per annum, plus half cost-of-living bonus with full residential emoluments. The recommendations in Ministry of Health Circular 12/45 are under consideration. The appointment is for twelve months in the first instance. Suitably qualified R practitioners holding B2 posts, also those holding B1 and ineligible for H.M. Forces, may apply. Applications to be sent immediately to the Medical Superintendent, City Hospital, Hucknall Road, Nottingham.—J. E. Richards, Town Clerk, The Guildhall, Nottingham.

**NORTH ORMSBY HOSPITAL
Middlesbrough 1196 beds**

Applications are invited from registered medical practitioners for the following appointments:—
RESIDENT HOUSE SURGEON (A), including practitioners within three months of qualification who are liable for service under the National Service Acts.
RESIDENT HOUSE SURGEON (B2), including R practitioners who hold A appointments.
Salary at the rate of £200 and £275 per annum respectively with full residential emoluments. The appointment is for a period of six months. Applications to the Secretary-Superintendent. This is a General Hospital with a busy Out-patient Department with four established Resident House Posts.

**NORTH STAFFORDSHIRE ROYAL INFIRMARY
Stoke-on-Trent (475 beds)**

The Committee invites applications from registered medical practitioners for the following appointments to the Visiting Staff to become vacant on March 31 on the retirement, according to rules of the present holders:—

**ONE VISITING PHYSICIAN
ONE VISITING OPHTHALMIC SURGEON**

Candidates, who must hold a higher qualification, will be required to devote their whole time to consulting practice. An honorarium will be attached to the posts. The Election Committee will proceed to make the appointments on Thursday, April 15. Applications should reach the House Governor, by Thursday, April 9, 1948.

**NATIONAL TEMPERANCE HOSPITAL
Rushford Road, London, N.W.1
HONORARY ASSISTANT DIAGNOSTIC RADIOLOGIST**

The Board of Management invite applications for the office of Honorary Assistant Diagnostic Radiologist. Candidates are required to be medical practitioners engaged solely in consulting practice and to possess a higher Diploma in Medical Radiology. Candidates will be expected to do two or three attendances weekly. Applications, given for details, with names of three referees, may reach the Secretary and House Governor, not later than 7 p.m. Monday, March 31, 1948.

**NORFOLK AND NORWICH HOSPITAL
Norwich
HOUSE SURGEON (B2)**

Applications are invited for the post of House Surgeon (B2) to Ear, Nose and Throat, and Ophthalmic Departments. Salary £250 per annum, with full residential emoluments. R practitioners holding A posts may apply. When the appointment will be limited to six months. Applications should be sent as soon as possible to F. L. Gardfield, House Governor and Secretary.

**NORFOLK AND NORWICH HOSPITAL
Norwich
ASSISTANT DIAGNOSTIC RADIOLOGIST (full-time)**

Applications are invited for the post of Assistant Diagnostic Radiologist (full-time). Salary according to qualifications and experience, but will be not less than £1,000 per annum. The successful applicant may be required to undertake duties in associated hospitals. Applications to be sent as soon as possible to the undersigned.—F. L. Gardfield, House Governor and Secretary.

**OLDHAM COUNTY HOSPITAL, Remford
TEMPORARY SPECIALIST MEDICAL OFFICER (ORTHOPAEDIC SURGEON)**

Applications are invited for the above temporary post which will be limited to approximately three months duration. The candidate should hold a B2 post, with specialist department, as well as being a full and paid transport services. Applicants should have higher qualifications in surgery. Salary will be at the rate of £17 17s. a week, subject to a deduction of £2 10s. a week for board. Applications stating position in regard to National Service should be forwarded to the Medical Superintendent as soon as possible.

**OLDHAM ROYAL INFIRMARY
ASSISTANT RESIDENT SURGICAL OFFICER (B2)**

Applications are invited from registered medical practitioners for the appointment of Assistant Resident Surgical Officer (B2), becoming vacant on March 31. Applicants should have held house appointments and had surgical experience. Salary is at the rate of £250 per annum with board, residence and laundry. To R practitioners, the appointment will be limited to six months. Applications should be sent to the undersigned immediately.—F. W. Barrett, House Governor and Secretary.

Have you read the notice
at top of page 12?

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Have you read the notice at top of page 12 ?

OLDHAM ROYAL INFIRMARY (203 beds) HOUSE SURGEON (A) to the Gynaecologist, Aural Surgeon, and Ophthalmic Surgeon

Applications are invited from registered medical practitioners (male and female) for the appointment of House Surgeon (A). Practitioners within three months of qualification and liable under the National Service Acts may apply, and the appointment will be for a period of six months. The person appointed will act as House Surgeon to the Gynaecologist, Aural Surgeon, and Ophthalmic Surgeon. The salary is at the rate of £200 per annum, with full residential emoluments. Applications to be submitted to the undersigned immediately.—F. W. Barnett, House Governor and Secretary.

OLDHAM ROYAL INFIRMARY (203 beds) HOUSE SURGEON (A) to the Orthopaedic Department, etc.

Applications are invited from registered medical practitioners (male and female) for the appointment of House Surgeon (A). Practitioners within three months of qualification and liable under the National Service Acts may apply, and the appointment will be for a period of six months. The person appointed will act as House Surgeon to the Orthopaedic Department, and will assist in the Casualty Department. The salary is at the rate of £200 per annum, with full residential emoluments. Applications to be submitted to the undersigned immediately.—F. W. Barnett, House Governor and Secretary.

PRINCE OF WALES'S HOSPITAL Greenbank Road, Plymouth

RESIDENT ASSISTANT PATHOLOGIST (B1)
Applications are invited for the post of Resident Assistant Pathologist (B1) at the above hospital. Salary £350 per annum, with full residential emoluments. Candidates should have held the post of House Physician in a major hospital. Applications from R practitioners who hold B1 appointments cannot be considered unless they are ineligible for H.M. Forces. Previous laboratory training not essential, but the post will provide excellent training for anyone considering making clinical pathology his career. Applications stating age, qualifications, and experience with the names of two referees, should reach the undersigned by April 3, 1948.—Arthur R. Cash, General Superintendent, Head Office, Greenbank Road, Plymouth.

PRINCE OF WALES'S HOSPITAL Greenbank Road, Plymouth HOUSE SURGEON (A)

Applications are invited from registered medical practitioners for the appointment of House Surgeon (A), vacant March 31, including practitioners within three months of qualification who are liable for service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments.—Arthur R. Cash, General Superintendent.

PRINCE OF WALES'S HOSPITAL, Plymouth CASUALTY OFFICER (A) (Ear, Nose and Throat)

Applications are invited from registered medical practitioners for the appointment of Casualty Officer (A), with Ear, Nose and Throat, vacant March 17, including practitioners within three months of qualification who are liable for service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months. Salary is at the rate of £175 per annum, with full residential emoluments.—Arthur R. Cash, General Superintendent, Head Office, Greenbank Road, Plymouth.

PRINCE OF WALES'S HOSPITAL Greenbank Road, Plymouth

ASSISTANT PATHOLOGIST (Whole-time)
Applications are invited for the post of Assistant Pathologist (whole-time) at the above hospital. Salary £1,200 per annum. Candidates should have extensive experience in all branches of clinical pathology. Applications, stating nationality, age, qualifications and experience, with the names of two referees, should reach the undersigned by April 3, 1948.—Arthur R. Cash, General Superintendent, Head Office, Greenbank Road, Plymouth.

PADDINGTON GREEN CHILDREN'S HOSPITAL (Inc.), London, W.2

HONORARY ASSISTANT SURGEON

Applications are invited for the appointment of Honorary Assistant Surgeon. Candidates must be Fellows of the Royal College of Surgeons, England. Applications (3 copies) stating the names of three referees, should reach the undersigned not later than April 3, 1948.—E. W. Stockwell, Secretary-Superintendent.

PAPWORTH VILLAGE SETTLEMENT Cambridge

REGISTRAR to the General Thoracic Surgical Unit
Applications are invited for the post of Registrar to the General Thoracic Surgical Unit. The appointment is for six months, with the possibility of renewal. Salary £400 to £600 per annum according to experience. Enquiries should be addressed to the Secretary, Papworth Hall, Cambridge.

PRINCE OF WALES'S GENERAL HOSPITAL

London, N.15

HOUSE SURGEON

to the Orthopaedic Fracture and Traumatic Dept. and SENIOR CASUALTY OFFICER (B1)
Applications are invited from registered medical practitioners for the appointment of House Surgeon to the Orthopaedic Fracture and Traumatic Department and Senior Casualty Officer (B1), which becomes vacant on April 13. Applicants should have held house appointments and had surgical experience. Salary £350 per annum, plus full residential emoluments. Suitably qualified R practitioners holding B2 appointments, also those holding B1 and ineligible for H.M. Forces, are invited to apply. Applications should reach the undersigned as soon as possible.—J. C. Burdett, Director and House Governor.

PRINCE OF WALES'S GENERAL HOSPITAL

London, N.15

CASUALTY OFFICER (A)

Applications are invited from registered medical practitioners, male, including practitioners within three months of qualification and liable under the National Service Acts, for the appointment of Casualty Officer (A), which becomes vacant on April 26. The appointment will be for a period of six months. The salary is at the rate of £120 per annum, with full residential emoluments. Applications should be sent to the undersigned as soon as possible.—J. C. Burdett, Director and House Governor.

PRINCE OF WALES'S GENERAL HOSPITAL

Tottenham, N.15

ASSISTANT

An Assistant is required for the Department of Morbid Anatomy and Histology. The appointment is full-time and its holder will be expected to undertake Postgraduate teaching. Applicants should also have some general experience of the other branches of Pathology. Salary £800 per annum. Applications should be sent to the Director and House Governor, The Prince of Wales's General Hospital, Tottenham, N.15, not later than Saturday, April 10, 1948.

PEMBROKE COUNTY WAR MEMORIAL HOSPITAL, Haverfordwest

(Voluntary Hospital, 120 beds)

HOUSE SURGEONS

Applications are invited from registered medical practitioners for the following appointments, which will become vacant in May, 1948:

HOUSE SURGEON (B2). Salary at the rate of £250 per annum, with full residential emoluments. R practitioners holding A posts may apply, when the appointment will be limited to six months.

HOUSE SURGEON (A). Salary at the rate of £225 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications in writing to be sent to the undersigned as soon as possible.—Griff. C. Morgan, Secretary-Superintendent.

PARK PREWITT MENTAL HOSPITAL

Basingstoke

ASSISTANT MEDICAL OFFICER (B1)

Applications are invited from registered medical practitioners who wish to specialize in psychiatry, for the post of Assistant Medical Officer (B1). Suitably qualified R practitioners holding B2 appointments and also those in B1 posts and ineligible for H.M. Forces are invited to apply. Salary including bonus £484 18s. per annum by £32 10s., to £614 18s., plus full residential emoluments valued at £224 18s. In addition £50 per annum for D.P.M. The recommendations in Ministry of Health Circular 12/48 are under consideration. Applications to be forwarded to Medical Superintendent.

PRESTON AND COUNTY OF LANCASTER

ROYAL INFIRMARY

HOUSE SURGEON (B2) (Eye and E.N.T. Depts.)

Applications are invited from suitably qualified medical practitioners for the appointment of House Surgeon (B2) to the Eye and E.N.T. Department. Duties under Specialist Surgeons. Salary at the rate of £250 per annum, plus usual residential emoluments. The post is recognized for the D.O.M.S. and D.L.O. examinations. R practitioners holding A appointments may apply. Six months' appointment. Applications should be sent to the Superintendent, Royal Infirmary, Preston.

PRESTON AND COUNTY OF LANCASTER

ROYAL INFIRMARY

CASUALTY OFFICER (B2)

Applications are invited from registered medical practitioners for the appointment of Casualty Officer (B2) falling vacant on April 1, 1948. R practitioners holding A posts may apply. Salary £200 per annum, with full residential emoluments. Appointment for six months. Applications to be sent as soon as possible to the Superintendent, Royal Infirmary, Preston.

QUEEN ELIZABETH HOSPITAL FOR

CHILDREN, Hackney Road, E.2, Shadwell, E.1, Banstead Wood, Surrey

EAR, NOSE AND THROAT REGISTRAR

Applications are invited for the post of Ear, Nose and Throat Registrar (half-time). Candidates must have had experience in this specialty. Appointment will be for one year in first instance. Salary £350 per annum. Applications should reach the undersigned not later than April 5, 1948.—Charles H. Bessell, General Secretary, Hackney Road, E.2.

QUEEN MARY'S HOSPITAL FOR THE EAST

END, Stratford, E.15

HOUSE SURGEON (A)

Applications are invited from registered medical practitioners for the appointment of House Surgeon (A) including R practitioners. Salary will be at the rate of £200 per annum with residential emoluments, lodging being provided temporarily outside the hospital pending the extension of residential accommodation. The appointment will be for a period of six months. Candidates should send their applications to the undersigned as soon as possible.—M. J. Huntley, House Governor and Secretary.

ROYAL BERKSHIRE HOSPITAL, Reading HONORARY ASSISTANT OPHTHALMIC SURGEON

The Board of Management invite applications for the appointment of Honorary Assistant Ophthalmic Surgeon. Candidates must be Fellows of one of the Royal Colleges of Surgeons of the British Empire or Surgical Graduates of one of the Universities of the British Empire and their names entered at the Medical Register. The elected candidate will be required to reside in or near Reading. Candidates on the part of a candidate or on his behalf will disqualify him. Candidates are required to provide six copies of their applications and testimonials, which must be addressed to the House Governor, and reach him not later than 9 a.m. on Saturday, March 27, 1948. No testimonials will be required from candidates who are members of the existing medical staff. The election will be held on Tuesday, April 6, 1948.—H. E. Ryan, House Governor.

ROYAL BERKSHIRE HOSPITAL, Reading RESIDENT ANAESTHETIST (B2)

Applications are invited from registered medical practitioners, male, for the appointment of Resident Anaesthetist (B2), vacant immediately. Salary is at the rate of £200 per annum, with full residential emoluments. It is a recognized Resident Anaesthetist post for the purpose of taking the D.A. R practitioners who now hold A posts may apply when the appointment will be limited to six months. Applications, stating present post, should be sent to H. E. Ryan, House Governor.

ROYAL BERKSHIRE HOSPITAL, Reading HOUSE SURGEON (A) to the Accident Dept.

Applications are invited from registered medical practitioners (male) for the following appointment. House Surgeon (A) to the Accident Department vacant immediately. Salary is at the rate of £150 per annum with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when the appointment will be for a period of six months. Applications should be sent immediately to the House Governor.

ROYAL DEVON AND EXETER HOSPITAL Exeter

(324 beds, 7 Resident Medical Staff Employed)
HOUSE SURGEON (A)

Ear, Nose and Throat Department
Applications are invited from registered medical practitioners (male and female) for the appointment of House Surgeon (A) Ear, Nose and Throat Department, and to act as Casualty Officer during mornings, non-resident, vacant now, including practitioners within three months of qualification who are liable to service under the National Service Acts. If held by a practitioner who is liable under these Acts, the appointment will be for a period of six months. Salary is at the rate of £300 per annum. Applications, with copies of two recent testimonials, should reach the undersigned immediately.—L. Palkhouse, Secretary and Manager.

RUNWELL HOSPITAL, near Wileford, Essex (East Ham and Southend-on-Sea Joint Mental Hospital) (1,032 beds)

SENIOR RESIDENT PHYSICIAN

Applications are invited for the post of Senior Resident Physician at the above-named hospital. Salary £750 per annum, rising by £25 to £850 p.a. cost-of-living bonus at present £49 16s. 8d. with emoluments consisting of house, light, fuel and garden produce valued at £159 19s. 4d. per annum. The appointment is subject to the provisions of the Asylums Officers' Superannuation Act, 1904. Application forms, together with further particulars, obtainable from the Physician Superintendent.

ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY, Wigan

HOUSE SURGEON (A)

Applications are invited from registered medical practitioners for the appointment of a House Surgeon (A), now vacant. Salary £150 per annum, with full residential emoluments. Practitioners within three months of qualification and liable under the National Service Acts may apply, when appointment will be for a period of six months; otherwise it may be extended for a further period. Applications should be sent to the undersigned as soon as possible.—A. Stanley Brunt, General Superintendent and Secretary.

ROYAL SUSSEX COUNTY HOSPITAL Brighton

HONORARY MEDICAL REGISTRAR

Applications are invited for the appointment of Honorary Medical Registrar from candidates who possess the necessary medical qualification. Under the hospital's present rule, the successful candidate may be appointed for a term of three years. Applications must reach the Secretary-Superintendent by April 5, 1948.

ease and the writing of 82 letters to consultants and hospitals concerning patients.

In all 70 patients were referred for a second opinion and 13 sent hospital direct, as immediate emergencies. Of the visits, 16 were ght-calls between 10 p.m. and 8 a.m.

An attempt has been made to classify the types of illness on which the patients were suffering, though it speedily became obvious that such a classification could, at best, be only a very rough one and that while certain categories could be clearly defined others tended to overlap considerably. A classification of systems of the body was also undertaken. The results are given in tabular form below, excluding all midwifery.

Illnesses		Systems of the Body	
acute general infections ..	25.8%	Cardiovascular system ..	9%
acute local infections ..	12.7%	Respiratory tract ..	23.5%
chronic infections ..	3.1%	Digestive tract ..	14.8%
neurotic conditions ..	7.7%	Skin ..	10.5%
neurotic conditions ..	13.9%	Bones and joints ..	7%
neurotic conditions ..	23.2%	Muscles ..	4.1%
neurotic conditions ..	2%	Central nervous system (including functional nervous disorders) ..	9.4%
neurotic conditions ..	6.3%	Genito-urinary system ..	5.3%
oplasms ..	1%	Glands of internal secretion ..	1.5%
ergic conditions ..	1.6%	Connective tissues ..	3%
prostitis and allied states ..	2.7%	Eyes ..	1.9%
		Ears ..	2.5%
		Throat ..	6.7%
		Haemopoietic system ..	0.5%

In respect of the original object of the survey—the estimation of the amount of neurotic illness—it rapidly became clear that quite apart from the clear-cut cases of almost pure neurosis a very large number of the patients suffering from a definite organic complaint were also affected by a strong subjective element, due to their anxiety about their health or anxiety about the effect of their illness on their economic conditions. In the table above the figure given for functional nervous disease of 1% tells only a part of the tale, as no patients with any demonstrable organic condition were included.

It seems obvious that the amount of neurotic illness seen by a general practitioner is very considerable, but that no reliable estimate can be given inasmuch as standards of classification are most impossible to set up, and the recognition of neurosis will itself tend to vary with the outlook and temperament of the doctor himself.—I am, etc.,

Aldershot.

H. BOLTON TIPLER.

True Hermaphroditism

SIR.—Dr. A. P. Cawadiaz (Jan. 31, p. 229) would appear to be under some misunderstanding concerning the nature of hermaphroditism in the animal kingdom. Even the humble hermaphrodite worm might turn at being described as a "double animal." In reply to Dr. J. R. Edisbury (Dec. 27, 1947, p. 1056) must be said that the whole subject is a very large one and it cannot be dismissed in a few lines.

As is well known, the sex of an animal depends primarily on its genetic constitution—i.e., the sex-chromosomes when these are known to exist. But for the full development of a functioning sexual animal the whole hormonal apparatus is essential. Hormones and other conditions, however, can override the original sex chromosomes and cause a sex-reversal.

A definition of terms might not be out of place here. There are three groups:

1. True permanent *hermaphrodites*, in which ovary and testis remain together and function throughout life—e.g., earthworm;
2. *Sex reversals* in which the animal starts as one sex and passes through a hermaphrodite stage to the other sex—e.g., the Buff Orpington hen (see below);
3. Those individuals with the gonads and sexual apparatus of one sex and some or all of the accessory organs and hence characters of the other sex—e.g., the mammalian *intersexes*.

Unisexuality is the primitive condition, and not hermaphroditism. Dr. Cawadiaz suggests. For example, in the invertebrates it is more specialized forms in any groups which exhibit this phenomenon, or where it occurs in a whole group this is entirely specialized. In the *Crustacea* the sessile barnacles are hermaphrodites and also many parasites. In general the phenomenon has evolved under conditions where fertilization would be difficult if unisexuality prevailed. It is not confined to such types, as is shown by the few vertebrate hermaphrodites such as the bony fish

Serranus, where a testis is present in the wall of the ovary and self-fertilization takes place. These are all examples of Group 1 above.

Group 2 is illustrated by the now famous Buff Orpington hen which, after a blameless life of egg-laying and chick-rearing, at the age of 3½ years stopped laying, grew cock feathers, started crowing, and was successfully mated with a previously infertile Buff Orpington hen. At necropsy the ovary was found to be replaced by tumour tissue and a small amount of testicular tissue was present in the ovary. This tissue had produced the viable sperm and incidentally the secondary sexual characters. This same effect may be produced by outside agents. The crustacean parasite *Sacculina* is able to convert a male crab into one with female characters. It has been shown that in doing so it is able to use the products of the "female" crab's metabolism for its own ends.

In the case of the worm *Bonnelia*, Baltzer (1925) has shown that sex is determined by pure accident of situation. The larva at a certain stage sinks from the surface. If it falls near the proboscis of a female *Bonnelia* it becomes a male. If however it falls anywhere away from this influence it becomes a female. It has been shown that the female proboscis possesses a chemical substance which dominates the sexual character of the form which comes into contact with it.

Under Group 3 come all those cases in mammals, including man, which although predominantly of one sex do nevertheless exhibit certain characters of the other sex. In the case of cattle a co-twin to a male becomes a freemartin—i.e., a female which never becomes a functional one. This has been shown to be due to the earlier elaboration of the male sex hormones by the male twin in utero (Lillie, 1917).

In all higher vertebrates both male and female ducts are present during development. In most cases one develops more rapidly than the other and only vestiges of the opposite sex are left. This is not, however, always so, and in some cases, in which one may postulate a time factor, much more of the organs of the other sex develops, and even the gonad may do so. Hence the possibility of intersexes. These commonly occur in goats and pigs. In mice they are less common, and it may be suggested that here the sex-determining mechanism is more stable.

Goldschmidt (1931) in his work on moths has obtained evidence for the existence of "strong" and "weak" male and female genes. In his elaborate experiments he was able to breed types with varying grades of "maleness" and "femaleness." His theory suggests that sex and intersexuality are largely determined by a balance or lack of balance in the strength of these male and female genes. Whether this is applicable to vertebrates we do not know, but it may well be so.

Dr. Edisbury and others interested might consult any of the following books for a full account of this very large subject: Goldschmidt, R., *The Mechanism and Physiology of Sex Determination* (Methuen, 1923); Darlington, C. D., *Recent Advances in Cyrology* (Churchill, 1937); Crew, F. A. E., *Sex Determination* (Methuen, 1933); Baker, J. R., *Sex in Man and in Animals* (Methuen, 1926).—I am, etc.,

King's College,
Newcastle-upon-Tyne.

MARY A. WOOD.

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- Baltzer, F. (1925). *Publ. Stat. Zool. Nérol.*, 6, 223.
Goldschmidt, R. (1931). *Quart. Rev. Biol.*, 6, 125.
Lillie, F. R. (1917). *J. exp. Zool.*, 22, 371.

SIR.—I am indebted to Dr. A. P. Cawadiaz (Jan. 31, p. 229) for his informative iconoclasm and also for directing my attention to his *Hermaphroditism*, which I regret to say I have not yet read. In extenuation, your annotator (Nov. 22, 1947, p. 828) seems to have been in the same lamentable position.

There does not seem any immediate prospect of a convenient qualitative test for human y chromosomes, or a roughly quantitative test for x, either of which would reveal the true or genetic sex. Perhaps someone who knows just what possibilities exist, if any, will write an article on the subject, not forgetting the forensic aspects—e.g., male heirs, etc.—I am, etc.,

Horton, Cheshire.

J. R. EDISBURY.

Homoeopathy

SIR.—My attention has just been drawn to Dr. D. W. Winnicott's letter (Feb. 14, p. 313) in which he states among other things that "homoeopathy has not been accepted by the profession on scientific grounds."

As a member of the profession who practises homoeopathy, may I point out to Dr. Winnicott that homoeopathy has never

been tested scientifically by "the profession," but has been rejected by it simply through prejudice without any proper trial. We homoeopathic physicians have repeatedly asked "the profession" to put the method to the test, and they have always refused.

We therefore welcome the opportunity which seems to be presenting itself in the near future of getting our method of therapeutics put to the test, which we have no doubt it will pass; and so the "over a million people" in this country who prefer homoeopathic treatment will be able to obtain it under the National Health Service Act.—I am, etc.,

London, W.1.

ALVA BENJAMIN.

Juvenile Delinquency

SIR,—Dr. Eustace Chesser (March 6, p. 475) makes the statement that "virtually all juvenile delinquents are made, not born," and prescribes the omnibus remedy of "short and severe punishments, followed by psychological treatment," as an alternative to "three years of comparatively negative confinement in an approved school."

Such a view ignores increasing knowledge of genetics and of the hereditary factor in disorders of conduct. It also overlooks the active contribution that the approved schools are making to the study and understanding of the factors which lead to juvenile delinquency, quite apart from their role in re-establishing as normal members of the community a high proportion of the young people whose training and re-education they undertake.

The urgent necessity advocated by your leading article (Jan. 31, p. 203) for further investigation into the efficacy of different methods of treatment as judged by the after-histories of cases of different types should receive the full support of all scientific workers in the field as being a direct means of determining the underlying causes and hence contributing to the prevention of juvenile delinquency.—I am, etc.,

Liverpool.

MURIEL BARTON HALL.

Child Guidance and Youth Organizations

SIR,—I have read with interest the letter of Dr. D. T. Maclay (Feb. 21, p. 368) on the need for liaison between psychiatric workers on the one hand and youth movements on the other. The London Union of Mixed Clubs and Girls' Clubs has now had for about three years the services of an honorary consultant psychiatrist and has found them of very great value. Our consultant visited clubs of different kinds and spent some time familiarizing herself with one in particular before undertaking to advise our leaders.

This organization has 22,000 boys and girls in its clubs in Greater London. Among them are naturally some "difficult" adolescents, but I would emphasize that it is not only the exceptional case that can benefit from psychiatric advice. We are still constantly learning how to make the wisest provision for normal young people growing up in our society.

All our students in training for leadership have had the advantage of lectures and tutorials from our consultant; and some of our best and most experienced leaders, too, have told me that it is a refreshment of spirit and an illumination of the mind to talk to our psychiatrist. Many people find club leadership as exhausting as it is rewarding, and the services of a psychiatric worker may be directly helpful to the leader as a person as well as in his or her professional capacity.—I am, etc.,

MARJORIE TAIT,
Organizing Secretary,
London Union of Mixed Clubs
and Girls' Clubs.

London, S.W.4.

SIR,—I would like to protest against the suggestion implicit in Dr. D. T. Maclay's letter (Feb. 21, p. 368) in which he couples the increase in juvenile delinquency with the spread of child-guidance clinics, and accuses child-guidance clinics of ignoring youth organizations such as Boy Scouts, Church Lads, etc. He does not mention the war, but this has been and will be for many years the chief cause of the rise in delinquency. Broken homes, marital discord, and prolonged separation from parents, especially in the first six years of life, play a large part in inducing the delinquent frame of mind. In these circumstances the normal love relationship between child and parents is disturbed, so that the child lacks the incentive to

model himself on his parents and accept his parents' standards. Less frequently the parental standards are themselves low so that the delinquent child is merely imitating his parents. The increased marital infidelity and divorce which occurs in war-time, and the separation necessitated by evacuation, is one of the commonest causes of delinquency now, and often the delinquency dates from evacuation or the return from it, a most difficult period for a child.

One of the functions of a child-guidance clinic is to re-establish a normal love relationship between the child and parents, so that the child can again derive pleasure from pleasing them. This is done by work with the parents, play therapy with the child to get rid of the child's resentful attitude, and of course by helping the child to find socially acceptable outlets for his energy, such as the clubs Dr. Maclay mentions. It is no use preaching to delinquents. They simply take no notice, like a girl of eleven I have recently seen, who regularly attends Sunday school and has made a practice of stealing money from the Sunday-school teacher's handbag after the service.

Unfortunately child-guidance clinics are far too few to cope adequately with this difficult problem, and I agree with Dr. Maclay that all encouragement should be given to youth clubs. It is however an odd point, as Healy and Bronner have shown, that delinquents are more often regular club members than their non-delinquent siblings. But I can assure Dr. Maclay that all good child-guidance clinics do co-operate with social clubs and youth organizations, and every encouragement is given to the children to join them.—I am, etc.,

London, W.11.

FELIX W. BROWN.

School Ophthalmic Service

SIR,—I think from Mr. S. Black's reply (Feb. 21, p. 368) that he must have read my letter in somewhat of a hurry. I emphasized that every Devon County Council school child had a visual acuity test every year, the most important group being that of the school entrants. I am quite sure that Mr. Black would find that children of 4 to 5 years of age, when tested by reliable and scientific methods, are quite unable to attain the 6/6 standard when there is even a low error of refraction and definitely not when there is a "fairly high error."

It is for this very reason that this group is considered so important, before gradually increasing close work has produced ciliary over-action in cases of hypermetropia, which cannot be spotted by visual acuity tests when the children reach 7 or more years. Youngsters who are too shy, dull, uncooperative, or unable to carry out the test are referred, with all those failing to attain the required standard, for full ophthalmic examination, of which the actual refraction is not the most important part.

My so-called defence of Devon County Council arises from the fact that the ophthalmic scheme in operation there is the one of which I have complete and intimate knowledge, and I am therefore in a position to refute Mr. Black's allegation at any rate as far as this area is concerned.—I am, etc.,

Exeter, Devon.

MARGARET L. FOXWELL.

An Arab Custom

SIR,—We believe the following may be of interest to your readers. While visiting the newly built American Mission Hospital in Doha, capital city of the Qatar Peninsula, Arabia, we were informed of the following practice employed by the Arab women after parturition.

When the placenta has been expelled the vagina is packed with common salt for two to three days in an endeavour to produce contraction of the vagina to the nulliparous state. This is usually followed by fibrosis of the vaginal canal and often atresia of the vestibule. As a result subsequent labours prove difficult, usually necessitating episiotomy, which formerly the Arabs practised among themselves.

As the Arab is polygamous by nature, this practice is an attempt by the wife to retain her former position in the eyes of her husband.—We are, etc.,

H.M.S. "Challenger,"
Persian Gulf.

F. S. PRESTON,
Surge. Lieut., R.N.V.R.
P. I. RUTHERFORD,
Surge. Lieut., R.N.V.R.

POINTS FROM LETTERS

Stand Firm

Dr. J. R. SALMOND (Burton-on-Trent) writes: The profession has spoken in no uncertain voice. Now, B.M.A., stand firm! We are all behind you and expect a lead. Don't give way or compromise—it is too dangerous. Local study circles must be fully organized and must have a definite policy. Our patients look to us to refuse service under the Act as it stands and to maintain our professional freedom. Think of what public apathy cost Germany in the '30s. We must cling to our liberty. . . . One thing now is certain. Since we have shown very clearly that the whole of the profession is opposed to the Act as it now stands in this country, the B.M.A. must have ready some concrete proposals for a more reasonable health scheme which can be put forward to Mr. Bevan as an alternative in the knowledge that the doctors would willingly join together in working it to the common good of all.

Compensation after July 5

Dr. PETER E. MORRIS (Hayle, Cornwall) writes: Apart from the principles involved the financial worry of most of us is the fact that at present we must enter the scheme on or before July 5 or go without compensation even if we join in later on. If the Minister were prepared to buy our practices, or in other words if spot cash were offered for goodwill, whenever a practice was incorporated in the N.H.S., there would be nothing for us to worry about on this score. One sees of course that this would destroy what the Minister hopes is a trump card, but his refusal to agree so it would be absolutely indefensible. . . .

Accepts Service

Dr. S. GILFORD (Reading) writes: I should like to apologize to Dr. R. H. SCOTT (Feb. 21, p. 360) for one mistake in my letter. In my *Medical Directory* for 1944 I found that a Dr. Ronald Hadley Scott, living in Hook, Basingstoke, was in the partnership of Cox, Scott, and Sharkey, of Basingstoke. Dr. J. A. Sharkey signed the letter, but I found that there was another Dr. R. H. Scott (Ronald Gifford), of Newcastle-upon-Tyne, who has apparently settled in the district. . . . I should like to add a few words about the plebiscite. I did not answer A—"I approve of the National Health Service Act in its present form"—because it is evident that no one can approve of it without amendments in the future. I believe that a salaried service is the only form which will provide a satisfactory service when the health centres are established. Financial competition will make full co-operation impossible. I am willing to accept service under the Act in its present form and to hope for improvement in the future. I may add that any amendment of the Act now would invalidate the plebiscite and leave anyone who signed that plebiscite free to alter his mind before July 5.

Plebiscite Warning

Dr. T. J. CROFT (Birmingham) writes: Services, permanent commissions, 16-1 against. This result, plus the figures for all salaried groups, must have surprised more G.P.s than myself. It surely is a grave warning against that type of service and should make even those who voted in favour think again. In the past temporary serving officers expressed their opinions on many subjects under a *nom de plume*. Some of their more experienced colleagues could do the profession a great service and stiffen our morale by giving us some of the "facts of life" in a State service just now. In the meantime I personally await with confidence further guidance from our Representative and Negotiating bodies. We have more to fear than loss of compensation—think of all the regulations yet to be inflicted on us. Dr. Thomas J. Agius (Feb. 21, p. 362) quotes from a sample.

Doctors' Wives

Mrs. D. FRASER (Dioxford, Hants) writes: As soon as the goodwill of my husband's practice passes to the State (with or without compensation) I intend to discontinue my almost full-time unpaid job of administrative assistant to him. A railway engine-driver's wife takes no part in administering the railways any more than a Coal Board official's wife does in running the mines, and I feel that under the new dispensation I ought to be equally absolved from having to help in making Mr. Bevan's scheme a success. . . . I suggest therefore that this matter should be strongly represented to the Minister, whether or not further negotiations take place, and also that the delegates at the meeting of the Representative Body on March 17 should give some thought to it in deciding the future action of the Association.

Prickly Heat: A Simple Remedy

Dr. H. J. KINGSTORY (Bulawayo, Southern Rhodesia) writes: If Dr. C. J. Wilson (Jan. 10, p. 76) will refer to Martindale's *Extra Pharmacopoeia* (22nd edition, vol. I, p. 599) he will find that lotio

hydrargyri perchlor., 1 in 1,000 solution with 2 in 1,000 hydrochloric acid, is recommended for prickly heat. I also have used this simple remedy with success, but can any reader tell me what is the effect of adding hydrochloric acid to the perchloride solution?

Relief of Nervous Tension

Dr. C. HORWITZ (London, N.1) writes: As an aftermath of the war there remains a great amount of residual nervous suffering among the population. That this is so is demonstrated by the frequent announcements over the wireless of the loss of dangerous drugs, mostly phenobarbitone, which are so largely prescribed as sedatives. I would like to draw attention to a method of relieving nervous strain and tension from which I myself and many of my patients have greatly benefited. It is by means of the method of progressive muscular relaxation as advocated by Dr. Edmund Jacobson, of Chicago, in his book on the subject published in 1929. Indeed, adequate training in muscular relaxation may be regarded as a prophylactic against the onset of a nervous breakdown for which rest is so often prescribed. But the patient must be taught how to rest and how to release the nervous tensions in various parts of his body. The method needs to be practised to become perfected, as one practises the piano or playing golf. To quote from an article from one of our leading psychologists and a great exponent of the method, Dr. William Brown: "The recuperating effects of rest and progressive muscular relaxation not only in mental and nervous disorders and diseases but also in physical illness, and in the normal stress and strain of life, have been admitted, indeed emphatically asserted, by medical practitioners throughout the ages."

The Blood Picture in Chicken-pox

Dr. H. ANGELL LANE (California, U.S.A.) writes: Dr. Thomas Parkinson's very interesting paper (Jan. 3, p. 8) prompts me to draw attention to an easily ascertainable fact, mention of which, however, I have not seen in the ordinary textbooks.

In the great majority of cases of chicken-pox will be found from the second to the seventh day of the rash only, (1) a "drift to the left" out of all proportion to the severity of the case, and (2) 2% to 7% Türk cells. These cells are generally smaller than those seen in cases of German measles and disappear from the picture after the seventh day, with the peak on the fifth (I have seen 12% then). I have found them rarely in cases of herpes zoster; in only one case, however, was this followed by chicken-pox in another member of the family.

Asthma and the Inhaler

Dr. A. W. PATERSON (Ipswich) writes: I have just seen with pleasure the letter by Dr. Paul Wingate (Jan. 31, p. 226) giving expression of his high appreciation of inhalations (for spasmodic bronchial asthma) of the bronchovodyrin type. His letter represents almost exactly my own opinion regarding such of these preparations as I have used now for almost eleven years. Having read recently, and a few months ago, adverse opinions of such preparations on account of their effect on the bronchial mucosa and its cilia, I should like to support Dr. Wingate by stating the great benefit I have received during these eleven years without having observed any harmful effects whatever. Like Dr. Wingate, I feel the inhalations can to a great extent replace hypodermic injections, their effect being manifest in relieving an attack and in most cases aborting it in a few minutes. Prior to their use I had to rely on adrenaline injections, sometimes several times a day, and of course was thankful enough for them.

You may remember that I wrote to the *British Medical Journal* regarding the very great benefit I had received from these inhalations as I was anxious to share my means of relief with the many who suffer the extreme discomfort of severe asthmatic attacks. I felt that these bronchovodyrin type inhalations, proprietary or not, should be more widely used and known.

Ovarian Cyst in an Infant

Dr. T. J. M. GARRO (Newbridge, Meath) writes: When conducting a post-mortem examination recently on a five-month-old baby, which proved to have died as a result of inhaling its own vomit, I discovered a very large thymus gland which completely covered the whole of the heart and was almost as large as one of the lungs.

I also discovered a pelvic cystic swelling which I thought might be of interest. This was a freely movable yellowish cyst about the size of a small hazel nut, situated near the end of the left Fallopian tube. The right tube was quite normal. I took the swelling to be an ovarian cyst. I have no access to advanced gynaecological literature and am unable to look up any references to previous similar findings, but I thought it worth my while to report my findings to you in case they may be of interest to other members of our profession.

The only other abnormality I detected was some enlargement of the blood vessels between the stomach and the transverse colon causing slight adhesion between these two organs.

Obituary

R. D. BEATSON HIRD, M.D., F.R.C.S.Ed.

When Robert Dennis Beatson Hird died on March 2 at the age of 67 the Midlands lost an outstanding figure in ophthalmology, a loss which will be felt keenly by colleagues, friends, and patients alike.

Beatson Hird received his medical education at the University of Birmingham. He and Sir Leonard Parsons were students together, and he graduated M.B., Ch.B. in 1905, proceeding M.D. a year later, and taking the F.R.C.S.Ed. in 1909. He was a native of Birmingham, and practically the whole of his professional life was spent in that city. He gave much of his time to public work, and among the many appointments that he held were those of honorary ophthalmic surgeon to the General Hospital and later to the Birmingham United Hospital; honorary surgeon to the Birmingham and Midland Eye Hospital; and ophthalmologist to the Birmingham Education Authority. He was also lecturer in ophthalmology to the University of Birmingham until 1945. During the war he served as Midland regional adviser in ophthalmology to the Ministry of Health.

A man of abounding energy and enthusiasm, he gave of his best at all times, both in his public appointments as well as in his private practice. From time to time he contributed articles to the medical journals, but it was in the clinical side of his work that his main interest lay. To this he brought keen observation and a meticulous attention to detail—a combination which rendered his work of the highest order and which was an example to those who worked under him. Nor was his view of ophthalmology a narrow one. He regarded it as only a part of the wider field of medicine, and in the sphere of medical ophthalmology his knowledge was unsurpassed. His opinion and advice were frequently sought by colleagues engaged in general medicine and surgery, and often his report gave the clue to diagnosis in difficult cases. He was a successful teacher, with a facility for imparting to his students a clear picture of the essentials of his subject. Many men now engaged in ophthalmic practice, not only in this country but in the Colonies, were once his house-surgeons and owe much to him for his advice and instruction at the outset of their careers.

His great enthusiasm for his work remained unimpaired throughout the years. In the early days of the war he suffered from a severe heart attack, but his enthusiasm and his strong sense of duty compelled him to return to full work after a few months. Nor did he then spare himself, and it would be difficult to overestimate his services to members of the Forces and to civilians who sustained eye injuries. Outside his profession he was a keen golfer until illness precluded active exercise, and among other hobbies was an interest in astronomy and a fondness for literature. There is no doubt, however, that his family life and his work were the main interests in his busy life. Beatson Hird will long be remembered both for his professional skill and for his sterling personal qualities.—C. R.

CHARLES H. RIVERS, M.D., M.R.C.P.

The march of events makes it improbable that provincial medicine will see again a man of the type or stature of Charles Rivers, who died on Feb. 28 at the age of 76.

Educated at King's College School and St. John's College, Cambridge, Rivers took the B.Sc. in 1894 and a second class in the natural science tripos in 1895. In the course of a distinguished undergraduate career in the medical school of Middlesex Hospital he held university and Broderip scholarships. He obtained the conjoint qualification in 1898 and was subsequently house-physician to Sir Richard Douglas Powell and Sir J. Kingston Fowler, and later demonstrator of pathology at the medical school. With a colleague he was co-founder of the *Middlesex Hospital Journal*. He took the M.R.C.P. in 1901, proceeded M.D. in the following year, and was later awarded the honorary degree of M.D. by Adelaide University.

After experience as a surgeon in the Boer War, Rivers worked in Australia from 1903-14 as honorary physician at the

Adelaide Hospital and the Kalyra Sanatorium, and later as tutor in medicine, and examiner in forensic medicine at Adelaide University. During this period he made a close study of pulmonary tuberculosis, being among the pioneers of artificial pneumothorax therapy, and of haematology, and published some thirty papers on clinical and pathological subjects. It is of interest to note that he was treating myeloid leukaemia with x rays in 1905. In 1914, despite an assured career in Australia, Rivers decided to return to England. After three years as tuberculosis officer to the Kent County Council he settled in general practice in Redruth in 1917, joined the staff of Redruth Hospital, and became part-time medical officer of health for the district.

He brought to general practice a rare and varied experience and a determination to apply it. He founded his own clinical laboratory and maintained its work for thirty years. He built up adequate physiotherapeutic and diagnostic x-ray equipment and he started the diagnostic and therapeutic x-ray work at Redruth Hospital. An acknowledged authority on the silicoes of metal-miners, he combined in his person the offices of consultant and practitioner, physician, pathologist, radiologist, and hygienist, and filled them all with real competence. A life-long student, it is typical that in his seventh decade he studied, and became proficient in, electrocardiography. Rivers possessed the gifts of orderly method and a capacity for sustained effort. He made decisions carefully, and did not alter them lightly. An individualist, he was fervent, even choleric, in controversy but ever courteous and jealous for the dignity of his vocation.

Outside his work he was a man of wide culture and a good classical scholar. An accomplished musician, the founder of the Cornwall Symphony Orchestra, which he directed and conducted personally, was an achievement he held dear. His fortitude in his final infirmity was as impressive as was his passion to work in spite of it. His colleagues will long respect the memory of one whose death marks an epoch and whose manifold attainments are unlikely again to come within the scope of one man. Their sympathy is extended to his widow and five sons, of whom one is a doctor.—L. W. H.

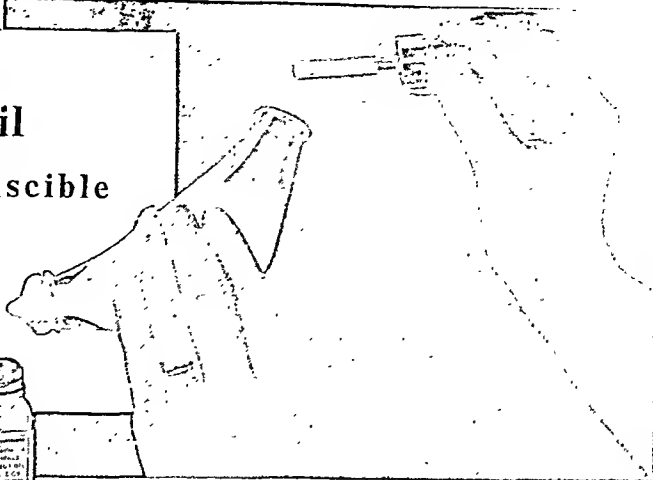
Dr. JOHN McEWEN DALZIEL, who died in London on Feb. 2 at the age of 75, was born in India and educated at Doherty Academy and Edinburgh University. He graduated M.B., Ch.B. in 1895, proceeded M.D. in 1903, and took a B.Sc. in Public Health in the following year and also the diploma in tropical medicine. Dr. Dalziel joined the West African Medical Service and became finally deputy director of sanitary services on the Gold Coast. He wrote several books on the plant life of West Africa and also *A Hausa Botanical Vocabulary*.

Dr. WILLIAM MINTY BADENOCH, of Leyton, London, E., died on Feb. 22 at the age of 64 after a short illness. He was born in Banffshire, Scotland, and educated at Aberdeen University where he graduated M.B., Ch.B. in 1908. After some experience of hospital work and of general practice he settled in Leyton in 1912. Two years later he joined the R.A.M.C. and saw service in France, Gallipoli, and Mesopotamia. He was mentioned in despatches on two occasions, was severely wounded, and left the Army with the rank of major. After the war he went back to Leyton and gradually built up a large practice. He was for many years the "J" Division police surgeon, and for six years he acted also as deputy coroner for the Metropolitan district of Essex. During the recent war he worked at a temporary surgery in part of the Leyton Vicarage. Dr. Badenoch was chairman of the South-west Essex Division of the British Medical Association in 1928-9. He was vice-chairman of the parochial church council for many years, and he acted as medical officer to the 35th City of London Battalion of the Home Guard. He is survived by a widow, a daughter, and a son, Dr. John Badenoch.

Dr. DOUGLAS ROBERTSON died at his home on March 6 at the age of 49, after a fall earlier in the day. He had been ill for about two years previously. Dr. Robertson graduated M.B., Ch.B. at Leeds in 1921, and was a son of the late Dr. H. M. Robertson, who was in practice in Roundhay, Leeds, for many years. For thirteen years after qualifying he practised in Longtown, Cumberland, where he was medical officer of health for the district. He had been in practice at Thorncliffe Dale since 1934. He was on the staff of the Malton Cottage Hospital, and was medical officer for the Allerston district.

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Medico-Legal

LIBEL ACTION BY MR. MATTHIAS ALEXANDER

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

In the Rand Division of the Supreme Court of the Union of South Africa, on Feb. 16, Mr. Justice Clayden began the hearing of an action for libel brought by Mr. Frederick Matthias Alexander, of London, against three medical men: Dr. Ernst Jokl, Physical Education Research Officer to the Union Education Department, Dr. E. H. Cluver, Director of the South African Institute for Medical Research at Johannesburg, and Dr. B. Maule Clark, of Houghton, Johannesburg, as editors of *Manpower*, a biannual scientific journal published in Pretoria by the Government Printer and circulating throughout the Union.¹

Mr. Alexander alleges that the defendants published an editorial article and an introductory note, entitled "Facts and Phantasies," to a further article implying that he made false claims as to the scientific value of his technique, and that from the scientific point of view the technique was contemptible and nonsensical; that he was untruthful and dishonest, a charlatan and a quack; that he had given the public dangerous and criminally irresponsible advice; that for personal gain and to attract people he had held out false promises of the benefits to be derived from following his teachings; and that he was mentally deranged and unbalanced. He further alleges that he has for fifty years been carrying on for reward the profession of teaching and expounding his technique, and that from the offending publication he has suffered damages in the sum of £5,000. The defendants admit publication, deny defamation, and alternatively plead truth and fair comment in the public interest.

Mr. O. Pirow, K.C., appearing for the defendants, explained that the case for the defence was that the matter complained of represented an evaluation of Mr. Alexander's four books *Man's Supreme Inheritance*, *Constructive Conscious Control*, *Use of the Self*, and *The Universal Constant in Living*. These claimed to set out the plaintiff's philosophy and technique, and the defence alleged that the contents represented, in the main, testimonials and sales talk intended to advertise the teachings of his technique, but that they also contained, centring round his alleged discoveries of conscious and/or primary control, advice, claims, and statements which represented dangerous quackery.²

Case for the Plaintiff

Mr. H. J. Hansen, K.C., opening the case for Mr. Alexander, said that he had evolved a technique and ideas which had received favourable comment from such eminent persons as Sir Charles Sherrington, Mr. John Dewey, the American philosopher, Mr. Aldous Huxley, and Sir Stafford Cripps. Mr. Alexander had never pretended to be an expert physiologist, but was an educationist who had made certain observations in investigating the use and misuse of the body. In his four books he had developed the general theme that man in the course of thousands of years had developed from an unconscious creature, acting on instinct, toward a completely conscious being, that this process had been tremendously accelerated, especially in the last hundred years, and that to-day man had to rely more than ever before on a conscious reaction to his environment and the conscious use of his body. On the one hand he was to realize that there should be no conscious interference with such reflex or subconscious activities as digestion, and on the other he had consciously to understand what was the correct use and the misuse of the body, so that incorrect habits could be corrected. For instance, a man sitting for long periods at a desk would tend to hunch his shoulders and would in time come to regard that as a normal posture. To correct the error he would have to learn, on sitting down, consciously to resist the tendency to hunch the shoulders, and then consciously to obey instructions to assume a correct posture.

Dr. Jokl, one of the defendants, had met a teacher of the Alexander technique, had made some comments on the method as taught to children at the teacher's school, and had later referred to it in an address to the South African Association for the Advancement of Science. Finally came the article in *Manpower*. The general tone of the references to Mr. Alexander was scathing and derogatory, and they implied that he was a charlatan and a quack. Mr. Alexander was 80 years old; after all arrangements had been made for him to come to Johannesburg he had had a stroke and was now unfit to travel.

Mr. Pirow then submitted that the action had not been brought within the statutory period of twelve months, but the judge declined to decide that issue first.

Personal Testimony

Dr. Wilfred Barlow, giving evidence for Mr. Alexander, said that he had qualified in medicine in 1937 and had spent an extra year at Oxford on B.A. physiology. He had hurt his shoulder at sport and suffered from repeated dislocation; through following Mr. Alexander's methods he was at last able to prevent his shoulder blade from slipping out of its socket. He had become a student and later a qualified teacher of the Alexander method. What he had seen in the clinical wards of St. Thomas's Hospital had made him realize that Mr. Alexander had made an important discovery which could help in the treatment of bad muscular co-ordination or misuse. He quoted passages from a textbook issued by the Council of Physical Therapy of the American Medical Association which he said supported Mr. Alexander's theories on the effect of faulty body mechanics on health, and from articles in the *British Medical Journal*, the *Lancet*, the *Medical Press*, and the *Journal of the American Medical Association*, all of which he said were in appreciation of Mr. Alexander's work.

Cross-examined by Mr. Pirow, he said he believed, as an ideal, Mr. Alexander's argument that physical guidance by conscious control should in time make man immune from disease. Examples of how conscious control could benefit a man's health could be multiplied indefinitely. He would advise patients suffering from acute and operable cancer or appendicitis to be operated upon, and in all cases he would recommend a course of after-care instruction in proper body mechanics to improve the patient's use of his body and promote health. Mr. Alexander did not claim to cure disease but to promote its elimination.

Dr. Dorothy Drew, a London practitioner, said that she had been injured in a car accident as a student and that during the war, owing to heavy work and responsibilities, her health had deteriorated and broken down. She had become a pupil of Mr. Alexander in London, and as a result of his lessons her sinusitis and appendix trouble had cleared up, her injured arm did not bother her any more, and she felt fully healthy.

Mr. N. E. Coaker, K.C., of Johannesburg, the next witness, said that his son, when aged four, had fallen and sustained concussion and a minor skull fracture. One leg had dragged and an arm had been affected, and he had suffered from serious mental disturbances. After a course of the Alexander technique with a Johannesburg teacher the affected leg had thickened to the same size as the other, there had been no trace of drag or uncertainty, the hand and arm had returned to normal, and the temperament was strikingly stabilized. To-day the boy was outstanding both academically and in athletics. An elder son who had suffered from continuous attacks of bronchitis had gained perfect health through a re-educative course in body mechanics, and he had himself benefited from a similar course. He had been present at a demonstration of the Alexander technique by a local teacher at which Dr. Jokl had been examined. His own knowledge of the technique had shown him that the doctor's head was pulled back; he had a great roll of flesh at the back of his neck; one shoulder was slightly dropped, and he had a "Charlie Chaplin" walk. These conditions had been demonstrated to Dr. Jokl, and after manipulation he had acknowledged the improvement. An article by Dr. Jokl had been published in the *Transvaal Educational News* side by side with another setting out the Alexander view. Later he had seen an article

¹ *Johannesburg Star*, Feb. 16.

² *Capetown Argus*, Feb. 17, 18, 19, 20, 23, 24, 25 and 26.

submitted by Dr. Jokl for publication in the *South African Scientific Journal* and had complained to the publications committee that it was "defamatory, untruthful, ill-informed, common, and vulgar."

In answer to cross-examination, he said that after a course in the Alexander technique his conscious use of his body and his psycho-physical condition were improved, and this had had a remedial effect on various complaints. He rejected the suggestion that the improvement might be due to faith-healing. Certain methods involving natural laws had been practised and had produced expected results. He could not agree with Mr. Alexander that prevention would be unfailing in time, but he did not think the claim outrageous.

Miss Irene Tasker, a teacher of the Alexander technique, said she was an honours graduate of Girton and had studied under Dr. Montessori. After seeing in 1916 the effects of the Alexander technique on one of her pupils, she had inquired into the method and had become an assistant to Mr. Alexander in London; she had started teaching his methods in South Africa in 1935. She would take no pupil who refused to see a doctor. She had first met Dr. Jokl in June, 1941, when he had expressed interest and asked her to lecture. About a year later he had telephoned to her saying he was a scientific inquirer and wanted to see what the technique was about, and that he had become particularly interested on hearing that Sir Stafford Cripps supported Mr. Alexander. At a later demonstration she had shown that Dr. Jokl "pulled himself down" to a seat. After one manipulation his condition had been improved, but when he had sat down again he had reverted to the old habit. He had written her a letter in which he had thanked her for the "most interesting and able demonstration" she had given, and had added, "I certainly feel that your system means a highly important contribution in the field of education in its widest sense, and am looking forward to learning more about it from you." She had later received a request from the doctor to take a course. She had asked him why, and he had replied that it was just a rhetorical question to test her reaction. She had suggested that he should see Mr. Alexander himself.

Sir Stafford Cripps's Experience

Mr. Hansen handed in evidence taken on commission in London from Dr. Whittaker, Dr. Peter McDonald, Lord Lytton, Sir Stafford Cripps, and two other doctors. Sir Stafford Cripps's evidence said that he had protested strongly to the High Commissioner for South Africa against what he considered a gross libel of himself in the article in *Manpower* published by the Union Government. Mr. Alexander's lessons had made him feel much freer in his movements and much more rested. At the end of a two-hours speech in the House made immediately after a lesson he had not felt in the least bit tired.

In cross-examination Sir Stafford said that he had adopted the Alexander technique and vegetarianism for colitis and various internal complaints. "The extraordinary thing is that when you experience it, you become perfectly convinced he is right." In re-examination he quoted from the offending article: "The best way to explain the amazing quackery is to look on it as a typical instance of group hysterо-neurosis." His own and other names were mentioned, and there was a reference to "highly intelligent persons." The general tenor was obviously that anyone associated with this Alexander teaching was either a fool or a knave.

The Earl of Lytton, formerly Governor of Bengal and for a short time Viceroy, had said on commission that a young Indian civil servant whose health had broken down had returned from England "a new man, happy and cheerful" after treatment by Mr. Alexander. He himself had consulted Mr. Alexander on account of being much run down in health and having had a chronic headache for several years. Mr. Alexander had pulled him about and generally used his hands to put him in the position in which he wanted him; then he had said, "There, that is your place in nature now. If you always keep like that, you will always feel well." Lord Lytton had felt extremely uncomfortable and misshapen in that position, but had had very much better health. Mr. Alexander had emphasized that he was not a doctor and it was not his

business to diagnose or remove complaints but to teach his pupils to make the best use of themselves. Lord Lytton had encouraged him to start a school and training centre which he was still a trustee. This concluded the case Mr. Alexander.

Views from Physiologists

Counsel for the defence read evidence taken on commission from Prof. Samson Wright, John Astor professor of physics in the University of London, who said he had made a careful and unbiased study of Alexander's books. These made assertions which if accepted would revolutionize the whole approach to medicine, but no records were given of any histories, nor of examinations of large numbers of patients or of findings based on these which would permit an impartial person to examine and judge for himself the value of the assertions. Unless Mr. Alexander could tell in detail the method he used, readers were not justified in attaching any credence to his affirmations about "deceptive sensory appreciation." Statements on the function of certain organs, such as lungs, were "just nonsense," as was a description of the chest and abdomen as resembling a stiff oblong rubber bag.

A detailed analysis of the books suggested that, possibly through lack of formal training in physiology, Mr. Alexander had not that standard of physiological knowledge which would enable one to take his affirmations on trust, and one must treat with the utmost scepticism any claims he made dealing with effects on respiration and circulation. The contention that conscious control could regulate every function of the body was quite out of keeping with what could be easily demonstrated. In this as in other claims the onus was on Alexander, seeing that his affirmations were entirely contrary to all established evidence about the degree of control of the internal organs by the mind or will, to establish his case. Until he did so the gravest scepticism was called for in accepting his conclusions.

In the special field of the physiology of physical fitness and related subjects Dr. Jokl was probably one of the leading authorities in the world, and was eminently equipped with his knowledge and investigations to comment very competently on any physiological statements made by Mr. Alexander. When Sir Charles Sherrington had actually said about Mr. Alexander's work was: "Mr. Alexander has done a service to the subject by insistently treating each act as involving the whole individual, the whole psycho-physical man." If that were so, Mr. Alexander had said in his writings, it was, in Prof. C. D. Wright's view, a very minor service; but as this thesis was combined with an immense amount of material which was entirely untrue and misleading and probably dangerous, and, taking his writings as a whole, rendered a great disservice to the community.

Sir Henry Dale's evidence, also given on commission, was that he had found in Mr. Alexander's books "no intelligent account of any scientific discovery." They struck him as a mass of pretentious verbiage, and he would call the whole thing quackery. A given paragraph was very much in keeping with the general style and tendency to vague assertion of advertisements of proprietary nostrums.

Evidence by the Defendants

Dr. E. H. Cluver, one of the three defendants, said in evidence that he had studied at Oxford under Sir Charles Sherrington and in 1919 had been appointed professor of physiology at the Rand University on Sir Charles's recommendation. He had written two standard textbooks on practical physiology and one on public health in South Africa, and had been Secretary for Public Health in 1938. In November, 1943, a Member of Parliament had drawn his attention to an alleged cure by the Alexander method which, in accordance with his practice, he considered it his duty to investigate. He had studied the book *Constructive Conscious Control* and had glanced through others. The contents had seemed to him to be nonsense which could be left alone, something that only wealthy neurotics could fall for. The statements about wrong sensory perceptions showed no knowledge of the physiological facts and a wrong conception of the physiology of the human being. Any

tudent knew that man could not consciously control all muscular activity by the Alexander technique. His reaction had been that this matter fell into the same category as the alleged cures for cancer that he received. Later, however, he had heard that it was seriously proposed that this technique should be introduced into the schools of South Africa. He had regarded this as a most shocking proposal, a very serious threat to the health of school-children, a pernicious and dangerous proposal, and he had decided that something must be done to oppose it. He had heard that Dr. Jokl had already encouraged the protagonists of the scheme, and told him that the matter was so serious that they should expose it in *Manpower*. Dr. Jokl had been most reluctant, but on being urged had eventually prepared the article as an acknowledged authority on the subject.

Cross-examined by Mr. Hansen, Dr. Cluver wrote down the name of the woman Member of Parliament who had claimed that "a pain in the back" had been cured by the Alexander method, and agreed that she was a person of considerable intelligence. He had not tried, beyond reading the books, to discover what the Alexander technique was. He understood at the general theme was that man could be given conscious control of his involuntary muscular system—"which is nonsense." If he were told that this was not Mr. Alexander's meaning, that might cause him to revise his ideas, but the statements in the books showed gross physiological misconceptions. He felt that this pernicious technique had to be exposed in a public interest. In using such epithets as "pernicious," "dangerous," and so on, he was quite dispassionate, his only object being to protect school-children. He knew of no harm caused by the technique, but there was potential harm.

The epithets "Australian actor," "Australian gym master," and "Australian immortal" were not intended as abuse but to show the background of the man who had made these amazing claims, as was right "in exposing quackery of this kind." He thought that most of the people, but not all, who supported Mr. Alexander or claimed to benefit from his technique were neurotics. He agreed that he had himself written in 1943 a non-technical book in which he had made the point that man's instincts were not adequate to cope with the change in man's physical and psychological state and environment and that education was essential, that much sickness could be averted by proper methods, and that mental or psychological adjustments often caused conditions which led to disease; and he had expressed the hope that in time most disease might be prevented. He asserted, however, that this differed very much from Mr. Alexander's concepts, which were based on quite different and physiologically quite erroneous foundations. On re-examination, he explained that his theme had been that if man's physical and psychological environment could be created to allow all the correct factors medical treatment would become largely unnecessary and men should reach a much greater age than to-day. This had not the remotest connexion with Mr. Alexander's ideas.

Dr. E. Jokl said in evidence that he had been born in Breslau in 1907, had come to South Africa in 1933, and had been pour and manpower adviser to the Industrial Development Corporation. Since 1941 he had been a member of the National Advisory Council for Physical Education to the Union Government. He had been engaged in physical education research for over twenty years. When he had asked Miss Tasker to show him her methods he had been head of the Department of Physical Education for the Rand Technical College and had approached anyone who he thought might contribute to its studies. He had not been impressed with the demonstration and had never suggested that he was impressed. Later Miss Tasker had indicated that she could not give him lessons. As a scientific inquirer he had considered this curious and so had begun to read Mr. Alexander's books. He had felt it necessary to reply to an address on the Alexander technique given by a school inspector and later published in the Press. The content of the articles for the Alexander method had been that experts should now either accept or reject it. The challenge had been thrown out and he had accepted it. After criticisms of his *Manpower* article had appeared he had gone to England, where he had found that all the "top-notchers" in medicine

were interested, and he had been inundated with offers of evidence in support of his statements about the technique. Sir Charles Sherrington had personally introduced him to Sir Henry Dale. Asked about Sir Stafford Cripps, he replied that colitis was "one of the notorious diseases which react in many people to suggestion treatment, faith cures, hocus-pocus."

Counsel put to Dr. Jokl a letter written by Sir Charles to Mr. Alexander in which the sentences occurred: "... I appreciate the value of your teaching and observations. ... I know some of the difficulties which attach to putting your ideas across to those less versed in the study than yourself. Your disciples, however, can more and more disseminate them and multiply your call." After hearing of the publication of this private letter, Sir Charles had been disgusted and had told him he considered Mr. Alexander "a dangerous quack." The letter was one of conventional kindness, as had been his own letter to Miss Tasker. He had genuinely desired to have lessons from her to learn more about the method. He agreed, however, that letters written by him in 1943 included a bitter attack on Miss Tasker and a statement that he wished "to expose the Alexander technique and attack the racket." Most of the Alexander supporters were neurotics. They were all very clever people and there was nothing wrong with their intellect, but their emotional make-up was maladjusted. He quoted many passages from Mr. Alexander's books to support his contention that Mr. Alexander's "unqualified claims" included conscious control of the viscera. Re-examined, he said he had no quarrel with Mr. Alexander's claim to improve posture but with his claim that a particular method of attaining posture would ensure "unfailing health—curative, preventive, and promotive."

This completed the evidence for the defence, and counsel then addressed the Court.

(To be concluded)

Medical Notes in Parliament

National Assistance Bill

When the Report stage of the National Assistance Bill was taken in the House of Commons on March 5 Mr. JOHN EDWARDS moved to amend Clause 5 (Determination of Need for Assistance) by leaving out the words "pulmonary tuberculosis" and inserting "tuberculosis of the respiratory system." He said it was proposed to alter the wording to ensure that the Clause covered all infective forms of the disease.

Mr. SOMERVILLE HASTINGS asked what would happen in the case of a man who was discovered to be suffering from tuberculosis of the lungs after he had become so ill that he had had to leave his work. In that case he would not suffer loss of income by entering a hospital or sanatorium.

Mr. JAMES GRIFFITHS said the Ministry of National Insurance would prepare regulations to meet the kind of case referred to by Mr. Hastings.

The amendment was accepted, and on the motion that Clause 5 stand part of the Bill Mr. GRIFFITHS said that under this Clause the Board would be under an obligation to make special regulations in regard to blind persons and those suffering from tuberculosis of the respiratory system. The Clause as amended was ordered to stand part of the Bill. Amendments were made in further Clauses and the Bill was reported to the House.

Mr. STEELE moved that the Bill be read a third time. He took the opportunity to give an assurance that the National Assistance Board would include someone from Scotland and someone from Wales.

Mr. SOMERVILLE HASTINGS said that under the Bill one class of people would suffer. They were the district medical officers who administered medical assistance under the Poor Law. These officers were not in the true sense part-time officers. Although they were not employed whole-time they gave a twenty-four-hour service. Moreover, they were called "Senior Poor Law Officers" and could not be discharged by a local authority except with the consent of the Ministry. As they were permanent officers he asked Mr. Griffiths to be sure that justice was done to them in the grant of compensation.

Mr. JOHN EDWARDS, replying for the Government, did not take up the point raised by Mr. Hastings. The Bill was read a third time without a division.

Educational Psychology

On March 4 Mr. C. W. DUMPLETON drew attention to the Ministry of Education's Circular No. 146, which dealt with educationally subnormal children and with the selection and approval of medical officers in connexion with the certification of children and the determination of educability. The circular provided, under the heading of "Intelligence-testing for statutory ascertainment and reporting," that the authorities were required to consider the advice of their approved medical officers. In accordance with a previous clause of the circular an approved medical officer was one who had taken a course under the London University Extension and Tutorial Classes Council in conjunction with the National Association of Mental Health. This course was one of only three weeks. It was laid down that the form incorporating the advice of the medical officer must be completed entirely by him and that no part of the examination must be made or recorded by any other officer of the authority. This seemed to Mr. Dumbleton to brush aside the services of the educational psychologist and to deny to medical officers the right which medical men in other situations always had of calling in the aid of the specialist. Educational psychologists had to undergo years of training and were trained in educational work as well as in psychology. He suggested that a legal certificate could be signed by the medical officer and that the educational psychologist could still make an examination and fill up a separate form.

Mr. HARDMAN, replying for the Ministry of Education, said that the Ministry did not desire to belittle the work or status of educational psychologists nor to ignore their help in dealing with the educationally subnormal child. The paragraph in Circular 149 which said that the form must be completed in its entirety by the doctor made it difficult to use to the full the educational psychologist in the ascertainment of subnormal pupils. Because of that the Ministry would agree to amend this rule in such a way as to make it clear that the educational psychologist could play his full part. This would entail some revision of the statutory medical report form. Mr. Tomlinson was prepared to consult the Advisory Committee on handicapped children about this revision. At the same time the House had to remember that the law required a medical report, and this meant a report from a qualified doctor. The Courts would only recognize such a report, and to prepare it the doctor must make a mental and physical examination of the child. He must study its behaviour systematically as well as summarizing its general reaction. The intelligence test could be carried out by an educational psychologist who would accompany his record with comments in order to assist the reporting doctors. He agreed that for the majority of retarded children the educational problem was the primarily important one and that educational psychologists in co-operation with teachers were better equipped than doctors to diagnose the trouble and prescribe the treatment. At the same time the Ministry had to remember the right of the parents to appeal to the Minister, and it would be improper to take formal action without making a report which could be laid before the Minister. A way could be found by administrative action of utilizing the abilities of the educational psychologist.

Medical Manpower

When the Army Estimates were discussed on March 9 Dr. HADEN GUEST spoke of the atom bomb, bacteriological warfare, and new forms of chemical warfare. He hoped the House would discuss these subjects in a civil defence debate or on some special occasion. The atom bomb was expensive to produce, but bacteriological warfare was cheap. The resources of a good county public health laboratory were sufficient for manufacturing the deadliest germ weapons. The association between civil and military organizations would consequently have to be much closer. The problem as it applied to medical officers in the Services was an example of the difficulties to be faced. At present there was great difficulty in supplying the full quota of medical specialists to the Army and a lesser difficulty in the other Services. The difficulty would be greater in 1949 because from the beginning of that year the period of service would be one year only and it would be, for practical purposes, impossible to make the services of these officers available in distant theatres. As a rule the medical officer of an age which made him subject to calling up had not had time in which to take the higher specialist qualifications. The National Service Act allowed the service of specialists to be deferred to a later age, but in effect the specialist who was called up would be a junior specialist. They could not expect the man under thirty to be capable of acting as consultant medical officer. Yet it was upon highly placed consultant officers that the efficiency of the medical service

would depend. The difficulty was increased by the demand made on medical manpower in other fields. When the National Health Service Act came into operation it would demand an immediate increase in the number of specialists in many areas of this country and shortly afterwards would also demand an increase in the number of general practitioners. Demand were also rightly made on medical manpower for the Colonial Service. It had been necessary to make a special arrangement in West Africa and in another colony by which medical men recruited for what would normally have been military duty were allocated to service in the Colonies and that service was accepted as discharge of their military obligation. The expansion of civil defence which had been announced would be another large drain on medical manpower. Dr. Guest trusted that co-ordination of common services within the Forces could be carried out immediately. There was no sense in the medical services of the Navy, Army, and Air Force having different kinds of forms on which to report the same kind of disability. They should have the same forms and in their administration the same rules. The demands of the services for specialists and administrative officers could be met only by creating a large number of regular commissions or of short-term commissions for five years. Unification of the medical services of the three Services would bring an economy of medical personnel by between 5 and 10%. The three medical services co-operated in Malta and worked together in Hong Kong and other areas. During the war most of the hospitalization of casualties was carried out by the Army whether the casualties were from the Navy, the Army, the Air Force, or were civilians. He trusted that the whole of the medical services would be co-ordinated into one to include the National Health Service, general and special services, and also the Army, Navy, Air Force, and Colonial Services.

During the war the medical base for the treatment of casualties was largely in the hands of the Emergency Medical Service, a civilian organization whose good work had not yet been fully recognized. A unified medical service would make it possible for superannuation schemes to be interchangeable between one branch and another. It would give every medical man or woman a wider opportunity of choosing a career. This practical proposal had been discussed by many medical and military authorities. The same considerations applied in large measure to scientific and technical services of other kinds.

Replying to the debate Mr. STEWART said Dr. Haden Guest had a special knowledge of the medical services in the Army. Mr. Stewart admitted that there was a shortage of specialists and said it was difficult to see an immediate remedy. The Army was by no means the only sufferer. It was important to make the best use of the specialists which the Army possessed. An investigation in which Dr. Haden Guest had shared had concluded that the Army Council was acting rightly in that respect. As Dr. Guest suggested, further economies were possible by co-ordination between the medical services of the three defence Services. A recently appointed committee was working on that problem. Mr. Stewart hoped that it would help to provide a solution.

Improvised Health Centres

Sir ERNEST GRAHAM-LITTLE asked on March 9 whether Mr. BEVAN knew that the East Sussex County Council proposed to improvise health centres out of premises originally provided as maternity and child welfare clinics.

Mr. BEVAN said there was no question of improvisation. The County Council proposed to continue to use the premises for the maternity and child welfare service. He had no evidence that they were unsuitable for that purpose.

On March 10 Sir ERNEST GRAHAM-LITTLE asked Mr. BEVAN if, in issuing his final invitation to individual doctors to join the new Health Service, he would make it clear, especially to general practitioners, that the provision of health centres was indefinitely postponed, and that with that postponement it would be impossible to supply the facilities for carrying out the numerous services detailed in Section 21, with the result that the young doctor commencing medical practice would have to find for himself the equipment necessary, by the appointed day.

Mr. BEVAN referred to the answer given on Feb. 10 to a previous question by Sir Ernest Graham-Little (*Journal*, Feb. 28, p. 421).

Hospitals Taken Over.—Mr. BEVAN informed Mr. Linstead on March 11 that he had advised all hospitals which appeared to him liable to be taken over. He added that he was deciding, with the help of the Regional Boards, which hospitals it would be proper to disclaim.

Grants for Medical Students.—On March 11 Mr. TOMLINSON told Dr. Santo Jeger that at present 2,540 grants from the Ministry of Education for medical students were in force. Of these, 2,539 provided for the payment of full fees and a maintenance grant, 6 for a maintenance grant only, 3 for full fees only, and 22 for part fees only. Local Education Authorities also gave grants to medical students, but figures for these were not available.

Mental Hospital Officers.—Mr. HRYAN told Mr. Dumbleton on March 11 that he would not amend Regulation 29, in respect of mental health officers under the National Health Service Act, so as to give the same treatment to all mental health officers with regard to their previous service. Mr. Dumbleton alleged discrimination between staff of the Mental Hospital Service and the Certified Institution Service. Mr. HRYAN added that he was considering whether it would be possible to amend the basis as regards the officers of mental deficiency institutions to enable them to get a just measure of benefit in respect of their future service.

Extra Rations for Invalids.—Asked on March 11 why the Minister of Food had refused to grant additional rations to a boy whose own medical adviser had given a certificate that the boy had intermittently suffered from asthma for seven years, Mr. SUMMERSKILL said the Ministry's medical advisers never undertook to examine applicants for special rations, but always accepted the diagnosis of the patient's own medical adviser. Their unwelcome task was to advise on the relative needs of different groups of invalids bearing in mind the limited amounts of rationed food available. The need of uncomplicated cases of asthma for extra rations was not such as to justify a claim on this limited supply.

Universities and Colleges

UNIVERSITY OF OXFORD

In a Congregation held on Feb. 28 the degree of H.M. was conferred on Elizabeth A. Heyan John.

UNIVERSITY OF CAMBRIDGE

The following medical degrees were conferred on Feb. 28:

M.D.—G. B. French, C. P. Peck, W. H. H. Jobb, G. M. Barrett, J. W. Bromley,
J. N. Horne, W. Warren.
M.B., B.Ch.—R. C. Roxburgh, *H. B. Griffiths, *J. P. D. Thomas, *P. G.
Sommers, A. H. Jones.

UNIVERSITY OF DUBLIN

SCHOOL OF PHYSIC, TRINITY COLLEGE

The following medical degrees were conferred on March 16:

M.H., B.Ch., B.A.O.—W. B. Alcott, Brenda M. Charley, J. V. Connolly, Sheila Davies, G. W. Keating, J. D. Kentley, J. W. McCaw K. McIntyre, M. Marcus, D. J. J. Waugh.

UNIVERSITY OF LONDON

The examinations for the M.H., H.S. degrees in October, 1948, April, 1949, and October, 1951, will start one week later than the date laid down in the Regulations, provided the necessary accommodations are available.

For examinations in and after 1949 the external and general internal first examinations for medical degrees will be held one week earlier—i.e., beginning the last Monday in June.

UNIVERSITY OF MANCHESTER

The Council of the University has accepted a gift of £1,000 made by Mrs. Lapage to establish in memory of her husband, the late Dr. C. Paget Lapage, a prize which will be offered annually for ward on the paediatrics section of the final examination for the degrees of M.B., Ch.B. Dr. Lapage, who was a graduate of the University and a member of the University Court, was for many years on the staff, being since 1934 Reader in the Diseases of Children.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

The Royal College of Physicians of London has arranged a course of postgraduate lectures in medicine to be given from May 3 to June 25, at 5 p.m. There will be approximately 26 lectures. The full programme is not yet complete but preliminary details can be obtained from the College (Hall Mall East, London, S.W.1). The exclusive fee for the course is £7 7s, and the total entry will be limited to 200. Fees are payable in advance and must be received by April 19.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

At an ordinary meeting of the Council of the College, held on March 11, with Sir Alfred Webb-Johnson, Bt., President, in the chair, Mr. C. Gill-Carey, Mr. J. P. McMurray, and Mr. S. A. J. Malkin were elected Fellows of the College. The appointment of Sir John Anderson, F.R.S., and Sir Henry Dole, F.R.S., as Trustees of the Hunterian Collection was reported. Dr. A. D. Martin was elected the first Dean of the Faculty of Anatomists in the College. A Hunterian Professorship was awarded to Dr. Shohl, Shd. by, a Cura.

The following hospitals were recognized in respect of the special surgical posts required of candidates for the final Fellowship examination: Royal Infirmary, Gillingham (resident consultant surgical officer); St Luke's Hospital, Guildford (senior house-officer); Ayricham General Hospital (resident surgical officer for a period of two years in the first instance); Royal Northern Infirmary, Inverness (recognition now to be made permanent).

Diplomas of Fellowship were granted to the following candidates:

G. B. C. Penfield, A. D. Meecey, E. McK. Crisp, P. J. Barford, H. H. Reynolds, N. S. Slater, D. H. G. Waller, W. H. Potts, G. S. Lunt, J. H. Barker, W. A. Hamner, R. J. Jones, A. I. Wall, A. H. Dunn, G. F. Brown, W. S. G. S. Sims, I. D. Austin, H. A. Bailey, A. A. Scott, A. H. Lee, C. T. F. Gardner, C. McCulloch, W. Langley, J. A. G. Rees, A. P. Vignani, E. Fleming, M. E. Hall, G. R. Langford, J. A. G. Rees, A. P. Vignani, H. Bolton, D. H. Duffy, V. O. Walden, R. H. Wetherill, P. H. Williams, J. W. Mackay, A. V. Pollock, A. J. F. Braden, D. D. Bennett.

A diploma of Membership was granted to S. Raza

A Diploma in Public Health was granted, jointly with the Royal College of Physicians of London, to A. W. Meade.

SCOTTISH COUNCIL BOARD

The following candidates, having passed the final examination, have been granted the diploma of I.R.C.P.(d), I.P.C.(d):
I.R.P.P.&S Class: G. G. Allan, S. J. Alexander, A. J. Barr, Mrs. H. Bruce, G. Cameron-Mowat, Margaret C. B. De la Motte, Mrs. A. Hamilton, G. J. C. Hird, S. Hopland, Mrs. A. H. J. P. Kelly, C. Kopet, J. F. Lee, J. D. C. Lyons, J. M. C. (Ber.) J. McKee, Birkie, Mary C. MacKer, Jeanne G. Marshall, Pamela J. B. Power, Catherine J. A. Robertson, S. S. Ross, J. S. Ross, J. P. Thompson, J. E. H. Tullie, W. F. Watson, H. Weiss, B. Williams.

The Services

Surgeon Lieutenant-Commanders G. F. M. Bennett and G. L. Foss, R.N.V.R., have been awarded the R.N.V.R. Decoration.

Air Vice-Marshal P. C. Livingston, CBE, CBE, AIC, has been appointed Director-General of Royal Air Force Medical Services in succession to Air Marshal Sir Andrew Green, FRCGS, CBE.

AUXILIARY ROYAL ARMY MEDICAL CORPS, 1902.

The annual general meeting of the members of the Auxiliary Royal Army Medical Corps Funds will be held at 11, Grosvenor Street, London, W., on Monday, April 2, at 4.30 p.m., when the report and accounts for 1937 will be presented and the new auditors elected for 1938.

DEATHS IN MIL. SERVICES

Squadron-Leader *Micahel, John Cameron*, died in hospital on Feb. 20. He was born in July, 1922, and was a student at Glasgow University. He graduated M.B., Ch.B. in 1943 and worked as house-surgeon at the Royal Maternity Hospital, Glasgow. He was then commissioned in the Royal Army Medical Corps, where he served until August, 1949, when he transferred to the Medical Branch of the Royal Air Force. On taking a leave of absence, his commission in 1954 he was appointed and on his return to the London Recruiting Depot of the Royal Air Force. In the interim he continued to serve until June, 1950, when he was appointed a commission as flight-lieutenant in the R.A.F.V.R. He was promoted to the rank of squadron-leader in January, 1955, and in recent years had been employed in the country on medical board duties.

The National Baby Welfare Council (29, Gordon Square, London, W.C.2) has issued a pamphlet entitled *Infant and Personal Hygiene*. It is obtainable from the Council for 1d. and 11 postage. Simple diagrams illustrate the exercises, and notes attempt to explain how and when they should be carried out.

No. 9

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Feb. 28.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	31	2	15	6	1	74	9	29	2	1
Deaths	—	—	1	—	—	—	2	—	—	—
Diphtheria	173	13	38	11	8	186	15	46	16	6
Deaths	1	—	—	—	—	5	1	2	—	—
Dysentery	145	12	65	—	—	92	16	16	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica, acute	—	—	1	—	—	2	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	46	8	2	—	1	44	13	1
Deaths	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years	—	—	—	—	—	—	—	—	—	—
Deaths	59	8	10	21	5	83	12	16	41	2
Measles*	7,312	932	732	136	35	13,337	656	255	30	194
Deaths†	—	—	2	—	—	25	—	2	—	3
Ophthalmia neonatorum	47	1	9	—	—	67	3	8	1	—
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever	3	—	—	—	1 (B)	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenza	732	37	8	12	3	981	54	22	15	8
Deaths (from influenza)‡	20	3	—	—	1	121	32	6	2	1
Pneumonia, primary	274	41	276	37	6	—	92	277	21	18
Deaths	—	—	—	—	—	—	—	—	—	—
Polio-encephalitis, acute	1	—	—	—	—	2	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Poliomyelitis, acute	24	5	1	3	—	8	—	2	4	—
Deaths§	3	—	—	—	—	—	—	—	—	—
Puerperal fever	—	—	10	—	1	—	1	11	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia|| .. ..	95	5	10	1	—	109	12	8	1	4
Deaths	—	—	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	1,710	81	357	26	46	1,167	84	228	30	38
Deaths†	—	—	—	—	—	2	—	—	—	—
Smallpox	—	—	—	—	—	5	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid fever	—	—	1	15	1	5	—	—	—	—
Deaths	—	—	—	1	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough*	2,631	158	47	37	17	2,290	224	384	86	21
Deaths	8	—	—	—	—	15	—	4	10	—
Deaths (0-1 year)	430	58	59	27	11	627	83	99	70	15
Infant mortality rate (per 1,000 live births)	—	—	—	—	—	—	—	—	—	—
Deaths (excluding stillbirths)	5,569	908	634	201	119	8,352	1412	917	403	182
Annual death rate (per 1,000 persons living)	—	—	12.8	12.6	—	—	19.1	—	—	—
Live births	8,784	1493	1051	383	258	10,520	1706	1219	501	304
Annual rate per 1,000 persons living	—	—	21.2	24.0	—	—	24.6	—	—	—
Stillbirths	215	20	34	—	—	300	42	43	—	—
Rate per 1,000 total births (including stillborn)	—	—	31	—	—	—	—	34	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

|| Includes puerperal fever for England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* a rise occurred in the incidence of whooping-cough 79 and measles 103, while decreases were recorded for scarlet fever 118, acute pneumonia 56, and dysentery 46.

The largest rises in the notifications of measles were: London 166, Northamptonshire 137, and Middlesex 99; the largest falls were Lincolnshire 99 and Monmouthshire 92. The only large variation in the returns for whooping-cough was an increase of 100 in Yorkshire West Riding, an increase which was spread over the whole county.

Decreases in the incidence of scarlet fever were reported in Middlesex 38, London 37, Norfolk 30, and Glamorganshire 26; the only large rise was that of Yorkshire West Riding 50. No change of any size occurred in the local trends of diphtheria. A small fall in the incidence of acute pneumonia was recorded in every region except that of the south Midlands, where there was a slight increase.

The largest returns of dysentery were: Lancashire 41 (Blackpool C.B. 12), Yorkshire West Riding 38 (Bradford C.B. 10, Sheffield C.B. 19), and London 12. Only three counties had more than one notification of acute poliomyelitis—Middlesex 5 (Heston and Isleworth M.B. 3), London 5, and Sussex 3 (Cuckfield R.D. 2).

In *Scotland* a decreased incidence was recorded for measles 116 and for diphtheria 21, and an increased incidence was reported for acute primary pneumonia 52 and scarlet fever 30. The fall in the incidence of diphtheria was due to a decrease throughout the western area. Notifications of dysentery declined in the north-eastern area but rose in Edinburgh and Glasgow, where 23 and 17 cases, respectively, were notified during the week.

In *Eire* an increase in the notifications of measles 54 and decreases in scarlet fever 18 and whooping-cough 18 were reported. The rise in the incidence of measles was contributed by three areas—Donegal (Donegal R.D. 31), Dublin (Dublin North R.D. 13), and Galway (Galway R.D. 14). Of the 15 cases of typhoid 10 were notified in Louth, Dundalk U.D.

In *Northern Ireland* increases were reported in the notifications of measles 16, scarlet fever 10, and whooping-cough 6. These rises were due to the experience of Belfast C.B.

Travellers to Saudi Arabia

The Epidemiological Bureau at Alexandria states that the Kingdom of Hedjaz no longer requires anti-cholera inoculation certificates from travellers coming from Egypt.

Week Ending March 6

The notifications of infectious diseases for England and Wales during the week included: scarlet fever 2,069, whooping-cough 3,067, diphtheria 200, measles 8,788, acute pneumonia 794, cerebrospinal fever 42, acute poliomyelitis 22, dysentery 184, paratyphoid 2, and typhoid 5.

Medical News

Medical Society of London

The 168th Anniversary Dinner of the Society was held on March 11 at Claridge's Hotel, London, with the President, Mr. W. E. Tanner, F.R.C.S., in the Chair. The toast of the Society was proposed by the Marquis of Reading and responded to by the President, who observed that the Society had among its members all sections of the medical profession. Whatever might happen with the National Health Service Act, Mr. Tanner said, the voluntary principle would never disappear. The health of the guests was proposed by Mr. G. Armitage, F.R.C.S., and responded to in a characteristically witty speech by Sir Alfred Webb-Johnson. Sir Alfred observed that we were living in times when the freedom of the professions was in danger. The medical profession happened to be the first in the assault. He referred to the supremacy of the law over the executive as the palladium of our liberties and said that the freedom of the profession was involved in the freedom of the peoples.

Lecturing in Poland and Czechoslovakia

Dr. E. A. Carmichael, Director of the M.R.C. Neurological Research Unit, is lecturing in Poland until March 31 and then going for a week each to Czechoslovakia and Austria on behalf of the British Council. He is speaking on the dynamics of the cerebrospinal fluid in man, fatigue and impairment of muscle function in man, and epilepsy.

Ophthalmological Society Award

The Council of the Ophthalmological Society of the United Kingdom has awarded the Treacher Collins Prize to Hugh S. Stannus, M.D., Ph.D., F.R.C.P., for an essay on nutritional eye disease.

Irish Honours for European Scientists

Dr. Gunnar Dahlberg, professor of human genetics in the University of Uppsala, and director of the Swedish State Institute of Human Genetics and Race Biology, has been appointed honorary director of the Lomeshie Research Centre for Anthropology and Race Biology at Londonderry. Dr. Ernst Krueger, an authority on tropical diseases, has been elected an honorary consultant and adviser to Section C (Medicine) of the centre.

Yellow Fever Inoculation at Dundee

Inoculation against yellow fever may be obtained free of charge at the Bacteriological Department, University of St. Andrew's, 60, Small's Wynd, Dundee. Applications (preferably in writing) should be made to Prof. W. J. Tulloch at that address. Sessions are normally held on Mondays, at 2 p.m.

Vaccination

A memorandum on vaccination against smallpox issued by the Ministry of Health recently is being distributed to public vaccinators. It recommends the "multiple pressure" technique which has been in general use for some years in the United States. Copies may be obtained from H.M. Stationery Office, price 2d. or post-free 3d.

Wills

Dr. Charles Bolton, C.B.E., F.R.S., who was director of pathological studies and research at University College Hospital, left £50,880. Dr. Arthur Willoughby Tibbitts, of Pedmore, Worcs, left £25,987. Dr. Charles James Boucher, of Co. Down, left £3,544. Dr. John Evans, of Walton-on-Thames, Surrey, left £16,058.

COMING EVENTS

Honyman Gillespie Lectures

A series of Honyman Gillespie Lectures has been arranged, in association with the Edinburgh Postgraduate Courses, to be held in the West Medical Theatre, Edinburgh Royal Infirmary, on Thursdays at 4.30 p.m. from April 15 to May 27. Details will be published in the diary column of the *Journal* week by week. The lectures are open to all graduates and senior students.

Contraception

A practical demonstration of contraceptive methods will be given by Dr. Marie Stopes and Dr. Beddow Bayly on Thursday, April 1, at 2.30 p.m. Medical practitioners should apply for tickets well in advance to 108, Whitfield Street, London, W.1.

Edinburgh Lectures

In connexion with the postgraduate courses in medicine and surgery a series of open lectures on subjects of wide biological interest has been arranged by the Edinburgh Postgraduate Board for medicine to be given in the West Medical Lecture Theatre of the Royal Infirmary on Tuesdays, April 20, May 4 and 25, and June 15 and 29, at 5 p.m. All graduates and students are invited to attend. Details will be published in the diary column of the *Journal* for the appropriate weeks.

Health Congress at Harrogate

Lord Inman has accepted office as president of the Health Congress of the Royal Sanitary Institute, which is to be held at Harrogate from May 24 to 28. Eight sections have been arranged for the congress, as follows: preventive medicine; engineering and architecture; maternal and child health; veterinary hygiene; food and nutrition; housing and town planning; tropical hygiene; and hygiene in industry. In addition there will be conferences of medical officers of health, engineers and surveyors, sanitary inspectors, and health visitors. The following members of the medical profession are among the presidents of sections and conferences: Prof. G. S. Wilson, Prof. P. A. Buxton, F.R.S., Prof. Andrew Topping, Prof. R. E. Lane, and Dr. F. Hall. The food and nutrition section of the congress will be held jointly with the Food Group of the Society of Chemical Industry, whose chairman, Dr. E. B. Hughes, will act as president of the joint meeting. The programmes for the sections and conferences are nearing completion and details will be issued later by the institute (90, Buckingham Palace Road, London, S.W.1).

Industrial Medicine

The Institute for Occupational Health of the Long Island College of Medicine is presenting a postgraduate course in Industrial Medicine from April 5 to 16. The fee is 75 dollars. Inquiries should be addressed to Dr. Thomas D. Dublin, Department of Preventive Medicine and Community Health, 248, Baltic Street, Brooklyn 2, New York.

SOCIETIES AND LECTURES

Saturday

MEDICAL SOCIETY FOR THE STUDY OF VENEREAL DISEASES. 11, Chandos Street, London, W.—March 20, 2.30 p.m. General meeting. "Venereal Affections of the Eye," by Mr. R. Lindsay-Rea.

Monday

MENTAL AFTER CARE ASSOCIATION.—At Burlington House, Piccadilly, London, W.—March 22, 4 p.m. Annual meeting. Address by the Rt. Hon. Mr. Justice Birkett, P.C. The annual report will be presented by Dr. Henry Yellowlees, chairman of the association.

Tuesday

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHYSIOLOGY, Gower Street, W.C.—March 23, 5 p.m. "Some Aspects of General Physiology," by L. E. Bayliss, Ph.D.

Wednesday

EGYPTIAN EDUCATION BUREAU.—At 4, Chesterfield Gardens, Chester Street, London, W.—March 24, 6 p.m. "Some Observations on the Surgery of Peripheral Vascular Disease," by Prof. A. M. Boyd.

ROYAL MICROSCOPICAL SOCIETY.—At B.M.A. House, Tavistock Square, London, W.C.—March 24, 5.30 p.m. for 6 p.m. "Studies of Industrial Microscopy. 'The Microscopy of Food,'" by Mr. H. L. Shipp, B.Sc., A.R.I.C.

SOCIETY OF CHEMICAL INDUSTRY: FOOD GROUP.—At Burlington House, Piccadilly, London, W.—March 24, 6 p.m. Joint meeting of Nutrition Panel and British Dietetic Association. "Special Dietary Requirements in Sickness and Convalescence," by Dr. D. P. Cuthbertson and Miss P. M. Simmonds, S.R.N.

APPOINTMENTS

BOWMAN, A. K., M.B., Ch.B., Senior Administrative Medical Officer, South Western Regional Hospital Board.

DEWAR, ROBERT S., M.D., D.P.H., Resident Physician Superintendent, Communicable Diseases Hospital, Maitland.

DONN, R. M., B.Sc., Medical Director, Mary Eddowes Hospital, Northumberland County Council.

MANCHESTER ROYAL INFIRMARY: Honorary Assistant Physician (with special interest in Neurology): G. E. Smyth, M.D., F.R.C.P. Honorary Assistant Physicians: H. T. Howat, M.R.C.P., and A. Morgan Jones, M.R.C.P.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Arthur.—On March 3, 1948, at Port Stanley, Falmouth District, to Philip (née Hayward), wife of G. D. Arthur, M.R.C.S., L.R.C.P., Colonial Medical Service, a son.

Ferguson.—On Feb. 18, 1948, at Clonsilla Nursing Home, to Dr. and Mrs. Alan Ferguson (née Kathleen Smyth) 11, North Park Drive, 1 Clonsilla, a son.

Oldham.—On Feb. 27, 1948, at Maternity Unit, Cammerton Infirmary, to Valerie (née Williams), wife of William Oldham, M.B., Ch.B., a daughter.

Welch.—On March 5, 1948, at Elton House, Dean Road, South St. 10, to Dr. and Mrs. H. D. Welch, a son.

MARRIAGE

Parker-Davies.—On Feb. 29, 1948, at St. Peter's, North St. 10, W. 1, to Shepherd Parker, M.B., Ch.B., D.P.H., at Maitland, Dean Road, South St. 10, Ch.B., D.P.H.

DEATHS

Atkinson.—On March 2, 1948, at Queen Mary's Hospital, Roehampton, to Alexander Atkinson, M.B., Ch.B., of 19, Rhinoceros Gardens, Forest Hill, S.W.

Dawson.—On March 4, 1948, at 27, Queen's Road, Bromley, Kent, to Alice Dawson, M.D.

Hallam.—On March 4, 1948, at St. Martin's, Broadwater, Falmouth, M.B., Ch.B., aged 60.

Hamilton.—On March 5, 1948, at Eastwood, Bude, Dorset, to Mrs. L.S.A., aged 61.

Heiser.—On March 4, 1948, at 3, D. de la Paille, St. Leonards-on-Sea, to Lewis Heiser, M.R.C.S., L.R.C.P., late of C. 1947, a son.

Hird.—On March 2, 1948, at Trevelyan, Somerset Road, Epsom, Surrey, to Robert Hird, Doreen Hird, M.D., F.R.C.S. Ed., aged 60.

Jeans.—On March 1, 1948, at Edinburgh, George Lane, M.P., C.I., and McNeill.—On March 3, 1948, at 44, Half Moon Lane, Hammersmith, S.W. 6, to Hugh McNeill, M.D., aged 61.

Middlebrook.—On March 2, 1948, at Daphne, Brompton, Park, Chesham, Chesham, Herbert Edwin M. Middlebrook, M.B., Ch.B., D.P.H., aged 40, husband of Mary Evelyn Middlebrook.

Phillips.—On March 1, 1948, at West London Infirmary, Gt. George Street, to John Phillips, M.D., aged 60.

Ravall.—On March 7, 1948, at Great London, Cavendish Square, London, M.D., aged 64.

Speck.—On March 6, 1948, at 30, Speck, M.R.C.S., L.R.C.P., aged 60, at Lambeth Road, London, S.W., aged 64.

Syme.—On March 2, 1948, William James Syme, M.B., Ch.B., 114, Gower Avenue, Eastwood, Surrey.

Thomson.—On March 1, 1948, at The Park, 10, Park, Maitland, to Duncan Thomson, M.B., Ch.B.

Wade-Evans.—On March 2, 1948, at South London Hospital, Guy's, Common, S.W., Elizabeth Patricia Wade-Evans, M.B., Ch.B., of Guy's Hill Hospital, Colchester, Surrey.

White.—On March 3, 1948, at a Graveland, 10, Graveland, to Ott White, M.R.C.S., L.R.C.P., D.M.R.E., aged 60.

Williams.—On March 3, 1948, at 10, 10, 10, Williams, M.B., Ch.B., M.R.C.S., L.R.C.P., aged 60.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Recurrent Attacks of Lobar Pneumonia

Q.—Can anything be done to prevent children who have recovered from a first attack of lobar pneumonia developing fresh attacks at intervals of a few months?

A.—It is possible in such cases that resolution has not been complete, or that the pneumonia was associated with the blocking of a bronchus and collapse of a portion of the lung. X-ray studies indicate that the latter explanation is the more probable, and "unresolved pneumonia" is being less used nowadays as a term in children's work. In either case, a change of air, breathing exercises, and letting the child run about and expand the lungs fully will all help, and, indeed, many children with collapse of the lung get perfectly well on this programme. If radiographs show that a collapse is persisting, then the question of further measures to induce re-expansion arises. These would include postural drainage, "slapping" the chest in a more intensive attack by physiotherapy, and possibly the use of iodides to promote pulmonary secretion. If these measures fail, then bronchoscopy should be undertaken, with or without previous bronchography.

Since the question says "recovered," it may be assumed as a second alternative that no apparent pathological change persists as proved by x-ray study. In this case measures to raise general and specific immunity should be considered. The state of the child's upper respiratory tract, especially the nasal sinuses, should be investigated and any disease process dealt with. Finally, the epidemiology of the recurrent attacks might be considered. Is there a "carrier" in the house or school?

Achondroplasia

Q.—Can you give me particulars about achondroplasia, or, as some call it, chondrodystrophy? Is it related to dwarfism in certain animals, such as the conditions we find in the Ancon sheep and the dachshund? It is generally considered to be a Mendelian dominant: is that so? Does it affect the sexes equally? Can it be traced to an endocrine deficiency?

A.—The essential pathological feature of achondroplasia is a disturbance of endochondral ossification, especially at the ends of the long bones. There is not a failure of development of the cartilage, as the name might imply, but an arrest of bone formation in cartilage. Bones formed in membrane are little if at all affected. Clinically, therefore, the most striking manifestations are present in the long bones and base of the skull. The spine is also affected, though to a less extent. Certain animals have characteristics which are thought to be related to achondroplasia, but there are many aspects of the problem that are not fully understood. Thus in the dachshund the limbs are achondroplastic but not the head; while in the pug-dog the reverse is the case. Matings of pure-bred Dexter cattle (a diminutive breed) result in a high proportion of non-viable monsters having skeletal changes closely resembling those of achondroplasia.

In the case of the Dexter cattle referred to above the incidence of the achondroplastic condition suggests that it is a Mendelian dominant character. The same is probably true of the human disorder. It is interesting to note that attempts made by Catherine de' Medici to raise a race of achondroplastic dwarfs by arranging their intermarriage were unsuccessful. This may have been largely due to the fact that spontaneous delivery of a living child by an achondroplastic woman is often impossible owing to the extreme narrowing of the pelvic inlet. Achondroplasia affects the two sexes equally. Its cause remains unknown. It has not been traced definitely to an endocrine deficiency, and no histological changes in the endocrine glands have been consistently demonstrated. Nevertheless an

insufficiency of the anterior pituitary secretion during development is regarded by some as the most likely cause of the condition.

Diasone in Leprosy

Q.—What are the dosage, mode of action, and toxic reactions of diasone in the treatment of leprosy?

A.—The dosage of diasone in the treatment of leprosy is 0.33 g. daily for the first two weeks and then a gradual increase to 1 g. daily. It is given by mouth and may be continued for long periods. The mode of action is similar to that of sulphonamides in streptococcal infections. Diasone is a derivative of diamino-diphenyl sulphone, and is closely related to the sulphonamides, such as sulphanilamide. The toxic reactions which occur in 1-5% of those treated are increased erythema nodosum with fever, dermatitis, gastric intolerance, haematuria, anaemia, and iridocyclitis.

Stilboestrol and Dienoestrol

Q.—Is there any evidence that stilboestrol and dienioestrol may be carcinogenic? What are the dangers of taking dienioestrol for menopausal rheumatism?

A.—So far as the human being is concerned the evidence is only presumptive in nature. All oestrogens, natural or synthetic, are powerful epithelial stimulants acting especially on the tissues of the breast, uterus, Fallopian tubes, vagina, and vulva. They cause endometrial hyperplasia, and many pathologists believe that this condition can itself lead to carcinoma. Some of the natural oestrogens have a chemical formula similar in type to that of the carcinogenetic tars. In animals skin cancer has been produced by repeated local applications of oestrogens, and this hormone has been shown to favour the development of breast carcinoma in strains of mice which are not otherwise susceptible, and in male animals. However, oestrogens have never been shown to cause carcinoma in the human being, and there is probably little risk of this provided ordinary dosage is used and treatment is not continued for an indefinite period. Nevertheless there is good reason for caution when dealing with a patient who has a precancerous lesion in the genital tract (e.g., leucoplakia vulvae, chronic cervicitis) or who has a strong family history of malignant disease. For further details reference might be made to an article, "Oestrogens and Carcinoma of the Uterus," by A. A. Gemmell and T. N. A. Jeffcoate (*J. Obstet. Gynaec. Brit. Emp.*, 1939, 46, 985).

The dangers of taking dienioestrol for menopausal rheumatism depend on how much is given and for how long. The dose should not exceed 0.3 mg. daily, and should be gradually reduced with a view to completing the course of treatment in two or three months. Even with this dose uterine bleeding may occur. With uncontrolled and prolonged dosage the chief risks are endometrial hyperplasia, uterine haemorrhage which may require curettage if only to exclude other causes, and severe menopausal symptoms following sudden cessation of treatment.

Penicillin and Procaine

Q.—Can you tell me whether 3% "novutox," or any of the accessory preservative substances which this proprietary local analgesic contains, would be likely to inactivate penicillin if used as a solvent for intramuscular injection?

A.—Novutox contains procaine and iso-octylhydrocupreine hydrochloride. It is known that penicillin is not inactivated when procaine is mixed with it, but there is no information on the effect of octylhydrocupreine. The only way to determine whether novutox inactivates penicillin is to prepare mixtures and to have them assayed. It is likely that if the mixture is not alkaline the penicillin will not be inactivated. There will shortly be put on the market a compound of procaine and penicillin in oil for intramuscular injection. A new crystalline penicillin has been prepared by combining procaine with penicillin G; the crystals have a solubility of approximately 7,000 units per ml. in oil, oil-and-water emulsion, or physiological saline; they contain not less than 90% penicillin G with a potency of 940 units per mg. (1,040 units per mg. theoretical). In the oil suspension at least 50% of the total weight of the

particles are 50 μ or more in length. When intramuscular injections of procaine penicillin in cotton-seed oil were given to patients it was found that they had blood levels of 0.062 to 0.496 units per ml. after injections of 1 to 4 ml. There was no local or systemic reaction. It is suggested that the slower absorption of this form of penicillin is due to the larger size of the particles. The importance of particle size for slow absorption has been demonstrated by Dowling *et al.* (1947) and Welch *et al.* (1947). The presence of wax has been the cause of a number of local reactions. The relevant papers are: Sullivan, N. P., *et al.*, *Science*, 1948, 107, 169; Dowling, H. F., *et al.*, and Welch, H., *et al.*, Meeting of Syphilis Study Section, Washington, D.C., Sept. 24, 1947.

Breast Development

Q.—Is hormone therapy a safe method for increasing breast measurements? What is the optimum dose of oestrin and progesterone when used for this purpose?

A.—Inadequate development of the breasts may be due to general lack of endogenous oestrogen and progesterone, but more usually it is due to a local refractoriness to a normal stimulus. Therefore local innunction with oestrogens increases the concentration of stimulation at the site and may be successful. A useful ointment is one containing 2 mg. of oestradiol enzoate per g. put up in 18-g. tubes, which can be used over a 4-day period and continued for some months. Such local treatment is unlikely to prove disturbing. If progesterone is also given by injection it should be administered only in the 5 days preceding menstruation.

Scrotal Eruption

Q.—What is the most likely cause of a chronic scaly irritating eruption, confined to the scrotum, in a patient free of lthiriasis and other local causes of irritation? Is it likely to be related to athlete's foot, which coexists; and what line of treatment is suggested?

A.—The lesion described might be due to fungus, but the stains given are not sufficient to allow a serious opinion to be expressed. The only certain method of arriving at a diagnosis in this regard is by examining scrapings in liquor strassae under the microscope and attempting to culture the fungus. If the lesion is of fungus origin it should respond readily to Whitfield's ointment or dithranol ointment. The reaction may be unrelated to ringworm of the foot and may be a chronic eczematous or seborrhoeic dermatitis, in which case therapy may be most helpful.

Scrotal Hernia

Q.—Would the presence of a scrotal hernia which is more uncomfortable in the scrotum than when held in the abdomen by truss cause sterility in the affected testicle by the continued, though slight, pressure and by the increased temperature of the bowel loop adjacent to that organ?

A.—Theoretically, the testicle on the affected side would be subject to increased warmth and pressure, but its fertility would not be likely to be seriously impaired. In any case the testicle on the opposite side would not be affected, and an occasional men analysis would be a more reliable guide than theoretical considerations.

Assessment of Disability

Q.—What is the percentage disability allowed in the case of labourer for the loss of (1) thumb, (2) index, (3) middle, (4) ring, and (5) small finger, right hand? It is assumed that the scar is on the dorsal aspect and that the amputation is full or partial. Is there any way of finding out if the scar is painful, other than taking the patient's word for it?

A.—The problem of compensation in cases of hand injury is somewhat complicated because of the number of factors that must be taken into consideration. Apart from the nature of the man's occupation, important factors are age, whether the major or the minor hand is affected, and whether or not there is pain or tenderness. An award for permanent disability is based on decreased earning power, and is intended to help the support of the patient and his dependants until he has

adapted himself to his new environment. Strictly, it is not compensation for loss of a part, though it may be assessed on the basis of loss of parts.

An average disability assessment in the case of a general labourer for loss of digits would be: thumb, 15%; index finger, 8%; middle finger, 6.5%; ring finger, 5%; little finger, 3.5%. There is no satisfactory objective test to determine whether or not a scar is painful.

Iritis and Ulcerative Colitis

Q.—Is there any connexion between ulcerative colitis and iritis? A female patient has suffered from ulcerative colitis for the past 18 months; about 12 months ago she developed an acute iritis with all its symptoms—lasting three months. The usual treatment was prescribed: atropine sulphate drops 1 and heat applications. Now another attack of iritis is developed in the same eye, and after five weeks there is no appreciable change. What is the accepted modern treatment of iritis?

A.—Little is known of the aetiology of either ulcerative colitis or iritis; an association of the two conditions is not established, but it cannot be excluded that in a particular patient both affections may have the same underlying cause. A full investigation of the patient is highly desirable. The treatment of iritis is still largely symptomatic and does not extend beyond the measures indicated in the question. Refinements in the application of atropine consist in the subconjunctival injection of mydracaine (a specially prepared solution of atropine sulphate 1/60 gr. (1.1 mg.), cocaine hydrochloride 1/10 gr. (6.5 mg.), and adrenaline 1/600 gr. (0.11 mg.) to 5 minims (0.3 ml.). Such injections can be given daily in doses of 5 to 7 minims (0.3–0.4 ml.), and sometimes help in breaking down recently formed adhesions in cases where atropine has failed. Heat may be applied by means of short-wave diathermy given by an expert physiotherapist.

Pyloric Stenosis

Q.—What is the best way to prescribe atropine methyl nitrate in a case of congenital pyloric stenosis? I have seen it recommended as 3 to 5 ml. of a freshly prepared 1 in 10,000 solution or as 0.6% in alcohol (4 drops). Which preparation would keep better, and for how long?

A.—The alcoholic solution keeps better and longer. Few drops of it are required to 1 ml. of the watery solution. Many children's physicians prefer to use the "lingual" form—placing under the tongue and securing, apparently, maximum absorption. Each one contains the equivalent of 1 ml. of the 1 in 10,000 watery solution. If stored in a dry place and at room temperature (and in the manufacturer's "cellophane" wrapper) these keep more or less indefinitely.

Intra-arterial Penicillin

Q.—Has the arterial injection of penicillin been tried? Osmotic pressure tends always to attract water, and if the osmotic pressure of the blood is lowered the fluid is drawn out with resultant exudation, would the injection of a hypertonic solution of saline in which the penicillin is dissolved be better than an isotonic solution? Further, does time affect the controlling factor in tissue-fluid formation, would it be advantageous to advise free movement of the limb involved after the injection? Finally, is the practice of arterial injection too painful to merit its use?

A.—The intra-arterial injection of penicillin has been discussed twice in this Journal quite recently—in an editorial on Dec. 27, 1947 (p. 1040), and in a letter from G. M. D. (Feb. 7, 1948, p. 274). The use of a hypertonic solution would be unlikely to have the effect described unless the volume was large and stasis was produced for a long period; there would also be some risk of haemolysis. It is also doubtful whether active movement would make much difference to the effect. The usual method of ensuring diffusion from the vessel is to raise the pressure in them by occluding venous return for a short period. Intra-arterial injections are decidedly painful, but evidently not too painful in view of the experience quoted.

Blood from the Umbilical Cord

Q.—Will blood taken from the maternal side of the umbilical cord following delivery give a positive reaction to the Wassermann and gonococcal complement-fixation tests in the case of mothers suffering from syphilis and gonorrhoea?

A.—Yes, blood taken from the maternal end of the umbilical cord may give positive reactions to the Wassermann and gonococcal complement-fixation tests, just as would blood taken from an arm or other vein of the mother. It must be remembered, however, that a negative W.R. does not exclude syphilis and that a positive G.C.F.T. is usually obtained only when the gonococcal infection is well established or has been the cause of complications.

Oedema of Foot and Ankle

Q.—A patient who twisted her left foot eight months ago now has persistent pitting oedema of the left foot and ankle. This becomes very marked after standing or walking. The swelling is not tender; ankle movements are full and free, and radiographs show no bone injury or abnormality. There are no varicose veins; albumin is absent from the urine; and there is no other obvious pelvic abnormality. Can you suggest a line of investigation and treatment?

A.—This patient should wear an elastic anklet or stocking to control the swelling and should also have regular massage, contrast baths, and exercises for the calf and the intrinsic muscles of the foot. It is possible that the injury has left behind a flat foot or some slight restriction in full joint movement. In the former case the use of an arch support or a wedged shoe is occasionally necessary, and in the latter manipulation under thiopentone. A progressive lymphoedema sometimes follows a sprained ankle, and elastic support is the proper treatment for this.

Menopausal Blood Donors

Q.—A woman suffering from severe menopausal symptoms—in particular hot flushes, cold shivers, etc.—but with no vaginal bleeding, wishes to enrol as a blood donor. Assuming the severity of the syndrome is due to hormonal imbalance, could the altered oestrogen level of the blood adversely affect the recipient?

A.—No; neither the low oestrogen level nor the compensatory high gonadotrophin level which is characteristic of a climacteric disturbance would have any noticeable effect on the recipient of the blood. Even if the amounts of hormones in circulation were grossly disturbed a single administration would not produce symptoms. The hormones would be quickly utilized, inactivated, or excreted. If it were otherwise then surely care would be necessary to distinguish male and female blood for transfusion purposes, and also to grade female blood according to the time in the menstrual cycle at which it was withdrawn.

Persistent Oxaluria

Q.—An otherwise healthy young man has persistent oxaluria in spite of restriction of oxalate-containing foods. He has crises every few months, with right renal pain and oxalate crystals, red cells, and albumin in the urine. Radiographs are negative. What treatment do you suggest?

A.—It may be difficult to control the attacks in patients with the "oxalic acid diathesis." Some psychiatrists have claimed that such attacks are a symptom of overweening ambition. Only part of the oxalate excreted in the urine is exogenous; this can be diminished by excluding from the diet the oxalate-containing foods: spinach, rhubarb, gooseberries, carrots, oranges, red-currants, and strawberries. The other aim of treatment is to increase the solubility of oxalates in the urine by increasing its acidity, lowering its calcium content, and raising the quantity of magnesium excreted. This is most likely to be effected by a high-protein diet with a relatively small quantity of carbohydrate and by the administration of acid sodium phosphate.

NOTES AND COMMENTS

The Doctors' Dilemma.—Mr. Ritchie Calder, science editor, complains of comments we made on his article entitled "The Doctors' Dilemma" appearing in the *News Chronicle* of Jan. 28. We withdraw any imputation of deliberate misrepresentation of the facts by Mr. Calder or any unintentional reflection on his professional integrity and accuracy as a science writer.

Phosphaturia.—Dr. G. H. DAVY (London, W.) writes: In answer to the question whether there is any relation between phosphaturia and acne rosacea, fibrositis, insomnia, or other nervous disorders ("Any Questions?" Feb. 28, p. 426), no mention is made of the fact that the condition is a very frequent symptom of any anxiety state. In fact it is a not uncommon presenting symptom—patients coming up with the fear that the condition is spermatorrhoea, to which they attribute their debility. I have seen it in peptic ulcer, where it may be due to the general anxiety of the diathesis. In other cases it is due to excessive doses of alkalis. It may be seen in many patients with conscious worry and anxiety.

It is sometimes the cause of sharp pain at the end of micturition which may last for a few moments after the completion of the act. As this complaint is only made by the male it is obviously due to noticing the whiteness of the flow of urine, which rouses fear that there is something wrong with this important part.

Rectal Prolapse.—Dr. T. S. GOODWIN (St. Leonards-on-Sea) writes: In the treatment of an obstinate case of rectal prolapse in an old lady of 88, which was 6 inches long and of frequent appearance during the last six years, I have had complete success from the method mentioned by Dr. Philip Jabkowitz (Dec. 27, 1947, p. 1066) of introducing a ring of silver wire subcutaneously round the anus. Under general anaesthesia the wire was introduced on a large needle and adjusted to admit the passage of one finger comfortably. There has been complete cure since, with no relapse these two months.

Demodex Infestation.—Dr. R. P. LAWSON (Collingham Bridge, nr. Leeds) writes: Under "Any Questions?" (Feb. 21, p. 376) you publish a question about demodex infestation. My two dogs have recently been infested, one heavily and both for several weeks before the cause of their mange was diagnosed.

On the advice of a veterinary surgeon I bathed them every other day until they had had five baths, and followed each bath by lathering them while still wet with "tetmosol," 1 part to 3 parts of water. This was then allowed to dry on them. For some days afterwards they were full of scurf and lost even more hair, and required thorough brushing and combing. They did remarkably well and there has been no sign of recurrence since the treatment, which was in November. I used 18 oz. of the undiluted tetmosol in all on the two dogs, a terrier and a cocker.

Thorium X for Treatment of Baldness.—Dr. BERNARD GREEN (London, W.) writes: I have used thorium X for a variety and large number of dermatoses over the course of many years and have yet to see any ill effects from its application. Pigmentation sometimes follows, but usually disappears in a few months. Whilst agreeing that for ordinary types of masculine baldness it has no effect and for cases of alopecia totalis and universalis the results have been disappointing, for cases of alopecia areata the results have been gratifying. In controlled experiments (Corsi, *Lancet*, 1947, 2, 506), the conclusion arrived at was that if the hair was going to grow the application of thorium X hastens its recovery. I was in charge of the thorium X clinic at St. John's Hospital. There, cases of naevus flammeus were treated with 1,000 E.S.U. at weekly, fortnightly, and monthly intervals for many months. I followed up all these cases for over four years and in no case had I seen any ill effect.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Alitology*, *Westcent*, *London*. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Authors desiring REPRINTS should communicate with the Publishing Manager, B.M.A. House, Tavistock Square, W.C.1, on receipt of proofs. Authors overseas should indicate on MSS. if reprints are required, as proofs are not sent abroad. ADVERTISEMENTS should be addressed to the Advertisement Manager, B.M.A. House, Tavistock Square, London, W.C.1 (hours 9 a.m. to 5 p.m.). TELEPHONE: EUSTON 2111. TELEGRAMS: *Brimedads*, *Westcent*, *London*. MEMBERS' SUBSCRIPTIONS should be sent to the SECRETARY of the Association. TELEPHONE: EUSTON 2111. TELEGRAMS: *Medisecra*, *Westcent*, *London*. B.M.A. SCOTTISH OFFICE: 7, Drumsheugh Gardens, Edinburgh.

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY MARCH 20 1948

HEARD AT HEADQUARTERS

In Lieu of Emoluments

The London County Council, as part of its policy of consolidating salary scales, has been looking into the question of allowances in lieu of emoluments which are made when it is impracticable to provide the emoluments to which a member of the staff is entitled. Certain deputy medical superintendents will henceforth receive a residential allowance of £175 instead of £150, which has been the figure hitherto; others, as well as senior "resident" surgeons, physicians, obstetricians, and aestheticians, will receive £160 instead of £130, and all other medical staff entitled to the residence emolument £150 instead of £120. The working out of allowances in lieu of meals on duty provides some amusing examples of the nicely calculated sums and more. If, for example, you are a medical officer with a salary of over £1,750 a year, your allowance for breakfast will be 1s. 1d., for lunch 1s. 3d., for dinner 1s. 5d., for tea 5d., and for supper 1s. 1d. Your less fortunate colleague who receives a salary of between about £900 and £1,300 will receive exactly the same amounts in lieu of four of the meals, but for supper he will receive only 10d. He is evidently expected to be a little hungrier to bed. The highest salaried post carries a laundry allowance nearly three times as high as the lowest, but all alike receive the same allowance for medical attendance—namely, £4 a year.

Correspondence

Enlarged Thyroid: A Correction

SIR,—I write to correct erroneous impressions which may have been derived from a report (Feb. 28, p. 36) of a lecture I gave to the East Yorkshire Branch of the B.M.A. I stressed the difficulty of deciding when the thyroid gland could be considered enlarged. I quoted from an American work, and also some figures of my own relating to the incidence of thyroid enlargement in diabetes mellitus. In diabetes mellitus 8% of the patients attending a large clinic had palpable enlargement of the thyroid gland. I considered, however, these figures misleading because of (1) the preponderance of women in the clinic, (2) the fact of the presence of another endocrine disease—namely, diabetes mellitus. I did, however, stress the importance of this fundamental fact because the main difficulty in the diagnosis of thyrotoxicosis was not in the severe cases but in the milder cases. Anxiety states were often associated with symptoms almost identical with those of a mild degree of thyrotoxicosis. If patients with anxiety symptoms had a palpable gland it was very easy to say that the diagnosis was one of thyrotoxicosis and overlook the fundamental disability—namely, that of an anxiety state. I stated that surgery still affords the patient the best chance of a complete cure. It was essential, however, that surgery should be performed by a surgeon who was regularly engaged in this special branch. The results from the Means Clinic in America, probably the most efficiently organized clinic for the study of thyroid diseases, showed that the rate of mortality for surgically treated cases was of the order of 2% and that the chances of complete cure were of the order of 70%. Taking

the figures from a teaching hospital where general surgeons of considerable competence merely operate upon the odd case during the year, the mortality rate for thyroidectomy was of the order of 10%, and the percentage of patients cured only of the order of 50%. Therefore I stressed the need, when considering surgery, to refer the patient to a surgeon experienced in the technique of thyroidectomy and preferably to a centre where a surgeon and physician were working in close co-operation.

I doubted the value of thioracil for the long-term treatment of all cases of thyrotoxicosis. There was, however, no doubt as to its value in preparing the serious case, and particularly the cardiac case, for operation. Thioracil had reduced the operative risk in the severe cases to that of a mild to moderate severe case.—I am, etc.,

Department of Medicine,
University of Leeds.

R. E. TUNNICLIFFE.

Medical Staff Representative Committee

SIR,—A Medical Staff Representative Committee has recently been formed at the Sutton Emergency Hospital with the following objects and aims:

(1) The Committee shall consist of members elected by the medical and dental staff so as to provide a balanced representation of the different grades among the medical and dental staff of the hospital.

(2) The Committee shall meet regularly once a month, with intermediate meetings as required. At appropriate intervals it shall report back to a meeting of members. The Committee shall consist of members elected annually. Casual vacancies shall be filled at meetings of the staff.

(3) The general aim of the Committee shall be one of constructive service to the hospital and the promotion of co-operation among the medical and dental staff, and between them and the other groups of staff.

(4) Subject to the exclusion of matters which call for negotiation between the organizations of employees and the employers, there shall be free discussion among the members of the Committee and with the appropriate officers of the hospital of any matter affecting the work and efficiency of the medical and dental staff and the general well-being. All matters appertaining to the treatment and comfort of patients should be separate matters for consideration by the Committee.

(5) The Committee shall, as a result of such discussion, put forward recommendations to the Medical Superintendent and, where desirable, to the appropriate committee.

(6) The Committee shall endeavour to promote co-operation between this hospital and other hospitals in the Region.

(7) This Constitution may be added to, altered, or amended at a meeting of the members of the medical and dental staff after due notice has been given.

We understand that similar medical representative committees are already in existence in some hospitals within the S.W. Metropolitan Region. Others may well be proposed. The Committee would welcome any news of such action, proposed or intended, in the general aim of forming a S.W. Metropolitan Regional Hospitals Association similar to that already established in Liverpool and proposed in the N.E. Metropolitan Region. The Secretary, Dr. A. R. Samuel, at Sutton Emergency Hospital, Brighton Road, Sutton, Surrey, would be glad to hear from those interested.—We are, etc.,

D. SIMON,
General Secretary.
D. E. BIRNBY,
Vice-Secretary.
A. R. SAMUEL,
Secretary.

Sutton, Surrey.

PANEL FOR POOR LAW MEDICAL RELIEF

In view of difficulties experienced in obtaining a district medical officer for the Chiswick medical relief district, the Middlesex County Council has decided, subject to the sanction of the Minister of Health, that arrangements should be made with general practitioners in the district to attend any persons in receipt of poor-law relief. All such practitioners will be circularized by the county council and invited to submit their names for inclusion on a panel of doctors willing to attend any persons referred to them by the Council's relieving officers.

The remuneration will be on the basis of 2s. a surgery consultation and 4s. a visit to the patient's own home, plus a temporary addition of 20% in respect of increased practice expenses. The fees are those which are used annually by the county council when calculating the salaries to be paid to district medical officers for the ensuing financial year. In this payment the cost of any necessary medicines or dressings is not included, the council paying for any such requirement prescribed by the doctor at N.H.I. rates to any dispensing chemist selected by the patient. The Minister of Health, so it was reported at the meeting of the council on Feb. 25, has not yet given his sanction to the suggestion, but has asked to have a draft of the proposed scheme for consideration.

RELEASE OF SERVICE MEDICAL OFFICERS

The Central Medical War Committee has received notification of the following arrangements for release of medical officers in Class A during the second quarter of 1948:

Royal Navy

April 1-June 30: No release.

Royal Army Medical Corps

General Duty Medical Officers.—April: Group 67; May: Group 68; June: Group 69.

Specialists in Medicine, Surgery, and Diseases of Women and Children.—April 1-30: Group 62; May 1-14: Group 63; May 15-31: Group 64; June 1-14: Group 65; June 15-30: Group 66.

All other Specialist Medical Officers.—April 1-14: Group 60; April 15-30: Group 61; May 1-14: Group 62; May 15-31: Group 63; June 1-14: Group 64; June 15-30: Group 65.

Royal Air Force

April: No release; May: Group 69; June: No release.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Poplar.

Non-County Borough Councils.—Dartford, Radcliffe (limited to future appointments), Tottenham, Wallsend.

Urban District Councils.—Denton, Droylsden, Houghton-le-Spring, Huyton-with-Roby, Portslade, Redditch (restricted to new appointments), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

Members of the staffs of many hospitals have in the last few weeks passed by large majorities resolutions against serving under the N.H.S. Act as it stands. The hospitals include the following: Margate General Hospital; Birmingham and Midland Hospitals for Women; Barnet Wellhouse Hospital; Royal Buckinghamshire Hospital; Herefordshire General Hospital; Gordon Hospital, S.W.I.; South London Hospital for Women and Children; Blackburn and East Lancashire Royal Infirmary; Chelsea Hospital for Women; Croydon General Hospital; North Devon Infirmary; Huddersfield Royal Infirmary; Kent and Sussex Hospital; Middlesex Hospital; Royal Free Hospital; South London Hospital; Stirling Royal Infirmary; Sutton and Cheam General Hospital; Warwick Hospital; King Edward VII Hospital, Windsor; Worcester Royal Infirmary; Northampton General Hospital; Carshalton, Beddington, and Wallington District Hospital; Hospital of St. John and St. Elizabeth, N.W.S.; Queen Mary's Hospital for the East End; National Temperance Hospital.

Association Notices**DIVISIONS IN NORTHERN IRELAND BRANCH**

Notice is hereby given by the Council to all concerned:

(1) That a new West Down Division of the Northern Ireland Branch be formed with the following area:

That part of County Down lying to the west of, but including, Magheralin, Dromore, Castlewellsan; that part of County Armagh south of, but including, Newtownhamilton and Bessbrook.

(2) That the Portadown and West Down Division be renamed the County Armagh Division, comprising the area of County Armagh north of, but excluding, Newtownhamilton and Bessbrook.

(3) That the area of the Belfast Division be redefined as follows:

The City of Belfast; that part of County Antrim south of, but excluding, Toomebridge, Ballymena, Carnlough; that part of County Down lying east of, but excluding, Magheralin, Dromore, Castlewellsan.

CHARLES HILL,
Secretary.

Diary of Central Meetings

24 Wed. Council, 10 a.m.

Branch and Division Meetings to be Held

BIRMINGHAM: CENTRAL DIVISION.—At 154, Great Charles Street, Birmingham, Tuesday, March 23, 8.15 p.m. Clinical meeting conducted by Dr. D. Evan Bedford.

NORTH OF ENGLAND BRANCH.—At Royal Victoria Infirmary, Newcastle-upon-Tyne, Thursday, March 25, 7.15 p.m. Clinical demonstration by Mr. W. A. Hewitson: Carcinoma of the Breast; 8.45 p.m. Address by Prof. G. Grey Turner: Some Considerations in the Surgery of the Mouth and Jaws.

Meetings of Branches and Divisions**DUMFRIES AND GALLOWAY DIVISION**

A meeting of the Division was held on March 7, with Dr. A. Kellie Brooke in the chair. The following instructions were given to the representatives appointed to attend the Representative Meeting at Edinburgh on March 10 and the Special Representative Meeting in London on March 17:

(1) That we, as a Division, put in the forefront of the instructions to our representatives that the retention of the ownership of our practices is a vital point. (2) That in no circumstances do we accept a basic salary. (3) That while we dissociate ourselves from the principle of a basic salary we recognize that payment on a capitation basis to rural practitioners would be inadequate. (4) That an increased mileage grant is the most equitable way of balancing up the payments to rural practitioners as against urban practitioners. (5) That we are strongly opposed to any diminution in the capitation fee as a practice increases in size. (6) That we should press for full remuneration in accordance with the recommendations of the Spens Committee Report. (7) That we are opposed to any form of direction by His Majesty's Government. (8) That we should press for the right of appeal to the courts of law. (9) That we should ask for the timely publication of the B.M.A. Council's plan of action which it proposes to put into effect if further negotiations with the Minister of Health break down.

EDINBURGH AND SOUTH-EAST OF SCOTLAND BRANCH

Sir Ernest Rock Carling, speaking on March 5 on "Hazards of the Atomic Bomb, and Casualty Service in Civil Defence," prefaced an instructive summary of the effects of atomic bombing with the assurance that adequate shelters are a good defence against the atomic bomb as at present known. Lantern slides of bomb damage and casualties at Hiroshima gave grim visual emphasis to his description of the effects of blast, flash burn, fire, and radiation, and indicated the vast medical resources required to cope with such casualties. Radiation effects were estimated to have caused 7% of total casualties, and were limited to two miles, although persistent radioactivity would be much more widespread from a bomb detonated on soil or water. Protection from radiation effects was afforded by 18 inches of concrete. The effects might be early or delayed, and were agranulocytosis, haemorrhages, stomal ulceration and gangrene, epilation, anaemia, wasting, and death, or recovery in milder cases. Treatment was very limited, and included intensive blood transfusion with whole blood, penicillin to combat secondary infection, and high vitamin and calorie intake. Genetic effects had not yet been fully estimated, although there was a great increase of miscarriages and premature births in the affected areas.

Civil Defence would have to be based on adequate shelters and warning systems, dispersal, and the organization of aid to come from outside the target areas. Defence services should be staffed by a highly skilled nucleus, aided by a widely organized second line of semi-skilled personnel, assisted at need by the total population as unskilled workers. Throughout history a defence against new weapons was always forthcoming and there was no reason for panic.

BRITISH MEDICAL JOURNAL

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DE FORMATIONE OVI ET PULLI

BY

H. A. HARRIS, M.A., M.D., D.Sc.
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FIG. 1.—6½ hours.

FIG. 2.—9 hours.

FIG. 3.—12 hours.

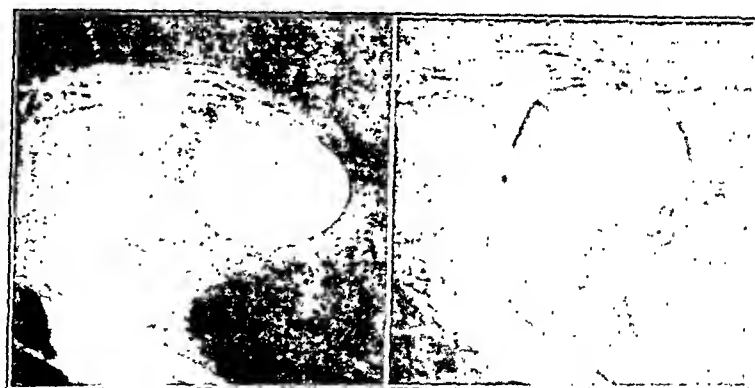


FIG. 4.—23½ hours

FIG. 5.—25½ hours

The year 1621 saw the publication at Padua of a most elaborate treatise on "The Formation of the Egg and of the Chick" by "late the very celebrated anatomist of Padua, Hieronymus Fabricius of Aquapendente," who died in 1619. In 1942 Howard B. Adelmann, Professor of Histology and Embryology in Cornell University, published his scholarly translation with a facsimile edition in the Latin of the two classical works of Fabricius, *De Formatione Ovi et Pulli* and *De Formato Foetu*. This book is a magnificent contribution both to the history and to the philosophy of medicine.

The school of anatomy at Padua produced a race of giants—Alexander Benedictus, Andreas Vesalius, Realdo Columbus, and Fallopius. The death of Fallopius in 1562 was followed by three years of temporary appointments, but in 1565 Fabricius was appointed to the chair of surgery and was enjoined to add instruction in anatomy to his other duties. Between 1565 and 1584 his salary was increased sixfold, from 100 florins to 600. In 1600 Fabricius was appointed Professor Supraordinarius in Anatomy, with an increased stipend of 1,000 scudi, and instruction in surgery was entrusted to Casserius. Fabricius retired in 1613 from active teaching and died in 1619 at the age of 82 or 86, or the year of his birth is given as 1533 or 1537.

Subsequent to Aristotle, Fabricius gave the first analysis of the life history of the egg, based on observation of the

successive stages. He described in greater detail the two twisted cords of albumen, the chalazae, which tether the yolk. He recognized that the egg rotates as it descends through the oviduct, and that the albumen first deposited is thicker than subsequent layers. He was most accurate when describing the formation of the shell. He asked the question: "Why does the egg emerge blunt end first?" He described accurately the "air space" at the blunt end of the egg, noted its slight eccentricity, its increase in size on keeping, and its considerable increase during incubation.

Recently Mr. J. R. G. Bradfield, of the Department of Zoology, has studied the problem of the laying of the egg in the domestic hen. The work was carried out in the School of Anatomy with the active assistance of the

radiographer, Mr. J. A. F. Fozzard, who was awarded the Rodman Medal of the Royal Photographic Society for the excellent photography here displayed. Lateral radiographs were taken at stated intervals and have added to our knowledge, but the significance of all the facts still awaits clarification.

It is known that about 26 hours elapse between the laying of successive eggs. This period of 26 hours is subdivided roughly into:

Half an hour between laying one egg and discharging the next ripe ovum with its yolk from the surface of the single left ovary. Half an hour in passing through the abdominal ostium or funnel of the oviduct. Three hours in the magnum of the oviduct, where the albumen is secreted over the rotating yolk. One hour in the isthmus of the uterus, where the thin shell membrane is secreted. Twenty and a half hours in the uterus, where the calcareous shell is secreted.

The earliest trace of calcium deposition is first visible as a very thin hair-like line on the negative (as distinct from the print) about $6\frac{1}{2}$ hours after laying the last egg (Fig. 1). At 9 hours the density is increased (Fig. 2). At 12 hours the outline of the shell is distinct, with the pointed end of the egg in advance (Fig. 3). At $23\frac{1}{2}$ hours after laying the last egg the pointed end of the new egg is still in advance (Fig. 4). Now occurs one of the strangest movements. During the 24th and 25th hours the egg rotates on its vertical short axis in a horizontal plane so that the pointed end is up-stream and the blunt end presents to the cloaca (Fig. 5). It is not yet known whether this late rotation is constant in direction.

How is this rotation accomplished, and why? The egg is not finally laid in the 26th hour by mass peristalsis. It is not extruded by contraction of the uterus in the manner of a bolus moving along the intestine. The terminal part of the uterus with the contained egg can be seen prolapsing through the cloaca. The uterus is then withdrawn, leaving the egg outside, covered by a viscid fluid which hardens or dries immediately on contact with air. As Fabricius says, "This you will easily observe if you keep a hen at home and dexterously catch her egg in your hand as it is laid." And again, as evidence of the age of the art of palpation, Fabricius says: "In a live hen, too, an egg provided with a hard shell may easily be palpated superficially. Housewives daily make this test when they try the hardness of an egg with their fingers from outside the body in order to find out whether or not the hen is soon going to lay."

It is suggested that the egg rotates and the hemispherical blunt end is presented in advance because it has the surface area which conforms most snugly to the mucous membrane of the dilated terminal portion of the uterus. Wherever all raised water tanks in this country are built with flat bottoms, our American cousins learnt long ago to build them with hemispherical bottoms. The area of the plane circular floor of a cylinder is πr^2 , but the area of the hemispherical bottom is $2\pi r^2$. In short, the latter tank can stand twice the head of water of the former or, alternatively for the same head, the material can be reduced to one-half the thickness of the former. The presenting blunt end of the egg gives the better arrangement for avoiding both rupture of the egg and rupture of the uterus.

In 1873 the Rev. Samuel Haughton, M.D. of Trinity College, Dublin, applied one of the celebrated problems of Lagrange to the act of parturition. It is the problem of the equilibrium of a flexible membrane subjected to the attraction of given forces.

$$P = T \times \left(\frac{1}{r_1} + \frac{1}{r_2} \right)$$

where P is pressure, T is tensile strain in the tangential

plane, and r_1 and r_2 are the radii of curvature. At the presenting membranes the two radii are almost equal, and so $P = \frac{2T}{r}$.

Haughton calculated that the surface of the gravid uterus is 270 sq. in. (1,765 cm.²), the volume 402 cu. in. (6,588 cm.³), the weight of muscle in the uterus 1.56 lb. (0.7 kg.), and the maximum hydrostatic pressure inside the uterus produced by contraction of the muscle 3.4 lb. per sq. in. (239 g. per cm.²). Matthews Duncan and Tait in 1868 had found experimentally that the mean rupturing pressure of the membranes was 1.2 lb. per sq. in. (84 g. per cm.²). In short, the uterine muscle can always rupture the membranes, and in general has three times the strength necessary.

In the case of the hen the uterus is confronted with the passage of a solid egg, and considerations of hydrostatic pressure of the liquor amnii do not satisfy the circumstances. There have been some measurements of the tensile strength of the vitelline membrane surrounding the yolk, and Moran recently calculated it as 4,500 dynes per sq. cm., or 0.06 lb. per sq. in. There are but few estimates of the tensile strength of the two distinct membranes next to the egg shell, or of the shell itself. Romanov in 1926 stated that the average thickness is 0.311 mm. and the breaking strength 4.46 kilos, or 9.8 lb.—somewhat greater than the average man can apply to the egg when held in the palm and fingers.

Haughton said: "Happy is the man whose mother possessed the hereditary tendency to form no more uterine muscle than was absolutely necessary to push him into the world." In similar Lamarckian vein may we say, Happy the chick whose mother hen possesses the necessary uterine muscle to rotate the egg in the uterus, deliver it blunt end first, and yet avoid both rupture of the egg shell and of the maternal uterus.

It is possible that Haughton's earlier years may have been one long Lent, for his father, James Haughton, philanthropist, friend and supporter of Father Mathew and O'Connell during the great potato famine of 100 years ago in Ireland, was also president of the Vegetarian Society.

The domestic hen, who, like the cow, has become a foster-mother of the human race, still presents problems in anatomy, physiology, and biochemistry. So does the cow as regards the mysteries of lactation. It is well to think of this at a time when Easter eggs are in short supply.

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The National Association for Mental Health has recently published its report for the year 1946-7. It gives an outline of the Association's many activities, which include lectures to medical practitioners, teachers, social workers, and many special organizations; research into the social adaptation of children brought up in institutions, carried out under the direction of Dr. Bodman; and proposals for the International Congress on Mental Health to be held in August. The Association has charge of four homes for mentally defective children at Rhyl, Bognor Regis, Basingstoke, and St. Leonard's-on-Sea. It runs nine hostels for county agricultural committees. The inmates are selected for their suitability for agriculture, and reports on the value of their work are enthusiastic—such comments as "the most reliable form of labour" often being heard. The hostels altogether accommodate 300 men in Gloucestershire, Hampshire, Shropshire, and Yorkshire. The Association's journal *Mental Health* will now appear four times a year and the subscription has been raised to 5s.

ENVIRONMENTAL FACTORS INFLUENCING HEALTH AND EFFICIENCY IN WARSHIPS*

BY

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When the designers plan the allocation of space and the installation of equipment in warships they have to effect a satisfactory compromise between many requirements, including those for providing in one ship an optimum number of useful weapons and detecting devices, high-powered engines for achieving high speeds, armoured protection against bombs or shells, watertight compartments to enable damaged ships to remain afloat, and, lastly, living and working conditions under which men may remain healthy and work efficiently.

It is one of the tasks of the Royal Naval Medical Service to advise the Staff when this balance of conflicting interests may act unfavourably towards the men and impose adverse effects on their health or efficiency. It will be seen that in the past the acceptance of standards which fell short of those required by the highest dictates of environmental hygiene was unavoidable at times; but the circumstances were such that the alternative would have been unacceptable loss of fighting efficiency in other ways, or a reduction of the safety factor.

In recent years the attention of those responsible for the efficiency of the armies, navies, and air forces of the World Powers has been drawn repeatedly to the fact that the power of modern weapons and the efficiency of fighting machines may be reduced because of neglect to consider sufficiently the characteristics of the men concerned with their operation. This has led to a renewed stiffening of opinion concerning the relative importance of human factors in the design of equipment. These factors may be examined broadly in relation to the physical or psychological ability of the men to carry out their various tasks, or in relation to limitations imposed on them by the nature of their environment. In practice these considerations are usually merged together, and to study one it is necessary to have a good working knowledge of the other.

When war was declared in 1939 the Navy had not for 130 years conducted a major campaign which entailed ships remaining continuously at sea in tropical waters, and the constructional features and design of ventilating arrangements were mainly based on experience gained in operating in temperate or subtropical waters. Although the ill effects of nutritional deficiency and infectious disease, which had ravaged the fleets in the past, were rarely seen, warships were still desperately crowded when they carried their full war complements, and the enormous power generated by their machinery produced great quantities of heat below decks which were hard to control by normal ventilating methods.

The efficiency of ships' ventilation systems was determined until recently by measurement of their ability to keep the level of carbon dioxide in the air of occupied compartments below 7 parts in 10,000. Compartments ventilated to accord with this standard were found, however, to be uncomfortably warm in the Tropics, and in 1937 the decision was made that ventilation arrangements would be designed thenceforward with the aim of maintaining an equable thermal environment under the

climatic conditions generally imposed on warships, a decision easy to make but difficult to carry out.

The early years of the war saw a tightening up of precautions for increasing the watertightness of ships damaged in action by increasing compartmentation and reducing communications between compartments, such as those afforded by ventilation trunking deemed to be unessential. These developments, combined with the "black-out," further complicated the task of those who had to provide satisfactory living and working conditions.

While the main activity lay in home and northern waters the increasing warmth in ships did not hamper operations, but the early Mediterranean campaigns gave warning that when the Fleet operated in the Tropics conditions incompatible with reasonable efficiency might be encountered in certain situations. Thus in 1944, when the Japanese campaign became imminent, the Royal Naval Personnel Research Committee of the Medical Research Council, which had previously devoted its attentions to problems of operational divers, anti-aircraft defence, cold-weather clothing and body protection, was directed to examine the environment of men in warships in the Tropics and to report on the probable effect on fighting efficiency.

This direction was expanded later to include more general problems, conditions in submarines, and problems of the thermal environment in temperate and northern waters. The specialized problems of the naval airman in the air were dealt with by the Flying Personnel Research Committee of the Air Ministry and will not be discussed here. Much of the work subsequently carried out has been reported or is to be reported elsewhere; other studies are not yet complete. It is therefore possible to refer only to the interim conclusions of these investigations.

Surface Ships

It is convenient to consider the various living and working spaces of warships in separate groups according to the activities of the men who occupy them, and the complexity of the problem is indicated by the varying nature of the average thermal conditions. The observations described below were made during a four-month period in 1944 in eleven ships of the Eastern Fleet, including battleships, aircraft carriers, cruisers, and destroyers.

Thermal Environment

The thermal conditions below decks were measured in accordance with the recommendations of B-ford (1946), and were described in terms of the "normal" effective temperature as well as the more conventional dry- and wet-bulb temperatures. The effective temperature may be defined simply, if the air movement and dry- and wet-bulb temperatures of the air are known, from the charts constructed by Houghten and Yaglou (1923) in the United States. This scale of warmth expresses as a single figure the summated effect on the comfort of lightly clothed human beings of air temperature, humidity, and air movement. At the higher ranges of warmth it does not afford an accurate index of the physiological effects of the possible combinations of these three factors, and the practicability of replacing this scale with a concept based more closely on the physiological and psychological responses of individuals is being examined. During the war effective temperature was the most suitable common index available, and over the range of conditions generally encountered it was satisfactory for our purpose.

Houghten and Yaglou also constructed a "basic" effective temperature chart which referred to the comfort sensations of men stripped to the waist. Warship crews in action, however, generally wear overalls and anti-flash hoods and gloves to protect them against flash burns. The normal effective temperature chart was therefore used in describing the measurements made on this survey.

*The basis of a paper given to the Society of Medical Officers of Health (Services Hygiene Group) on Nov. 28, 1947.

Allowance was made for the effects of radiant heat where these were important by making globe-thermometer measurements also and computing the mean radiant temperature of the surroundings; or, alternatively, by applying a correction to the effective temperature scale by substituting the globe-thermometer readings for those of the dry-bulb thermometer when reading the chart.

Bedford (1948) has pointed out that recent American studies on the effects of radiant heat on rectal temperature showed that "corrected effective temperature" fitted the experimental findings when the average rectal temperature of the subjects of the experiments was 100° F. (37.8° C.), over-corrected for radiation under more severe thermal conditions and under-corrected for it when the environment was less severe. The concept of corrected effective temperature may be used, therefore, only to give an approximation of the added strain imposed if heat radiation is added to the other thermal factors of a man's environment.

The standards provisionally accepted by the Admiralty since 1944 in planning warship ventilation for the Tropics state that 80° F. (26.7° C.) effective temperature (or corrected effective temperature if radiant heat is a factor) is the upper desirable limit for thermal conditions in spaces where men must live and work, and that 86° F. (30° C.) effective temperature (or corrected effective temperature) is the upper acceptable limit.

It is necessary to interpret these standards with considerable latitude in considering different compartments. The severity of

of efficiency, and remained healthy. The men on deck were reliant on carefully designed clothing for protection against cold, wet, and wind. The thermal environment here was apparently less critical than in the Tropics, but the effects of conditions in the Arctic regions have not been the subject of detailed investigation in recent years.

Accommodation

Sir Sheldon Dudley, in his preface to *Environmental Warmth and its Measurement* (Bedford, 1946), stated: "The problem to be solved by research and experiment can be stated briefly, thus—What is the ratio of the space allocated to the human element, to the space allotted to the mechanical element of the total fighting machine (ship plus ship's company) which will make the most efficient engine of war?"

A review of the space available for a community of nearly 8,000 men who were living on the mess decks of two battleships, four cruisers, an aircraft carrier, and an escort carrier in the Eastern Fleet showed that less than 150 cu. ft. (4.25 m.³) of space per man was provided on the mess decks for 69% of these men and their belongings and less than 200 cu. ft. (5.66 m.³) for 92%. The height of the deckhead is usually about 8 ft. (2.4 m.) in warships. Thus the majority of ratings were entitled to a floor area of less than 19 sq. ft. (1.76 m.²). It is interesting to note that Dudley (1928) reported similar arrangements for the crew in H.M.S. *Dunedin*. Satisfactory air hygiene was obtainable under these congested conditions by high ventila-

TABLE I.—Average Thermal Conditions in Living and Working Compartments in Surface Ships of the Eastern Fleet (1944)

	Normal Effective Temperature	Dry-bulb Temperature	Wet-bulb Temperature	Air Movement per Minute	Relative Humidity	No. of Observations
Mess decks	84.0° F. (28.9° C.)	90.0° F. (32.2° C.)	82.0° F. (27.7° C.)	100 ft. (30.48 m.)	71%	947
Machinery spaces	88.7° F. (31.5° C.)	102.7° F. (39.27° C.)	87.7° F. (30.94° C.)	468 ft. (142.65 m.)	55%	359
Gunnery control compartments	86.5° F. (30.28° C.)	95.5° F. (35.28° C.)	84.2° F. (29° C.)	172 ft. (52.42 m.)	61%	364
Gun-turret lower quarters	86.6° F. (30.33° C.)	91.9° F. (33.28° C.)	84.9° F. (29.39° C.)	60 ft. (18.29 m.)	75%	123
Radar offices	86.9° F. (30.5° C.)	97.7° F. (36.5° C.)	83.8° F. (28.77° C.)	160 ft. (48.77 m.)	56%	59
Electrical spaces	89.5° F. (31.95° C.)	104.7° F. (40.4° C.)	82.6° F. (28.11° C.)	147 ft. (44.8 m.)	39%	81
Workshops	87.5° F. (30.83° C.)	100.3° F. (37.33° C.)	83.7° F. (28.66° C.)	193 ft. (58.83 m.)	51%	55
Sick bays	83.0° F. (28.33° C.)	90.9° F. (32.72° C.)	82.1° F. (27.77° C.)	239 ft. (72.85 m.)	68%	82
Communication offices	85.8° F. (29.88° C.)	95.9° F. (35.5° C.)	83.9° F. (28.83° C.)	163 ft. (49.68 m.)	61%	168
Galleys	87.4° F. (30.77° C.)	97.5° F. (36.39° C.)	84.2° F. (29° C.)	192 ft. (58.5 m.)	58%	165

thermal conditions should be assessed in relation to the energy expended by the men exposed, to the complexity of their mental tasks, and to the clothing they must wear. Thus men handling ammunition for the heavy guns would become inefficient in a less severe environment than would engine-room watch-keepers, whose physical tasks might be light in comparison; or a radar operator watching for the faint signals on the display might fail to observe the presence of a ship or aircraft in the vicinity, although an engine-room watch-keeper observing the more plainly displayed dials and indicators in the engine-room under similar thermal conditions would be less liable to make an error; or, again, submarine crews stripped to the waist when submerged in the Tropics could sustain without loss of efficiency severer thermal conditions than the more heavily clothed crews of surface ships in action.

The average dry-bulb temperature on deck was 83° F. (28.3° C.) and the average wet-bulb temperature 77° F. (20° C.) when these measurements were made. The sea temperature varied between 82 and 88° F. (27.8 and 31.1° C.). In the living compartments (mess-decks) the average wet-bulb temperature was 82° F. and the average effective temperature 84° F. (28.9° C.). In the main working spaces of these ships, and in some of the compartments which were especially important in action, the average effective temperature varied from 85 to 90° F. (29.3 to 32.2° C.). In certain spaces, such as machinery compartments, galleys, and workshops, it was found that for nearly 800 measurements made the mean radiant temperature of the surroundings lay between 90 and 120° F. (32.2 and 48.9° C.) for 66%, and between 120 and 150° F. (48.9 and 65.6° C.) for 24%; and "corrected" effective temperatures between 95 and 100° F. (35 and 37.8° C.) were encountered at times.

The thermal conditions in ships in temperate waters gave less cause for concern. In northern waters men below decks were generally able to carry on with their work without loss

of efficiency, and remained healthy. The men on deck were reliant on carefully designed clothing for protection against cold, wet, and wind. The thermal environment here was apparently less critical than in the Tropics, but the effects of conditions in the Arctic regions have not been the subject of detailed investigation in recent years.

The above figures may be compared with wartime standards in naval barracks ashore, which allowed a minimum of 45 sq. ft. (4.18 m.²) of floor space per man and an "austerity" standard of 30 sq. ft. (2.79 m.²) if double-tiered bunks were used for sleeping (Dudley, 1943). The men slept in hammocks in temperate waters, but in the Tropics many found these too hot, and light camp-beds were issued as well, so that up to 70% of ships' companies slept in the open air on the upper deck.

Chemical Factors

The powerful ventilation systems of modern warships prevent undesirable accumulation of products of respiration such as carbon dioxide. Chemical factors are not therefore generally of importance. Reference has been made elsewhere (Ellis, 1944, 1947b) to circumstances which may result in casualties when, as a result of explosions or faults in machinery, contamination of the air of compartments, by nitrous fumes, carbon monoxide, and certain volatile chemicals used as refrigerants and in fire extinguishers, may occur without the knowledge of the occupants.

There is one exception to the above generalization. The magazines and ammunition-handling spaces of ships in action are hermetically sealed to prevent the flash of explosions blowing up their dangerous contents. In war these compartments may be heavily manned for many hours, or even days, and after a period (10 to 15 hours) without ventilation it becomes necessary to guard against undesirably high accumulations of carbon dioxide. The rate of accumulation varies with the size of the compartments, the number of occupants, and the energy expended by them. At an earlier time complaints may be made of headaches and general malaise due to inhaling the volatile

decomposition products of cordite. These effects have been studied by Thomson and Weiner (1947), who have shown that men handling cordite charges are more severely affected in hot humid atmospheres. The gun-crews were clothed in overalls, fabric hoods, and long gloves to protect them against flash-burns. Ammunition compartments were also critically warm and humid in the Tropics (Table I). It may be concluded that ammunition handlers carried out their arduous tasks in the face of considerable difficulties.

Bacterial Factors

The increasing use of air-conditioning equipment in warships led to proposals for economizing in the weight and size of ventilation trunking by effecting considerable reductions in the volumes of fresh air to be supplied to air-conditioned compartments; for the former lavish supplies were based on the need for limiting the thermal conditions, which would now be controlled by refrigeration. It was asked, therefore, if decreasing fresh air supplies and increasing air recirculation would cause undesirable additions to the bacterial content of the air of compartments.

Several serious epidemics of upper respiratory tract diseases which had occurred in ships at critical stages of the war, and the annual rate for pulmonary tuberculosis in the Navy, which had been double that in the other Services for many years (Dudley, 1941), were additional reasons for examining these proposals to reduce fresh air supplies with some precision.

A preliminary survey of conditions in a newly built cruiser and a submarine (M.R.C. Special Report Ser., No. 262) provided interesting data which permitted a comparison to be made between the bacterial environment of naval ratings and that of the civil community. About 600 "two-minute" samples of air were taken with a slit sampler (Bourdillon, Lidwell, and Thomas, 1941) in the cruiser during several days at sea under action conditions and while lying in Scapa Flow.

Previous studies by the Medical Research Council had suggested that under ordinary domestic or working conditions bacterial counts made in this way should not exceed 50 bacteria-carrying particles per cubic foot (0.028 m.³) of air, although much lower levels were desirable in hospital wards, dressing-stations, or operating theatres. It was found that when men were engaged in quiet occupations on the mess decks the above level was not usually exceeded, but it was when there was much activity, such as sweeping up after meals, turning out of hammocks in the early morning, and crowding into the bathrooms before breakfast. These findings indicated a need for making improvements, but did not compare unfavourably with similarly crowded situations ashore. In the critical action-compartments, such as the crowded gunnery-control positions beneath the armoured deck, surprisingly high standards of air hygiene were achieved by the ventilation provided.

In the air-conditioned compartments investigated recirculation of the air did not lead to a build-up of bacteria during two-hour periods. This aspect requires further investigation, and it is also desirable to repeat in the Tropics the general study in ships.

Submarines

Although the first submarine is said to have been navigated in the Thames in the time of James II, they were not developed as naval weapons until the twentieth century, when in two wars they nearly proved to be decisive weapons in the hands of our enemies. British submarines were also a most effective naval weapon, and, in view of the small numbers of men employed, an economical one too. In the Mediterranean alone a total force which rarely exceeded 1,000 men—or the ship's company of a single cruiser—sank between one and two million tons of Axis shipping and paved the way for the success of the Eighth Army by disrupting enemy supply lines. The Germans were late in appreciating that the effectiveness of a submarine on long patrols depended on the provision of an optimum environment for the crew. These environmental problems differ in certain important respects from those of surface ships.

Thermal Environment

When a submarine is submerged and propelled by the electric motors the conditions are ideal for securing a high degree of control of the thermal environment by insulating the pressure hull to prevent large heat transfers between the sea water and the internal surface of the pressure hull, and by using refrigerating machinery for cooling and dehumidifying the air in the Tropics and heating elements and radiators for warming it in the Arctic.

A series of observations made just after the end of the war in a submarine carrying out an Arctic and tropical cruise showed that, even when pressure-hull insulation was only partially fitted, satisfactory control of the thermal environment could be achieved during a diving patrol in tropical conditions off the Orinoco, where the upper desirable thermal level of 80° F. (26.7° C.) effective temperature was rarely exceeded.

When a submarine is on the surface the main engines draw large amounts of air down the conning-tower hatch and aft to the engine-room. In northern waters the crew are probably colder than they would be in surface ships in the same area, while in the Tropics the introduction of so much fresh air reduces the effectiveness of the air-conditioning plant. In rough seas and foul weather the added inconveniences of motion sickness and exposure to cold and wet which handicap many of the crew on surface patrols are practically eliminated when the submarine is submerged.

Accommodation

The cubic space allocated for sleeping and living quarters in large submarines varies from just above to just below 100 cu. ft. (2.83 m.³) per man. Thus the average space available for a man and his belongings is rather less than in surface ships; but the separate messes are divided from each other only by curtains or light partitions, and when the ventilation fans are circulating the air it is more reasonable to consider the entire submarine as a single compartment. It is then found that the volume of breathable air available for each man when the submarine is submerged will be somewhere between 300 and 500 cu. ft. (8.49 and 14.16 m.³) in different classes of submarine, and, provided the sleeping bunks are separated by adequate intervals, this will be more important for providing satisfactory air hygiene than the amount of space actually allocated to each man in each mess.

The best use is made of the space available by ingenious designs of fittings and furniture, and the degree of comfort obtainable is surprisingly high under the circumstances.

Chemical Factors

When a submarine is submerged carbon dioxide will accumulate in the air, which will at the same time be depleted of oxygen by the respiratory requirements of the crew. The rate at which these changes occur will vary with the volume of air available in the different types of submarine, the numbers of the crew, and the energy expenditure of the latter in the duties they must perform.

The careful control of both these factors is essential. The features of oxygen lack are said to include deterioration in visual acuity when the percentage at one atmosphere falls below 19% and, at lower concentrations, impairment of judgment and reasoning faculties, possibly associated with confident unawareness of the dangers involved and a feeling of well-being. Narcotic effects may also result from breathing atmospheres with a high content of carbon dioxide (5 to 10%), and varying degrees of headache and malaise occur in some people after breathing lower concentrations for a few hours. In addition, after regaining fresh air, unpleasant "after-effects" of this type may be experienced.

The time factor is of considerable importance. Past standards for achieving satisfactory air purification have been based on the assumption that periods submerged would not usually extend beyond one to two days at the outside and were usually less than 24 hours. In the event of more prolonged exposure these physiological effects will require re-examination. In the control of these factors reliance is laid on devices for absorbing carbon dioxide and generating oxygen, and on indicators

which keep the commanding officer informed of the chemical composition of the air.

Atmospheric hazards, which occasionally may cause casualties in submarines, include poisoning by carbon monoxide evolved from torpedoes which "run hot" in the torpedo-tubes, battery gases such as chlorine, and volatile chemicals used as refrigerants or in fire extinguishers. The breathing apparatus provided to enable men to escape from sunken submarines is an excellent ready-to-hand self-contained breathing apparatus for rescue or repair work in compartments containing these gases. The refrigerant "freon" (dichlorodifluoromethane) which is generally used in submarines is innocuous if inhaled. Such accidents are uncommon nowadays.

Pressure Changes

During long periods submerged, leaking high-pressure air, and ballast adjustments concerned with maintaining the ship on a level keel, may lead to considerable increases in atmospheric pressure. The physiological effects are not important provided that the partial pressures of oxygen and carbon dioxide are known and suitable precautions are taken before opening the conning-tower hatch.

marine air through the engine-room when submerged, where the bacteria-carrying particles adhered to the oily bulkheads and machinery.

The Effect on Health

The health of men serving in home and northern waters did not give rise to undue concern during the earlier years of the war, but when the majority of ships were transferred to the Indian Ocean and the Pacific in 1944, before the Japanese campaign, it was considered desirable to obtain an overall picture of the reaction of the men to their new environment. Reports were requested from the medical officers of the ships in the Eastern Fleet and later in the British Pacific Fleet. Their examination showed remarkable similarity in the state of health of the men in the two Fleets.

In the Eastern Fleet it was found that on the average each month, for every 100 men in ships afloat, 29 attended the sick bay as out-patients and 5 were made unfit for duty because of ill-health. In the British Pacific Fleet the

TABLE II.—Common Causes of Ill-health in the Tropics: Case Incidence per 100 Man-months

	British Pacific Fleet (March-May, July-August, 1945)				Eastern Fleet (February-September, 1944)			
	Warships (58)	Depot Ships (19)	All Ships (77)	Shore Estabs. (9)	Warships (23)	Depot Ships (5)	All Ships (29)	Shore Estabs. (7)
Man-months available	83,206	43,570	126,776	37,720	128,194	28,863	157,057	131,700
Heat exhaustion	0.14	0.20	0.16	0.01	0.24	1.23	0.42	0.04
Skin diseases*	8.43	10.16	9.02	3.62	9.39	10.86	9.68	6.75
Otitis externa	1.80	2.16	1.93	0.47	1.84	3.01	2.05	0.99
Malaria	0.02	0.01	0.02	0.01	0.09	0.04	0.08	0.76
Dysentery	0.37	0.70	0.48	0.45	2.31	4.08	2.63	1.83
Psychoneurosis	0.06	0.07	0.06	0.08	0.05	0.11	0.06	0.11
Dyspepsia	0.19	0.18	0.19	0.17	0.25	0.24	0.25	0.15
Bronchitis	0.17	0.22	0.19	0.12	0.20	0.40	0.24	0.29
Common cold	1.26	1.61	1.38	1.39	1.45	2.02	1.56	1.17
Sore throat	1.00	1.34	1.12	1.03	0.78	0.93	0.81	0.91
Fever (P.U.O.)	0.07	0.07	0.07	0.01	0.13	0.04	0.11	0.12
Pulmonary tuberculosis	0.01	0.02	0.01	0.02	0.02	0.02	0.02	0.02
Minor injuries	3.27	4.15	3.57	2.11	3.79	5.99	4.20	2.09
Totals	16.79	20.89	18.20	9.49	20.54	29.07	22.11	14.23

*Excluding prickly heat.

In 1944 and 1945 the Germans fitted to their submarines a device developed by the Netherlands Navy which they called a "Schnorkel." This consisted of a hollow mast which could be raised above the surface to provide air supplies for the interior while the main hull of the submarine remained submerged. The schnorkel supply duct was a relatively narrow tube, and the demands of the engines for air were heavy, so the pressure within these submarines was generally depressed to varying degrees below one atmosphere, and in a choppy sea the intermittent occlusion of the air inlet by a valve fitted to prevent flooding would cause fluctuations of the internal pressure. By the use of this device U-boat commanders remained continually submerged for many weeks while avoiding detection, and it would appear that, provided the machinery was suitably designed and the device was wisely used, ill-effects on the personnel did not result.

Bacterial Factors

During the survey of air-borne bacteria described above 80 two-minute samples of air were collected in a submarine during a day at sea off the Orkneys. It had been suggested previously that the difficulties of ventilating submerged submarines might lead to undesirably high bacterial contamination of the air, although it had often been observed that on long patrols submarine crews were unaffected by serious epidemics of upper respiratory tract infections.

It was found that, under a wide variety of probable operating conditions, the upper desirable level of 50 bacteria-carrying particles per cubic foot of air was exceeded only when there was considerable human activity near to the slit sampler. This excellent state of affairs was attributed to the good ventilation obtainable on the surface and to the recirculation of the sub-

corresponding figures were 28.6 and 4.6. The more common conditions which caused the men to report at the sick bay are shown in Table II.

The amount of ill-health in ships was very much greater than in naval barracks and establishments ashore, mainly because of the predominance in ships of skin diseases (including boils, fungus infections, septic prickly heat, and tropical pemphigus) and other infections of the epidermis such as otitis externa, and also because of the relatively greater incidence of minor injuries. Uncomplicated prickly heat was almost universal in many ships, and the monthly incidence of heat exhaustion in ships of the Eastern Fleet (0.42) represented a rate of 1 man in every 20 per year.

On the credit side the incidence of infectious diseases and malaria remained at a low level. Respiratory tract infections were the most prevalent infective condition in both Fleets. Dysentery, however, accounted for increased ill-health in the Eastern Fleet. Dyspepsia was not a common complaint, and neuro-psychiatric disorders were relatively infrequent. Cruises out of the Tropics to South Africa or Australia were always associated with a great decrease in minor sickness, and the significant role of hot humid atmospheres in the causation of ill-health in the Tropics was undoubted.

Comparable wartime figures are not available for the Home Fleet. Reports from ships made during the first twelve-month period after the Japanese War ended, which gave the numbers of men on the sick-list or attending a

out-patients at midnight each Wednesday, have been analysed by Dr. J. A. Fraser Roberts. These show that the 'average sickness for the period under review was approximately twice as great for ships serving in the Tropics as for those in the Home Fleet, and the figure for ships in the Mediterranean lay between these two extremes. Few ships were serving in northern waters at this time. The increase in the Tropics was found again to be due to skin diseases and minor injuries, and again the ships' companies of depot ships and repair ships were the least healthy in the Fleets.

The Effect on Efficiency

The adverse influence on efficiency imposed by this widespread increase of skin disease and heat illness in the Tropics was unquestionable. It was found that air-crew in a fleet aircraft carrier lost more than three times the number of flying days in three months in the Tropics than did a larger number of air-crew in the same ship in a previous quarter when operating off the coast of Norway. In addition to ill-health the warm environment in itself reduced the efficiency of the men. Work took longer to do, and was not so well done as in cooler climates. Heavy operations, such as "bombing-up" a wing of 24 aircraft, took half as long again as in home waters.

Observations on men working in gun turrets (Ellis, 1947a) showed that the ammunition parties were working under conditions which brought them near to the limits of physical endurance. Submarine crews were prevented by heat and humidity from carrying out full-length tropical patrols until air-conditioning plant was fitted.

The view that the prevailing warmth in ships was detrimental to efficiency was given further support by work at the climatic laboratories of the Medical Research Council by Professor F. C. Bartlett and Dr. N. H. Mackworth at Cambridge and by Dr. E. A. Carmichael and Dr. B. McArdle and their colleagues in London. This work confirmed the main conclusions of Eichna *et al.* (1945) and of Robinson *et al.* (1945) in the United States of America that men could carry on with heavy physical tasks for short periods without collapsing when the prevailing level of warmth was greater than that generally encountered in the Eastern Fleet except in gun turrets in action and certain machinery compartments. The efficiency of wireless operators, however, was found to fall off between effective temperatures of 83 and 87.5° F. (28.3 and 30.8° C.) which were commonly experienced in the Eastern Fleet; and the examination of the effects of warmth on other activities of importance in warships confirmed the conclusion that accuracy, judgment, and concentration over short periods (four hours) were reduced in quality before ability to continue to perform simple but strenuous physical tasks.

Many of the principles of man's reaction to excessive warmth have been examined in the United Kingdom, although the effects of heat radiation require further elucidation. It is now desirable to discover whether men acclimatized by living in ships stationed in tropical waters will show similar reactions to the conditions of the above experiments.

This survey of conditions in ships, similar observations by Royal Air Force observers in aircraft in the Eastern Theatre, precise observations on the effects of desert heat on soldiers by Ladell, Waterlow, and Hudson (1944), research in climatic chambers, and parallel studies in the United States have provided much information on the environmental factors which limit the efficiency of military forces in hot climates. In general this supports the standards which are now used in designing ships' ventilation systems for tropical service.

It is generally agreed that to afford men periodic respite from the heat by the selective application of air-conditioning to certain offices, work-places, and recreational and living spaces offers the best chance of improving the thermal environment of men in warships in the Tropics, but much can be done with soundly designed and operated ventilation systems, and by keeping the air moving with ceiling or bracket fans. More generous application of air conditioning is desirable for those smaller ships which must patrol in the desert-locked waters of the Red Sea and the Persian Gulf, where the severity of the climate far exceeds that normally encountered in the Indian Ocean.

Less is known about the effects of extreme cold on efficiency. There is no sound index for indicating simply the effect of varying low temperatures, humidities, and air velocities on physiological and psychological functions, and information about the optimum levels of warmth to be maintained in ships by artificial heating is incomplete. There is thus a need for further examination of the human factors related to operations under extremely cold conditions, to make available the fundamental facts without which the design of equipment for the Arctic and Antarctic will continue to depend on empirical methods.

Conclusion

Considerable research is being devoted to ways of securing optimum arrangements of working equipment, machinery, and seating, to the designing of instrument controls and displays to enable simple and efficient operation, to anthropometry, and to time-studies for reducing delay or saving man-hours in processes involving several operators or teams of workers. Other investigations are concerned with the definition of optimum lighting intensities and the most favourable siting of sources of illumination for various types of work. The influence of background noise or unexpected sounds on the performance of auditory or non-auditory tasks, and more abstract considerations such as the effects of monotony or repetitiveness on overall efficiency, are being reviewed.

It is not possible here to consider many other factors which affect working efficiency. Little reference has been made to clothing or the psychological aspects of life in warships, the present knowledge of which was reviewed by Critchley (1945), or to less common environmental problems such as those associated with escape from air raid submarines.

From this brief survey it will be seen that the structural features of warships are closely bound up with the requirements of the men. The acute space limitations, the need for securing watertight subdivisions of ships, the heat generated by machinery, and the limitations in the types of ventilating procedures designed for temperate climates make it necessary to secure a sound compromise between meeting these requirements and building efficient pattern ships. We have reached a stage when satisfactory design can proceed only if precise and accurate data are available on the human requirements and limitations and if these can be translated simply into terms appreciated by engineers and designers.

The rapid strides in aircraft construction, shipbuilding, underground engineering, and under-sea activities, and the economic need for providing optimal conditions for workmen in many spheres, have shown that many of the environmental problems which beset the fighting services in war differ little from those of the civil community at peace.

It would seem appropriate that men with a medical education should play a large part in these studies, and in particular that the medical services of the Army, Navy,

and Air Force should play a leading part in integrating the results of research work in the medical and physiological fields in the plans of those responsible for equipment design or concerned with maintaining operational efficiency.

I am indebted to the Royal Naval Personnel Research Committee for permission to publish this account of some of the committee's activities.

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PERMANENT HOMONYMOUS QUADRANTANOPIA AFTER MIGRAINE

BY

W. M. RICH, D.O.M.S.

Migraine with visual hallucinations is reported often enough in the literature to need no further amplification. That it can have a permanent effect on vision is not. A case is here described of permanent homonymous quadrantanopia following 20 years of migrainous headaches.

Case History

The patient, a married woman aged 32, has had headaches since she first began to menstruate at about the age of 12. There is some relationship to her periods, but it is not absolute. The headaches have been getting worse during the past two or three years. They always develop in the same way: first there are "flashing lights," and as these fade a "haze" appears on the right side and spreads from above downwards and to the left. With the haze, or soon after, the headache ensues, beginning in front and radiating to the back of the head, becoming most intense occipitally. The patient recently noticed that the "haze" was permanently present wherever she looked and whether she had a headache or not. When I first saw her she had had this shadow in each eye, above and to the right, for about two years. She has been married 14 years and has two children (girls, aged 13 and 7); there have been no miscarriages. She was very thin up to the birth of the younger child, but during the next two years her weight rose from 7 st. 6 lb. (47 kg.) to over 10 st. (63.5 kg.), where it has remained for the past four or five years. Her periods are normal and regular. There is no polyuria or polydipsia.

On examination she was seen to be a well-nourished, placid, intelligent, and apparently healthy young woman. Eye examination revealed: R.V. 6/5, J. 1; L.V. 6/5, J. 1; emmetropic; orthophoric; pupils active to light, both direct and consensual, and to accommodation-convergence, equal and well sustained;

Wernicke's hemianopic reaction could not be obtained; tension (digitally) normal; media and fundus of each eye normal and healthy. The blood pressure was 128/68. Night and morning specimens of urine were normal. The Wassermann reaction and gonococcus-fixation test were negative. X-ray examination of the skull showed that the pituitary fossa was exceedingly small, with ossification of the petro-clinoid ligaments. The only other abnormalities discovered were:

Peripheral Field.—1/330 mm. white was full and normal in each eye, except for a small absolute scotoma, homonymous and quadrantanopic in shape and less than 30 degrees, which was more satisfactorily plotted with the Bjerrum screen. Those for red, green, and blue were similar. Only the white is illustrated (Figs. 1 and 2).

Bjerrum Screen.—5/2000 mm. white, red, blue, and green were taken, but only that for white is illustrated (Figs. 3 and 4). The points to be noted are: sparing of the macula; the clean-cut edge along the 90 degrees vertical and 180 degrees horizontal meridians, and between these the absolute scotoma from 1 to 18 degrees; the relative scotoma for a further 5 degrees where the colour faded; its quadrantanopic shape, homonymous in character, and almost complete congruity. The colours followed an almost identical pattern.

Discussion

Migraine is usually considered to result from vascular instability, the headache being due to spasm of the arteries supplying the occipital cortex, or of the scalp and dura mater, or to irritation of the meningeal arteries following an initial dilatation which produces the sense of well-being. In the present case, however, there is just the possibility of friction on the left optic tract due to calcification of the clinoid ligament; but this seems somewhat unlikely, for the patient was re-examined at three-monthly intervals during the ensuing six months and no change was found.

Traquair (1933, 1942) states that the characteristic feature of optic tract lesions is incongruity, that the fixation area is more often affected when the lesion is in the anterior part of the supra-chiasmal path, that homonymous quadrantanopia is found in damage to the calcarine fissure or to the radiation, that sparing of the fixation area of usually less than 5 degrees is almost constant in occipital hemianopias, and that isolated hemianopia is so rarely due to optic radiation and so frequently to occipital lesions that the latter position should be assumed as the site of the lesion unless there is other and stronger evidence, such as a wound, to implicate the former. While Peter (1938) states that perimetry definitely locates ophthalmic migraine in the visual cortex and that migraine is probably due to spasm of the small vessels in the cuneus and where the scotomata—quadrantic or hemianopic, always bilateral and homonymous—have become permanent, the repeated attacks of spasm in these vessels during the migrainous attacks have resulted in permanent occlusion of the vessel, with softening of the brain tissue, the functional now becoming organic.

It may therefore be safely assumed that in my case this is what has happened rather than the problematical suggestion of friction from an ossified clinoid ligament damaging the optic tract.

Review of the Literature

That there is a connexion between idiopathic migraine, epilepsy, and subarachnoid haemorrhage has been mentioned before. It is not the purpose here to discuss this, but to draw attention to the much greater frequency of hemianopias associated with migrainous headaches either of established or, most probably, vascular origin, irrespective of the age of the patient, and those associated, as in the case described, with idiopathic migraine in which the possibility of vascular origin other than vasomotor instability is most unlikely. Ormond (1913), quoting from his own and other observers' cases, mentioned nine in all, six of which,

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with one doubtful exception, were probably cases of intracranial haemorrhage. In two of the three cases of migraine uncomplicated by a probable vascular lesion there was homonymous hemianopia with sparing of the macula by less than 5 degrees.

At a meeting of the Ophthalmological Society Prof. Unthoff (1914) said that he had seen five cases of persistent

homonymous quadrantanopia, and necropsy showed complete atrophy, strictly limited to the lower half of the cuneus, of the right occipital lobe. The second was recorded by Schiff-Wertheimer (1926). This patient, a man aged 60, had a right superior homonymous quadrantanopia, and necropsy revealed a lesion of the left cuneus, limited to the inferior lip of the calcarine fissure. These two cases,

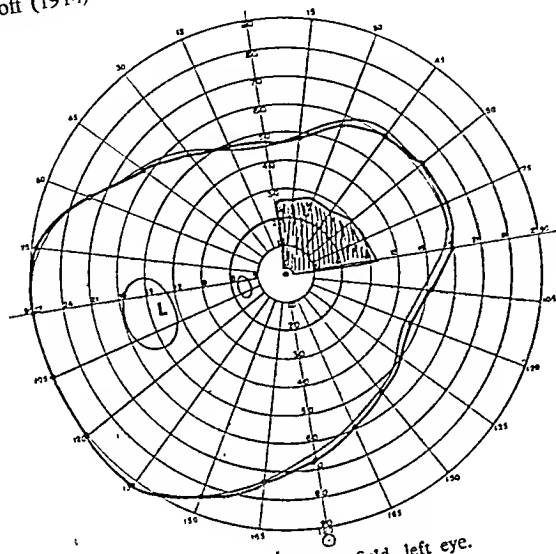


FIG. 1.—Perimeter field, left eye.

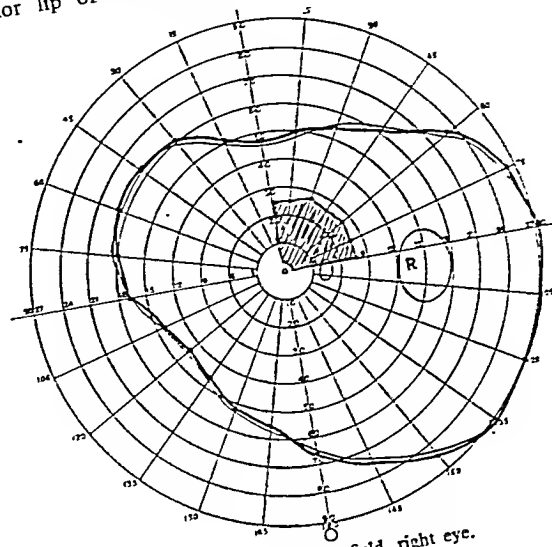


FIG. 2.—Perimeter field, right eye.

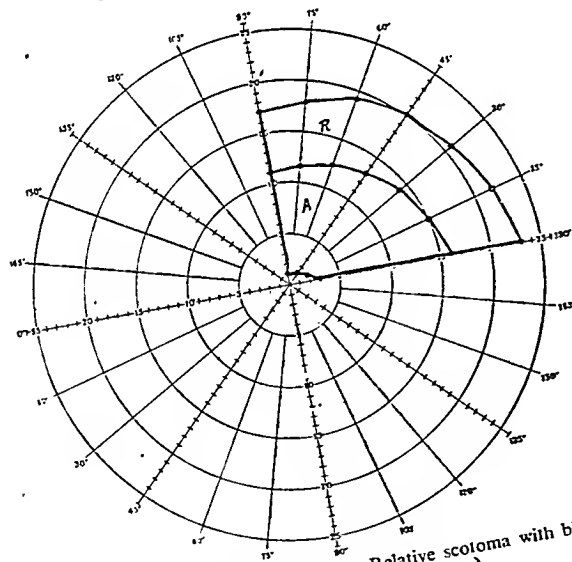


FIG. 3.—A: Absolute scotoma. R: Relative scotoma with blurring and loss of colour. (Left eye.)

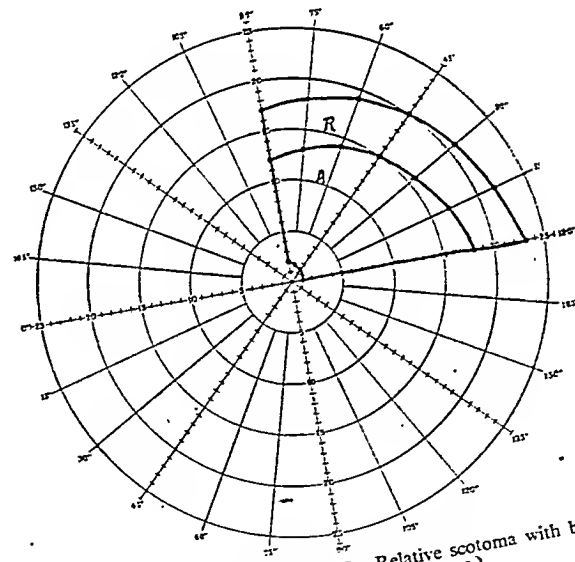


FIG. 4.—A: Absolute scotoma. R: Relative scotoma with blurring and loss of colour. (Right eye.)

partial hemianopia following recurrent migraine, and was of the opinion that they were localized to the occipital cortex: Hawthorne (1914) described four cases free from vascular or renal cause in young women, and five others in older patients with a greater or lesser degree of cardiovascular degeneration; and Cross (1914) mentioned 18 of his cases of the latter type, and stated that the common cause was embolism of some twig of the calcarine artery. Johnson (1936) quoted two cases of quadrantanopia which came to necropsy. The first was that recorded by Hun (1887). This patient, a man aged 57, had a left inferior

particularly the latter, support the hypothesis that in my case the lesion will be found in the occipital cortex rather than in the optic tract. The statement by Veil (1930) that transitory hemianopia associated with ophthalmic migraine is of no importance seems to require revision, as does Tidy's (1945) that in rare cases migraine may subsequently result in complete blindness; for Thomas (1907) remarked that "a number of cases are reported [of hemianopia as an aura of migraine] where symptoms appearing during the attack similar to transitory ones in previous attacks have become permanent."

quoted eight cases; four of which were his own. One of these four proved at necropsy to have had an aneurysm of the right posterior communicating artery which had burst; two others were probably vascular in origin, since in one case there was amnesia and in the other paraesthesia; and the last of the four—a healthy young woman of 27—was a case of right permanent hemianopia as a result of idiopathic migraine, with sparing of the macula by less than 10 degrees and otherwise a clean-cut vertical edge above and below. She was re-examined six weeks later, but there was no alteration. The ages of these four patients varied from 15 to 67 and all had had proved intracranial vascular catastrophes.

Peter (1938), quoting Charcot and others in their description of cases of persistent quadrant and hemianopic scotomata following migraine, remarks that other cases have appeared in the literature from time to time; while Adie (1930), drawing attention to permanent hemianopia in migraine, migrainous epilepsy, and spontaneous subarachnoid haemorrhage and their probable interrelationship, describes seven cases in which there was probably a subarachnoid haemorrhage. Dixon (1947), in drawing attention to the frequency of strokes in young adults, mentions four cases of field defect in young people associated with a probable intracranial haemorrhage.

Comment.—In this brief review of the literature 63 cases are mentioned, of which 14 seem to be of true idiopathic migrainous origin, and 49 have been associated with intracranial haemorrhage—a ratio of 2:7. It seems likely, therefore, that many more cases of migraine than appear in the literature would show permanent field defects, that sooner or later a number of these would show other signs of intracranial haemorrhage, embolism, or thrombosis, and that the relationship between migraine, epilepsy, and subarachnoid haemorrhage is closer than has been recognized. Attention is also drawn to its greater frequency in women.

Summary

A case of permanent quadrantopia subsequent to 20 years of repeated attacks of idiopathic migraine is described.

The probable site of the lesion—at first functional, later organic—is discussed.

A review of the literature revealed only 13 other cases.

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The National Corporation for the Care of Old People has appointed a committee to make recommendations on grants for old people's homes and their welfare services in Scotland. Sir Hector Hetherington, Principal and Vice-Chancellor of Glasgow University, is chairman of the committee, and the other members are: Dr. A. Craig Anderson, Dr. A. D. Briggs, Dr. R. W. Craig, Miss Grace Drysdale, Prof. Ferguson, and Mr. H. L. F. Fraser. Offices are to be opened at 2, St. Andrew's Square, Edinburgh.

PHLEBOTHROMBOSIS DECUBITI AND PREVENTION OF PULMONARY EMBOLISM

BY

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The assumption that pulmonary embolus is an unavoidable accident is no longer tenable.—J. FINE.

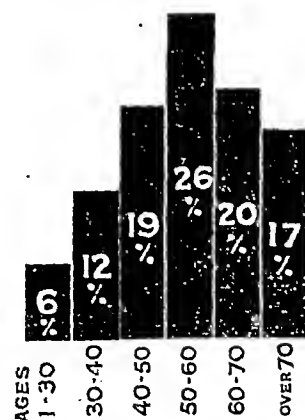
In this article no attempt will be made to describe and discuss the prevention of phlebothrombosis by early ambulation, exercises and massage, or the administration of anticoagulants. Moreover, much as I should like to express my views on the relationship of posture to venous thrombosis, I am anxious to avoid becoming involved in controversies concerning the merits and demerits of Fowler's position. This does not imply that I fail to appreciate that the prevention of phlebothrombosis is an ultimate goal of the combined professions of medicine and nursing. On the contrary, it is because this goal cannot be reached without a numerically enhanced nursing service, including specially trained massagers, far better laboratory facilities, an unlimited supply and unbridled use of expensive drugs, and, above all, more and better hospital facilities, that I propose to concentrate on how to grapple with the problem as it presents itself in average hospital and private practice in Britain to-day.

We are faced with the fact that, except in a few clinics that are accorded facilities not vouchsafed to any but a mere handful of the profession, there is not one iota of evidence that pulmonary embolus is less frequent to-day than it was ten, fifteen, or twenty years ago. It is for this reason, while continuing to preach the gospel of the prevention of phlebothrombosis instead of sitting with folded hands awaiting the medical millennium, that I propose to concentrate on measures to forestall pulmonary embolism which the clinician himself can inaugurate and carry out if he has the energy and determination to do so.

Fatal pulmonary embolus is always disconcerting. Those in attendance rightly cannot smother a conviction that the visitation should not have occurred. Little wonder that generations of conscientious workers have sought to rid the practice of surgery and gynaecology of a scourge. I envisage (a) the early detection of phlebothrombosis, and (b) the removal of the clot from the femoral vein before it has moved to the heart, as the two limbs of a Colossus astride a subject of fundamental importance to every surgical practitioner.

Early Diagnosis

The temperature chart shows unexplained repeated slight elevations. As the condition is more prone in those past the meridian of life and the highest incidence



is between ages 50 and 60 (Fig. 1), if the patient has undergone an operation about a week previously, more particularly if that operation was one of herniotomy, hysterectomy, resection of the rectum, prostatectomy, cholecystectomy, or

FIG. 1.—The age incidence of fatal pulmonary embolism. (A. W. Allen's and other statistics.)

for perforated appendicitis, and decidedly if the patient has been nursed with a pillow placed beneath the knees, the well-trained clinician's thoughts should reflexly turn to the veins of the lower extremities. While it is true that the fewer the symptoms caused by phlebothrombosis the greater the danger of pulmonary embolism, it is equally true that the majority of cases of phlebothrombosis decubiti remain undiagnosed until pulmonary embolism has occurred, *because the lower limbs have not been examined*. When all those in attendance are alert to the dangers of clotting in the veins of the legs, when the nurse reports a slight pain in the calf and, in relevant cases (especially between the third and seventh post-operative days), the clinician undertakes routine examinations to exclude phlebothrombosis, then, and then only, is real progress in the prevention of pulmonary embolism likely to occur.

Have the bed-clothes turned up (not down) and display the whole of both lower extremities. Observe the limbs for swelling, which may be slight, fullness of the veins, and a cyanotic tinge.

In suspected early cases proceed as follows:

1. Apply finger-tip pressure over each saphenous opening, and with a *stroking motion* run the finger down the course of each femoral vein, seeking a segment of unilateral localized tenderness.

2. Let the patient draw up the knees and lie quietly, relaxing the muscles. Begin by palpating the feet for tenderness, especially the medial aspect and behind the internal malleolus (Payr, 1930). Next gently squeeze the calves and then palpate the whole of the thighs systematically, the object being to seek a localized area of muscular rigidity combined with deep tenderness (Frykholm, personal communication).

3. Palpate deeply in the popliteal spaces, noting if there is tenderness here, after which ask the patient to lower the legs on to the bed.

4. Homan's sign. With the knee extended, dorsiflex the foot. Pain in the calf is a positive sign of considerable significance.

5. Compare the femoral pulses. When the femoral vein contains clot the beat of the artery alongside it is usually perceptibly weaker.

If as a result of this thorough examination the diagnosis of femoral thrombosis is reasonably assured, the advisability of exposure of the sapheno-femoral junction should receive every consideration. Removal of clot and interruption of the femoral vein will forestall many pulmonary emboli.

Femoral Thrombectomy

Femoral thrombectomy is not a new procedure. Thirty years ago Sir Carrick Robertson, of Auckland, New Zealand, successfully removed a thrombosis from the femoral vein of Mrs. Bates. In Germany, before the 1939-45 war, Kulenkampff carried out the operation many times. In the U.S.A. in recent years femoral thrombectomy has frequently been undertaken; indeed, in a number of American surgical centres the resident and nursing staffs are trained in the early detection of phlebothrombosis decubiti, and the reports on large series of cases of thrombectomy are highly satisfactory.

Anaesthesia.—I have experienced but little difficulty in carrying out the operation under local analgesia. When, as is sometimes the case, there are gelatinous adhesions between the femoral artery and vein, their separation is painful. In these circumstances, and when the patient is very nervous or grossly obese, local analgesia may be supplemented with a small intravenous injection of thiopentone.

The Incision.—A transverse incision* about 4 in. (10 cm.) long 1 1/2 in. (1.25 cm.) above the saphenous opening has proved adequate.

* Since this was written, A. W. Allen gives good reasons for choosing a vertical incision.

Operation

The inferior lip of the incision being retracted, the saphenous vein as it passes through the saphenous opening is identified and divided between haemostats. After the fascia that constitutes the edges of the saphenous opening has been slit vertically, employing the stump of the saphenous vein as a guide, the femoral vein can be quickly exposed with but little disturbance to it. That this great vein is filled with clot may be apparent at once, but clots cannot be felt unless they are of the most solid character. Employing a Watson Cheyne dissector, the femoral vein is isolated for a distance of about 3 in. (7.5 cm.), exercising gentleness for fear of displacing the clot.

The first aim is to clear the circumference of the upper end of the common femoral vein sufficiently to pass a sling (a narrow strip cut from a sheet of corrugated rubber) around it. Once the sling is in action (see Fig. 2) there is no fear of displacing the clot towards the heart, and the process of freeing the femoral vein and identifying the superficial and deep branches and other radicles can proceed apace. A sling is passed under the superficial femoral vein at the lower end of the wound. Ideally another sling should be passed under the deep femoral vein, but I have omitted this step in most of my cases. Neither the upper sling nor the lower sling is put into action at this stage. The haemostat on the stump of the saphenous vein, which has served well first as a guide and later as a tractor, is removed and the sealer's mouth of the vessel is prised open (Fig. 2); scissors are introduced and the common femoral vein is slit for about half an inch.

There is no need to become apprehensive regarding a possible haemorrhagic cascade: if the vein contains much clot there will be no bleeding at all; if it contains loose clot the very thing we want is to let the femoral vein bleed and sweep out the clot. Haemorrhage can be brought under absolute control with the slings. Be assured that with the slings in position the surgeon is complete master of the

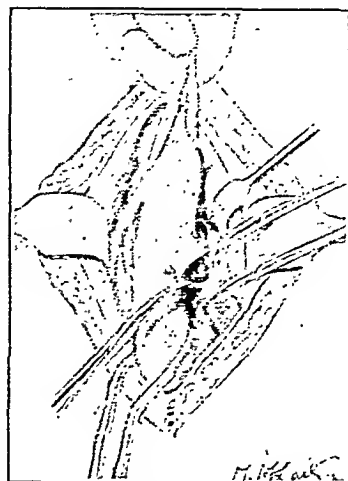


FIG. 2.—Femoral thrombectomy. Bisection of the saphenous vein.

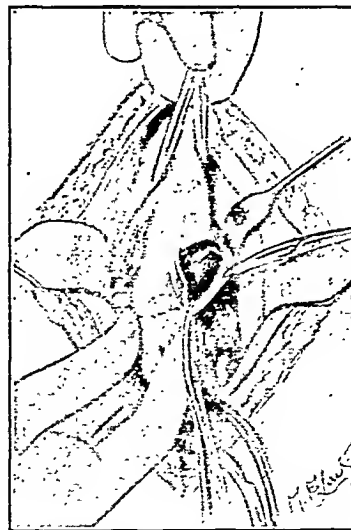


FIG. 3.—Clot being expressed from the femoral vein. Some of it is often extruded spontaneously.

situation at any moment. When present, clot is expressed from the distal end of the vein (Fig. 3). By the delicate use of Desjardin's gall-stone forceps a long wormlike clot can often be extruded without breaking it, or at any

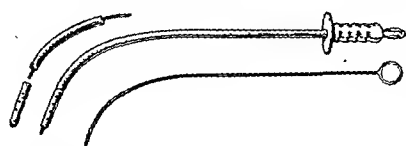


FIG. 4.—Clot extractor for use with a suction apparatus. (Made by Hawkins, Ltd.)

rate not fragmenting it. The same procedure in extracting clot from the proximal end is undertaken. If free bleeding occurs the sling is tightened and the next step omitted. A glass tube or, better still, my pattern clot extractor (Fig. 4) connected to a sucker is passed up the common femoral vein into the iliac vein (Fig. 5). Smaller clots can be expeditiously removed by its agency. Ideally there should be bleeding from both ends of the vein. In my experience, when a considerable amount of clot has been extracted it is seldom realized from the distal end. The vein is clamped

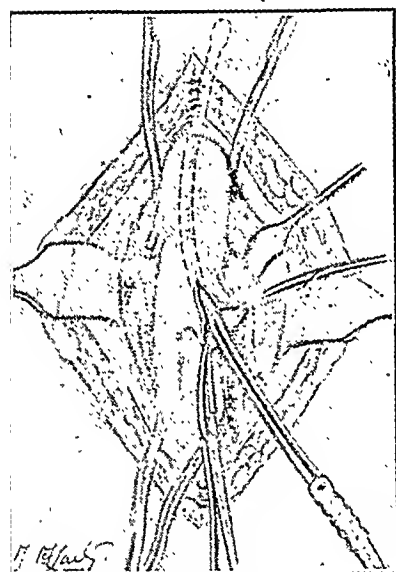


FIG. 5.—Clot extractor in use.

above and below the opening that has been made into it. The vein is then divided across the ends and ligated. After sprinkling sulphanilamide powder into the wound the skin is closed with rubber dam drainage. I have not regretted draining the wound, but I have had a little trouble with local sepsis in cases where this step is omitted.

Immediate After-treatment.—Prophylactic penicillin treatment is not out of place. The limb is elevated on pillows, but the patient is encouraged to move it from the beginning. Even should there be a clot above the point of interruption of the vein the motive power that sweeps the clot to the heart is lacking, and consequently the danger of pulmonary embolism, at any rate from the iliac vein on the side operated upon, is greatly reduced. In recent cases, with the object of preventing further intravenous clotting, I have ordered the administration of dicoumarol for a week.

More Remote After-treatment.—On the third day the patient is sat out of bed, unless other considerations negate this. Before he gets up, flexible adhesive plaster, with the sticky side outwards (which permits its easy painless removal), is applied from foot to groin, so as to support the whole limb firmly.

Sequelae are surprisingly few. Astounding to relate, there is less swelling of the limb than is observed in cases of thrombophlebitis followed by spontaneous recovery. In the latter case the accepted practice is to keep the patient strictly at rest with the limb elevated for six weeks. Compare from the patient's point of view this tedium with vein interruption and sitting out of bed on the third day. Certainly there is some swelling of the limb, which continues for weeks or months; consequently it is usually advisable for the patient to wear a crêpe bandage for six months.

Less Straightforward Cases

Occasions will arise where the femoral vein is explored and clot within it is not discovered. In these circumstances it is usually advisable to explore the contralateral side, although this step requires the conviction that one is acting in the best interests of the patient. On other occasions when the patient has had a pulmonary embolism and, as always, another (probably fatal) one is feared, and there is no clear guide as to which femoral vein to explore, a most onerous decision has to be made—whether (a) to explore one femoral vein and, if that be fruitless, to explore the other, or (b) to tie up the inferior vena cava.

Ligation of the Inferior Vena Cava

The first case of therapeutic ligation of the inferior vena cava was carried out by Trendelenburg in 1911. The patient had pelvic thrombosis due to puerperal sepsis. After the operation there was dramatic improvement.

Reports of successful ligation of the inferior vena cava in cases of thrombophlebitis of the pelvic veins, and when the patient has had one pulmonary embolism and another is feared, are scattered through the surgical literature of the period between the two world wars. Contrary to what might be thought, this procedure is not a desperately formidable undertaking. It is of course essential that the ligature be applied below the level of the renal veins. To divide the inferior vena cava between ligatures appears to be a better practice than simple ligation; this would prevent late cutting through of the ligatures.

These points were brought out in and this was the impression to be gained from a paper by Wakefield and Mayo, who in 1934 were able to collect 19 cases with recovery of 15. In two instances the patient died as a result of the operation: one fatality occurred on the 23rd day, and was due to the ligature cutting through the vein; in the other case the ligature had been tied above the right renal vein.

During the past few years so much confidence has accrued in America in this to many of us still desperate expedient that in 1947 Veal *et al.* of Washington were able to present 30 cases of their own. In 28 of these the operation was undertaken on account of pulmonary embolism. Of the three deaths following the operation, two occurred in patients suffering from cardiac disease and one was due to pneumonia. It should be noted particularly that no further embolism occurred in any of the cases. So it comes about that there is reason to believe that ligation of the inferior vena cava is a practical proposition likely to save life when employed in appropriate cases at the right time. The difficulty is to be sure that the procedure is indicated. When facilities exist, intravenous injections of diodone into an exposed saphenous vein and subsequent radiography will display information regarding thrombosis of the great veins of the pelvis. The technique of the procedure is set out by Stowers and Grossman (1946).

This is not the place to enter into the technique of ligation of the inferior vena cava. It suffices to say that the operation is well within the competence of the average general surgeon, and the best surgical approach appears to be an extraperitoneal one, very similar to that of exposure of the lower end of the ureter.

Ligation of the inferior vena cava does not produce more than slight disability—oedema of the lower limbs—and this usually passes off in time.

Conclusions

At the present time in Britain there are but few surgeons who have carried out femoral thrombectomy; indeed, the operation has received less attention than pulmonary embolectomy. The latter is a heroic measure requiring

special facilities, special instruments, and special skill. Femoral thrombectomy requires none of these things.

The indications for femoral thrombectomy are: (1) when pulmonary embolism has occurred and mercifully the patient is yet in a fit condition to withstand operation, and (2) when phlebothrombosis decubiti has been diagnosed with some precision.

To endeavour to stimulate surgeons, house-surgeons, and practitioners to undertake a careful clinical examination for phlebothrombosis in relevant cases is my main object in writing this paper.

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TREATMENT OF THYROTOXIC HEART DISEASE BY METHYL THIOURACIL

BY

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While thiouracil has been employed in large numbers of cases of thyrotoxicosis, comparatively little attention has been paid to its use in the cardiovascular complications of that condition. It is the purpose here to survey this aspect of thiouracil therapy. Case histories are recounted, and these are reviewed in the light of the literature.

Patients suffering from cardiovascular disease to whom thiouracil may be administered may be grouped broadly into those in whom cardiovascular disease results from thyrotoxicosis and those in whom it originates independently. In the latter group thiouracil therapy has the same rationale as thyroidectomy has had in the past—that is, a lowering of the basal metabolic rate. It has been given with this aim chiefly to patients with angina pectoris and those with congestive heart failure.

Thyrotoxicosis is a common disorder, but few cases nowadays develop cardiovascular disease: timely operations have in so many instances remedied the condition in an early phase. Nevertheless, most of the published series of cases of thyrotoxicosis have contained several examples of such complications as auricular fibrillation. Thus Himsworth (1944) notes two cases of auricular fibrillation in 33 cases of hyperthyroidism. Grainger et al. (1945), reporting 29 cases of thyrotoxicosis, mentions two cases of patients with auricular fibrillation who reverted spontaneously to normal rhythm after treatment by thiouracil. Nussey (1944) mentions four cases of auricular fibrillation in a series of 29 cases of thyrotoxicosis. McGarack et al. (1945) reported the effect of thiouracil on 18 cases of auricular fibrillation in a series of 78 cases of thyrotoxicosis. Cookson (1945) mentions 10 cases of auricular fibrillation in 66 cases of thyrotoxicosis, and more recently Cookson and Staines (1947) reported eight patients out of 16 with

auricular fibrillation who reverted to normal rhythm. Wilson (1946) noted six cases of auricular fibrillation in 66 cases of thyrotoxicosis.

The material in the present series comprises 10 patients with cardiovascular disease associated with thyrotoxicosis—seven women and three men, whose ages ranged from 41 to 81. The longest history of symptoms was eight years, the shortest a few weeks. The increase in basal metabolic rate ranged from +14 to +55%, and the lowest blood cholesterol before treatment was 106 mg. per 100 ml. There were six cases of nodular hyperplasia and four cases of diffuse enlargement; the type of enlargement did not affect the response to treatment. They have been observed over a period of 8 to 18 months.

In four patients with established auricular fibrillation various complications caused failure in each case. There were two patients with paroxysmal auricular fibrillation, in both of whom treatment was successful. Of the two patients with hypertension and cardiac enlargement one showed only slight improvement, the other none. Striking improvement resulted in the patient with angina of effort, who was able to resume work after being completely incapacitated. One patient with premature contractions and gross diminution of cardiac reserve was much improved, and was able to do her housework.

Case Histories

Case 1.—A man aged 41 was diagnosed as suffering from thyrotoxicosis in 1940. In April, 1946, auricular fibrillation began. When seen six weeks later he showed typical thyrotoxic signs and symptoms. The thyroid was diffusely enlarged. There was no cardiac enlargement or any sign of valvular disease. Auricular fibrillation was present; the heart rate was 120 and the blood pressure 130/70. There was no cardiac failure. The basal metabolic rate was +45% and blood cholesterol 155 mg. per 100 ml. On methyl thiouracil therapy the B.M.R. fell to -10% and the blood cholesterol rose to 283 mg. Cardiac rhythm was restored to normal by 50 gr. (3.2 g.) of quinidine two weeks after starting thiouracil administration. After eight months methyl thiouracil had to be withdrawn because of granulopenia. The patient continued at work, against advice, from February to June, 1947, during which time he took sedatives, and then agreed to thyroidectomy. He has since been quite free from symptoms, the heart remaining in normal rhythm throughout.

Case 2.—A man aged 68 presented with sacral pain following an infected pilonidal sinus. On examination he was thyrotoxic, with slight exophthalmos and a nodular goitre. Auricular fibrillation was present. The heart rate was 124 per minute; the blood pressure 185/90 and there was marked arteriosclerosis. The heart was enlarged and the sounds weak; there was no evidence of valvular disease. He made steady improvement on methyl thiouracil for three months, when obvious chemosis and exophthalmos developed. He was admitted to hospital and treated with Lugol's iodine and 200 mg. of di-iodotyrosine daily; later, deep x-ray therapy to the pituitary gland was given. In two months the right eye developed an exposure keratitis and hypopyon, necessitating evisceration. After a very stormy convalescence he recovered, and eventually was discharged, still with fibrillation between 80 and 90 a minute and a blood pressure of 170/90.

Case 3.—A woman aged 46 presented with nervousness, depression, palpitations, and occasional irregularities of the heart. When seen in 1946 she was thyrotoxic and had an adenoma of the right lobe of the thyroid. There was no congestive failure; fibrillation was present at 140 a minute, with a radial pulse deficit of 16 a minute. Blood pressure was 130/80. Screening showed a typical heart of mitral stenosis. The electrocardiogram revealed auricular fibrillation with right ventricular stress. She made a good response to methyl thiouracil therapy, but on her return home various functional symptoms supervened and she decided to undergo operation.

Case 4.—A frail old lady of 81 presented with thyrotoxicosis and general slight thyroid enlargement. There was no cardiac

failure; rhythm was regular and blood pressure 205/100. X-ray examination revealed left ventricular enlargement and a prominent sclerotic aorta, with hilar engorgement. She was put on methyl thiouracil and after 13 days had improved somewhat; but she then developed drug fever to 103° F. (39.4° C.), which disappeared in 24 hours on stopping the methyl thiouracil. One week later fibrillation was noticed; at first it was intermittent, but in two days it had become persistent. Her condition deteriorated rapidly; she developed pneumonia, and died in coma two weeks later.

Case 5.—A woman aged 65, after a shock in December, 1945, noticed lack of energy and dyspnoea on effort, and later some swelling of the ankles. On examination she was thyrotoxic, with slight general thyroid enlargement. There were a few rales at the lung bases, the liver was enlarged by three fingerbreadths, and there was slight peripheral oedema. There was fibrillation on her first visit; but later the heart was regular at 96. It was not enlarged, and there was no valvular disease. Blood pressure was 150/80, with obvious arteriosclerosis. On methyl thiouracil she made excellent progress, which is being maintained on very small doses.

Case 6.—A woman aged 55 gave a history of prominence of the eyes and dyspnoea for 18 months, and palpitations for six months. On examination bilateral proptosis was present. The pulse was regular at 76, the blood pressure 150/95. There was a slight thickening of both lobes of the thyroid, but no thyrotoxicosis. On July 15, 1946, the blood cholesterol was 225 mg. per 100 ml. Radiographs of the pituitary fossa were normal. On Sept. 9 she was given hexoestrol, and two weeks later she presented with exophthalmos, enlargement of the thyroid, and thyrotoxicosis. Fibrillation was present. She responded rapidly to methyl thiouracil therapy, and the heart reverted spontaneously to normal rhythm.

Case 7.—A woman aged 52 gave a long history of nervous symptoms, which were exacerbated by the outbreak of war. In January, 1943, the thyroid was noticed to be enlarged. In July, 1946, she complained of lassitude, dyspnoea on effort, and palpitations. On examination she was thyrotoxic, and an adenoma of the right lobe of the thyroid was found. The heart was slightly enlarged, rate 90 a minute, and the blood pressure was 220/115. The arteries were normal for her age. She improved generally on thiouracil therapy, but her blood pressure fell only to 180/100.

Case 8.—A woman aged 60 gave a three-year history of loss of weight and excitability. On examination she was thyrotoxic and had a general nodular enlargement of the thyroid. The heart was slightly enlarged, with a soft apical systolic murmur. The blood pressure was 165/90, with general arteriosclerosis. The B.M.R. was +55% and the blood cholesterol 129 mg. per 100 ml. After seven days on methyl thiouracil (total dosage 4.6 g.) her temperature rose to 103.6° F. (39.8° C.). The next day fibrillation started, and continued for five days, remitting spontaneously. Thyroidectomy was performed later with excellent results. Her blood pressure, however, remained unchanged.

Case 9.—A man aged 45 had a coronary thrombosis in March, 1945, while in the Army, and was in hospital for three months. This was followed by angina of effort even on slight exertion. In May, 1946, paroxysmal nocturnal asthmatic attacks developed and he had to give up his work. Dyspnoea on effort was increasing, with ankle oedema in the evenings. In November, 1946, typical thyrotoxic symptoms started. On examination then he was obviously thyrotoxic. The thyroid was firm and easily palpable. The heart was not enlarged, and rhythm was regular at 120 a minute; there was no failure. Blood pressure was 145/90; arteriosclerosis was present. The B.M.R. was +39%, and the blood cholesterol 106 mg. Thiouracil therapy resulted in great improvement. He is now back at work, and has only a very mild chest pain after moderate effort.

Case 10.—A woman aged 45 had had increasing dyspnoea on effort for nine months, and when seen in July, 1946, could walk only a short distance on the level. She was thyrotoxic, with nodular swelling of the right lobe of the thyroid. There was no failure, the heart was not enlarged, and there was no valve affection. Pulse rate 100, with frequent premature con-

tractions. Blood pressure was 145/70; the arteries were normal for her age. She improved on thiouracil, and manages her housework and has no cardiac symptoms. She is still on 50 mg. of methyl thiouracil daily.

Comments on Results

Auricular Fibrillation.—In the present series six patients had established or paroxysmal auricular fibrillation. Three reverted to normal rhythm; two of these were suffering from paroxysmal auricular fibrillation and in one it had been established only a few weeks. The latter patient developed a granulopenia, and treatment had to be abandoned; but normal rhythm was held, and continued after thyroidectomy. In McGarack's (1945) series there were 18 cases of auricular fibrillation; 12 of these reverted to normal rhythm spontaneously on treatment with thiouracil, and three others were successful when digitalis was given. In none of these cases was there any other cardiovascular disease, the fibrillation being due entirely to the thyrotoxicosis. In Cookson's (1945) cases normal rhythm was restored in three out of 10 cases of auricular fibrillation. Of the remaining seven, one was treated only six days before death, and one also had mitral stenosis. In Wilson's (1946) series five out of six cases of auricular fibrillation reverted to normal rhythm spontaneously, and here again no other cardiac lesion was mentioned. Similarly Grainger's two cases reverted to normal rhythm spontaneously. Of Nussey's four cases two were restored to normal rhythm—one spontaneously and one after the administration of quinidine. In the other two, of one an five years' standing, no attempt was made to restore normal rhythm.

Hypertension.—Grainger *et al.* (1945), noting the effect of thiouracil on hypertension not associated with thyrotoxicosis, found that little or no response occurred. Two of our cases had hypertension as the only cardiovascular abnormality and two more had established auricular fibrillation with hypertension. Of the first two, one responded well so far as her toxic symptoms were concerned, but showed only a slight fall in blood pressure. The other developed a drug fever, and treatment had to be abandoned. Thyroidectomy was performed; her blood pressure, however, remains at its former level. Of the other two, one developed malignant exophthalmos, and his fibrillation and hypertension persisted; the other reverted to normal rhythm, but the blood pressure rose from 150/95 to 170/9.

Angina.—One patient with angina pectoris gave an excellent response to thiouracil. The toxic symptom completely disappeared, and instead of an attack of angina pain occurring after walking half a mile (0.8 km.), he now hardly troubled during the whole day. Raab (1946) states that the treatment of angina pectoris unassociated with thyrotoxicosis proved effective in seven out of 10 cases. The clinical improvement coinciding closely with the fall in the basal metabolic rate. Ben-Ascher (1947) found thiouracil beneficial in 25 out of 37 patients with angina pectoris. In a former paper Ben-Ascher (1945) reported on eight cases of angina pectoris with favourable result in all of them. The basal metabolic rate fell from -8% to -20% at the time of the maximum improvement. Di Palma and McGovern (1946), however, reporting eight cases of angina pectoris, found that treatment had to be abandoned in four instances, and two of the others became myxoedematous. One patient had symptoms of coronary occlusion during treatment.

Cause of Failure of Thiouracil Therapy.—Failure in five cases in the present series was due to a variety of reasons. In two cases drug fever prevented further administration. In another, psychological inability to face the long treatment necessary in thiouracil therapy was the cause, and

one was due to development of granulopenia while on a maintenance dose of thiouracil. One patient developed a malignant exophthalmos which necessitated evisceration of an eye.

Thiouracil Therapy v. Surgery

Thiouracil interferes with the production of thyroxine by the thyroid gland and, as shown by Himsworth *et al.* (1947), after the first three weeks there is no difference between the condition of patients so treated and those treated by thyroidectomy; and the risk of thyroidectomy is removed. With expert surgeons the mortality rate is 1% or less, and is probably nearer 4-5% when overall figures are taken. *A priori*, in cases with cardiovascular disease complicating thyrotoxicosis the figure is higher. In patients who refuse operation outright thiouracil provides an effective alternative method of treatment.

Thiouracil may also be used to assess the effect of thyroidectomy on the cardiovascular condition generally, and to bring the patient into a better state pre-operatively. This is so especially in cases in congestive heart failure. It is given for at least three weeks; it is then stopped seven to 10 days before operation, and iodine is substituted. This reduces the friability and vascularity of the gland resulting from the use of thiouracil, and substantially facilitates the surgical procedures. In patients who are sensitive to iodine, however, thiouracil may be used alone as a pre-operative measure.

Thiouracil may be used in the younger age groups in whom auricular fibrillation has occurred secondarily to the thyrotoxicosis alone. The heart in most cases will revert to normal rhythm spontaneously, and almost all of those which do not will do so when quinidine is combined with thiouracil therapy. The thyrotoxicosis may remit in time, and after adequate treatment over 12 to 18 months the thiouracil may be stopped with a fair chance of complete recovery.

Whenever thiouracil is used the risk of allergic or toxic complications arising is very real. The drug is stored in the bone-marrow in concentrations up to 16 times that in the blood, and it is this which causes the most lethal of all the ill-effects attendant on its use. Fowler (1946) has shown that of 1,573 cases collected from the literature toxic reactions of one kind or another occurred in 13.7% and serious complications in 4%; the mortality was 0.57%, and was decreasing. With the smaller doses needed when using methyl or propyl thiouracil complications are less likely to occur.

In cases with rheumatic, hypertensive, or arteriosclerotic heart disease neither thiouracil nor thyroidectomy will have any effect on the original heart condition. It will, however, improve prognosis by removing the toxic effect and the added load imposed on the already damaged heart by the thyrotoxic state.

Some cardiologists of repute have entirely abandoned the use of thiouracil as being too toxic and dangerous, and regard thyroidectomy as an equally safe method of treatment, with a more immediate and better cosmetic result.

Thiouracil should never be used when the gland is so enlarged or so placed as to cause tracheal obstruction; nor in cases in which there is the slightest suspicion of malignancy. In elderly people thyroidectomy is to be preferred. There is always a possibility of relapse on ceasing treatment or of complications, and such people will then be in a worse condition for thyroidectomy and their myocardium less well able to withstand either operation or thyrotoxicosis. In those whose temperament or economic condition will not permit them to face the long treatment with thiouracil under adequate supervision thyroidectomy is best performed at once.

Summary

An account is given of the use of methyl thiouracil in 10 patients with thyrotoxic cardiovascular disease.

The value of this treatment in auricular fibrillation, hypertension, and angina pectoris is discussed and the results are compared with those of other observers.

Treatment failed in five cases, the causes of failure being drug fever (2), malignant exophthalmos (1), granulopenia (1), and neurosis (1).

The considerations governing the choice between surgical treatment and thiouracil therapy in thyrotoxic cardiovascular disease have been reviewed.

I am much indebted to Dr. K. Shirley Smith for his encouragement and help and for permission to refer to his cases; also to Dr. H. A. Dunlop for permission to include two of his patients in this series.

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PENICILLIN AND GONORRHOEA

AN ANALYSIS OF 150 CASES TREATED BY THE SINGLE-INJECTION METHOD

BY

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It is now common knowledge that penicillin injected intramuscularly affords the best means of curing gonorrhoea. Like other treatments it has, however, certain disadvantages, and an analysis of 150 cases seen at the male V.D. clinic of the Cardiff Royal Infirmary may prove of interest. The cases were treated between October, 1946, and June, 1947. All except three showed typical signs and symptoms of acute gonococcal urethritis. In each case the diagnosis was confirmed by a microscopical examination of the discharge.

Details of the Cases

Their nationality was: British, 144; Greek, 3; Maltese, 3. 101 were single, 44 married, 3 married but separated, and 2 were widowers.

		Age Incidence	
16-20 years	.. ..	9	36-40 years 8
21-25 "	.. ..	50	41-50 " 7
26-30 "	.. ..	44	51-60 " Nil
31-35 "	.. ..	31	61-70 " 1

The greatest number of cases occurred during the age group 21-25, and altogether 125 out of the 150 men were from 21 to 35 years old. The youngest patient seen was a boy aged 16 years and 11 months whose case is described below, and the oldest was a widower aged 63, who gave a history of having had gonorrhoea, 30 years previously. This man was first seen on Nov. 11, 1946, after infection by a prostitute. He was free from discharge and other signs of gonorrhoea in 10 days after one injection. He then ceased attending. On Jan. 2, 1947, he returned, admitting to further coitus, and was found to have become reinfected. Again a single injection of penicillin cleared

him up. He then absented himself once more, only to reappear with a further infection on April 21. Thirty-five of the men were on demobilization leave. The rest were clerks, dock labourers, farm workers, seamen, and every conceivable type of worker found in a large seaport town. The sources of infection were: by friends, 60; by prostitutes, 56; marital coitus only, 4; risks denied, 2; not stated, 28. These figures show what is already widely known—that the prostitute is not the only source of infection.

Duration of Infection before Treatment

1 week and under	..	50	Between 1 and 2 months	..	1
Between 1 and 2 weeks	..	55	2 " 3 "	..	1
" 2 " 3 "	..	26	Over 3 months	..	2
" 3 " 4 "	..	6	Uncertain	..	9

The great majority of the men came to the clinic within two weeks of becoming infected. In the "uncertain" group were a number of sailors who had had treatment with ineffectual remedies on board ship. No doctor was on board to give them proper advice.

All the patients showed typical signs and symptoms of acute gonococcal urethritis, with the exception of the following three:

1. A man aged 31, who had had gonorrhoea while on active service in India in 1944. He said he had been cured. No gonococci were found in a specimen of pus which looked typical of a gonococcal infection. He had been married two years and denied extramarital coitus. He made an uneventful recovery after one injection of penicillin.

2. A Chinese cook on board ship aged 34, who had been given an unknown dose of sulphapyridine by the ship's steward. No obvious discharge was present. He was given one injection of penicillin and a "V.15" as he was going to sea again.

3. A man aged 34, who had a primary sore as well as gonorrhoea. He was given 20 g. of sulphathiazole concurrently with arsenic and bismuth injections. After 10 days he was given an injection of penicillin, as his discharge had not gone. It did so in a day or two after the penicillin. He is still under treatment for syphilis.

There were four cases of double infection: two had a typical primary sore as well as an acute gonococcal urethritis, and two proved to be double infections but the onset of the syphilitic infection was delayed by the penicillin. Reports of these two cases follow.

Onset of Syphilis Delayed by Penicillin

Case 1.—A married man aged 24, with no previous history of venereal disease, was first seen on Sept. 30, 1946. He had run risks a week before, and had had a urethral discharge for three days. It was a typical example of gonococcal urethritis, and cleared up completely after one injection of penicillin. He reported at proper intervals of time, and on Nov. 4 his Wassermann reaction was negative. At about 12 noon on Nov. 21 I noticed a small plaque-like swelling on the body of the penis bordering on the coronal sulcus. It had a tiny central pinpoint opening. By Nov. 28 it was a typical indurated hard sore. Dark-ground illumination failed to reveal spirochaetes, but his Wassermann reaction was ++ on Dec. 9. He had typical enlarged inguinal glands on both sides. He was at once given treatment, and is still attending. This would appear to be a delayed chancre. The man first noticed a spot on his penis about Nov. 20, thus the first appearance of a specific lesion was approximately 51 days after the date of infection.

Case 2.—This patient, a married man aged 26, was first seen on Oct. 14, 1946. He had been infected a week previously and discharge had been present for three days. He had a typical gonococcal urethritis. The discharge dried up in a week after one injection of penicillin. On Dec. 2 his Wassermann reaction was negative; on Feb. 3, 1947, it was + ± —, and on Feb. 10 it was + + +. The only physical signs of syphilis were very typical enlarged inguinal glands on both sides. There was no trace of any primary sore, and the man was not aware that he had seen anything like a pimple on his

penis. He is now being treated with concurrent injections of arsenic and bismuth. The first evidence of syphilis appeared approximately 112 days after the date of infection.

Reinfections.—During the period September, 1946, to June, 1947, there were 17 patients who reappeared with a fresh infection of gonorrhoea—12 admitted the fact spontaneously; the other five, when pressed and confronted with a pathological report, left little doubt in my mind concerning the source of their acute urethritis.

Type of Penicillin Used, Dosage, and Technique

Two penicillin oil-wax suspensions (ethyl oleate and arachis oil) were used, and both proved very satisfactory. They were warmed up to blood heat and well shaken before being drawn up into the syringe. The dose given was 375,000 i.u. in each case. It was injected into the upper and outer quadrant of the buttock. None of the patients complained of more than temporary pain or stiffness at the site of injection. No time was lost at work and no patient had any allergic reaction. The discharge disappeared in most cases very quickly: 41 were free of discharge in under 1 week, 66 in 1 week, 5 in 2 weeks, 3 in 3 weeks, and 5 in 4 weeks. In 30 cases no definite time was stated.

Sulphathiazole tablets were prescribed in 5 cases in which the urine showed persistent pus cells but no gonococci after the penicillin injection. Irrigation of the urethra was not resorted to. In cases with balanitis and some phimosis a solution of 1 in 10,000 potassium permanganate was used for subpreputial lavage.

A single injection was given to 134 patients, 14 required two injections, one patient three, and another four. When two injections were needed, the patients failed to attend promptly after the first one. The period varied from one to four weeks, and purulent discharge was always present. In one case the discharge had cleared up completely in a week, only to recur three weeks later. I have a suspicion that it was a case of reinfection, although this was denied. The case requiring three injections is described below (Group 3, Case 1).

Case Requiring Four Injections.—This patient had had gonorrhoea in 1940 during his Army service and had been cured. He was admitted with an acute gonococcal urethritis and penicillin was injected. When he attended the clinic three weeks after the injection the discharge was still profuse. A second injection was given. This time he stayed away for five weeks, and when he reappeared the discharge was as free as ever. A third injection was given. Again he absented himself, this time for 10 weeks. Then on examination the discharge was still plentiful, and a fourth injection was given. Since then he has not attended.

End Results

Group 1.—This group consisted of 62 men who were discharged cured. No patient was under treatment at surveillance for less than three months. The average period of treatment for the whole group was about four months per patient. Every one of them was free from all signs and symptoms of gonorrhoea and, except in one case in which a double infection was present, the Wassermann reaction was negative. Tests of cure adopted conform to those advised by the Ministry of Health.

Group 2.—This group consisted of 56 men who had attended the clinic for less than four weeks and had then ceased attending. Twenty-five came only once, so it is impossible to say whether they were properly cured. It is not unreasonable to assume that at least their discharge were dried up. All the remainder were dry and free from signs and symptoms.

Group 3.—In this group of 30 patients who ceased attending after one to seven months only the following three showed any signs of infection.

Case 1.—The patient, aged 23, was infected two weeks before. He attended the clinic on four occasions between Dec. 23, 1946, and March 3, 1947. On admission he was found to have a typical gonococcal urethritis and penicillin was given. He absented himself for a month, and when he returned he was found to be still discharging freely. A second injection of penicillin was given, and he then disappeared for a further month, only to return again with a right-sided epididymitis and orchitis. A third injection of penicillin was given, followed by a course of sulphathiazole. When he turned up a fortnight later his discharge had gone and his testicle was less swollen though still tender. Since that time he has ceased attending altogether.

Case 2.—A youth aged 16 years 11 months had a typical gonococcal urethritis associated with phimosis and balanitis. He did not attend until two weeks after his first injection, and was then showing much purulent discharge. The second injection of penicillin cleared up the gonococcal inflammation of the urethra, but he still had a mild degree of balanitis. This showed no evidence of being gonococcal. He ceased attending after 11 weeks' treatment.

Case 3.—A man aged 31, who had served in the Army in the East, attended for 10 weeks, and when he ceased attending had been free from discharge for a long time. His urine, however, still showed some pus cells. His general health was poor. He had been a prisoner of war in Japanese hands and had had pellagra, beriberi, and dysentery.

Group 4.—The following two cases are still attending at the clinic.

Case 1.—A man aged 21 had typical gonococcal urethritis. The discharge and all other signs and symptoms cleared up in 24 hours. His gonococcal flocculation reaction, however, was positive.

Case 2.—A man aged 26 had had gonorrhoea in the early part of 1946. He had a typical gonorrhoeal discharge, which cleared up in a week after an injection of penicillin. His urine still shows some pus cells.

Comments

To analyse case records at a V.D. clinic is difficult and unsatisfactory. In the first place I feel that the patients' statements are often open to doubt. In the second place—and this is the main trouble—such a large percentage of patients cease attending before their surveillance is complete. However, from the facts and figures that emerge from this analysis I can say that penicillin given intramuscularly in an oil-wax suspension is the treatment of choice for gonorrhoea to-day. Its advantages are obvious. Easy to give, it causes no appreciable pain or discomfort. The patient is asked to spend the minimum amount of time attending the doctor and loses no time at his work. His discharge is quickly dried up, and if he co-operates he is certain of a quick cure. It is to be specially noted that complications such as orchitis, epididymitis, and vesiculitis are now very rarely met with.

As I said at the start, there are a few disadvantages: (1) It is almost too efficient. The patient gets well so quickly and so easily that some are tempted to run further risks. No longer is the cure worse than the disease. (2) As is already known, penicillin can mask and delay the onset of primary syphilis. (3) Because of this the necessity for repeating the Wassermann test over a period of months is unfortunate. So many patients fail to realize the importance of having more than one blood test.

I would like to express my thanks to my colleagues, Dr. H. Sheasby and Dr. J. Rebeiro, for their help in preparing this paper, and also to acknowledge much assistance given me by Mr. R. D. Vanstone, the clerk to the clinic.

Medical Memoranda

Penicillin, Beeswax, and Allergy

The following two cases of allergy occurring in general practice are described to illustrate the severity of reaction to penicillin and the possibility that some component of the beeswax-oil suspension, other than the penicillin, was the exciting factor.

CASE 1

A man aged 58 complained of persistent boils, and as no previous treatment had allayed the condition it was decided to give a course of penicillin. Injections of 250,000 units in distilled water were given twice daily on June 16 and 17, 1947, and one on the 18th. The patient then defaulted. However, the furunculosis improved considerably.

On June 25, the ninth day after the first injection of penicillin, I was asked to see the patient. He stated that while driving home that day he had felt itching, first of the left foot where his boot-laces pressed, and then of the right foot in the same situation. He felt very drowsy and could hardly keep awake to drive the car home. Within half an hour he began to itch all over. He also complained of severe pain behind the sternum and of severe indigestion. An examination showed the body to be covered with large urticarial weals about the size of the palm of the hand. The feet, hands, and face were swollen. This condition persisted for seven days in spite of treatment with "benadryl," 50 mg. thrice daily, later increased to 100 with adrenaline, 10 min. (0.6 ml.), twice daily. After seven days the condition gradually subsided, but during this time the itching was intense and the patient had only very fitful sleep with the aid of morphine.

CASE 2

The patient, aged 33, was the wife of an ardent bee-keeper, and she helped with the manipulation of the bees from time to time. At first the patient had little reaction to stings until the summer of 1941, when she was stung on the lip. This became very badly swollen. In the summer of 1944 she was stung on the leg. The leg became very swollen, and she stated that the sites of previous stings also became swollen. In February, 1947, she had a small carbuncle on the face, which was treated with penicillin, 150,000 units, in distilled water, given eight-hourly for five days. This cleared up the carbuncle. On Oct. 25 a carbuncle began to develop on the chin, and next day injections of 250,000 units of penicillin in wax-oil suspension were started. These were given twice daily into each buttock alternately at the "site of election." The injections were continued until the morning of Oct. 29, six injections in all being given. On Nov. 2, the eighth day after the first injection of penicillin, the patient began to feel the site of the old bee-sting on the leg itching and a weal developed. Within half an hour the sites of injection of penicillin on both buttocks became itchy and red. For a week the sites of the injections were covered with a ring of urticaria and there was considerable swelling of the underlying tissues. During the same period the site of the old bee-sting on the leg was irritated and became swollen from time to time. The patient also averred that the taking of hooley led to an increase in the local symptoms of allergy shortly thereafter. All symptoms were controlled to some extent by benadryl.

COMMENTARY

Case 1 is described to illustrate the severity of the allergic reaction to penicillin. The patient avers that he had never before had penicillin in any form whatsoever.

The second case is the more interesting in that it would seem more likely that the local allergic reactions were due to some component of the beeswax suspension. This is deduced from the facts that the bee-sting on the leg was re-activated. The other interesting factor is that the patient was quite definite that the ingestion of section-boney caused an increased irritation of both the site of the bee-sting and the sites of penicillin injection. It may be argued that the sting of a bee has no relation to beeswax. The firm which produced the beeswax was contacted. They stated that the beeswax used in the suspension is the natural product, but that in their opinion it is impossible for formic acid or other component of a bee-sting to be present in the wax. On the other hand, a well-known naturalist, who is also a bee-keeper, is of the opinion that it is quite possible for formic acid to be present in nectar and that natural beeswax could quite easily be polluted with nectar.

J. WATSON, M.D.

Reviews

MORE LIGHT

Light, Vision and Seeing. A Simplified Presentation of Their Relationships and their Importance in Human Efficiency and Welfare. By Matthew Luckiesh, D.Sc., D.E. Fourth printing. (Pp. 323; illustrated, 25s.) New York: D. van Nostrand Company, Inc. London: Macmillan and Co. 1947.

Matthew Luckiesh, the Director of the Lighting Research Laboratory of the General Electric Company of America, is a prolific writer, and this book, which is represented as "a simplified presentation of the relationships of light, vision, and seeing and their importance in human efficiency and welfare," conforms to the usual pattern of his writings. It is a simple and popular exposition of the importance of adequate lighting in everyday tasks and in industry. The author traces the history of commercial illumination from the candle to the fluorescent tube, discusses the workings of the visual apparatus, points out the meaning of visual acuity and its dependence on illumination and contrast, and shows how lighting is measured and how, when it is adequate, it eases ordinary work and is a potent factor in the attainment of efficiency, safety, and clear seeing.

Luckiesh has always been and still remains an enthusiast, and the book should be read with this in mind. To him the slogan "Better Light—Better Sight" (which, born in America for a nation-wide campaign, "has crossed the seven seas and invaded the five continents" and "has rapidly evolved into a world-wide movement") is a cure for all ills. That adequate artificial lighting is of the greatest importance to a civilization which has gone indoors no one will deny, but some of Luckiesh's statements—particularly those on medical questions—must be accepted with reserve. He is greatly worried, for example, by the "appalling prevalence of eye defects," but to expect engineering accuracy in an organ of the body is to misunderstand the whole economy of living organisms. Nearly all babies, he says, are born with normal vision, while one in four has measurable eye defects (especially myopia) when leaving school, due in part to eye-strain, which is preventable by good lighting. The defectives increase to 50% at middle age and to 80% at 60 years, for presbyopia (he claims) cannot rightly be accepted as inevitable. Moreover, since these defects are hereditary according to the philosophy of Lamarck, which he adopts without reservation, the penalties of the "unforgivable abuse" of our eyes with inadequate illumination are passed on to future generations. Should this abuse not be stopped (by adequate illumination), all mankind is "travelling the road towards blindness." If enthusiasm wins a case, Luckiesh should certainly make converts.

STEWART DUKE-ELDER.

PARATHYROIDS AND KIDNEYS

The Parathyroid Glands and Skeleton in Renal Disease. By J. R. Gilmour, M.R.C.P. Oxford Medical Publications. (Pp. 157; 26 figures, 18s.) London: Geoffrey Cumberlege (Oxford University Press), 1947.

This admirable and painstaking study is based on 90 cases of renal disease, with special reference to the histology and weight of the parathyroid glands and the skeleton. The author's earlier studies have enabled him to make an accurate comparison with a normal series. He divides the histological appearances of the parathyroids into six types, of which Type I is normal, and reaches the conclusion that two (II and IV) of these are due to renal disease. Of the others, III is doubtful and V and VI are not due to renal disease. Bright's disease (which he classifies according to Russell's ideas) is associated with Type IV. The author discusses the converse of his main thesis—the renal changes which may be secondary to parathyroid disease—and concludes that not only metastatic calcification of the kidney but chronic progressive nephritis may be symptomatic of von Recklinghausen's disease.

It should not be regarded as derogatory to observe that this book makes stiff reading. It is a mine of information, but

surface working of the mine is impossible. The exposition is so concentrated that any adequate summary would be almost as long as the 157 pages of the original. Perhaps that is why the author's summary seems rather inadequate and at the same time Olympian.

RAYMOND GREENE.

DETOXICATION

Detoxication Mechanisms: The Metabolism of Drugs and Allied Organic Compounds. By R. T. Cwyn Williams, Ph.D., D.Sc. (Pp. 288, 25s.) London: Chapman and Hall, Ltd. 1947.

The versatility and resource of the animal mechanism are well shown in the variety of ways in which it disposes of alien substances. This metabolic strategy, popularly known as detoxication, has been recognized for a century, but only recently is becoming specially prominent—in relation to modern chemotherapy. Dr. Williams, known for his contributions to the chemistry of the glucuronides, has now surveyed the wide field of detoxication processes and mechanisms in a closely written yet lucid monograph which, though the index contains some 1,500 entries, is no mere directory but a systematic exposition of a fascinating subject.

Detoxication, or, as it might be termed, *para-metabolism*, is of primary interest to the biochemist in that it presents Nature with chemical posers to solve. The pharmacologist, knowing the chemical tactics of the organism, can construct new drugs or modify old ones so as to prolong their action, enhance their potency, or repress their toxic qualities. The industrialist, faced with the risk of chemical hazards, can learn how to recognize their signs and avoid their consequences if he knows the detoxication capacities of the workers. Perhaps in his next edition Dr. Williams will criticize the work of Ekman (1944) on the effect of ascorbic acid on the metabolism and excretion of cyclic compounds, which should be capable of extension to several types of detoxication processes. Meanwhile we have ample material to occupy our attention in his excellent book, which will interest and enlighten many readers and will provoke discussion and encourage experiment.

W. R. FEARON.

PSYCHOTHERAPY IN PRISONS

Handbook of Correctional Psychology. Edited by Robert M. Lindner, Ph.D., and Robert V. Seliger, M.D. (Pp. 691, \$10.00.) New York: Philosophical Library, Inc. 15 East 40th Street, N.Y. 16.

The editors of this compendium aimed to provide a source book of techniques and methods for the treatment of the medico-psychological problems encountered in prison inmates, and there is no doubt that they have produced a useful volume. Much practical experience is summarized on such topics as court procedures, problems in the handling of special groups—for example, the female defective, sex offenders, malingerers, and juvenile delinquents—and the use of certain diagnostic and therapeutic methods such as psychological tests, the electroencephalograph, group treatment, individual psychotherapy, hypno-analysis, narco-analysis, and electric convulsion treatment. Some theoretical considerations such as the concept of the psychopathic personality, the meaning of punishment, and psycho-analytic contributions to the understanding of the criminal are also discussed. The fact that there are 47 chapters of which almost all are by different authors inevitably results in a good deal of repetition of general principles. The reader may be puzzled by the inclusion of chapters on general medicine and on some of the medical specialties—for example, eye, ear, nose, and throat, venereal diseases, the use of sedative measures in mental hospitals, and the understanding and management of gastric neuroses—which have little specific reference to prison practice.

A collection of contributions by a large number of experts has become fashionable in scientific literature. We should like to see this form of collaboration supplemented by volumes written by groups of experts in a wide range of subjects working together through the main problems in order to assess what is really known and what is not. Bergler makes this point forcibly in his lively and stimulating chapter when he states that with the insignificant scientific status of present clinical knowledge

only one conclusion on basic principles in criminological problems is possible—that is, “your guess is as good as mine—until experience proves otherwise.” Some signs of haste should be removed—for example, the authors of the chapters are not given in the contents list; and we hope that any later edition will include an index, which should not be omitted from a practical handbook.

J. D. SUTHERLAND.

PRACTICAL ALLERGY

Office Immunology, including Allergy. A Guide for the Practitioner. Edited by Marion B. Sulzberger and R. L. Baer. (Pp. 420; illustrated. \$6.50 or 36s.) Chicago: The Year Book Publishers, Inc. London: H. K. Lewis and Co. 1947.

The qualification of this book's title is an understatement: discussion of allergy is not merely included but forms by far the greater part of the book. The authors begin with a full description of how to do tests for sensitivity, illustrating the text by photographs showing the technique of scratch- and patch-testing and of intradermal injection. The next section is about the immunology of infections, but, since the authors confine their account to what the practitioner can do in his own office, they ignore bacteriological and serological methods in diagnosis and mention only skin tests with antigens prepared from the micro-organism concerned. They even suggest their being used in diagnosing actinomycosis and filariasis, without any mention of examining the pus and blood respectively. The book would be more helpful if it included instructions for collecting specimens for the more usual laboratory investigations which give an unequivocal result.

The subjects of the remaining sections are Rh grouping, respiratory allergies, skin diseases (again largely allergic but oddly including actinomycosis and anthrax), spider, insect, and snake bites, and miscellaneous allergies. The authors fully describe methods of immunization and include lists of firms supplying the necessary materials. There is a prodigious list, running to 19 pages, of substances with which patch tests can be done, stating the vehicle and concentration to be used. Regarded as a practical textbook of allergy, this book presents to the reader a large and new if somewhat unreal world, and it may be found of much interest. When the authors discuss conditions not primarily allergic they give so incomplete an account as to be positively misleading to all but the well-informed.

L. P. GARROD.

GROWING OLD

The Years after Fifty. By Wingate M. Johnson, M.D. With a foreword by Morris Fishbein, M.D. (Pp. 153. \$2.00.) New York: McGraw-Hill Book Company, Inc.

This book is not to be regarded as an addition to geriatric knowledge. Although the author adequately surveys for the layman some elementary facts about disease, yet in a book on senescence it is a little disconcerting to find references to rheumatoid arthritis, prolapsed disk, and puerperal thrombophlebitis. The concluding chapters contain unexceptionable advice on the problems of ageing, but the author makes plain that the quality of our advice to those growing old has not improved upon that of Cicero, from whose *de Senectute* he quotes freely. It is also inevitable that

“Grow old along with me!
The best is yet to be,”

should be quoted, if only to convince the cynical that life would be difficult, and senescence intolerable, without self-deception. It is perhaps in the same vein that the author, who is Professor of Clinical Medicine in the Bowman Gray School of Medicine, of Wake Forest College, records the “apparently well-authenticated case of a North Carolina Confederate veteran who became the father of two children at ninety-four and ninety-six years of age.” However, robust American common sense cannot be altogether excluded, and we read with affection of Chauncey Depew, who lived to the age of 93, remarking that “the only exercise he took was acting as pallbearer for his friends who took exercise.”

D. V. HUBBLE.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

La Tuberculosis in Italia. By G. L'Ettore. (Pp. 284. No price.) Rome: Federazione Italiana per la Lotta Contro la Tuberculosis. 1947.

A general account with statistical tables of tuberculosis in Italy.

Modern Trends in Dermatology. Edited by R. M. B. MacKenna, M.A., M.D., F.R.C.P. (Pp. 432. 42s.) London: Butterworth. 1948.

Articles on various aspects of dermatology by different authorities.

Modern Methods of Amputation. By E. Vasconcelos. (Pp. 253. 61s. 6d.) Bognor Regis, Sussex: John Crowther. 1945.

Narcosis and Drug Addiction. By E. Hesse, M.D. (Pp. 219. 22s. 6d.) Bognor Regis, Sussex: John Crowther. 1946.

Discusses the ordinary drugs of addiction as well as tobacco, alcohol, tea, and coffee.

Introduction to Physiology. By W. H. Newton, D.Sc., M.D. (Pp. 284. 7s. 6d.) London: Edward Arnold. 1945.

Intended for the general reader as well as the medical student.

A Handbook on Hanging. By C. Duff. 3rd ed. (Pp. 79. 2s.) London: Freedom Press. 1948.

A light though informative account of the art of hanging.

Psychotherapy, its Uses and Limitations. By D. R. Allison, M.D., M.R.C.P., and R. G. Gordon, M.D., D.Sc., F.R.C.P. (Pp. 160. 8s. 6d.) London: Geoffrey Cumberlege. 1948.

A practical introduction for general practitioner and student.

Diabetes and the Diabetic in the Community. By M. E. Tangney, R.N. (Pp. 259. 14s.) Philadelphia and London: W. B. Saunders. 1947.

The management of diabetes described for the medical practitioner.

A Baby is Born. By G. M. Kerr, M.B., B.S. (Pp. 120. 3s. 6d.) London: Lantern Publishing Co. 1947.

A short book of advice for expectant mothers.

On Hospitals. By S. S. Goldwater, M.D. (Pp. 395. 59 or 45s.) New York: The Macmillan Company. 1947.

A general account of modern hospitals.

Microbial Antagonisms and Antibiotic Substances. By S. I. Waksman. 2nd ed. (Pp. 415. 54 or 22s.) London: Geoffrey Cumberlege. 1947.

The discoverer of streptomycin discusses the interrelationships of micro-organisms.

The Background of Therapeutics. By J. H. Burn, M.D., F.R.C.P. (Pp. 367. 22s. 6d.) London: Geoffrey Cumberlege. 1948.

A short account of the principles and practice of therapeutics.

Psychological Atlas. By D. Katz. (Pp. 142. 55s.) New York: Philosophical Library. 1948.

A varied gallery of illustrations to lectures on psychology, including composite photographs of faces, children's drawings, and paintings by the insane.

Bodies and Souls. By M. van der Meersch. (Pp. 463. 15s.) London: The Pilot Press. 1948.

A novel of medical practice in France; translated from the French.

Endotracheal Anaesthesia. By N. A. Gillespie, D.M., B.C.M.A., M.D., D.A. 2nd ed. (Pp. 237. 54s.) U.S.A.: University of Wisconsin Press. 1948.

A general account, including practical details and references.

Paravertebral Block. By F. Mandl, M.D., F.I.C.S. (Pp. 32s.) London: William Heinemann. 1947.

A monograph on the relief of pain associated with the autonomic nervous system.

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A manual of modern methods in dermatology.

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THE REPRESENTATIVE MEETING

The Special Representative Meeting last week passed as a resolution the recommendation put before it by the Council of the B.M.A. This resolution urged that changes should be made in the National Health Service Acts of 1946 and 1947, and expressed the hope that by making such changes the Government would make it possible for the profession to co-operate. If the Government rejects this proposal and refuses to make changes in an Act which is unacceptable as it stands to 80% of the medical profession, then doctors will exercise the right given to them not to enter the Service. To make collective opinion effective the Representative Body (the R.B.) resolved that an Independence Fund should be established. This fund will be administered by trustees appointed for the purpose who will act independently of the B.M.A. The R.B. was in a decisive mood and inclined even to think that the Council's recommendation was not worded in strong enough terms. It would, indeed, have been easy for the Council to put before the R.B. a provocative recommendation which would have made impossible any new approach to the present difficult situation, already made more difficult and more unpleasant by the activities of trade unions and local Labour Party organizations referred to in the next leading article.

The two outstanding contributions to the day's proceedings were made by Lord Horder and Dr. H. Guy Dain, Chairman of Council. Lord Horder said that the B.M.A. now had the confidence of the profession in a fuller measure than ever before. This was not due to its mere numerical strength but to the realization that the B.M.A.'s policy "has crystallized in respect of those principles to give way on which would be to sell the profession's birth-right." "We believe," Lord Horder continued, "that the Association regards the points still at issue as we regard them, not bargaining points but signs of the doctor being a free man, free to practise his science and art in his patient's best interest." By sticking together we should win, but we could lose by squabbling about which of our principles is the most important. "We must not yield," Lord Horder said, "on any of the points which, collectively and individually, spell the doctor's freedom."

Dr. Dain, in a forthright speech, said it must be apparent to the whole country that there was something seriously wrong with an Act which provoked so strong a feeling against it as the plebiscite figures revealed. He discussed the situation as it had unfolded since January of last year, and observed that it was unfortunate that a problem of great national importance should have been approached either with emotion or in a spirit of party politics. "We want," Dr. Dain said, "to have regard only to the efficiency of the proposed service and to exclude it entirely from

political ideologies." The overall objection to the Act was against the powers of the Minister. "The Minister's power in this Act is absolute." If we entered this service without proper safeguards we should become servants of the Ministry of Health, whether whole-time salaried or not, and if this Act was not amended before it came into force we should have lost our independence and freedom. Dr. Dain emphasized once more that the people had been promised a free-for-all service available to everybody, and were going to be greatly disappointed. A wise Government, he considered, would have thought it proper to start such a service by stages. Among his concluding remarks Dr. Dain said:

Our position to-day is that we are willing to explore the problems afresh, provided that the outcome is a service in which the medical profession remains an independent profession, secure from domination by the State. We doctors want a health service. We want our services to be available to all who need them. We are ready to enter into any discussions directed to making it possible for the medical profession to co-operate with the Government. If the Government can show us other ways, new ways, of preserving our independence we are willing to listen. But if this cannot be done we owe it to the public to make our stand.

These last words of the Chairman of Council must be carefully considered by the medical profession and will, we hope, receive equal consideration by the Minister of Health. Speaking at a moment when the plebiscite has given the B.M.A. 40,000 votes of confidence in its policy, the Chairman of Council has opened the door to new discussions. It is now for the Government to respond to this gesture and to underwrite Mr. Bevan's assertion that he seeks the harmonious and enthusiastic co-operation of the medical profession. Like Lord Horder, Dr. Dain avoided discussing any particular point on which a settlement might be reached, and when the Cardiff Division moved that ownership of goodwill by practitioners, the abolition of basic salary and the powers of direction, and the right of appeal to the Courts be regarded as essentials in any settlement with the Minister, the R.B., after some discussion on this, accepted Dr. Dain's suggestion that they should pass to the next business. The R.B. gave no support to the Lothians Division in its plea for compromise, or for the view of its spokesman, Dr. G. W. Ireland, that "if you offer concessions and the Government remains adamant, public opinion will swing right round in your favour." In a subsequent discussion on the question of a new approach Dr. Dain repeated his observation that "we are reasonable people, ready to consider any possibility for securing a service consonant with the independence of Medicine." The R.B. rejected a motion in favour of an approach to the Prime Minister with a view to reopening negotiations, and supported the motion by the City of Edinburgh "that inasmuch as the medical profession believe that a complete health service cannot be made available to everyone in July, 1948, because of lack of staff and other facilities, this meeting is of opinion that particular consideration should be given in future negotiations to the possibility of introducing the Service by stages, as this becomes feasible."

Perhaps one of the most significant motions accepted by the R.B. was that put forward by Plymouth, "that in the

opinion of this Meeting the Act must be amended to guarantee freedom of expression to doctors in all matters relating to the clinical and administrative aspects of the National Health Service in which they are engaged." In whatever kind of a service the medical profession enters there will be no freedom or independence if the right to express opinion on all medical and professional matters is in any way restricted. In an article in *The Times* of March 15 this was one of the points which a special correspondent considered should be included in an amending Bill. The writer observed that an amending Bill was needed to remove from the Health Act the legal ambiguity affecting partnerships, and suggested that the same Bill might incorporate the four pledges recently given by Mr. Bevan and his colleagues: "They have assured doctors," *The Times* correspondent states, "that the new service will respect their freedom of speech and writing; that it will not impose a 'closed shop' on them or other health workers; that the executive councils (responsible for the general practitioner service) will choose their own chairmen when the initial Minister-appointed chairmen retire in 1949; and that local authorities will be pressed to co-opt local doctors and other experts on to their health committees." *The Times* correspondent suggests that these are "not 'concessions' except to common sense."

One representative observed towards the end of the afternoon that little had been said about the consultants' position in relation to the Act. The representatives had, on the whole, been more concerned with matters affecting general practitioners. It has been said that the consultants voted in the plebiscite in the way they did because of the desire to support the general practitioner. This was obviously one motive. But during the last three months it seems that the consultants have become more aware than before of the effect of the present Act upon themselves and their work, and upon the profession of medicine. The Royal College of Physicians and the Royal College of Surgeons have so far expressed no views. But the Royal College of Physicians of Edinburgh has passed a number of resolutions which it has submitted to the Prime Minister and made public on March 26. In the view of this College the result of the plebiscite can be explained only by the fear that the freedom of the profession is gravely endangered, and that this fear centres round the power of the Minister to alter by Order or Regulation the fundamental terms of service of the medical profession. The College goes on to urge that in the national interest negotiations should be resumed and that the matters in dispute should be re-examined and adjusted so that the medical profession may co-operate with confidence in the development of the comprehensive service desired by all. This is the first statement to be made by a corporation representing consultants, by the teachers of Medicine. It underlines Dr. Dain's observation about the powers of the Minister, and re-emphasizes the readiness of the profession to consider reasonable proposals.

This is not the time for face-saving devices or for the exhibition of pride that brooks no opposition. The Government, we suggest, should call a halt to the manoeuvres,

described in the next article, designed to browbeat the medical profession, and in the interests of the public as well as of the medical profession should respond to the moves made by the Chairman of Council and the Royal College of Physicians of Edinburgh.

PROPAGANDA

The Government, continuing to ignore the overwhelming opposition to the National Health Service Act on the part of those who will work under it, are proceeding to waste the country's money in an attempt to secure co-operation by compulsion. By the use of films, posters, and pamphlets they are preparing a huge publicity campaign to induce the public to bring pressure upon the medical profession. The trade unions, the Government's masters, are aiding and abetting this campaign. Some, at least, are using the strength of the organized workers as a means of influencing the decision of men and women who prefer to organize themselves on a voluntary basis.

During the Representative Meeting last Wednesday Dr. J. A. Brown, of Birmingham, moved as a matter of urgency the following resolution:

That this Meeting condemns as grossly improper the bringing to bear of pressure for political purposes upon individual doctors to induce them to inform outside bodies of their intentions in relation to the new service.

He then read three letters sent to individual doctors by two trade unions and a branch of the Labour Party. The Secretary of the Letchworth Trades Council wrote to a practitioner in that area saying that "the representatives of the twenty-two trade unions who attended would be grateful if you would very kindly let us know your intentions." The Letchworth Trades Council was acting on its decision to try to discover the number of medical practitioners who intended entering the Service on July 5. The day before this doctors in Rogerstone, Monmouthshire, received a more abruptly worded letter from the local branch of the National Union of Railwaymen. The secretary of this branch said he had been instructed "to inquire as to your views regarding the National Health Service Act to be operated from July 5," and went on to say that the members of his branch "wish to know if you are prepared to operate it on and from July 5." We may note that the Letchworth and Rogerstone letters were sent out within a day of each other, and it is perhaps not being too deeply suspicious if we see in this the guidance of a central band. Within three days of the issue of the letters referred to, a doctor in Cambridgeshire received one from the Histon and Impington Labour Party signed by the chairman and secretary of this organization, and also by the chairman and secretary of the Transport and General Workers' Union. He was asked whether he proposed to participate in the new service, and the letter ended thus: "Should your decision be a negative one we think it only fair that we should know this in order that we should be in a position to take such steps as may be open to us for the protection of our members." Dr. J. A. Brown pointed

out that no official invitation had been issued to any doctor to join the Service and that at the present moment the regulations of the Service had not been published; nor had the legal committee been set up to report upon the ambiguities of Section 35 of the Act. The branches of the three trade unions and Labour Party are doing Mr. Aneurin Bevan's work for him on the plea that they are anxious that their members will receive medical advice and assistance. They know full well that medical men will not use the trade union's weapon of the strike; and so far as we know no medical organization, not even the Socialist Medical Association, has circularized coal-miners and dockers with letters expressing anxiety about the effect on patients of a shortage of coal or foodstuffs in the event of a workers' strike. Whatever alarm we may feel about the effect upon health of a hold-up of essential goods and services, we like to believe that other groups of workers in the State are the best judges of their own conditions of work. There is only one answer which any medical man can give to these scarcely veiled threats, and that is that he will continue as always to give medical advice and care to those who seek it, but that he will not inform trade unions or local political parties of his intention to serve or not to serve under the National Health Service Act. Any doctor receiving such letters should forward them to the Secretary of the B.M.A., who will advise him what to do. These organizations are not instruments set up under the Act, and have no right to attempt to usurp the functions of the Local Executive Councils.

The dates of the letters referred to were March 10, 12, and 13. On March 15 the Ministry of Health issued a circular to local authorities on "Publicity Regarding the Services Available to the Public." "The most important aim of central publicity," the circular states, "will be to stimulate general interest in the new service." It is urged that local health authorities should take the initiative in publicizing details of the Service under the Act and in making arrangements to deal with personal inquiries. It is suggested that in some areas joint inquiry bureaux should be set up and that another method of dissemination of information should be through local voluntary societies.

There are already in the post offices of the country copies of a leaflet prepared by the Central Office of Information for the Ministry of Health, and it is believed that this and other publicity material will be released by the Ministry of Health about the middle of April. The burden of this leaflet is conveyed in the slogan, "Choose your doctor now." "If one doctor cannot accept you," the leaflet states, "ask another, or ask to be put in touch with one by the new 'Executive Council' which has been set up in your area." Of interest to insurance practitioners is the following statement: "If you are already on a doctor's list under the old National Health Insurance Scheme, and if you do not want to change your doctor, *do nothing*. Your name will stay on his list under the new Scheme." The leaflet urges the public to "act at once," to fill in application forms for each member of the family and to hand them to the doctor. The medical man has the right to time to make up his mind whether to join the new service, especially as the legal ambiguity about partnership

agreements is still unresolved. No one has the right to press him to a decision before July 5 and until he is in full possession of the facts.

This is the Minister's reply to the plebiscite. Does he really consider that the way to secure the co-operation of the medical profession is to couple the financial threat of loss of compensation with a propaganda attempt to persuade the community to coerce 40,000 doctors to enter the Service against their better judgment? The situation is getting beyond the bounds of common sense and human decency. We do not believe that the public wish to be treated by doctors bullied and threatened into a service they do not like, and we do not believe that medical men and women will allow themselves to be so coerced.

HEALTH IN WARSHIPS

The need for fresh air below decks in men-o'-war was recognized at least two hundred years ago, and at that time various attempts were made to improve the living conditions of the sailors who manned them. In 1734 Dr. Desaguliers exhibited to the Royal Society a model of a ventilating machine which could extract air from a room or impel fresh air into it, and a little later he used this appliance, which he called a centrifugal wheel, to ventilate the House of Commons. Not long afterwards troops were embarked at Spithead to proceed on an expedition against Spain, and the ill-health of these troops forced upon the Government the need to adopt some means of airing ships. Dr. Desaguliers was invited by the Lords of the Admiralty to exhibit his model; some of their Lordships saw the ventilator in the House of Commons at work, and the inventor was ordered to make a similar appliance to be tried in a warship at Woolwich. The trials were successful, but none of their Lordships witnessed them, and the Surveyor to the Navy, a prejudiced man conservative in his ideas, made an adverse report. Other schemes met with a rather better reception. After a long tussle a Mr. Sutton managed to get permission to ventilate a man-o'-war by drawing the air supply for the galley fire through the various compartments, and Dr. Stephen Hales secured a trial for his bellows-like ventilator. Yet the centrifugal fans on which the Royal Navy now relies for the ventilation of its ships are the direct descendants of the rejected Desaguliers machine.

One hundred years after these events, in 1844, D. B. Reid¹ wrote that the ventilation of ships had not at that time been placed on the systematic footing which was necessary to ensure comfort and success, but that of late it had been much improved in the Navy, with good effect on the health of the sailors. Reid referred to the great congestion which was common in ships of war and to the value of space, and he advocated the use of plenum ventilation in ships sailing to "localities dangerous from the state of the atmosphere."

¹ *Illustrations of the Theory and Practice of Ventilation*, 1844. London.

² "The Habitability of Naval Ships under Wartime Conditions." *Trans. Inst. Nav. Archit.* 1945, 87, 50.

³ Thorndike, E. L., McCall, W. A., and Chapman, J. C., *Ventilation in Relation to Mental Work*, 1916. New York.

Since those days the picture has changed. The Admiralty has endeavoured to ensure that ships are effectively ventilated and that a reasonable standard of accommodation is maintained. Neither of these results is easy to achieve. Space, as Reid noted, is very precious, and lavish allowances are impracticable. Yet if the initial space allowance is only just satisfactory any encroachment on it, or any increase in the ship's complement, will reduce the space per man to below the acceptable minimum. During the recent war such reductions in space occurred. Additional fighting equipment was introduced at the expense of living accommodation, and more men were needed to operate that equipment. In modern times efficient fans driven by electric power can supply large volumes of fresh air, but the ventilation problem is greatly complicated, especially in tropical waters, by the presence within the ship of much heat-producing machinery and equipment. Sims² has described some of the difficult problems which arose during the war in naval vessels.

In the years between the wars many investigations were made by the Industrial Health Research Board in this country, and by others overseas, of the effects of heat and of moderate cold on the efficiency and general well-being of the industrial worker. When the temperature was uncomfortably high or low sickness increased, and so did the accident rate. At high temperatures working efficiency declined, and in cold surroundings work which demanded a considerable degree of manual dexterity was done less efficiently. It is common experience that high temperatures are not conducive to efficient mental effort, but whether the reduction in efficiency is due to a diminished ability to work or merely to an increased disinclination for it has remained an open question. Psychologists in the U.S.A. studied the problem 30 years ago,³ but with inconclusive results. Probably their experimental conditions did not include sufficiently high temperatures.

Before the outbreak of war in 1939 much evidence showed the deleterious effects of high temperatures, and when during the war it became evident that there would be large naval concentrations in the Tropics the Medical Research Council's Royal Naval Personnel Research Committee was asked to study the environmental conditions in warships in the Tropics and to report on their probable effects on fighting efficiency. Attention was later invited to more general problems. Several investigations were undertaken in response to these requests. A comprehensive survey of the thermal environment and general living conditions in surface ships of the Eastern Fleet was made, and similar observations were recorded in submarines during Arctic and tropical cruises. Sickness reports were obtained from the Eastern Fleet and later from the British Pacific Fleet, and the data thus obtained were submitted to statistical analysis. Laboratory experiments on the effects of heat on efficiency in both physical and mental tasks were undertaken, and a study was made of the efficiency with which work was done in ships. These investigations, and the results obtained, are described in this issue by Surgeon Commander F. P. Ellis, the Naval Secretary of the Royal Naval Personnel Research Committee, who himself carried out some of the work.

The Admiralty provisionally accepts an effective temperature of 80° F. (26.7° C.) as the upper desirable limit of warmth in living and working spaces in ships, and

86° F. (30° C.) as the upper acceptable limit. Ellis points out that in the ships of the Eastern Fleet the average effective temperature observed in each of the types of compartments listed was above the upper desirable limit, and in many of the main working spaces the upper acceptable limit was exceeded. In some of these spaces there was much radiant heat, and in these the effective temperatures corrected for radiation were substantially above 86° F. Living conditions were congested. Of the 8,000 men living in a number of ships of the Eastern Fleet the majority had less than 19 sq. ft. (1.76 m.²) of floor space on the mess decks, and in the Tropics many of the men found their hammocks too hot and slept in the open air on the upper deck.

Observations in submarines showed the importance of adequate hull insulation, both in the Arctic and in the Tropics. With good insulation satisfactory temperatures can be maintained when the submarine is submerged, but on the surface the effects of climate are felt to a greater extent. Discussing accommodation in submarines Ellis remarks that the best use is made of the space available, with the result that a surprising degree of comfort is obtained. An investigation of the bacterial content of the air in a submarine showed that even when the vessel was submerged the concentration of bacteria-carrying particles rarely exceeded 50 per cu. ft.—a result attributed to the adherence of the particles to oily bulkheads and machinery.

The sickness returns covered an exposure of about 450,000 man-months. Sickness was much more prevalent in ships than in shore establishments, mainly because of the greater incidence of skin diseases and minor accidents. Prickly heat was almost universal in many ships. The great diminution in cases of minor sickness during cruises out of the Tropics to South Africa and Australia left no doubt about the importance of hot, humid atmospheres in causing ill-health. During the first twelve months after the defeat of Japan the average amount of sickness was about twice as much in ships stationed in the Tropics as in those of the Home Fleet, while for ships in the Mediterranean the figure was between the two.

Physiological studies confirmed the American finding that men could perform heavy physical tasks for short periods without collapsing when the degree of warmth was greater than that generally encountered in the Eastern Fleet. In another study the efficiency of wireless operators was found to fall off between effective temperatures of 83° and 87.5° F. (28.3° and 30.8° C.)—temperatures which were commonly met with in the Eastern Fleet. This result is noteworthy, for it gives experimental proof that efficiency in mental tasks is adversely affected by excessive temperatures.

In a concluding note Ellis remarks that we have reached a stage where satisfactory design can proceed only if precise and accurate data on human requirements and limitations are available, and he mentions the ways in which the required particulars are now being obtained. Nowadays there is much talk about humanizing industry, and from Ellis's account it is clear that the Admiralty is not only very much alive to the importance of the human factor in maintaining the traditional efficiency of the Royal Navy but that it is actively promoting research into human problems.

THE INDEPENDENCE FUND

The Special Representative Meeting last week approved the recommendation of the Council that an Independence Fund should be established, and the first Meeting of the Trustees of the Fund was held on Thursday, March 18. The Fund is an independent entity and is not part of the organization of the B.M.A. The Trustees have issued an appeal for money and have decided not to invite a renewal of the guarantees made to the previous Guarantee Fund. The two main objects of the Independence Fund are to provide financial aid to practitioners who may suffer hardship in the event of a continuation beyond July 5 of the present conflict between the medical profession and the Government; and to provide through Local Independence Committees throughout the country an organization for maintaining the unity of the profession in its expressed determination not to accept service under the National Health Service Acts of 1946 and 1947 until such amendments have been made as will preserve the freedom of the profession. The National Insurance Defence Trust has deposited with the Fund an initial contribution of £400,000. The Trustees are appealing to individual doctors to give what they can to make this Fund effective for the purpose. They suggest that there are few practitioners in established practice who cannot afford to give £100 as a first contribution. In a statement just issued the Trustees state: "The danger to the independence of our profession is a measure of the need for generous giving. . . . We appeal to you to give all you can afford in order to conserve the freedom which neither we nor the public can afford to lose." The Trustees are twenty-three in number, and have appointed Dr. H. Guy Dain as Chairman, Lord Horder as Deputy Chairman, and Dr. G. F. Buchan as Treasurer. The other Trustees are: Mr. A. Lawrence Abel, Dr. J. C. Arthur, Dr. J. A. Brown, Dr. R. W. Cockshut, Dr. W. E. Dornan, Dr. A. Staveley Gough, Dr. I. D. Grant, Dr. F. Gray, Dr. E. A. Gregg, Dr. Charles Hill, Dr. W. M. Knox, Dr. J. B. Miller, Dr. J. C. Pearce, Dr. J. A. Pridham, Dr. W. D. Steel, Prof. G. I. Strachan, Dr. S. Wand, Sir Reginald Watson-Jones, Dr. D. J. B. Wilson, and Dr. W. Woolley.

POLIOMYELITIS

In July last year we drew attention to the unusual prevalence of poliomyelitis.¹ A few weeks later it was clear that something like an "American experience" of the disease was to be expected, and we published in successive issues papers by Dr. W. H. Kelleher² and by Prof. H. J. Seddon³ and discussed the general problem of its management.⁴ There followed at a later stage some discussion of the terminology of poliomyelitis and polio-encephalitis.⁵ The Kenny method⁶ was reassessed and interest revived in the still unsolved problems of distribution and spread. Towards the end of the epidemic McAlpine and his co-workers⁷ revived some of the clinical lessons that had been learnt, and Ritchie Russell⁸ made an important contribution relating physical activity in the pre-paralytic stage to the severity of paralysis.

These clinical studies preceded the epidemiological surveys which were set in train in October.⁹ One of these surveys has now been completed, and its results are reviewed by Bradley and Gale¹⁰ in a paper which was published this week. From the point of view of the Registrar-General there were 53 weeks in 1947 and 9,262 "original" notifications of poliomyelitis and polio-encephalitis in

England and Wales. Corrected notifications will probably total 7,600 or less, giving an attack rate of 3.8 per 100,000 population for the largest epidemic known in this country. Bradley and Gale analyse the replies to a questionnaire addressed by the Ministry of Health to hospitals throughout England and Wales. The 270 replies received cover the period from Jan. 1 to Oct. 11, 1947, and relate to 6,762 patients admitted with a tentative diagnosis of poliomyelitis or polio-encephalitis. The diagnosis was confirmed for 4,717 patients, of whom 2,687, or 57%, were males. The inquiry includes therefore about three-quarters of all the cases occurring in England and Wales.

There was no difference in the age distribution for males and females, and for both sexes combined 30% of the patients were under 5 years of age, 35.1% were aged 5-15 years, and 34.9% were aged 15 and over. The case mortality increased with age from a minimum of 3.2% at ages 1-4 to 34.7% in those aged 45 and over. The case mortality for males was slightly higher than that for females; for all ages the rates were 8.2 and 6.9%, respectively.

Of the 4,717 confirmed cases 2,976, or 63%, had paralysis chiefly affecting the limbs and trunk, and in 485, or 10.3%, the paralysis affected chiefly the cranial nerves. There were 333 deaths among these 3,461 paralysed patients, and of the 3,128 who recovered 1,285 (41.1%) were classed as "mild," 1,205 (38.5%) as of "moderate" severity, and 638 (20.4%) as "severe." Altogether 188 males and 122 females had to be treated in respirators; 217 were so treated temporarily and 93 are likely to need such treatment permanently. Related to the whole epidemic these figures suggest that lengthy hospital treatment will have to be provided for about 3,000 patients, one-third of them under 5 years of age, one-third at ages 5-15, and one-third of 15 or over. The preponderance of males over females in this group will be about 5 to 4, and it is probable that about 1,000 of these patients will be severely crippled.

There was no paralysis in 1,256 of the 4,717 confirmed cases. Changes in the cerebrospinal fluid made diagnosis possible in 769 of these patients; 328 were diagnosed on clinical grounds; and in 159 of the patients the symptom and signs were indefinite, but the diagnosis was made because of close contact with a proved case. The diagnosis was confirmed in 760 women of child-bearing age, and of these patients 71 (9.3%) were pregnant. The proportion of pregnant women among the general population of women of child-bearing age during 1947 was 9.4%. In this epidemic, therefore, there was not an unduly high incidence of the disease in pregnant women. The trend of the epidemic generally was in accord with those already reported for other countries of Western civilization.

MEDICAL MEN ELECTED F.R.S.

The following members of the medical profession were elected Fellows of the Royal Society on March 18: Robert Alexander McCance, Ph.D., M.D., F.R.C.P., Professor of Experimental Medicine in the University of Cambridge, for his contributions to metabolic studies of human beings; Sir Leonard Gregory Parsons, M.D., F.R.C.P., F.R.C.O.G., Emeritus Professor of Diseases of Children in the University of Birmingham, for his studies on child health and the wasting disorders of children; and William Albert Hugh Rushton, Ph.D., M.R.C.S., L.R.C.P., Lecturer in Physiology in the University of Cambridge, for his researches on the effect of electrical stimuli on muscles and nerves.

On Monday, March 22, Lord Moran was once again elected President of the Royal College of Physicians.

¹ *British Medical Journal*, 1947, 2, 135. ² *Ibid.*, 1947, 2, 291. ³ *Ibid.*, 1947, 2, 319.
⁴ *Ibid.*, 1947, 2, 338. ⁵ Murray, L. H., *ibid.*, 1947, 2, 1028. ⁶ *Ibid.*, 1947, 2, 182.
⁷ *Ibid.*, 1947, 2, 1019. ⁸ *Ibid.*, 1947, 2, 1023. ⁹ *Ibid.*, 1947, 2, 698.
¹⁰ *Mon. Bull. Min. Hlth*, Vol. 7, March, 1948.

SIR FRANCIS CHAMPNEYS

CENTENARY OF BIRTH

The centenary of the birth of Sir Francis Henry Champneys, Bt., M.A., D.M., F.R.C.P., was celebrated on March 25 at St. Bartholomew's the Great, London. We print below an abridgment of a memoir prepared by his son, Sir Weldon Dalrymple-Champneys, Bt.

On March 25, 1848, there was born, in London, Francis Henry Champneys, who devoted his life to the sacred cause of motherhood and after many years of bitter fighting in the face of great opposition gave the country a fully trained and regulated midwifery profession, thus saving the lives of millions of British mothers and their children.

Francis was the fourth son of the Very Rev. William Weldon Champneys, D.D., afterwards Vicar of St. Pancras, Canon of St. Paul's Cathedral, and Dean of Lichfield (1868-75). Dean Champneys' grandfather had also been Vicar of St. Pancras and Sub-Dean of St. Paul's Cathedral. Dean Champneys was a profoundly religious man and a leading figure in the Evangelical revival. He was also a pioneer in several social movements for the care and education of the poor, starting one of the first "ragged schools" in England while in his second curacy at St. Ebbe's, Oxford, and continuing this work when he went to London. He also secured the passing of an Act in 1842 which gave the "coal-whippers" for the first time the right to establish offices of their own instead of having to tout their coal round the public houses.

Francis was thus brought up in a strongly religious atmosphere, but it was by no means a stifling one, for the deepest affection and understanding existed between the Dean, his wife, and their five sons and two daughters. Francis' love of music stands out as one of the first and most marked of his characteristics. In 1860 he won a scholarship at Winchester College, and there he continued his organ lessons under Samuel Sebastian Wesley, who was organist to both the college and the cathedral.

In 1866 he won an exhibition at Brasenose College, Oxford, where his father had been a scholar and fellow (1831-7). He read natural science at Oxford, studying under Prof. Rolleston,

and took a first-class in that school in the Michaelmas term of 1870. During one of his long vacations he stayed up at Oxford to dissect a chimpanzee, this work being the subject of his first medical publication, entitled, "On the Muscles and Nerves of the Chimpanzee and Anubis," which appeared in the *Journal of Anatomy and Physiology* for 1872. In 1871 he entered the medical school of St. Bartholomew's Hospital, and the following year he was elected a Radcliffe Travelling Fellow. During the half of his three years' tenure of this Fellowship, which had to be spent abroad, he worked at Vienna, Leipzig, and Dresden; at Dresden he held an appointment at the Royal Lying-in Hospital. On his return to England in 1875 he took the qualifications of M.R.C.S. and B.M. (Oxon).

and was immediately appointed medical registrar at St. Bartholomew's, and in 1876 he was admitted a Member of the Royal College of Physicians of London. In the same year he married Virginia Julian, only daughter of Sir John Warrender Dalrymple, 7th Baronet of Luchie, North Berwick, a descendant of the first Lord Stair and a first cousin of the Earl of Haddington.

The year after his marriage he was appointed casualty physician at St. Bartholomew's in addition to his other work, his brother casualty physician being his friend Robert Bridges, later Poet Laureate, with whom he maintained contact all his life, both of them dying in 1930. Robert Bridges once reckoned that he saw about 30,000 patients in the casualty department during the year, and was thus able to devote on the average one and a quarter minutes to each patient! In spite of this killing pace Champneys was able to keep very interesting notes of these casualty patients, some of which were contributed to the *St. Bartholomew's*



Sir Francis Henry Champneys, Bt.

Hospital Journal in 1943* by his son, Sir Weldon Dalrymple-Champneys.

Champneys had already been attracted towards obstetrics by the teaching of Matthews Duncan, then physician accoucheur to the hospital (1877-90), a rugged Scot of outstanding personality and very decided views. All his life Champneys spoke of his teacher with the warmest admiration and affection, and the teacher must have had great belief in his pupil, for he did his best to advance his career and showed him many kindnesses. In those days and indeed much later the hudding

**St. Bar's Hosp. J.*, 1943, 47, 223.

sultant was faced with a grim struggle whatever his ability, so Duncan's encouragement must have meant a great deal to him in his early years. It was characteristic of Champneys' innate modesty that even after his appointment in 1880 as assistant obstetric physician to St. George's Hospital he regularly attended Matthews Duncan's 9 a.m. lectures at St. Bartholomew's. At St. George's he was assistant to Robert Barnes, and when Barnes resigned in 1885 at the age of 68 Champneys succeeded him, but had to carry the whole weight of the department, as no assistant obstetric physician was appointed to the vacant post. In the same year as Champneys had been appointed to the assistant post at St. George's he had also been appointed, with Sir John Williams, who became one of his greatest friends, as obstetric physician to the General Lying-in Hospital, York Road, and his connexion with this hospital, of which he became president in succession to Lord Lister, lasted all his life. It was here, where devastating outbreaks of puerperal fever had recently been sweeping the wards, that Champneys and Williams made history by applying Lister's antiseptic principles for the first time in any English maternity wards and with the dramatic success which seems so natural to us now but was then so sensational. He was elected a Fellow of the Royal College of Physicians in 1882, a Councillor from 1902 to 1904, and served as an Examiner for the Conjoint Board from 1887 to 1891 and again from 1903 to 1907. He was offered, but declined, the honour of nomination as Harveian Orator.

From his student days he had been appalled by the way in which unskilled midwives and "handywomen" spread infection, illness, and death among the mothers and babies of the country, and he was determined to fight this evil with all the skill and energy at his disposal. This fight, which was not crowned with success until 1902, was the greatest work of his life. In 1876 he had become a Fellow of the Obstetrical Society of London, which in 1872 had set up a Board for the Examination of Midwives to conduct a voluntary examination of women proposing to practise as midwives and to grant where appropriate a certificate that the woman in question was "a skilled midwife, competent to attend natural labour." Up to this time there had been no control of women practising as midwives, the majority of whom were ignorant handywomen with dangerous and unhygienic methods. In 1890 Champneys was elected chairman of this Board. Though the setting up of the Board was a step in the right direction and the diploma was for many years the hall-mark of a well-trained midwife, this did not satisfy Champneys, and he fought hard for the next twelve years to achieve his ambition of making motherhood as safe as possible by establishing a compulsory training and qualification for all midwives, thus finally abolishing the unskilled "handywoman," the cause of so many maternal and infant deaths.

This proposal met with the bitterest opposition from inside and outside the medical profession, but Champneys drove fearlessly onward in his crusade that was to save the lives of millions of British mothers and their babies. Stirred up by agitators in the profession, the General Medical Council threatened the Obstetrical Society with anathema for infringing the Medical Act and deceiving the public, and even hinted at the word "infamous" being applied to the officials of the Society who signed the midwives' diplomas. The agitators claimed that they were "creating a new order of medical practitioners," to which Champneys replied (in his presidential address to the Society in 1895): "This is as correct as the classical definition of the crab which was criticized by Cuvier; it is perfectly accurate, except that (1) we have not 'created' any persons at all; (2) midwives are not 'medical practitioners' (in the technical sense); and (3) if either doctors or midwives are 'new,' I fear that history tells us with no uncertain voice that midwives antedated doctors by an enormous length of time. It is hardly too much to say that midwives must have begun nine months after there were two women and one man on the earth." He was attacked by many of the general practitioners for taking the bread out of their mouths and received threatening letters, but nothing was able to deter him from the great task he had set himself. He showed conclusively that "any person is at liberty by the law of the land to render aid to any other in time of sickness if desired; any person is at liberty by the law of the land to receive such aid

from any other; unskilled aid leads to lamentable consequences to poor mothers and children; midwives are a necessity." "The question," as he pointed out, "is not whether midwives shall exist, but whether they shall be as good or as bad as possible." The registration of midwives was, in fact, the best protection of medical men against the usurpation of their medical functions.

By close reasoning, fearless fighting, and scrupulous fairness Champneys gradually won the admiration and support of the profession and of the general public, till in 1901 he persuaded the Government to promote the Midwives Bill, which was passed the next year, following which he was entrusted with the extremely delicate and difficult task of conducting the affairs of the new Central Midwives Board, a task which he fulfilled with outstanding success for the next twenty-eight years, never missing a meeting until his last illness.

On Sept. 1, 1890, Matthews Duncan had died, and in the following January Champneys was invited by the Governors of St. Bartholomew's Hospital to succeed his old teacher as physician accoucheur to the hospital. The title of this post was a relic of the time when caesarean section represented practically the only cutting operation in obstetrics, and this tradition had survived the expansion of surgery resulting from the two great discoveries of anaesthesia and asepsis, so that abdominal surgery for gynaecological conditions was still carried out by a surgeon on the staff, in this case Harrison Cripps, and not by the physician accoucheur, though he was a skilful surgeon and operated frequently on his private patients. On Champneys' retirement both the scope and the name of the post were changed, but the former physician accoucheur was wont to comment with regret that the younger members of his specialty had become too surgically minded.

Champneys and Cripps were thus very closely associated for many years. His tenure of this post from 1891 to 1913 was a period of ever-increasing and more varied activity, during which he rose to undisputed pre-eminence in his branch of the profession and acquired a world-wide reputation.

The traditions of his profession were to him a precious heritage to be guarded at all costs, and this is well brought out by a passage in his presidential address to the Obstetrical Society, from which I have already quoted: "A patient is a person who requires a doctor; a doctor is not, in the same sense, a person who requires patients. A patient is not, primarily, an organism for extorting so many guineas or shillings per annum, as an aphid exudes syrup at the titillation of an ant, or a cow secretes milk under the blandishments of a dairymaid. This is a fact often forgotten."

In spite of his numerous preoccupations, music was never entirely neglected, as is shown by his composing during this time several tunes for his friend Stainer's "Hymns Ancient and Modern," writing a number of articles for the "Dictionary of Musical Terms" produced by Stainer and A. W. Barrett in 1876, and forming a private choir about 1878. He also employed his musical gifts to the benefit of his hospital, and Sir Norman Moore wrote of him, in his *History of St. Bartholomew's Hospital*, that "as a learned and admirable musician he benefited the school of St. Bartholomew's by encouraging the practice of music there." When on July 25, 1893, Winchester College celebrated the quincentenary of its opening a performance was given of the "Carmen Saeculare Wiccamicum," with words by G. H. Cremer and music for four voices with organ and pianoforte obbligatos composed by Champneys. He was a frequent visitor to the organ loft at St. Paul's Cathedral during the times that his friends Sir John Stainer and Sir George Martin presided there.

Reference has already been made to the events which led up to the passing of the Midwives Act of 1902, in some ways the crowning achievement of Champneys' life, but by no means the last important contribution which he made to the advance of his specialty and the welfare of the whole profession and nation. Of his work as chairman of the Central Midwives Board his successor, Dr. J. S. Fairbairn, wrote: "For 27 years he was annually re-elected by its members as chairman of the Board and, more than any other of its members, was responsible for moulding its procedure and policy. Its early problem was the difficult one of a new and untried body gaining the

confidence of the divergent interests represented by the practising midwives it controlled, the general practitioners that came to their aid, the medical officers of health who supervised their practice, and the teachers who had to follow the Board's instructions on training. That the new body succeeded in working smoothly and avoiding serious controversy, even so far as to secure general approval, was a remarkable tribute to the sagacity and tact of the man at the wheel. His was no nominal chairmanship, for he was always in touch with the business of the Board and word perfect in his part before each meeting; he was ready to sum up each item on its agenda and had a resolution in draft prepared for discussion."

In 1910, in the first honours list of his reign, King George V conferred upon him the honour of a baronetcy. In the same year that the Central Midwives Board came into being Sir William Japp Sinclair, of Manchester, with the support of Champneys, John Williams, and C. J. Cullingworth, founded the *Journal of Obstetrics and Gynaecology of the British Empire*. Champneys was a director of the journal company from the first, and in 1907 succeeded Sir John Williams as its chairman: and when, after its suspension in 1915 because of the war, it was revived as a monthly publication in 1921 he was again elected chairman and persuaded to retain that post in spite of his advancing years, because, in Dr. Russell Andrews's words, "we could not possibly find a more efficient or more trusted chairman." Sir Comyns Berkeley, who was editor of the revived journal, has recorded that, fearing he could not devote sufficient time to ensure its success, he wrote to Champneys, who at the end of a characteristic letter of encouragement remarked, "Medical men who are too busy to do anything, according to their own report (and still more of their wives), have generally little to do."

His long and distinguished connexion with the Royal Society of Medicine started with his membership of at least two of the Societies whose amalgamation in 1907 brought the R.S.M. into being. As has been already mentioned, he had been since 1876 a Fellow of the Obstetrical Society of London, but he had also been a prominent Fellow of the Royal Medical and Chirurgical Society of London and a frequent contributor to its *Transactions*. He was therefore eminently fitted to play an important part in the task of amalgamating thirteen separate societies representing the different branches of medicine and surgery. His international standing in his subject was shown by his election as president of the Section of Obstetrics and Gynaecology at the 17th International Congress of Medicine held in London in August, 1913. Another activity which was to take up a great deal of his time and energy was the General Medical Council, to which he was appointed as a Crown nominee in 1911, and of which he remained a member until 1925. When in 1911 the National Insurance Bill was under heated discussion Champneys was the chairman of a sub-committee of the Council which formulated their comments on the proposals in regard to maternity benefit. Sir Norman Walker has written of his activities on the Council that "he was a very valuable committee man, and his opinions were much valued and respected."

A good description of him at "Bart's" in his prime was given by the late J. D. Barris, who was one of his favourite interns and later succeeded Champneys on the honorary staff. "Those of us," he writes, "at St. Bartholomew's Hospital who trained and served under him have vivid recollection of his striking presence. We felt in him the man of character and of high ethical and moral standards, so that later he became our example and guide in all that concerned the management of our patients and our professional conduct. He spoke to us with the voice of authority, and we listened to him with admiration and respect. He was so clear, incisive, prompt, and businesslike. His punctuality was proverbial; we knew when two o'clock would strike (for that was the appointed hour of his afternoon round in Martha Ward), that at this hour precisely he would sweep across the square in his open landau, for this was before the days when motors had ousted the more graceful carriage and pair. Arrived at the foot of the seventh block, a short, virile handsome man would alight and as often as not would scorn the lift in order to go to the third floor by the stairs, taken at the run all the way, his intern and students panting after him, unless we had had the fore-

sight and time to forgather in Martha Ward beforehand. Later still it was the privilege of some of us to know him as the adviser and friend to whom we could always turn. He was without doubt a great public servant who advanced the interests of his subject and shed lustre on his hospital."

During the 1914-18 war he not only continued to conduct the affairs of the Central Midwives Board but in addition he travelled about 20,000 miles lecturing to the troops on venereal disease on behalf of the National Society for Combating Venereal Disease, now the British Social Hygiene Council. After the war, at the request of his old friend Sir Clifford Allbutt, he undertook the chairmanship of the Examiners of Midwifery at Cambridge, though he was then over 70 years of age. He greatly enjoyed the companionship of Allbutt, with whom he always stayed on these occasions. In 1922 his wife died, and at the end of the funeral service at St. Alban's, Holborn, he walked across to the organ and played some of her favourite music, saying it was the last little bit he could do for her except prayer.

One of the last contributions which he made to the advancement of his specialty was to use all his influence, experience, and tact in helping the foundation of the British (now the Royal) College of Obstetricians and Gynaecologists, and in recognition of these services the College paid him the highest compliment in their power by electing him a Vice-Patron. Dr. Russell Andrews has recorded that in a conversation with him only six days before his death he showed a lively interest in the College and in the proceedings of the latest Council Meeting, which he had been unable to attend on account of illness. So on July 30, 1930, Sir Francis Champneys, then in the 83rd year of his age, passed away peacefully at the Sussex home he had loved so well, having given the mothers of his country a fully qualified midwifery profession in place of a body of ignorant and dangerous handymen and having raised the status of obstetricians and gynaecologists by a lifetime of devoted and unremitting labour, always giving God the praise.

Grateful acknowledgment is made to the Editor and Proprietors of the *Journal of Obstetrics and Gynaecology of the British Empire* for permission to quote freely from their "In Memoriam," published in 1930, Vol. 37, No. 3.

MR. BEVAN ADDRESSES ALMONERS

The Minister of Health, Mr. Aneurin Bevan, addressed the annual meeting of the Institute of Almoners on March 12. Prof. Alan Moncrieff presiding. Mr. Bevan said that the duties of the first hospital almoner, appointed to the Royal Free Hospital in 1895, were to prevent abuse of the hospital by persons able to pay for medical treatment, to refer persons already in receipt of private relief to Poor Law authorities, and to recommend suitable persons to join provident dispensaries—a rather meagre programme which went only a very short way indeed to revive the generous profession of almoner in the mediaeval monastery. The first hospital almoners were little more than means-test agents, concerned much more with the financial help of the hospital than with the mental and physical help of the patient. Much progress had been made since then; the concept of "social medicine"—an awkward phrase—had arisen, and it was now understood that the work of the doctor failed of its full effect unless reinforced by such work as the almoner could carry out in connexion with the social background of the patient.

Under the new Health Service, Mr. Bevan continued, it would no longer be necessary for the almoner to concern herself with the financial position of the hospital; her concern would be solely with the patient. The anxiety of large sections of the population—and those not the poorest—concerning doctors' bills and hospital payments would disappear. This was one of the most important revolutions which had ever taken place in the treatment of the sick. The almoner would represent the patient to the hospital management committee; she would see that proper facilities for his accommodation were provided—waiting-rooms, canteens, all that sort of thing—and she would link up hospital services with general-practitioner and local-authority services on the one hand and with resettlement and rehabilitation services on the other. Her duties would be

further enlarged later on when health centres were developed. It was one of the most regrettable features of our present materials shortage that it had not been possible to develop health centres as quickly as had been hoped. It was never expected that health centres would spring up by July 5. The more ambitious programme would have to wait until more resources were available, but wherever it was possible to adapt an old building or to use a new building a start on health centres would be made.

The Health Service not a Bureaucracy

After speaking of the value of the almoner's work in cases of incipient mental illness, Mr. Bevan went on to say that consultation among those working the new Health Service would take place to a greater extent than it had ever done before.

"We do not want the Health Service of the future to be a bureaucracy. That is the very last thing we want. We want health workers in every field to be organized and represented on the various bodies, so that policy from time to time may be shaped and directed by the workers themselves in the various health fields. For the first time this will be possible, and of course for me or any Minister of Health this is essential. The National Health Service Act is not like some other pieces of legislation. The Minister of Health is responsible to Parliament for the whole health system. The responsibility of the Minister of the Crown to Parliament is the medium by which all health services will be brought to public accountability. . . . After July 5 the Minister of Health will be the whipping-boy for the Health Service in Parliament. Every time a maid kicks over a bucket of slops in a ward an agonized wail will go through Whitehall. After the new Service is introduced there will be a cacophony of complaints. The newspapers will be full of them. I am sure some doctors will make irate speeches. The order paper of the House of Commons will be filled with questions, and for a while it will appear that everything is going wrong.

"As a matter of fact everything will be going right, because people will be able effectively to complain. They complain now, but nobody heeds them. What the Health Act will do after July 5 is to put a public megaphone in the mouth of every complainant so that he will be heard all over the country. As the months go on and the limelight of publicity is brought to bear upon every aspect of the Health Service, for a while it will be almost intolerable. But this public scrutiny will have a medicinal effect. Everybody will be on his toes. Everybody will know that his actions are liable to be matter for public debate. The Minister in the House will be a shock-absorber between Parliament on one side and the vast body of health workers on the other. This period of interrogation is an essential prerequisite for the organization of the Service. You almoners will be able on many occasions to provide an emollient, and to the extent you do your work properly and intelligently my own work will be eased.

"The Health Service," said Mr. Bevan in conclusion, "is being launched in stormy waters, but then the launching of any big ship causes considerable water displacement. It was hopeless to expect such a service to be started without controversy. But it will be a very great revolution. It is being watched by every country in the world. There will come over here a stream of visitors to find out how it works and how its difficulties are being resolved. We shall of course find from time to time that alterations and adjustments have to be made. We are not ridden by doctrine; we are a nation very largely of visionary empiricists, able to adjust things where necessary, and between us we shall have a standard of health service that will be the envy and admiration of the world."

In reply to a vote of thanks Mr. Bevan further said that the polemics surrounding the Service would soon disappear and be settled. Whatever might be their quarrels or their policies, these were relatively quite unimportant when the work they had to do was considered.

Sir Ernest Rock Carling, a member of the Executive Committee, who introduced the annual report, said that 790 candidates had been interviewed during the year for the post-war emergency courses of the Institute. The first hundred to qualify in these shortened courses had had little difficulty in securing posts of all types. During the year 203 certificates altogether had been granted, about half to candidates who had qualified after the shortened course and half after the normal course. The number of members on the register was just over 1,000. The wastage rate due to matrimony was very high. Sir Ernest pleaded that the training of the almoner, at present supported on the fees of students alone, should be subsidized by the Government.

THE COMMONWEALTH FUND

One of the examples of selective philanthropy for which the United States is noted is the Commonwealth Fund, which last year appropriated 1,614,000 dollars for programmes and special grants in the field of medical education and research and public health and mental health services. The Commonwealth Fund was founded twenty-nine years ago, at first as a service for delinquent and problem children. One of its first achievements was an institute for child guidance in New York, where teachers for child-guidance clinics might be trained. Its second project was a child health service which was set up in a number of States. From this it moved to the betterment of American health by means of the rural hospital, assisting communities where hospital facilities were difficult of access. The Fund then widened its activities to support research and teaching in medical schools. In a retrospect of its work it observes:

Medical education is basic to nearly everything that the Fund is trying to accomplish. It is the only sure road to comprehensive medicine. It underlies public health work. It is a daily objective of the well-conducted hospital. It is inseparable from medical research. . . . But medical education is in ferment; ideas long in germinating are beginning to bud furiously like yeast. The Fund shares with medical educators everywhere a deep concern that physicians shall be taught, and shall have opportunity to teach themselves, how to practise the best contemporary medicine.

Finally, thanks to the warm friendliness of its founder, the late Edward S. Harkness, towards the British people, the Fund established a number of fellowships for British students. From 1925 until their suspension during the war these fellowships had entitled over 400 students, technicians, and Civil Servants in Great Britain and other parts of the British Commonwealth to spend some time—usually two years—in the United States with ample opportunity for the studies they wished to follow and for extensive travel. The fellowships have now been resumed, and in 1947 the normal quota of twenty were awarded by the British committee, under the chairmanship of Sir Walter Moberly, to students at British universities, not all of them for medical studies, but some for studies in political science, economics, international law, and such subjects. The six fellowships for medical studies were at Harvard, Columbia, and St. Louis, and the subjects endocrinology, forensic medicine, cardiovascular surgery, psychiatry, and haematology.

In the twenty-ninth annual report of the Fund an account is given of its stewardship during the past year. It has continued to assist medical education in many of the American universities, has made grants for the development of public health services in six States, and has subsidized various mental health projects, including two in Great Britain. Thirty-four investigations on medical subjects at twenty American universities or other scientific institutions have received some support from the Fund during the year, and as a result of these subsidized projects twelve works and about 135 medical and scientific papers have been published.

"The analysis of the genetic basis of emotional behaviour thus remains a field for the future. On its investigation may well depend the acquisition of knowledge of fundamental importance to human education and behaviour. We have neglected such study because of a quixotic and erroneous belief that studying the emotional behaviour or misbehaviour of even young human beings was taboo. The blind and impractical worship of euphonious but sterile dicta of unscientific leaders, who have mistaken 'declarations' of human equality for truth, have too long held us spellbound. All around us are tragic evidences of the evil that uncontrolled or prostituted emotion can create. Our own place in the family of nations has been perilously risked and is still insecure because of this factor which is still abroad in the world. Even the basis of our own emotional control and integrity within the bounds of our national and personal problems is still largely a jungle of ignorance. Expensive social, economic, and educational systems present impressive exteriors but are unsound at the core, because the human beings of which they are made remain largely well-dressed, housebroken savages whose behaviour remains creditable only so long as the strain on it is not too great. There is no reason why emotions cannot be studied and trained as well as intellects, so that the risk of their exploitation and disintegration can be decreased, to the greater security and happiness of all."—"Parental Influence," by C. C. Little, in *Genetics, Medicine, and Man* (Cornell University Press, 1947).

Correspondence

Signs-manual of Freedom

SIR,—I am sorry that my article in *The Sunday Times* (not my letter to *The Times*) horrified Dr. John V. Mainprize (March 13, p. 519). My reason for picking out remuneration by capitation fee and right of appeal against dismissal was that I was dealing with the acceptance of those two principles by the Northern Ireland Act. Though it is true that, as a consultant, the retention of goodwill does not affect me directly, I have tried to make it clear that *all* the signs-manual of a doctor's freedom—and this is one of them—are of vital interest to every one of us.—I am, etc.,

London, W.1.

HORDER.

Ownership of Goodwill

SIR,—At a recent B.M.A. meeting many doctors expressed a desire to yield to the Minister of Health on any points not absolutely essential to the preservation of our freedom. In this connexion the question of the purchase and sale of practices was discussed. I think that the distinction, in this case, is not merely between the abolition of the purchase and sale of practices on the one hand and the preservation of this custom on the other, but rather between a centrally administered and monopolistic control of the appointment of doctors to all spheres of medical practice on the one hand and some more democratic arrangement on the other.

It has been argued that a doctor selling his practice is actuated in his choice of his successor by considerations other than the suitability of the purchasing doctor to conduct the practice. This may be true, but we have Willesden to remind us that considerations other than medical proficiency may influence public bodies responsible for making medical appointments. In this connexion it would be well for members of all political parties to remember that, whatever they may think of the present Minister of Health, the Minister of the future may belong to the extreme "left" or the extreme "right" politically, and there is no doubt that the administrative structure of the new Act would offer a magnificent opportunity to a Communist, should such a one, by that name or any other, one day assume the office of Minister. A man loses his freedom when he loses his right to change his employer should he object to the terms of his service, the character of the service he is instructed to give, or to any other conditions, political or otherwise, imposed upon him.

It has been said that a doctor selling his practice does not necessarily concern himself with the professional ability of the incoming doctor, but against this I would argue that the purchasing doctor has to assume responsibility for his own ability. He has to decide whether he considers himself competent to conduct a general practice or not, and he knows that the patients will pass judgment upon this important matter in the near future. He will not lightly make a wrong decision knowing that if he does so the goodwill of his practice, for which he has paid, will dwindle away. It is a matter between the doctor himself and his patients, whose servant he is, and I believe that he and they are the people best able to judge his competence.

The problem of to-day is the failure of faith in man the responsible individual and the deification of the State "as the universal provider and the authority determining all thinking and willing" (see quotation from C. G. Jung's *Essays on Contemporary Events* in Dr. Ahrensfeldt's interesting letter—March 13, p. 516). The question men have to decide is whether they will maintain their faith in the man on the spot, aware of conditions and of the results of his decisions and actions, or the man remote in the fastness of Whitehall. Where faith rests, there responsibility and power should rest also. It is for the patients themselves to decide whether they would prefer to have their doctor appointed for them by the State or whether they would prefer to exercise some responsibility in this matter through the democratic power of valuable goodwill, a power vested ultimately in their own hands.

The goodwill of practices is worth a very large sum of money. Money is power. When one speaks of the power of money people are apt to think of a few rich people exercising undue

power over others. They forget that as the wealth of a country becomes more evenly distributed among its members so the power of money becomes increasingly a democratic one. So it is with the power derived from the value of goodwill. This power is vested ultimately in the hands of the patients themselves. Is it wise to take this power away from the many and centralize it? Is it wise to do this at any time, and particularly now, when the threat to our freedom and to the whole structure of democracy is like the hot breath of some devouring animal upon us?—I am etc.,

Reading.

BETTY F. HILL.

SIR,—I am in entire agreement with the views of Drs. Ida M. Will, J. H. Francis, and R. A. Furniss (March 13, p. 519). Provided they are satisfied that the Northern Ireland Act does not conflict with our "Principles," the B.M.A. Council should state clearly, emphatically, and with every method of publicity available: "The Northern Ireland Parliament has passed a Health Act similar to the one in this country but without its objectionable features. If such an Act were adopted in this country, with only one modification, we should be prepared to advise our members to accept service under it immediately." Such a statement would be well within the understanding of even the meanest intelligence among the general public.

Modification: ownership of goodwill. The Minister is taking away from us something that has stood the test of time without replacing it by a satisfactory alternative. Few of us like squatting, few of us obtained our present goodwill by squatting, and fewer still of us who have spent long years in insalubrious areas care for the thought that, in order to obtain a change of scene in later life, we shall have to go through the process of squatting (always an undignified posture even on physiological occasions) without even the capital from our previous goodwill on which to live during the lean years. Convertible Government bonds in lieu of the present never-never system of compensation would help to alleviate this. For the young man embarking on practice for the first time the only alternative would be a real encouragement to enter partnership with an existing practitioner; how this could be made to function equitably without some element of purchase of goodwill in the partnership either by cash or by extra work I cannot fathom.

May I suggest, Sir, a reprint of your leading article of Sept. 20, 1947? We do not all, I regret to admit, file away our old *B.M.J.s.*—I am, etc.,

Edlington, Nr. Doncaster.

R. S. GILCHRIST.

Dr. Taylor and the Health Service

SIR,—In your leading article (March 6, p. 454) you criticize some of the points in Dr. Stephen Taylor's letter published in the same issue (p. 463). You will no doubt receive many letters from other readers about that same letter, which, however, raises so many controversial issues that I feel that an extra letter may not be superfluous.

Dr. Taylor in his opening sentence says he is "a Labour Member of Parliament who happens also to be a doctor" and thus sets the standard of his whole letter. "The Labour Party has accepted the Act," "our Labour Party," and many other such pointers are sprinkled through it. Here, surely, naked, unashamed, and nauseating is the epitome of partisan approach which has done so much to make this Act anathema to so many doctors. Here speaks the arrogance of a political party at present in the majority, with the lack of respect for the opinions of others, however fitted the latter may be to advise on a highly specialized subject, which has already been made notorious by Mr. Shinwell and the "tinker's cuss." Dr. Taylor makes great play with the fact that the other political parties support the Government over many points in the Act, and Mr. Bevan in the House of Commons tried to make capital of the fact that the B.M.A. had not seen eye to eye with previous Ministers of Health any more than with him. What better proof is there that the B.M.A. is not a party political organization? Surely through the fog of political squabbling emerges the fact, clear to all but those who do not wish to see, that the medical profession opposes this Act for the same reason that it has opposed the others—because it is a bad Act. When a Government of this country introduces a good Bill (and such a Bill could easily be produced by consultation between experts in the Government

and experts in the profession) then I am sure that Government, whatever its political colour, will have the fullest support of the medical profession and the B.M.A.

Dr. Taylor says he is concerned primarily with the needs of his constituents for more doctors. Why then is he so wholeheartedly in favour of an Act which will spend millions of pounds (many of which will come from his constituents) and give them neither hospital beds, health centres, nor more doctors for many years? Since he "happens also to be a doctor," the implication is plain!

Dr. Taylor also points out that any Government in the future can alter decisions arrived at now, a point frequently stressed by the B.M.A. But he does not seem to draw the moral that seems obvious—namely, that we should therefore keep our heads out of the noose. He says we all want to avoid bureaucracy. So we do, so why support an Act which is going to saddle us with yet another army of bureaucrats at a time when our man-power is said to be short? Surely we have enough already.

Dr. Taylor asks every doctor to think over carefully the issues at stake. To my mind, and I believe to the minds of many other younger members of the profession, the fundamental issue is quite clear. It is freedom which is at stake, and that is always worth defending. The points at issue are the outward and visible signs, but their significance goes much deeper. If the B.M.A. were to yield in these points, even though plausible people would have us believe they are unimportant, then the freedom of the medical profession in this country might well be lost for good; and as we have seen in the last ten years, medicine is a flower that does not flourish in captivity.

Dr. Taylor finishes his letter with some words of advice to the profession. It seems to me that because some people have voted for him and returned him to Parliament that does not qualify Dr. Taylor to proffer advice to a highly educated and trained body of men who, perhaps more than any other body of men in the country, are able to think for themselves. However good the intention, I am sure many will agree with me when I say that I consider it impertinence and conceit of a really amazing degree.—I am, etc.,

London, S.W.3.

H. E. LOCKHART-MUMMERY.

Profession's Independence

SIR,—The foundations of the new Health Service (the health centres, the hospital extensions, and the increased facilities for training medical students) are not in sight, let alone under construction. The attempt to bring in the full Service on July 5 next is to risk everything without bringing benefit to anyone. The effect on the schools of the Education Act, in spite of the emergency training courses for teachers, is a lesson to us, and on these grounds alone the operation of the Act should be postponed.

But Dr. F. M. R. Walshe's letter (Feb. 28, p. 407) is timely. It becomes increasingly clear that the real issues before us are moral and ethical, and we must not be distracted by practical details which are by comparison of little importance. Attention should be fixed on the persistently inadequate presentation, and frequently misrepresentation, of the doctors' case in Parliament and certain sections of the Press, notably *The Times*. The views of the minority who approve of the Act in its present form are less important than the belief that all who oppose them are activated solely by a "determination to sabotage the Labour Government" or motives of monetary gain. Clinical or ethical issues requiring a sober and reasoned analysis are clouded by political prejudice or a materialist philosophy of life that precludes the holders from conceiving, let alone understanding, any other viewpoint.

Dr. Stephen Taylor (March 6, p. 463) is probably right when he contends that any safeguards for the doctors' freedom secured by amendments to the Act would be of little or no value, as Parliament could modify such provisions at any time. It is therefore essential that no steps should be taken that could in any way weaken the profession's independence. With the lights once again going out in Europe this is no time for the doctor to give up the control of his means of production, together with his freedom of speech, thought, and action. If we as doctors fail to give a moral lead at this point we shall lose the trust and respect of our patients, and deserve to do so.—I am, etc.,

London, W.1.

ALAN MABERLY.

Deprivation of Initiative

SIR,—Dr. G. C. Pether (Feb. 28, p. 411) calls attention to the psychological effects of the Minister of Health's proposed medical service and invites opinions. I would agree with him that there would be likely to be unhappy psychological repercussions were doctors to try to work under the conditions proposed in the new Act as it stands at present. Dr. Pether states that there would be "cramping and thwarting of the personality inherent in the massive schemes of the planners."

Regimentation, interference, and exploitation would be rife—all factors that conduce to a neurosis in the Serviceman in wartime. Nietzsche divides men into slaves (or the masses) and the higher man. By this latter he implies one who is happy in his capability to indulge in original thinking and to this extent to take risks, as opposed to the majority who, putting safety first, need security and are willing to entrust their welfare to some authority that will work to this end. Such are unhappy if they even think individually. Doctors should not be encouraged to put themselves into this group. Where authority denies to any minority group of men permission and opportunity to develop freely and expand (in their own time and way)—should they wish to do so—the end result can only be to build up inwardly protests and hate towards such a frustrating authority. This is bound to slow up activity and so prejudice efficiency.

Negative affects can only be dealt with in one of two ways. (1) Either they lead to the adoption of an unhealthy submissiveness (or slave reaction), brought about by the enforced blinding of the critical faculties—good for neither masters nor slaves—or (2) they lead to an apparently peaceful acceptance by the group with a liability to periodic violent outbursts, most harmful to the satisfactory evolution of a planned and progressive service such as we would all wish to see. Dr. F. M. R. Walshe in his excellent letter (p. 407) entitled "The Common-place Mind" reinforces this point of view. He quotes from *The Revolt of the Masses*, by Ortega y Gasset, who asserts that "the mass crushes beneath it everything that is different, everything that is excellent, qualified, and select." It will be a sad day for the world when democracy becomes identified with the mass that crushes out original thinking and with it all that psychological treatment aims at encouraging. It is only a comparatively small number of men that can think objectively without emotional bias creeping in and distorting perspective. They should be encouraged, not discouraged.

In your annotation (p. 399) you refer to the importance the educated men attach to the freedom to criticize the administration of the service in which they serve. Were this not to be permitted it would be a bad thing for the service itself—as occurs in the R.N. and R.A.M.C. The medical profession because of its training, which is essentially concerned with basic and physiological facts of life, is best qualified to think objectively. To do efficient work doctors must not be regimented as a profession. As Dr. Pether puts it, they should be left free to develop as fully adult individuals. In other words the job of the medical man, whether a psychologist or not, is to help his patients to become adult so that they may think ahead and do their own planning. This will be the more difficult for doctors to do if they are to be themselves forced into a service in which they are deprived of all initiative and all powers of criticism of the administration.—I am, etc.,

London, W.1.

CYRIL WILSON.

Doctors who Might

SIR,—Most of your correspondents appear to agree that the retention of the ownership of goodwill is of paramount importance, and there can be no doubt that if we lose it we shall be in a very poor position to negotiate with the Government if it should choose to introduce new and unwelcome measure at some future date.

Lieut.-Col. James T. Harold (March 13, p. 518) refers to ex-Service doctors, etc., who might be induced to undertake service under the Health Act owing to economic pressure, but such people should consider matters very carefully before taking such a step, however difficult their present financial circumstances. It is obvious that a salary of £300 p.a. implemented by a few transfers from established practitioners at 15s. 2d. per head will not be sufficient for them to subsist on, whereas,

with the retention of goodwill, purchase price could be borrowed on life insurance at a gross cost of 12% p.a. spread over 10 years (about 9% after income tax rebates have been deducted), and at the end of that time the capital (greatly increased if we have inflation) would be realizable if the doctor should wish to move elsewhere.

Let the would-be entrant to general practice realize that we, the established practitioners, are fighting his battle as well as our own for freedom in our professional life. If we stand out, as I for one intend to do, against the financial pressure which is being brought to bear against us, the opportunist will have the option of entering the Service and gaining a practice at the expense of those of us who are adhering to our principles. To put it briefly, if we, the established practitioners, were to accept the Act, the new entrant would have to "put up his plate" at £300 a year, but if we refuse he would be in a position to reap a rich harvest. Let anyone considering the latter course examine his conscience and decide whether it will allow him to gain a living at the expense of those who are striving to maintain the rights and freedom of the profession for generations to come.—I am, etc.,

Kirkby-in-Ashfield, Notts.

J. D. DURANCE.

The Independence Fund

SIR.—Is it of any use to reiterate our reasons for refusing to accept service unless we also counter the economic threat which the Act presents? It surely is this which makes the Minister feel that he only has to sit back and say nothing. He is well aware that a large number of doctors have such liabilities that, when they know that certain neighbours already have decided to join and that others are in the same dilemma as themselves, they may be overwhelmed by the fear of bankruptcy. The obvious remedy is to raise such a sum of money by subscription and guarantee that these members may feel completely independent. If we have sufficient conviction we certainly can do this.

The sum I would suggest is of the order of £20,000,000, or an average of £500—the price of a car—from each of the 40,000 doctors who voted "No" in the plebiscite. Many, of course, can guarantee very much more than this, just as many cannot afford nearly so much; but for all it will be a question of the price at which they value their liberty. Twenty million pounds will allow £3,000 to each of 5,000 doctors, with £5,000,000 to give temporary assistance to specialists and consultants.

The first effect of the scheme will be to show the Council how many are prepared to stand firm. The second, if this is really "our finest hour," will be to show how strongly and sincerely our convictions really are; and because of this I believe that Mr. Bevan, who, after all, is staking his political future, would meet us in a very different spirit, and that we might hope to have such amendments that all who wished could join happily and cheerfully.—I am, etc.,

Beckenham, Kent.

W. MAXWELL PENNY.

The Doctor's Oath

SIR.—In some of your leading articles and in many of the letters which have recently appeared in the *Journal* there has been a recurring and an increasingly insistent stress laid on the question of the doctor's conscience in relation to taking service under the Act. Most of the writers rightly draw attention to the fact that the doctor's primary duty is to his patient and not to the State, and that this centuries-old tradition of primary service to the patient will be greatly endangered or completely nullified by the intervention of a State paymaster. In the terrifying spread of State power which we are witnessing in the world to-day it was never more true to say of all men, and particularly of doctors, that no man can serve two masters.

Many doctors, if not most, feel themselves vaguely bound by the ethical precepts outlined in the Hippocratic Oath. Unfortunately, however, neither the original oath nor its later Christian modification is now taken by doctors, either before or after graduation. In a recent letter to a lay journal Dr. Tudor Jones has expressed the opinion that if the oath, particularly its Christian form, had been taken and kept by every doctor the introduction of the present Act would have

been impossible. In outlining how the original meaning of the Oath has, of set purpose, been steadily whittled away, he goes on to state: "It is a truism of politics that power does not vanish; it can only be transferred. The history of the Medical Oath is the history of the transference of power from the individual to the 'State.' It is a long history. The effect of the transference is the reign of the immoral law in place of the Moral Law."

While vigorously opposing the introduction of this Act by all practical means, many doctors are realizing that we have been betrayed into a false position by this continued undermining of the moral basis of our profession. Most of us have been rather late in recognizing this process, so the movement to reverse it should begin now. Might I suggest that the administration of the Christian form of the Medical Oath be revived, that doctors already qualified should be given the opportunity of taking it, and that we press on the medical faculties and the Royal Colleges the desirability of reintroducing the Oath as an integral part of the graduation ceremony?

I can well understand the mind of those who would consider my suggestion to be a long-term solution for a short-term problem, but I would point out that the fifth of July is not the Last Day. Neither, unfortunately, is it the First Day. The profession has lost one defensive position after another through the habit of dealing with the symptoms of a social and moral disease as they happened to appear. It is now time to deal with the disease itself, its cause, and the only sound method of cure.

I would be grateful if any doctors interested in the practical realization of the above project would write to me at the address below.—I am, etc.,

17, Monkham Avenue,
Woodford Green, Essex.

L. P. GRAY.

Petition against the Act

SIR.—Continually we are told that Parliament represents the "will of the people." Is this so? I worked during 1946 in a very large panel practice in an industrial area in the Midlands, where I spoke with many patients about the Health Act, and not a single one wanted their doctor to be a State-controlled doctor but a free man. Since then, working in this very rural practice I have found only two patients who appeared (rather half-heartedly, though) to approve of the Act, or, rather, to side with the Government against the doctors.

The Government will be convinced that this Act is against the wishes of the people only if it is shown definite proof that this is so. In order to obtain this proof I suggest that the B.M.A. organizes immediately a petition to be sent to the Prime Minister. If the public are circularized with a clear statement of the doctors' objections there will be at least a 75% majority of the population who will vote against the Act. If paper shortage renders circularization impossible then I suggest that in each district public meetings are arranged by doctors (all the doctors of that district appearing together on the platforms) and the public made aware of our point of view and an opportunity be given to sign the petition. The petition could also be signed in our waiting-rooms.—I am, etc.,

Wool, Dorset.

THOMAS B. L. BRYAN.

Building without Bricks

SIR.—July 5 is not far distant, and I think it is now necessary to drop, once and for all, discussion concerning "doctor-patient relationship," freedom, moral issues, and a hundred other etceteras. What I want to know is, How can we give a better health service if we have no more hospital beds, no more staff for the hospital, no new clinics, and no new equipment etc.? Will the patients be better served after July 5? I do not think so unless we have at our disposal the means to give them better service. We require better tools and we will finish the job, but the mere introduction of a scheme does not make matters one bit better for a patient who cannot get treatment. It is perfectly clear that the introduction of the scheme is premature, as we have not at our disposal the means to carry it out.

Once again, turning to the practitioner who is going to earn his living by working a satisfactory scheme, I want to warn him that payment by capitation fee—i.e., 15s. 2d. to 18s.—

is going to spell financial failure, more especially, if he is a rural practitioner with a small panel who derives the major part of his income from private patients. You may have private patients after July 5, but not for very long. I will close by asking one more question: Is a practitioner's experience in years of practice of no financial value?—I am, etc.,

Callander.

F. C. M. McILWRICK.

A Compromise

SIR,—May I suggest a compromise which might retain our essential freedoms while allowing the Government to meet our demands? (1) Basic salary to be paid to doctors in under-doctored areas only; all doctors to be free to enter public practice anywhere on capitation fees only. (2) The General Medical Council and the new Tribunal to be merged into a new body, an improved G.M.C., which will keep the *Register* as at present. (3) Compensation for goodwill to be paid at the earliest possible date, and sale of house or surgery to be unrestricted; a doctor should be free to sell his own property for what he can get for it, and when health centres are provided there will be no need for an income to buy a surgery. (4) When a doctor retires from the area all his patients should be asked to choose again.

Point 1 above removes the need for direction, helps those who want help, and allows a doctor who so wishes to semi-retire to a quiet area. Point 2 avoids the appeal to the Courts issue. If a doctor is unfit for the public service he is unfit to be on the *Register*, and vice versa. Point 3 would satisfy some of the critics of buying and selling and would encourage doctors to enter existing practices as partners or assistants, chosen by those they are to work with, of course, rather than squat and hope for the best. Point 4 would remove the illusion that patients are bought and sold. I hope that these suggestions will not be dismissed as weak, for I think that we have here the desired freedoms so far as is possible in a 100% service. Our present unyielding attitude can only wreck the whole scheme if persisted in. May I say that I propose to stick to the majority if it remains large enough, but I do feel we could make the next move towards a settlement.—I am, etc.,

Paignton.

J. F. BURDON.

Postpone Until Workable

SIR,—After attending the meeting of the Scottish Representatives on March 10 I left with a feeling of complete insecurity. Practitioners of my age who have been working on their own for about thirty years are asked to accept conditions under an Act of which they disapprove and also to be in complete dependence upon an income fixed by the computation of their share of a certain sum derived from taxation of the population. I cannot understand why the medical profession should be subject to a bond which no business man or body of men would accept for a moment. In these times of fluctuation of the value of money it would be perfectly ridiculous if there were no clause in the Act whereby our emoluments were not adjustable to the variation of the cost of living and increased taxation.

I consider that the Act is, under present conditions, absolutely unworkable and also dishonest. The public is asked (rather *made*) to contribute to a national fund administered by the Socialist Government without being told that the present situation of medical arrangements is becoming gradually more desperate, and that to improve it many years of hard spade work will be necessary. In order to live decently doctors are having gradually to increase their private fees—at least, I am doing it gradually, because no one likes very sudden things. Nursing associations and hospitals are crying for more nurses. Plenty of plans for this and that are being made, but from whence comes the all-important trained specialist staff?

We find all our industry crippled by the exportation of vital transport and other necessities which we badly need ourselves for recovery. Taxation has gone so far as to be increasingly imposed upon necessary medicine. This reduces the chemist and dispensing doctor to the position of unpaid tax-collectors and falsifies their books, while at the same time increasing the cost of treatment. While we all realize the benefit of inoculation, maternity subsidies, and special allowances for the sick, it must be remembered that all these public services demand filling up of *forms* and making out of *claims*. The unfortunate

person who requires a "certificate" cannot help it, but it must be remembered that we doctors have no option either in the matter, have never been asked whether we will or will not do all this extra work, and do not receive any pay for doing it. Yes, we are sick and tired of forms and certificates, and now we are in danger of being all our lives under the necessity of reporting everything we do, and depending for our living upon every person "choosing" us bringing another "form."

Sir, I hope that the British Medical Association will advise the Government to postpone the foundation of a National Health Service *until it can be worked*, and until every member of the public can realize that he or she will derive increased benefits from the proposed taxation involved. In the meantime, I am sure, we shall all work to improve conditions, and expect help from the Government in so doing.—I am, etc.,

Coldingham, Berwickshire.

F. O. TAYLOR.

Parliament Defying the Public?

SIR,—The Minister's suggestion that we are defying Parliament has greatly damaged our cause with the public. Could it not be made clear to them that the boot is really on the other leg? (1) Parliament, realizing that a service manned by reluctant, resentful, and recalcitrant doctors must be inefficient, has decreed that each individual doctor shall choose freely whether he will or will not enter the Service. (2) Four months before the appointed day the Minister was informed that a great majority of the profession, in exercise of this legal right, would choose to stay out. (3) The Government can now ask Parliament to amend the Act so as to make participation (a) compulsory or (b) acceptable. (4) If they do neither it would seem that they hope to stultify the freedom of choice, conferred by Parliament, by fear of financial consequences.

It seems odd that trade unionists should wish to coerce a profession by means which they would be the first to denounce if applied to an industry. Perhaps they do not realize that, since we cannot use the "strike weapon," any doctor entering the Service under the present Act will be absolutely committed to docile acceptance of whatever conditions of service the present or future Ministers may choose to impose. The choice before Mr. Bevan now is between providing an efficient service for the public and trying to score a personal victory for himself at the public expense.—I am, etc.,

Paignton.

ATHELSTANE HILL.

Contracting Out for Patients

SIR,—As one of many "lay" people who have long been fighting the imposition of a centralized health service, I am glad to see that doctors are realizing that, far from having given a "mandate" for it, the public has never been consulted or told the facts. This comes out in a good many letters recently published in your columns, and Dr. W. H. Spoor (Feb. 28, p. 412) renews the question, "Has the patient's right to contract out from the Service been dropped, and, if so, why?" while Mr. Reginald T. Payne (March 13, p. 514) faces the fact that "the interests of the public and the interests of the profession both call for the repeal or abandonment of this Act."

The question of "opting out" for patients has been raised many times in the B.M.A., and, with all due respect to a profession which is doing more than any other to defend the freedom of everyone, it cannot be "dropped" without a betrayal of the patients' interests. It is the essential corollary of the doctor's right to retain the ownership and goodwill of his practice; the one without the other is, in the long run, untenable. Freedom of choice in a matter so closely affecting the private life is a fundamental human right, to deny which is to declare for despotism.

As for the nonsense about doctors "buying and selling patients" when a practice changes hands, it is a good example of the notorious political trick of accusing one's opponents of one's own intentions. Any doctor who accepts "compensation" in connexion with the surrender of patients against their will to the control of the politicians, is "selling" them, and the Government is "buying" them, because they will have had no choice in the matter. When a practice is sold normally, the patients have a perfectly free choice, of course, and can contract out of the new arrangement. Freedom of choice is of the

essence of the whole business, and if the doctors will not concede it to patients, as to themselves, they are isolated and lost.

In conclusion I would add that I write not for myself alone, but for over seven thousand people who have signed a demand for the right to contract out, and a declaration that they will work for the repeal of any legislation which infringes it—I am, etc.,

Bangor, N. Wales.

C. G. DOBBS.

"What do the Doctors Want?"

SIR.—When Hitler was building up for his aggressive war upon the liberties of the world, a part of his technique was to declare himself an essentially reasonable man whose generous intentions were consistently misrepresented by gangs of ruffians, Jews, capitalists, reactionary "old men," and other miscreants. His "patience had been exhausted" in the struggle to instil his reasonableness into an irrational world. "What," he would then demand rhetorically, "do the English—or the Democracies—really want?"

Mr. Bevan has borrowed extensively from this technique, and he and many of his supporters in the House repeatedly ask the same kind of question in the same kind of rhetorical way. What they are trying to do, of course, is to shirk the obvious duty of the plaintiff to prove his case and to throw upon the defendant the onus of proving his innocence. If you want to change the world, it is up to you to show reason why it should be changed; there is no reciprocal obligation upon the world to prove that it does not need changing.

But this significant point is apt to be missed, and Mr. Bevan's rhetoric has had a considerable measure of success both with the Press and the public. At public meetings recently one hears the question asked again and again, What does the B.M.A. want? or What do the doctors want? These questions have a sufficient flavour of reasonableness to be echoed by a large part of the audience. They are posed, not only by the political agitators who haunt such meetings, but by the ordinary thoughtful citizen, whose papers have led him to believe that the doctors are being reactionary and obstinately obstructive to a fine forward movement.

Such questions are difficult to answer from the platform of a public meeting. The Act as it stands is so monstrous that it can easily be torn to pieces; but when that is accomplished the citizen, looking half-consciously to the doctors for a constructive lead, asks not unreasonably what we can put in its stead. I think the real answer is that the doctors, with their immense tradition of public service, know that sweeping revolutionary reforms are usually bad, and that it is best for the world that the art and practice of medicine should be suffered to evolve gradually, stage by stage, under the guidance of those who have given their lives to it and with the minimum of interference from the political State.

Hamstrung as we are by every kind of shortage, there is only one major reform that can usefully be introduced at the present time—the reform repeatedly pressed by the B.M.A. upon successive Governments—that the benefits of National Health Insurance be extended to the dependants of panel patients. That is a crying need. No other revolutionary change should be contemplated until the national finances have been put in order and until the shortages of doctors, nurses, hospital domestics, hospital beds and equipment, houses and health centres, food, and the general amenities of living have been remedied.—I am, etc.,

Orpington, Kent.

A. C. E. BREACH.

Decentralize Power

SIR.—In the letter "Criticism from Holland" (March 6, p. 465) we have in my opinion the most important argument against total State control of doctors. We have the history of Germany, with its total State control of medicine, sterilization of political opponents, etc. Certain services (a few only) could be carried out by the Government—e.g., irrigation schemes, electric power schemes—although even these could be carried out by co-operative effort in natural areas.

State control is clumsy and prevents refinement. Freedom is a necessity for a high standard. Countless laws, regulations, rules, forms, certificates, confuse the mind and spirit. The

"panel yoke" is a true description of panel service and I agree with the writer of the letter of March 6 (p. 469). Let us have more freedom for all. An alternative health service, an extended insurance service, a comprehensive scheme, etc., may be as total as the present one which we have rejected. We need to get away from totalitarianism by decentralization of power.—I am, etc.,

Liverpool.

S. PUGMIRE.

Plato on Free Doctors

SIR.—Plato is generally recognized as one of the greatest thinkers and writers of the world, and it is interesting to recall his comments on the National Health Service although they were written 2,300 years ago. The following passage is taken from *The Laws*: "Did you ever observe that there are two classes of patients in states, slaves and freemen; and the slave-doctors run about and cure the slaves, or wait for them in the dispensaries—practitioners of this sort never talk to their patients individually, or let them talk about their own individual complaints? The slave-doctor prescribes what mere experience suggests, as if he had exact knowledge; and when he has given his orders, like a despot, he rushes off with equal assurance to some other servant who is ill; and so he relieves the master of the house of the care of his invalid slaves. But the other doctor, who is a freeman, attends and practises upon freemen; and he carries his inquiries far back, and goes into the nature of the disorder; he talks with the patient and with his friends, and is at once getting information from the sick man and also instructing him as far as he is able, and he will not prescribe for him until he has first convinced him; at last, when he has brought the patient more and more under persuasive influences and set him on the road to health, he attempts to effect a cure."—I am, etc.,

London, W.8.

H. STEPHEN PASMORE.

Direction under N.H.S.

SIR.—I was glad to see Dr. R. L. Osmaston's letter (Feb. 14, p. 312). The misstatement that he refers to (it is in the leading article "Money and Freedom," Jan. 24, p. 153) is present also in "The Minister's Reply Examined" (Jan. 17, p. 109)—"a few cases of 'under-doctoring'"—and unfortunately this commentary was, I believe, circulated to all practitioners whether readers of the *Journal* or not. It would be good to see a public correction and to hear of an apology to Mr. Bevan. This would help maintain the honour of the B.M.A. and would also help to clear the air.—I am, etc.,

Kendal, Westmorland.

R. B. WILSON.

Mental Health of Students

SIR.—It is interesting that the only special investigation that Dr. John Pemberton (March 13, p. 490) undertook himself was to "assess the mental health" of the students. Presumably he subjected each student to a psychiatric investigation.

He purported to show that 20% of the students were suffering from "minor anxiety states or depression." Depression is a mood disorder which can occur in normal and many abnormal people and is not in itself a diagnosis. If "minor anxiety state" means anything it means psychoneurosis—mild anxiety state. Yet it is quite clear that Dr. Pemberton did not include his group of minor anxiety states under psychoneurosis, which he considered separately. Similarly he set up a separate category, hysteria, which he did not group under psychoneurosis. He did not indicate what he included under psychoneurosis: when he had abstracted anxiety states and hysteria from the group. Two conditions he named—"marked introversion" and "nervous breakdown"—are not accepted psychiatric syndromes.

From all this one is forced to the conclusion that Dr. Pemberton is either using the current psychiatric diagnostic terminology incorrectly or is setting up a new jargon of his own. If the latter is true then he should state clearly and in detail what he means by the terms he uses. If, for instance, "marked introversion" means shy, normal personality and "minor anxiety state" means worried, normal personality, Dr. Pemberton should state so in plain English.

Finally, Sir, it would be interesting to know exactly what investigations Dr. Pemberton did undertake. Did he subject

his students to psychometric tests, personality tests, such as the Rorschach, and questionnaires designed to show abnormal traits, or did he just rely on his psychiatric intuition?—I am, etc.,

Sheffield.

F. J. KELLEHER.

The Problem of Chilblains

SIR,—I am grateful to Dr. William P. McKeever (March 6, p. 475) for drawing attention to a terminological error in my paper (Feb. 21, p. 336). As a result of experiments on the effect of cold on cellular metabolism it was found that cyanosis did not develop in a hand that was immersed in cold water for as long as six minutes when the venous return was stopped by a tourniquet, but rapidly developed on transferring the hand to hot water. The failure to develop cyanosis in the first place was no doubt due to impaired cellular activity, and the development of cyanosis in the second place was due, most probably, to the accumulation of the waste products of cellular metabolism and the consequent increase of reduced haemoglobin.

When the hand was returned to the cold water, with the tourniquet still in position, the cyanosis slowly disappeared and at the end of six minutes had been replaced by a bright red colour. I suggested that the reason for this must have been a dissociation of the carbon-dioxide-haemoglobin relationship (I used the term carboxyhaemoglobin in error).

I am aware that it is stated that cyanosis only appears when 40% of a normal haemoglobin content exists as reduced haemoglobin (Price's *Textbook of the Practice of Medicine*, 1942 p. 339), but on this basis I found it difficult to explain the disappearance of the cyanosis on exposure to cold. It is hard to imagine why cold should decrease the percentage of reduced haemoglobin present, assuming the venous circulation to be stagnant in the area under consideration. That cyanosis may develop from other causes is evident from the fact that sulphonamide medication may cause it; in this case the cyanosis may be due to either methaemoglobin or sulphaemoglobin (*ibid.*, p. 16).

In my paper I tried to avoid being dogmatic regarding the nature of the products of cellular metabolism which cause the inflammatory reaction found in chilblains. I prefer to leave the elucidation of this point to colleagues who have a greater knowledge of biochemistry than I possess.—I am, etc.,

Ilkley, Yorks.

R. JOHN GOURLAY.

The Design of Bed-pans

SIR,—Although the practice of getting patients out of bed soon after operation will to some extent solve the problem of that nerve-shattering act the use of the bed-pan, nevertheless there will still be many patients who are condemned to use it. The writer did at one time design a bedstead in which the bed-pan was placed below the bed and moved into position by a lever rather like the breech-block of a gun. This, however, required a special mattress and draw sheet and was considered by the nursing profession to be too elaborate. It is essential therefore to redesign the bed-pan itself, which should be deeper and more stable. This is an unpleasant subject to discuss in print, but the comfort of our patients must always be our first thought and justifies calling attention to the matter.—I am etc.,

London, W.1.

MALCOLM DONALDSON.

Medical Photography

SIR,—In the concluding section of "Where are we Going?" Dr. Ffrangcon Roberts (March 13, p. 485) says that economics is a dismal science. But surely he is being a little too dismal. He is particularly unfortunate in his choice of clinical [sic] photography as a scapegoat. The present growth of medical photographic departments (the term "clinical" is too restricted to cover their work) has been brought about mainly by a widening realization of the value of visual methods in education. We in this country, with a few noted exceptions, had been lagging behind the United States in our use of visual methods of instruction, but during the late war we were compelled to increase the efficiency of our technique for the simple reason that the need for more rapid training was paramount. It was

shown time and again that the great majority learn better and faster by using their eyes than by using their ears. There is now a widespread desire among teachers to apply this wealth of experience to medical teaching in general, and I feel sure that Dr. Roberts would be the first to support anything which can lighten the almost intolerable burden of the present curriculum. Agreed that the facilities must be intelligently employed, but it is quite certain that the demands of teachers for the products of the department are wellnigh overwhelming, in spite of expansion.

Dr. Roberts does not give the sources of his quotations, but I can recognize them with the exception of the reference to radiology. The first article was widely felt at the time to be "castles in the air" and likely to frighten people away, and several writers said so. I can safely assure him that it does not represent the opinion of the majority of those connected with departments of medical photography. The statement that the staff will need a long and complete training needs no support. If the new qualification set up by the Institute of British Photographers, the examining board for which includes qualified medical men, is to mean anything, its standards must be high. And I have yet to find evidence that an expert in any branch of photography, or for that matter in anything else, can be made overnight. The quotation concerning cramped quarters is torn from its context, and does not suffice to convey the author's meaning. Would Pasteur, Thomson, and Hopkins have been any the worse for good accommodation? Surely this is merely a passion for what the Services used to call "doing it the hard way"?

Finally, I would suggest that the present increase in medical photographic departments in our teaching hospitals does not indicate an urge for expansion; the teaching staff are not all suffering from delusions of grandeur. It indicates only a very reasonable desire for high quality in recorded and instructional material, and a determination that those who provide it shall work under reasonable conditions. There is also every chance that it will lead incidentally to a much-needed improvement in the standard of pictorial and line work submitted to the journals for publication.—I am, etc.,

Manchester, 13.

ROBERT G. W. OLLERENSHAW.

Bone Conduction in Otosclerosis

SIR,—What is most urgently needed to-day in regard to the over-publicized fenestration operation for otosclerosis is a careful, sober, and dispassionate estimation of end-results. After Simson Hall had performed 200 operations he reviewed 118 of them only as suitable for analysis (*Journal*, 1946, 2, 647): as long ago as January, 1945, Lempert, of New York, published a series of 1,000 fenestration cases, and Shambaugh, of Chicago, recorded 930 cases in 1946. And here is Mr. Magauran reporting a case in the *Journal* (March 20, p. 569) six weeks after he had left hospital and only 12 weeks after his first (of two) fenestration operations, and apparently the patient's hearing was never examined with an audiometer before or after operation.

Otologists in general agree that two years (some optimists one year) is the period after which the hearing result from fenestration may be regarded as permanent. Suggit found in 1938 that there was an average fluctuation of 10 decibels in a group of stationary cases of otosclerosis when examined methodically with the audiometer. Psychological deafness is well recognized nowadays, though not many otologists have found as many cases as Canfield (1947) did in his war veteran patients, and there is undoubtedly a marked psychological element in many otosclerotics. As for bone conduction in otosclerosis, most otologists would, I think, agree with Tumarkin (1947) that the myth of increased bone conduction has long been exploded.—I am, etc.,

London, W.1.

R. SCOTT STEVENSON.

Brodie's Abscess

SIR,—In the interests of accuracy it seems desirable to add to the article by Messrs. Stanley Scott and Frank S. Preston (Feb. 14, p. 296) and to Mr. St. J. D. Buxton's letter on this subject (March 6, p. 472). The latter rightly points out that although Brodie saw the first of his cases for the first time in 1824 he did not actually publish anything on the subject in



Fig. 1



Fig. 2

WELL-LEG TRACTION

Using Gypsona P.O.P. Bandages

MARCH 6TH.—Patient aged 66, sustained transtrochanteric fracture of the left femur. (Fig. 1.)

MARCH 6TH.—Fracture reduced and fixed in modification of the well-leg traction technique. Using Gypsona, a snug-fitting plaster casing was applied and anchored to the uninjured leg (Fig. 3). X-ray showed good reduction, which was maintained satisfactorily without need for any change of plaster during the two months in which it was retained.

APRIL 30TH.—X-ray examination showed good position and good callus formation proceeding (Fig. 2).

COMMENT. This method obviates the necessity for pins transfixing the heel or tibia, it enables the patient to sit up in bed, and thus materially reduces the risk of hypostatic pneumonia and pressure sores. It is essential that during fixation of the cross struts the injured leg is pulled, and the well-leg pushed, so that the top of the plaster is firm against the tuber ischii.

These details and illustrations are of an actual case. T. J. Smith & Nephew, Ltd., of Hull, manufacturers of Gypsona P.O.P. and Elastoplast bandages, publish this instance—typical of many—in which their products have been used with success.



Fig. 3



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that year. However, he continues, "I find no record of him reporting this case prior to 1832." In fact, Brodie published this case and one other in a paper, "On Trephining the Tibia," in 1828 (*Lond. med. Gaz.*, 2, 70). These were described more fully, with a third case, in his paper of 1832; all three were repeated, with a further three, in the famous lecture of Nov. 19, 1845, together with a few miscellaneous cases not of this type of abscess.

As for the question of what is and what is not a Brodie's abscess, it seems reasonable to define it as a "chronic circumscribed pyogenic intramedullary abscess of bone." In fact Brodie's cases were all of the tibia, but it seems not unreasonable to use the term for a similar lesion occurring infrequently in other bones. Incidentally, although, of course, he gave no suggestion as to the aetiology, it is almost certain from his descriptions that these were pyogenic abscesses and not tuberculous disease of the bone as is sometimes stated.

It is a pity that Messrs. Scott and Preston give no references whatever to the authorities they quote, not even Brodie himself, whose papers they do not appear to have consulted. (The second and third of these are reprinted in full in *Medical Classics*, 1937-8, 2, 900 and 907). As Mr. Buxton states, it is important to know exactly what an eponymous authority actually said, and this not only to avoid the confusion to which uncertainty leads but also for the intrinsic merit of classical writings, in this case considerable.

I would add that this is not to detract from the clinical part of their paper, which I have no wish to criticize.—I am, etc.,

The London Hospital, E.1.

A. P. WATERSON.

Relief of Pain in Midwifery

SIR,—Dr. Anne M. Toms (March 6, p. 475) maintains that stretching of the perineum in the second stage of labour cannot be painless, her argument being that stretching of the skin of any other part of the body is painful and that the perineum is no less sensitive. She does not take into account the softening of the perineum that occurs during pregnancy and labour.

Stretching of the perineum in the non-pregnant woman is certainly very painful. The perineum is painful and tender for days following the stretching necessary, for example, before a dilatation and curettage is performed. I have had a dilatation and curettage.

I have also, however, had a normal, relaxed labour, after antenatal preparation as advocated by Dr. Grantly Dick Read. I had no drugs, but during the second stage I had absolutely no pain; and at no time then or in the puerperium was the perineum at all tender or painful.—I am, etc.,

Prestbury, Cheshire.

FLORENCE H. AUCKLAND.

National Hearing-aid

SIR,—The Government hearing-aid scheme seems to have been engendered in an emotional fervour on behalf of the deaf and to have swept on to its present state without adequate thought as to the objectives and the most efficacious way of achieving them. It has got entirely out of control and must fail to achieve its objective unless correctives are applied.

It presupposes that there are 400,000 deaf people in this country waiting anxiously for hearing-aids. Three-quarters of them have never seen a hearing-aid and would shrink from using one. Most of those who have inquired will refuse to use the Government aid when they see how bulky and complicated it is. The education of a deaf person to the point where he will use a valve hearing-aid takes a long time, and when knowledgeable he will demand and need only the best, with the right kind of personal attention.

The aid itself will give good results, though not as good as laboratory tests, due to the difficulties of maintaining high standards in mass production. It suffers from the handicap of its conception—a standard aid for all deaf people. There is no standard aid that is satisfactory for all. Success depends on a number of factors of very real importance to individual patients. The Report admits the unreliability of the crystal receiver which will be used with most patients. The alternative disk carphone with headband is ugly and inconvenient. No provision whatsoever is made for bone conduction. This is a striking omission.

The proposed method of supply through hospitals is unsuitable. A deaf person should be freed from the feeling that he is a hospital case. No hospital scheme can give the efficient service and thoughtful attention required to ensure success. The United States Veterans Administration, with long experience of hearing-aid supply, regards the after-fitting attention as more important than the instrument itself.

The New Zealand Government has given our own a lead in the provision they should make. As an alternative to a standard aid a grant of £15 is made towards the purchase of a commercial instrument. Our own Government should do no less. In order to avoid what they call "commercial exploitation" they have evolved a scheme which is costly and valueless. Surely the objective is that the deaf shall be helped to the utmost; as it is, they will be fobbed off with a utility instrument and a totally inadequate service. They will have freedom from payment, but they will lose freedom of choice and freedom of criticism, and they will not get good hearing.—I am, etc.,

London, W.1.

A. EDWIN STEVENS,
Governor, Director, Amplifier Ltd.

SIR.—According to the Medical Research Acoustic Committee's Report No. 261, "Hearing Aids and Audiometers," prototypes of the national hearing-aid now being manufactured were tested by 27 deafened persons, and Lord Walkden tells us in the House of Lords that these tests were each of three hours' duration. The following facts should be taken into account when considering the results of the Medical Research Council's tests.

(1) Post-war models of British commercial hearing-aids were not included in the Medical Research Council Acoustic Committee tests.

(2) Reputable British hearing-aid manufacturers are prepared to allow any of the deafened public a full week's unrestricted trial of their products under ordinary conditions of use before purchase need be considered, and during the trial the instrument can be compared with any other British or American aid available. The results of these tests will be different from those of three hours.

(3) Production models of British commercial post-war hearing-aids will without doubt compare favourably in efficiency, compactness, and appearance with production models of the national aid when available.

(4) The deafened public are not likely to remain satisfied for long with the Government free aid which has been made obsolete by British commercial hearing-aid manufacturers' latest models.

—I am, etc.,

London, W.C.2

H. C. GEE,
Secretary, the H.A.M.A. and
Society of Aural Technicians

Calories and Appetite

SIR.—The many controversial statements which have recently been made both in the medical press and Parliament have, to my surprise, considered the nutritional value of food solely in terms of calories (and occasionally vitamins). No mention is ever made of the quality of the food eaten.

Statistics completely ignore this aspect and naturally pay no attention whatever to whether the food is appetizing or not—it usually is not! Consequently much of the food statistically consumed is never eaten at all. It is ludicrous to make no distinction between good fresh food, well cooked, and stale unappetizing meals badly cooked. They may weigh the same (and calories are based entirely on weight), but they are not of the same use to us.

There is plenty of food in Britain, but mostly of inferior quality and far from tempting. That we survive is a tribute to our digestion.—I am, etc.,

London, W.2

A. M. GREEN.

Westmoreland Lodge

SIR.—Your readers will remember that in the *Journal* of Jan. 18, 1947 (p. 101), you kindly gave an account of a new venture of the Royal Medical Benevolent Fund—namely, the provision of a house for a number of our old ladies. I shall be grateful if you will now allow me to report the opening of Westmoreland Lodge.

In spite of the usual difficulties with licences, supply of builders' materials, and labour this charming house standing in its own grounds near Wimbledon Common has been completely renovated and adapted to the needs of twelve of our beneficiaries. Each lady has her own bed-sitting room equipped

with either gas or electric fires and a small set-up for minor cooking, while on each floor there is generous provision of all necessary facilities. In addition there is a lovely room on the ground floor in part dining-room and in part sitting-room, with a sun-lounge overlooking the garden.

Fifteen years ago the late Dr. A. Holdsworth Davies bequeathed to the Fund his house at Bournemouth and the whole of the estate. He expressed the wish that his house should be used as a home for elderly people, but wisely left the Fund free to use its own judgment and free of restraint. The late Sir d'Arcy Power and I visited the house and realized it was quite unsuitable for this purpose. Accordingly the house was sold and the Holdsworth Davies estate has been administered as a separate entity in our accounts and the income used as nearly as possible to help those whom Dr. Davies had had specially in mind in the hope that one day his wish might be fulfilled.

To-day something perhaps even better than he visualized is a vital concern, and I have delayed writing until a few weeks have elapsed and we knew that our ladies were happily settled in. Two other friends have helped materially in furnishing and equipping Westmoreland Lodge. Under the will of Miss L. H. Wiltshire the Fund received a most valuable gift of furniture in addition to a substantial sum of money. Mrs. Parry has also helped us with a most generous donation in memory of her late husband. These gifts have enabled us to furnish the communal dining- and sitting-room and to provide other attractions which would have been difficult without them.

I think I may claim that this venture, the merits of which are so self-evident, required considerable courage on the part of the committee of management in embarking upon so ambitious a project in such difficult days. We are amply repaid by the sense of security and comfort and happiness of our residents. Their feelings are summed up in the words of one of them thus: "I do like opening the front door of this house because I know I am coming in to such a happy atmosphere." We are also repaid by the approval and encouragement given to us by so many members of the profession.

This letter is a progress report, but the success of Westmoreland Lodge leads us on to other thoughts. Might we not think of a similar house for men, and should we also provide for the sick and bedridden? To a certain extent the answers to these questions depend upon the reaction of the profession to our work. This is not a begging letter, but in the past twenty years the Fund has made enormous strides and Westmoreland Lodge is a new and important venture. The committee would like to know that the profession whole-heartedly approves the work we are doing as trustees of their benevolence.—I am, etc.,

R. M. HANFIELD-JONES,
Chairman,
Committee of Management,
Royal Medical Benevolent Fund.

1, Balliol House,
Manor Fields,
Putney, London, S.W. 15.

POINTS FROM LETTERS

Resign on April 1

Dr. G. H. URQUHART (St. Annes-on-the-Sea, Lancs.) writes: The medical profession's idea of a sound national health service is that the health of the nation should be the main consideration. This could quite readily be accomplished through "grants in aid" by the Treasury to all hospitals and universities. The medical profession in other respects can best manage its own complex affairs without political interference. In order to achieve our aims we shall have to fight, and in order to fight, funds are necessary. We have some, but not enough; so in order to conserve and reinforce these the general practitioners should resign *en masse* from the N.H.I. on April 1 instead of being pushed out on July 5. Let them then transact treatment for patients on a cash basis only (no accounts) that will keep the practitioners in funds meanwhile. On and after April 1 let there be no issue of any kind of certificates other than birth, infectious diseases, and death. The B.M.A. fighting fund could thus be utilized wholly for the purpose of supporting those who have not the above advantages at their disposal but yet must live. . . .

Prescribe Quickly

Dr. W. H. TATTERSALL (Reading) writes: The 1946 National Health Act—not yet eighteen months old—seems to be threatened with what might be called "infantile paralysis." At any rate 75% of our profession agree about it—a degree of unanimity rare among doctors. It hardly matters now whether this condition is the result of a birth injury following a long labour or whether the midwife

should have summoned medical aid to the confinement. No, the problem now is to prescribe, and *prescribe quickly*, such treatment as is necessary to enable this Act to recover from its palsies and find a respected place on the statute book. . . .

Design of N.H.S. Cards

Dr. G. B. BOWATER (Birmingham) writes: If under the N.H.S. patients are still to possess medical cards, I would suggest that they be modified to include a space in which the surgery hours and half-day of the doctor could be entered.

Doctors' Wives

Mrs. W. GORDON (Poole) writes: In view of the recent comments in the *Journal* regarding the unpaid work of doctors' wives after July 5, would any useful purpose be served if we (the wives) called meetings either privately or through the auspices of the local Branches of the B.M.A. throughout the country? We could then air our views, grievances, and suggestions, and present our case to the Minister, and so ensure that he realizes that if we down tools (the telephone) he must either provide our husbands with competent petrolonists or secretaries or pay us for doing the job.

Petrol Rationing

Dr. H. S. GRIFFITH (Wolverhampton) writes: For thirty years I have been giving certificates which have always been accepted without hesitation, but when it is a matter of my own petrol requirements, what a fall is there, my countrymen! No longer am I the omniscient sage whose word can be trusted, as it is regarding your wife's visceroptosis, your invalid aunt's fuel requirements, or as to whether your grandpa is a genuine tobacco addict. No, I think my application must be included in the "obvious twisters" batch and given to a clerk with the instruction to "dock 'em 50%." Anyway, that is the result when I apply (and reapply) for three-quarters of the amount allowed to my predecessor in this practice.

Fugue after Mepacrine Administration

A physician writes from Pakistan: The account by Dr. D. R. Macdonald (Dec. 13, 1947, p. 959) of two cases of fugue after mepacrine prompts me to cite my personal experience with the drug. Towards the end of May last I had a 4-day course of mepacrine, 4 tablets a day. This finished on May 30. On the afternoon of the following day, as I was writing a couple of letters, I suddenly felt that I could not easily write a full sentence; I had to think out each word separately. A few minutes later restlessness with mental and physical overactivity followed. For instance a chair slightly out of line with others, a book placed not in a straight line on the table, and such other very minor things began to irritate me. I perceived that something was going to happen. I called in my son, a medical student, to warn him of the possibility of mepacrine psychosis. In the course of a few minutes the condition became distinctly worse. I was agitated and apprehensive. I lost reserve. The speech was at first hurried, but soon I could not find suitable words. However, I continued to talk in a non-stop manner. Old memories came up to the forefront, and ideas ran across the mind with great speed. However, none of the higher faculties was affected. The acuteness lasted about three hours. By then I felt exhausted and literally sank upon my feet. Shortly thereafter, suddenly, I felt that the worst was over. I took rather heavy doses of sedatives and hypnotics. Next morning I woke up exhausted, but otherwise practically normal. For a week thereafter I was mentally below my own normal, though I carried on my usual medical practice. For instance, while driving my car on a familiar road with turns I would not realize which turn would be the next until I actually reached it, when I would take the correct turning.

My age is about 56. Otherwise I have a very good personal and family history. I had never taken mepacrine before, though I had prescribed it thousands of times with no mishap, except once when a short psychosis occurred in a rather unstable lady.

Sweet Urine Containers

Dr. W. E. McCULLOCH (Kingston, Jamaica) writes: This case illustrates the necessity of being careful about the bottles that are used to send samples of urine to the laboratory. The early morning urine of a patient of mine was ++++ for glucose on two successive days, and this was totally unexpected. My laboratory technician then noticed that the stoppers of the bottles were labelled "honey." A third morning sample sent in a soda-water bottle was negative and the urine has continued to be free from sugar.

The husband assured me that all bottles had been boiled before use, and he is a careful man. A third honey bottle was obtained. It had also been boiled and was dry. Washings in distilled water were negative for glucose. The cardboard lining to the stopper was strongly positive for glucose. The astonishing thing is that these honey bottles can be dated. They were received from England as samples over ten years ago, and were washed and put away as used. The honey absorbed in the cardboard washers has been there for over ten years; no crystallized sugar was visible, yet the glucose reaction was very strong.

Obituary

E. WAYMOUTH REID, Sc.D., M.B., F.R.S.

Prof. E. Waymouth Reid, who occupied the chair of physiology at University College, Dundee, for forty-six years, died on March 10 at his home in Edinburgh, where he had been living since his retirement. He was 85, and although he had been confined to bed for several years he had been in his usual state of mental alertness until three days before his death.

Edward Waymouth Reid was born in Canterbury, where his father was in practice as a surgeon. He went from Sutton Valence Grammar School to Cambridge with an open classical scholarship in 1879. He took a first-class in human anatomy and physiology in the natural sciences tripos in 1883, and after a period at St. Bartholomew's Hospital he graduated M.B. He was assistant electrician at St. Bartholomew's Hospital in 1885, and subsequently demonstrator of physiology in St. Mary's Hospital Medical School. He became assistant lecturer on physiology at St. Mary's two years later and was appointed professor of physiology at University College, Dundee, in 1889. He was then only 27, and he taught generation after generation of medical students at Dundee until his retirement in 1935. At the relatively early age of 36 Waymouth Reid was elected a Fellow of the Royal Society in recognition of the contributions he had already made to physiology, and six years later he was made an honorary Sc.D. by the University of Cambridge.

Prof. Reid was one of the first workers in Great Britain to suffer from x-ray burns. Only a few months after Roentgen's discovery he constructed an x-ray apparatus and in the course of his experiments received a superficial skin injury which he thought might be due to exposure to the rays. To settle this point he deliberately exposed himself for a longer period and received a burn of which he carried the scar for the rest of his life. During his tenure of the chair some 60 papers were published from the Physiology Laboratory of University College, Dundee. His work on serum absorption was important, and so was his preparation of crystalline haemoglobin. He was the first Dean of the Faculty of Medicine in the University of St. Andrews and did much valuable work in connexion with the early organization of a laboratory service for the use of general practitioners in the Counties of Fife, Forfar, and Perth, a service which was later taken over by the University Court. The work he had done for University College and St. Andrews University was recognized soon after his retirement by the conferment of the degree of LL.D.

Prof. Reid had been a member of the British Medical Association for just under sixty years. He was vice-president of the Section of Physiology at the Annual Meeting in 1898, and he was president of the Dundee Branch in 1903-4. He was for a time one of the editors of the *Journal of Physiology*, and he had acted as examiner in physiology for the Royal College of Surgeons of England, the University of Cambridge, and the Royal College of Veterinary Surgeons. Waymouth Reid was popular with his students and was an enlightened and enlightening teacher. His recreations included photography and horticulture, and he had a keen sense of humour. His wife died many years ago, and he is survived by a son and three daughters.

H. W. GARDNER, M.B.E., M.D., F.R.C.P.

Dr. Henry Willoughby Gardner died peacefully at his home in Church Stretton on Feb. 27, at the age of 86. He was educated at Charterhouse and St. Bartholomew's Hospital, qualified in 1885, graduated M.B. in the following year, and proceeded M.D. in 1888. He was elected F.R.C.P. in 1917. He was a house-physician and resident obstetrical assistant at St. Bartholomew's Hospital before taking up an appointment as a Government medical officer in New South Wales.

Returning to England, he joined Dr. Withers in general practice in Shrewsbury. After some years, however, he decided to do consulting work only and found his real vocation as honorary physician to the Royal Shropshire Infirmary, the Shropshire Orthopaedic Hospital, and the County Sanatorium. Interested in all branches of medicine, he was always receptive to new ideas and recent advances. Dr. Gardner had been a member of the British Medical Association since 1892,

and was a president of the Shropshire and Mid-Wales Branch in 1913 and 1919, and a member of the Branch Council in 1901, and from 1905 to 1917. When the Association met at Birmingham in 1911 he was vice-president of the Section of Therapeutics, and he had previously represented his constituency at the Annual Representative Meetings at Leicester in 1905 and at London in 1906. His other interests were many, and included gardening, golf, and fly-fishing, at which latter he was quite an adept. He had the misfortune to lose his wife and only son some years ago. As evidence of his great and abiding interest in the Royal Shropshire Infirmary he has left his house at Church Stretton to that institution to be used as a rest home for the nurses. He was much interested in the present phase of medical politics, and, it might be added, was considerably perturbed at the outlook. In recognition of his work during the 1914-18 war he was made a member of the Order of the British Empire, but he will remain long in our minds as a man of charming personality who did his life's work well and whose main characteristics were honesty of purpose and a well-balanced mind.—J.A.1.

R. F. YOUNG, M.C., M.B., B.Chir., F.R.F.P.S.

Mr. Roy Frew Young, one of the best-known surgeons in Glasgow, died on March 12. Mr. Young was educated at Glasgow Academy and Sedburgh School, and at the Universities of Cambridge and Glasgow. After graduating B.A. at Cambridge and M.B., Ch.B. at Glasgow in 1909 he was appointed extra dispensary surgeon at Glasgow Western Infirmary, becoming in turn dispensary surgeon, assistant surgeon, and visiting surgeon. On his retirement in 1944 he was appointed honorary consulting surgeon. He was also a lecturer in clinical surgery at the University of Glasgow; consulting surgeon to the Vale of Leven Hospital; and he was associated with the Bellahouston Hospital and with the Royal Alexandra Infirmary at Paisley. In the 1914-18 war he served with the R.A.M.C. as a surgical specialist with No. 14 General Hospital in France. He was awarded the M.C. and twice mentioned in dispatches. As well as being the convener of the medical committee of the Glasgow Western Infirmary, he sat on the board of managers as representative of the Royal Faculty of Physicians and Surgeons of Glasgow, of which he became president in 1940. Last year the University of Glasgow conferred on him the honorary degree of LL.D., and it was barely a month ago that he retired from the board of managers of the Infirmary on the grounds of ill-health.

Roy Young was a good athlete in his younger days. He was president of the rugby football club at Glasgow University, and subsequently did much to encourage student athletics. He was a good teacher and a good surgeon, always telling his students that the operation was only a part, and perhaps not the most important part, of the surgeon's work. He insisted on the most careful pre-operative investigation and always devoted a great deal of attention to after-care. His counsel was widely sought, and he was ever ready to give advice on personal problems or on more general matters. A man of strong convictions, any cause he espoused was advocated with singleness of purpose and enthusiasm tempered by sound judgment. His personal charm and his lively sense of humour were potent factors in gaining acceptance for his views.

C. C. HEYWOOD, M.A., M.B., M.R.C.P.

Dr. Charles Christopher Heywood, who died at his home in Alderley Edge on March 10 at the age of 82, had been associated for 43 years with the Manchester Children's Hospital, Pendlebury, and he was also for many years consultant physician to the Salford Royal Hospital.

Charles Christopher Heywood, a son of the Rev. H. R. Heywood, vicar of Swinton, was educated at Harrow and Trinity College, Cambridge. He graduated M.B., B.Ch. in 1890 and took the conjoint diploma in the same year, and the M.R.C.P. in 1904. He was house-surgeon at the Salford Royal Hospital and later clinical assistant at St. Thomas's Hospital. Dr. Heywood then returned to Manchester as medical officer to the Manchester Children's Hospital, and at the same time acted as lecturer in physiology for the Salford Technical Institute. Later he became the senior physician at the Manchester Children's Hospital, and, apart from his work there and on the staff of the Salford Royal Hospital, he was

consulting physician to the Manchester Warehousemen and Clerks School, Cheadle Hulme, and examiner in physiology and hygiene to the Union of Lancashire and Cheshire Institutes. He was also consulting physician to Chetham's Hospital and to the Alderley Edge Cottage Hospital. He was for nine years an officer of the 2nd V.B. Manchester Regiment and the 6th Batt. Manchester Regiment.

Dr. Heywood's skill as a paediatrician, his sense of humour, and his kindness soon made him well known and well liked. He contributed a number of papers to the medical journals on the diagnosis of early rickets; on serous pleural effusions in children; on Calmette's tuberculin reaction; and on similar subjects.

Dr. WADHAM BRUCE WINCKWORTH died on Feb. 20 at the age of 79. At the time of his retirement ten years ago Dr. Winckworth was the senior practitioner in Taunton, where he had practised for more than forty years. He was born in London, and educated at Westminster School and at the Westminster Hospital. He qualified M.R.C.S., L.R.C.P. in 1893, and was a house-physician at the Westminster Hospital before settling in Taunton in 1895. He began practice with the late Dr. Samuel Farrant, and after some years set up his own practice, in which he remained until he was joined by his son, Dr. R. F. Winckworth, in 1935. His son is now in orthopaedic practice, and Dr. Fleming and Dr. Knowles have for many years been continuing the practice which the elder Dr. Winckworth founded. From 1923-33 Dr. Winckworth was on the honorary staff of the Taunton and Somerset Hospital, and after his retirement he continued to serve as chairman of its nursing committee. He was chairman of the West Somerset Division of the British Medical Association in 1932-3, and he was also an active member of the St. John Ambulance Association, for many years coaching the Taunton G.W.R. teams. He leaves a widow, two sons, and three daughters.

Dr. JOSEPH JOHN CLARKE, a justice of the peace for Essex and formerly medical officer of health for Walthamstow, died at his home in Hove on Feb. 24 at the age of 86. Dr. Clarke was previously in private practice in Walthamstow in partnership with his brother. He was educated at Queen's College, Cork, and the Middlesex Hospital, qualifying in 1894 and obtaining the diploma in public health in 1898. He was appointed part-time medical officer of health to the Walthamstow urban district council in 1898, and whole-time medical officer of health in 1906, retiring on pension in 1930. During this period Dr. Clarke built up a public health service in Walthamstow which compared more than favourably with that in any comparable area. In particular he was largely responsible for the erection of a fine infectious disease hospital, and this included the first cubicle block ever built in this country. The idea followed a visit to Paris, and the plan of this cubicle block was for many years a feature in the public health textbooks. This block is still actively functioning and has been in every way satisfactory for more than forty years. Dr. Clarke also sponsored an up-to-date welfare centre in Markhouse Road and the provision of specialist facilities in connexion with school health services. He will be remembered by his colleagues and friends for his charming Irish personality and his readiness to help in all cases of misfortune. Recently his period of retirement had unfortunately been marred by ill-health.—A. T. W. P.

Dr. PERCY LUND POLLARD died on Feb. 25 at the age of 66 after a short illness. Dr. Pollard was educated at Manchester, and graduated M.B., Ch.B. in 1906. He went to the Royal Halifax Infirmary as a house-surgeon and remained there until 1910, when he went into general practice. It was during the years as a house-surgeon that he became interested in surgery, and the opportunity to practise came with the 1914-18 war, when he joined the R.A.M.C. and did excellent work on the surgical side, for which he was mentioned in despatches. In 1919 he was appointed assistant honorary surgeon at the Royal Halifax Infirmary. His chief interests lay in general surgery and in gynaecology. Though running a busy general practice he found time to spend hours a day at the Infirmary. He was twice chairman of the Halifax Division of the British Medical Association, and was president of the Yorkshire Branch in 1928-9. He was senior surgeon at the Infirmary by 1939, and he became medical superintendent in charge of air-raid precautions and of E.M.S. cases, and did much valuable work. In 1943 he had to undergo a major operation, and but for his indomitable spirit would never have returned to duty. Early in 1947 he retired from the active surgical staff and became a consultant surgeon. On the occasion of his retirement the

Board of Governors and the medical staff presented him with a silver salver to mark many years of good, faithful service. Unfortunately P.L.P., as he was known to his friends, was not to enjoy a long retirement, for after a short illness he died. His many friends and colleagues extend their sympathies to his widow and two sons.

Medical Notes in Parliament

National Health Service

On March 16 Mr. BEVAN gave an assurance that names on existing panel lists would be automatically transferred to the list of their present doctor if he entered the National Health Service unless either the doctor or the patient objected.

On the same day Mr. BEVAN assured Mr. PARKIN that doctors joining the National Health Service in July who had not reached their 56th birthday would be eligible to complete ten years' service and qualify for superannuation and retirement allowance.

Mr. BEVAN stated on March 18 that provision was made in the estimates for the current financial year, 1947-8, for 350 extra staff to deal with additional work resulting from the National Health Service Act. For the next financial year, 1948-9, it had been found necessary to provide for a further 320. Nearly half of these additional 670 were required as a result of the provisions in the Act for superannuation benefits for those taking part in the different branches of the new Health Service. Of the remainder, most are required for other financial work in connexion with the Act. He added that the total staff to be employed at the headquarters of the fourteen Regional Hospital Boards at the date when the Act came into force would be about 600. Of these a large proportion would not be extra staff but would have been transferred to the service of the Boards from local authorities and other bodies.

Sir WAVELL WAKEFIELD asked on March 18 if Mr. Bevan proposed under the National Health Scheme that medical practitioners should be entitled to a five-day week, with extra pay for overtime, Sunday work, and night work, together with danger money when attending cases of infectious disease.

Mr. BEVAN replied that the terms of service for general practitioners under the National Health Service were set out in the National Health Service (General Medical and Pharmaceutical Services) Regulations, 1948, which were now before Parliament.

Nutritional Surveys in Germany

Mr. MAYHEW, for the Foreign Office, stated on March 15 that late last autumn members of the Combined Nutritional Committee reported that the nutrition of the urban population in the Western Zones of Germany had improved during the previous six months. Famine oedema was very rare, and adult body weights had not declined. These findings had been confirmed by a survey carried out by representatives of the Medical Research Council in November.

Food Facts

Dr. SUMMERSKILL circulated on March 15 the following statistics of the daily intake of foods in the United Kingdom per head during the first half of 1947:

Protein—		
animal	.. .. .	45.2 g.
vegetable	.. .. .	43.0 g.
total	.. .. .	88.2 g.
Fat (from all sources)	.. .. .	108.3 g.
Visible fat (butter, margarine, lard, etc., fat content)	.. .. .	42.1 g.
Total energy value	.. .. .	2,870 calories.

Purchase Tax

Sir STAFFORD CRIPPS estimated on March 10 that receipts of purchase tax for medicines, drugs, disinfectants, toothbrushes, and toothpaste were in the region of £15,000,000 a year. He promised to reconsider, before the National Health Service Act was brought into force, the taxation of such goods.

Theft of Dangerous Drugs.—The records of the Metropolitan Police show that 4 losses and 60 thefts of dangerous drugs from doctors were reported in 1947.

Streptomycin.—Production of streptomycin in the United Kingdom on a small scale will start shortly, but imports are still necessary. Stocks on Sept. 1, 1947, were 25 kg. and on March 1, 36 kg.

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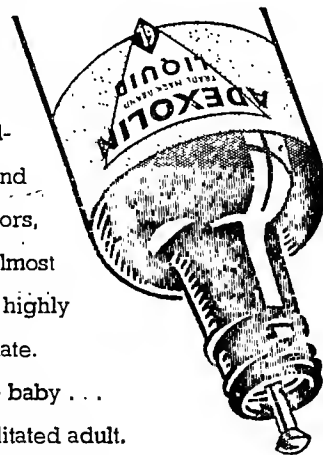
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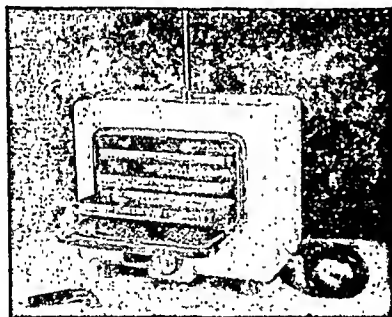
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No. 10

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended March 6.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are: or: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	42	4	37	—	6	86	7	33	5	8
Deaths ..	—	2	—	—	—	—	2	—	—	—
Diphtheria ..	200	21	60	8	2	182	20	34	18	12
Deaths ..	5	1	—	—	—	1	1	—	—	—
Dysentery ..	184	22	37	—	—	69	11	38	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica, acute ..	—	—	1	—	—	—	—	1	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Erysipelas ..	—	1	55	13	5	—	—	46	13	4
Deaths ..	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years ..	—	—	—	—	—	—	—	—	—	—
Deaths ..	49	3	7	20	1	89	9	21	29	2
Measles* ..	8,788	1303	775	78	34	12,137	574	246	21	168
Deaths† ..	—	—	4	—	—	37	6	1	2	2
Ophthalmia neonatorum ..	67	6	6	1	1	81	1	15	1	1
Deaths ..	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever ..	2	1	6(B)	—	1(B)	4	—	1(B)	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenza ..	794	45	10	8	3	958	81	18	28	8
Deaths (from influenza)‡ ..	27	2	1	1	—	92	17	4	10	2
Pneumonia, primary ..	316	60	277	22	9	—	102	303	55	17
Deaths ..	—	—	15	—	—	—	—	—	—	—
Polio-encephalitis, acute ..	1	—	—	—	—	—	1	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Poliomyelitis, acute ..	22	2	2	2	—	10	1	2	2	—
Deaths§ ..	6	—	—	—	—	—	—	—	—	—
Puerperal fever ..	—	2	12	—	—	—	1	10	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia|| ..	94	6	13	—	—	128	5	11	—	2
Deaths ..	—	—	—	—	—	—	—	—	—	—
Relapsing fever ..	—	—	—	—	—	—	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Scarlet fever ..	2,069	136	347	48	60	1,217	79	199	21	37
Deaths† ..	—	—	—	—	—	1	—	1	—	—
Smallpox ..	—	—	—	—	—	7	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Typhoid fever ..	5	2	—	—	—	4	—	1	1	—
Deaths ..	1	—	—	—	—	—	—	—	—	—
Typhus fever ..	—	—	—	—	—	—	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Whooping-cough* ..	3,067	217	44	63	8	2,461	262	369	109	29
Deaths ..	10	1	—	1	—	15	1	9	3	2
Deaths (0-1 year) ..	—	—	—	—	—	—	—	—	—	—
Infant mortality rate (per 1,000 live births) ..	430	49	45	27	8	636	79	78	64	17
Deaths (excluding stillbirths) ..	5,914	956	668	221	139	7,755	1258	931	195	—
Annual death rate (per 1,000 persons living) ..	—	—	13.5	13.8	—	—	—	19.4	26.2	—
Live births ..	8,369	1317	944	404	266	9,650	1452	1231	274	—
Annual rate per 1,000 persons living ..	—	—	19.1	25.3	—	—	—	24.8	31.1	—
Stillbirths ..	231	37	28	—	—	290	33	49	—	—
Rate per 1,000 total births (including stillborn) ..	—	—	29	—	—	—	—	38	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

|| Includes puerperal fever for England and Wales and Eire.

Discussion of Table

In England and Wales infectious diseases were more prevalent during the week, and increases in incidence were recorded for measles 1,476, whooping-cough 436, scarlet fever 359, acute pneumonia 62, dysentery 39, and cerebrospinal fever 11.

The largest increases in the notifications of measles were London 371, Middlesex 259, Lincolnshire 181, Lancashire 161, Warwickshire 141, Surrey 130, and Northamptonshire 128. An increase in the incidence of whooping-cough occurred throughout the country; the largest rises were Essex 63 and London 59.

Notifications of scarlet fever increased in every region except the south-western and eastern counties; the chief increases were: London 55, Glamorganshire 44, Middlesex 22, and Warwickshire 32. A small rise in the incidence of acute pneumonia was recorded in most areas, but there were no large variations in the local trends. The chief features of the returns for diphtheria were increases in Lancashire 10 and London 8.

The largest centres of dysentery were Yorkshire West Riding 55 (Sheffield C.B. 25), Lancashire 47 (Preston R.D. 11), and London 22. One-quarter of all the cases of cerebrospinal fever were notified in two cities—Liverpool C.B. 7 and Birmingham C.B. 5. The only counties with more than one notification of acute poliomyelitis were Warwickshire 4 (all from Birmingham C.B.), Middlesex 4, Lancashire 3, London 2, and Surrey 2.

In Scotland there were increases in the incidence of measles 43, diphtheria 22, and cerebrospinal fever 22, and decreases in the notifications of dysentery 28 and scarlet fever 10. In Glasgow the notifications of cerebrospinal fever rose from 10 to 27. The rise in the incidence of diphtheria occurred in the western area. Only 6 cases of dysentery were notified in Edinburgh compared with 23 in the preceding week.

In Eire the chief features of the returns were increases in scarlet fever 22 and whooping-cough 26 and a decrease of 58 in the notifications of measles. A small increase in the return for scarlet fever and for whooping-cough occurred in most areas.

In Northern Ireland there was an increase of 14 in the notifications of scarlet fever. This disease is at the highest level since the beginning of November.

Week Ending March 13

The notifications of infectious diseases for England and Wales during the week included: scarlet fever 2,027, whooping-cough 3,418, diphtheria 173, measles 8,449, acute pneumonia 933, cerebrospinal fever 55, acute poliomyelitis 20, dysentery 213, paratyphoid 3, and typhoid 4.

Medical News

London Consultants Liaison Committee

The first formal meeting of the London Consultants Liaison Committee was held on March 16 at B.M.A. House. Representatives were present from the London teaching hospitals, the Association of Non-teaching Hospitals, the Association of Municipal Specialists, the B.M.A. Consultants and Specialists Standing Committee, and the Marylebone Division of the B.M.A. It was proposed, seconded, and unanimously agreed that such a committee should be formed, and that the terms of reference laid down by the B.M.A. Council's letter of Feb. 20 be adopted.

To establish and maintain liaison between the consultants and specialist staffs of the London hospitals and the B.M.A. in order to unify and consolidate consultant and specialist opinion on the National Health Service Act, 1946, within the policy of the profession as a whole.

The following officers were elected: Chairman, Lord Horder; Vice-Chairman, Sir Reginald Watson-Jones; Hon. Secretary, Mr. Eric Steeler.

The following resolution was proposed and passed unanimously:

That the Committee considers it desirable to investigate the present Act with respect to the privileges and restrictions of the consultant and specialist section of the profession, and that the best possible legal opinion be obtained to that end.

U.C.H. Scholarships

University College Hospital Medical School is offering two Goldsmid Entrance Scholarships entitling the holder to the final course of medical study, one Goldsmid Entrance Exhibition entitling the holder to a reduction in fees of £126 for the final course of medical study, and the Filmer Entrance Scholarship in Pathology entitling the holder to a reduction in fees of £123 for the final course of medical study. Further scholarships, medals, and prizes to the value of £1,000 are awarded annually. Full particulars may be obtained from the Vice-Dean.

Cost of N.H.S.

The estimated cost in the first nine months of the National Health Service is £149,675,000, according to the Civil Estimates published on March 20. The hospital, specialist, and ancillary services in England, Scotland, and Wales will cost £120,606,500; services provided by the local authorities, £4,050,000; general medical and dental services, pharmaceutical and supplementary ophthalmic services, £56,072,500. Compensation for loss of right to sell practices is estimated to be £4,800,000, and central purchase of equipment to be £7,505,000.

Exhibition of Medical Photography

The Medical Group of the Royal Photographic Society of Great Britain has arranged an exhibition of medical photography to be held at the Royal Society of Medicine (1, Wimpole Street, London, W.) from May 24 to 29. Entries must be submitted by April 24. Further particulars may be obtained from the honorary secretary of the group at 16, Prince's Gate, London, S.W.7.

Whitley Council Machinery

It is proposed to set up nine functional councils and a general council, as well as a Scottish council for special conditions in Scotland. The proposed functional councils are as follows: medical, dental, pharmaceutical, optical, two for professional and technical staffs, one each for nurses and midwives, administrative and clerical, and ancillary staffs. They would deal with questions of remuneration and the conditions of employment of people within the functional group concerned. The general council would deal with problems affecting more than one functional group.

Medical Certification

A preliminary draft of medical certification arrangements under the National Insurance Act has been issued and submitted to the National Insurance Advisory Committee. The regulations provide for five incapacity certificates: (1) A first certificate, to be issued when the patient falls ill. (2) An intermediate certificate, to be issued within seven days of the first certificate. (3) A special intermediate certificate, to be issued after 28 days, if the incapacity is likely to continue for a long period. (4) An intermediate convalescent certificate, to be issued after 28 days when the patient will remain incapable of work until after a period of absence from home during convalescence. (5) A final certificate, to be issued when the patient is again fit for work. Two certificates to be given by a doctor or midwife are also described, noting details of when the woman may expect to be confined and when she was delivered.

Scottish Hospitals Excepted from the N.H.S.

The Department of Health for Scotland has notified Roman Catholic hospitals and institutions that they will not be required in the N.H.S. Contractual arrangements will be made between Regional Hospital Boards and institutions.

Public Opinion on the N.H.S.

In a "Gallup Poll" conducted by the *News Chronicle* to test public opinion, 61% considered that the new Health Service "is a good thing." Sixty-four per cent of those questioned said they had some idea what the dispute is about between Mr. Bevan and the B.M.A., and in reply to the question, "In the main would you say that your sympathy is with the doctors or against the doctors?" 30 of these said "with," 28 said "against," and 6 said "don't know."

Czech Medical Trade Union

Since the Communist coup in Czechoslovakia, the Czechoslovak Medical Association has been declared a trade union, according to *The Times* of March 8.

COMING EVENTS**Chesterfield Medal Examination**

The Chesterfield Medal examination in dermatology will be held at St. John's Hospital for Diseases of the Skin, 5, Lisle Street, London, W.C., on Wednesday and Thursday, April 7 and 8, and Friday, April 16. The fee for candidates is £3 3s.

Medical Exhibition

The Southern Counties Medical Exhibition will be held at the Polygon Hotel, Southampton, on April 20 to 22. A number of well-known drug manufacturers are exhibiting, and some medical films will be shown each day in the afternoon.

Aslib

A study group on special librarianship will be held at the Library Association, Chaucer House, Maltraverse Place, London, W.C.1, on April 13-17. Applications should be sent as soon as possible to Aslib, 52, Bloomsbury Street, London, W.C.1.

SOCIETIES AND LECTURES**Wednesday**

INSTITUTE OF LARYNGOLOGY AND OTOTOLOGY, 330, Gray's Inn Road, London, W.C.—March 31, 11.30 a.m. "Plastic Surgery," by Prof. T. Pomfret Kilner.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE, 28, Portland Place, London, W.—March 31, 3.30 p.m. "The Home Nursing of Children," by Miss Dorothy A. Lane, R.S.C.N.

Thursday

ROYAL PHOTOGRAPHIC SOCIETY.—At 16, Prince's Gate, London, S.W., April 1, 7 p.m. Medical Film Evening.

ROYAL SANITARY INSTITUTE.—At Guildhall, Northampton, April 1, 10 a.m. "Control of Infection in Day Schools," paper by Dr. C. M. Smith. "The Water Supply of Northampton," paper by Dr. C. G. Payton.

Friday

KENT AND CANTERBURY HOSPITAL, Canterbury.—April 2, 5 p.m. Monthly clinical meeting.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—At Leeds General Infirmary, April 2, 8.30 p.m. Annual meeting. "Some Diseases of People," by Dr. T. Main.

WHIPPS CROSS HOSPITAL MEDICAL SOCIETY, Whipps Cross Hospital, London, E.—April 2, 8.30 p.m. "The Modern Treatment of Venereal Diseases," by Dr. F. G. MacDonald.

APPOINTMENTS

Sir Alexander Fleming, F.R.S., and Sir John Boyd Orr, F.R.S., have been appointed members of the Scottish Council for Health Education.

HOLDERNESS, G. P., M.B., Ch.B., D.P.H., Full-time Medical Officer for New County Health Division of Aireborough, Horsforth, and Pudsey, Yorkshire.

LONDON COUNTY COUNCIL.—The following appointments in the Council's mental health services are announced at the hospitals indicated in parentheses. Assistant Physicians: H. R. Rollin, M.D., D.P.M. (Horton); A. S. Thorley, M.D., D.P.M. (Sutton).

MENEL, CHARLES, M.D., F.R.C.P., Emeritus Professor in Child Life and Health in the University of Edinburgh, has been elected to the Board of Managers of Edinburgh Royal Infirmary, in place of Dr. John Orr who has resigned.

PARKER, W. S., M.B., Ch.B., D.P.H., D.I.H., Medical Officer of Health, Cromer U.D.C., North Walsham U.D.C., Sheringham U.D.C., and Erpingham R.D.C., and Medical Officer, East Norfolk Joint Isolation Hospital.

THOMPSON, J. D., M.B., B.Ch., Director of Department of Physical Medicine, Redhill County Hospital, Edgware.

BIRTHS, MARRIAGES, AND DEATHS**BIRTHS**

Ferguson.—On March 10, 1948, to Joan M. Ferguson (née Thomson), M.R.C.S., L.R.C.P., wife of Matthew Ferguson, of 17, Townsend Crescent, Kirkcaldy. Five, a daughter.

Howkins.—On March 14, 1948, at 9, Lansdowne Road, Wembley, to Lena, wife of John Howkins, M.S., F.R.C.S., a daughter—Jane.

Raymond.—On March 7, 1948, at University College Hospital, to Dr. Joan Raymond, wife of Dr. Michael Raymond, a daughter.

Tate.—On March 13, 1948, at St. Mary's Nursing Home, Nottingham, to Betty (née Wilks), wife of Dr. Hugh Tate, M.B.E., a brother for Richard—Simon George.

MARRIAGES

Adam—Ross.—On March 12, 1948, at St. John's Episcopal Church, Forres, by the Rev. Canon Cecil Lake, T.D., J. C. Adam, T.D., M.B., Ch.B., Duncryne, Forres, to Elizabeth Ross, S.R.N., S.C.M., Ivy Cottage, Forres.

Arnott—Burt.—On Feb. 21, 1948, in London, David Charles Arnott, M.B., B.S., D.C.H., to Ruth Margaret Burt, M.R.C.S., L.R.C.P.

Pezeshki—Jones.—On March 20, 1948, S. H. K. Pezeshki, M.R.C.S., of Persian Embassy, to Audrey Elizabeth Jones, S.R.N., of Slindon, Sussex.

DEATHS

Hay.—On March 12, 1948, at University College Hospital, London, Malcolm Bell Hay, M.R.C.S., L.R.C.P., D.P.H., aged 71, late West African Medical Service.

Heywood.—On March 10, 1948, at Earncliffe, Alderley Edge, near Manchester, Charles Christopher Heywood, M.B., B.Ch., M.R.C.P., aged 82.

Laird.—Recently, at 5, Neville Road, Rathgar, Dublin, Harry Seymour Laird, L.R.C.P.&S.I., and L.M., aged 77.

MacMillan.—On March 11, 1948, at Perth Royal Infirmary, Evan MacMillan, M.B., Ch.B. Ed.

Newbigging.—On March 8, 1948, at Holmfild, Lanark, Thomas Duncan Newbigging, M.B., C.M.

Oliver.—On March 6, 1948, at Malvern House, Marshfield, Richard Harris Oliver, F.R.C.S.I.

Pearce.—On March 5, 1948, at Rest Harrow, Uplyme, Lyme Regis, Athol Stewart Joseph Pearce, M.B., B.Ch.

Prentice.—On Feb. 29, 1948, at Lusaka, Northern Rhodesia, George Prentice, L.R.C.P.&S. Ed., L.R.F.P.S. Glas.

Reid.—On March 10, 1948, at 53, Alnwickhill Road, Edinburgh, Edward Waymouth Reid, Sc.D., LL.D., M.B., F.R.S., late Professor of Physiology, University College, Dundee, St. Andrews University, aged 85.

Robertson.—On March 6, 1948, at Bridgefoot House, Thornton-le-Dale, Pickering, Yorks, Douglas Robertson, M.B., Ch.B., aged 49.

Stollerforth.—On March 6, 1948, at Heather Cottage, Burchclere, Newbury, Btks, Charles Sigismund Stollerforth, M.R.C.S., L.R.C.P.

Turle.—On March 6, 1948, at Duffield House, Bexhill, James Evan Turle, M.R.C.S., L.R.C.P., aged 70.

Young.—On March 12, 1948, at Glasgow, Roy Frew Young, M.C., LL.D., M.B., B.Ch., F.R.F.P.S. Glas., of 2, Park Quadrant, Glasgow.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Iron in Anaemia

Q.—*Are the various proprietary tablets of ferrous sulphate, manganese, etc., as effective as a mixture containing large doses of iron and ammonium citrate for the simple anaemia of women? Is the action of the iron reinforced by giving dilute hydrochloric acid before meals and a maintenance dose of vitamin C daily?*

A.—The only drug required in hypochromic anaemia is iron. There is no clinical justification for adding manganese or other substances, although some experimental work has suggested that the effect of iron may be enhanced in this manner. These experiments refer to animals, and there is no evidence that their results are applicable to man. Pills of ferrous sulphate are quite as effective as mixtures of iron ammonium citrate—9 gr. (0.585 g.) daily of the former is therapeutically equivalent to 90 gr. (5.85 g.) daily of the latter. Only ferrous iron is absorbed from the alimentary tract, and in the patient with achlorhydria conversion to the therapeutically inactive ferric ion takes place rapidly. It is possible that dilute hydrochloric acid may have some effect in preventing this, and thus in facilitating absorption; nevertheless there is little clinical evidence in support of this suggestion. Ascorbic acid may be valuable in this respect, by virtue of its reducing action: it has been shown that large doses of ascorbic acid (300–500 mg.) given at the same time as iron will lead to repair of anaemia in some instances where iron alone was ineffective. This seems to be due to maintenance of the ferrous state by the vitamin's reducing action, and can be duplicated with other reducing agents.

Quinine in Early Pregnancy

Q.—*Is there any evidence that quinine taken for the purpose of inducing abortion at about two months of pregnancy has a deleterious effect on the subsequent mental development of the child?*

A.—Quinine traverses the placenta in small amounts in late pregnancy, so early chorion may also be pervious to it. Although it is believed that large doses sometimes cause death of the foetus in late pregnancy or damage its auditory nerve, such possibilities have never been fully proved. There are reports of experimental work on birds and fish which go to show that quinine poisoning affects unfertilized ova and delays the development of fertilized ova, but it has not been demonstrated that the early human foetus is influenced when quinine is administered to the mother, at least not when therapeutic doses are used. Perhaps the best evidence is to be obtained from countries in which malaria is common and in which women in the early months of pregnancy often take even large doses of quinine to prevent or cure the disease. Most observers are agreed that this treatment has no significant ill effect on the children of such women. Even when abortion has occurred it would appear to be more often due to the malaria than to its treatment.

Sterilization of Eye Instruments

Q.—*Is the electric hot-air sterilizer suitable for the sterilization of eye instruments? If so, what temperatures and times are recommended? Does this method impair the delicate points and cutting edges of knives, needles, and the like?*

A.—The electric hot-air sterilizer is extensively used in French, German, and Scandinavian eye clinics, and can be recommended for the sterilization of eye instruments provided that: (a) they are conventionally cleaned before insertion; (b) they have no component liable to damage by heat—this debars cataract knives with ivory handles, irrigators with rubber tubing, diathermy electrodes insulated by rubber or varnish, and "Record" syringes in which the cement between metal and glass may be affected; (c) the sharp instruments are

"racked" in a container which protects them from damage and contamination during stowage, removal, and storage; and (d) the temperature is adequately controlled by a thermostat and a thermometer or chemical temperature indicator close to or among the instruments during sterilization.

The temperature and time required for sterilization are interdependent, and various views have been expressed. Marchesani (Hamburg) claims that five minutes at 180° C. is adequate to kill all spores without corroding cataract knife blades. His special sterilizer with a built-in fan can pass from 15° to 180° C. and back in six minutes, making a total sterilizing time of eleven minutes. Moritz, on the other hand, aiming at a similar temperature in a sterilizer of older design, found a yellow tarnish on knife blades after five minutes. This suggests that the temperature (which varied by 30° C. in different parts of the oven) must in one portion have exceeded 200° C.—the critical temperature for steel. The converse has been recorded by Hanne, who found many hot-air sterilizers in Berlin ineffective, as portions of them remained below the sterilizing temperature. Holth advises 30 minutes at 160° C., which he claims does not affect the strength of silk sutures. His sterilizer takes several hours to reach a steady temperature before insertion of the instruments.

With the majority of ovens at present in use in Great Britain the standards recommended are those of the M.R.C. War Memo. (1945, No. 15) on the sterilization of hypodermic needles and all-glass syringes by hot air, which advises one hour at 160° C. This may take more than two hours in all, so that three cataract operations on the same morning will (unless the blunt instruments used are sterilized by boiling) require the previous sterilization of three complete sets of instruments. On the other hand, even repeated sterilization by this method leaves the edges and points of the finest instruments clinically and photomicrographically unimpaired—a great advantage in ophthalmic surgery.

Prolapsed Cervical Disk

Q.—*What are the symptoms, signs, and diagnostic criteria of a prolapsed cervical disk? How should it be treated? Is the prognosis good?*

A.—The clinical picture in cases of prolapsed cervical intervertebral disk is variable and depends not only upon the level of the disk affected but also upon the situation of the prolapse in relation to the midline. Thus where the prolapse occurs in or near the midline the spinal cord itself may be compressed, with symptoms of an upper motor neurone lesion below the level of the compression. On the other hand, when the prolapse is laterally placed, pressure may be exerted on a cervical nerve root, with symptoms related mainly to the distribution of the affected nerve. The nerve root compressed is always numerically the one immediately below the affected disk—e.g., prolapse of the fifth disk will compress the sixth nerve root, and prolapse of the sixth disk will compress the seventh nerve root. In practice it is found that a large proportion of the cases fall into two reasonably well-defined clinical groups, corresponding to lesions of the fifth and sixth cervical disks. Often, however, the clinical picture is ill defined and even vague.

Symptoms.—In a typical case the symptoms are related partly to the neck and partly to the arm. There may be a history of trauma—for instance, an awkward twisting movement of the neck. Pain is felt locally to one or other side of the spinous processes, and neck movements are painful and restricted. After an interval of hours or days the pain is felt to radiate downwards to the shoulder and arm. If the sixth nerve root is the one affected the radiation is down the outer border of the arm and forearm towards the dorsum of the thumb. In the case of the seventh nerve root the radiation is over the outer aspect of the shoulder and the posterior axillary fold, down the postero-lateral aspect of the arm and forearm to the wrist, sometimes extending to the index and middle fingers. The pain is not necessarily severe and may be more in the nature of uncomfortable paraesthesiae.

Signs.—In the cervical spine there is some degree of limitation of movement by pain, usually most pronounced on lateral flexion towards the affected side and on backward extension. Downward pressure on the head may cause pain radiating down

the arm. Head suspension, on the other hand, tends to relieve the pain. In the arm the signs depend upon the root affected. In the case of the sixth cervical root there may be weakness of the biceps muscle and diminution of the biceps-jerk. In the case of the seventh cervical root there may be weakness of the triceps and wrist extensors, with diminution of the triceps-jerk. There may be some blunting of sensation, but not complete anaesthesia, in the distribution of the affected root.

Diagnosis.—This is based on a careful consideration of the history and findings, and may be supported by radiological changes in the form of narrowing of one or other of the cervical disk spaces. Radiological examination also helps to exclude other causes of root symptoms. In occasional cases it may be desirable to seek more accurate information by means of contrast myelography. Somewhat similar symptoms may be produced by pressure on the cervical nerves after their exit from the bony column—e.g., by a cervical rib. Differential diagnosis is not always easy.

Treatment.—Initially, conservative measures should be tried. Minor degrees are often helped by physiotherapy. Occasionally a judicious manipulation of the cervical spine is useful and there is little risk of increasing the amount of prolapse if flexion movement is avoided. None the less, the risk should always be borne in mind when considering the advisability of manipulation, particularly under anaesthesia. Severer cases can be relieved by rest in bed, with traction of 5–10 lb. (2.27–4.54 kg.) applied via a halter. Within 10 to 14 days relief is sufficient to allow the patient to get up, but it is wise to apply a collar of moulded leather or plaster-of-Paris for the next six to eight weeks. It is rarely necessary to include the arm in the plaster. Only when the symptoms are severe and persistent or when disabling attacks occur should operative treatment be considered.

Prognosis is on the whole good. The great majority of cases clear up spontaneously within six to 12 weeks. Persistent or recurrent cases have been satisfactorily treated by operation.

(See also an annotation on this subject in the *Journal* of March 13 at p. 505 and the report of a discussion in our issue of March 20 at p. 557.)

Estimation of Bile Acids

Q.—Is there any reliable test for estimating bile acids in the plasma or serum?

A.—Several methods have been described, but the variation in their "normal range" suggests that they do not measure true bile-acid concentration. The most satisfactory appears to be that of Josephson (*Biochem. J.*, 1935, 29, 1519), which was recently used by Sherlock and Walshe (*Clin. Sci.*, 1948, 6, 223) in a thorough survey. The normal range is 0.2–3 mg. per 100 ml., and rises in obstructive jaundice to as high as 6.6 mg. per 100 ml. (as cholic acid), but the overlap between normal persons, patients with infective hepatitis, and patients with obstructive jaundice is so great that the results of the test are of no clinical value in the differential diagnosis of liver disease.

Penicillin Blood Levels

Q.—In a moderately severe infection, with or without pyrexia, such as tonsillitis, furunculosis, or septic wounds, from which an organism as penicillin-sensitive as the Oxford staphylococcus has been cultured in the laboratory, what level of penicillin in the blood should be maintained, and for how long? The blood level is of course high immediately after parenteral administration, depending on the dose given. Does it necessarily follow that the raising of the blood level will shorten the duration of the infection, or must one be guided by the patient's condition before stopping penicillin?

A.—The minimum concentration inhibiting the growth of such an organism is about 0.02 unit per ml. If this is continuously maintained or exceeded in the blood, it will also be maintained in the infected area of tissue. If adequate doses are given at reasonably short intervals, even though the blood level falls below this minimum before another dose is due, diffusion into the tissues while the level is high will ensure that local effect is maintained. How efficient this mechanism is must depend on the rate of exudation into the inflamed area and other factors. There is *in-vitro* evidence that somewhat higher concentrations are more rapidly bactericidal, but the

range to which this statement applies is small, and above this no increase in concentration has any enhanced effect. There can be no arbitrary rules about the duration of treatment; the indications for stopping it are clinical signs or laboratory evidence that the infection has been overcome.

NOTES AND COMMENTS

Archives of Disease in Childhood.—The Editor of the *Medical Journal of Australia*, Dr. Mervyn Archdall, wishes to obtain copies of the March and June, 1944, issues of the *Archives of Disease in Childhood*, which are now out of print. Dr. Archdall's address is Seamer Street, Glebe, New South Wales, Australia.

Treatment of Chilblains.—Dr. W. H. McKINSTRY (Rottingdean, Sussex) writes: Dr. R. John Gourlay (Feb. 21, p. 336) has discovered that nicotinic acid will cure chilblains. When I was in practice about 1896 I cured chilblains by giving cod-liver oil. This remedy was given by me as I found my patients taking cod-liver oil for other diseases, as phthisis, did not suffer from chilblains. Nicotinic acid at that time was unknown.

Vitamin B and Growth of Hair.—Dr. AGNES SAVILL (London, W.) writes: The subject of the effect of *p*-aminobenzoic acid on hair, especially on greying hair, was investigated by Benjamin Sieve and several other American writers many years ago. Sieve published the results on 460 patients in 1941. The drug became unobtainable during the war, as it was required for other purposes. Doubtless this explains why this research has been forgotten. In the third edition of *The Hair and Scalp* I have given references to all that I could trace on the subject. The reprint has taken over two years to appear, owing to the acute paper shortage from which all medical publishers have suffered.

Piercing the Ears.—Dr. H. MAITLAND MOIR (Currie, Midlothian) writes: The ring presented by the patient has a locking device. It is impossible to lead the one half of the ring through a straight piercing. After piercing the ear with a straight skin-needle, the two ends of the ring are placed in the "pierce," i.e., one behind and the other in front; then they are forced together and lock in the tissues. Before learning this trick I used to use a silk suture, which was effective if unsightly.

Cataract.—"Partial Eclipse" writes: Perhaps your inquirer on cataract ("Any Questions?" March 13, p. 531) may be interested in my own case. My left eye was operated on four years ago for cataract. Vision, when corrected with a strong lens, is 6/5 in that eye. Vision in right eye is P.L. only, owing to a mature cataract in that eye. I can read for hours without strain. The main drawbacks are: (1) The peripheral field is severely restricted. (2) Inability to judge distance. An object 9 feet distant appears to be only 6 feet away. (3) Objects are considerably magnified.

Some of the consequences of these drawbacks are more commonly felt out of doors. Movement on a pavement is generally punctuated by bumps on the right side from pedestrians who approach from my blind side. To cross a road carrying only light traffic I must wait at a crossing and then cross with the crowd. I can and do ride a push-cycle on quiet roads. When making a turn to the right I can sometimes manage to look over my left shoulder far enough to see traffic approaching from the rear, but I find it generally safer to dismount. I was desirous of taking up motor-cycling again, but decided that the risk was too great. It would be impossible for me now to drive a motor-car with safety anywhere outside the Sahara Desert, though before the onset of my cataract I had driven for many years.

A one-eyed man with a lens in his eye has many advantages over the individual who has to carry his lens on his nose.

Correction.—In the annotation under the heading of "Thirty-million Volt X Rays," published in the *Journal* of March 20 we referred to developments in the nuclear physics laboratories of the General Electric Company at Stafford. This was an error, and the reference should have been to the English Electric Company.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Altiology, Westcent, London*. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone. Authors desiring REPRINTS should communicate with the Publishing Manager, B.M.A. House, Tavistock Square, W.C.1, on receipt of proofs. ADVERTISEMENTS should be addressed to the Advertisement Manager, B.M.A. House, Tavistock Square, London, W.C.1 (hours 9 a.m. to 5 p.m.). TELEPHONE: EUSTON 2111. TELEGRAMS: *Britmedads, Westcent, London*. MEMBERS' SUBSCRIPTIONS should be sent to the SECRETARY of the Association, EUSTON 2111. Telegrams: *Medisecro, Westcent, London*. B.M.A. SCOTTISH OFFICE: 7, Drumsheugh Gardens, Edinburgh.

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY MARCH 27 1948

British Medical Association SPECIAL REPRESENTATIVE MEETING

DEMAND FOR CHANGES IN THE ACT

UNANIMOUS DECISIONS

The Special Representative Meeting summoned to consider the result of the plebiscite and certain recommendations of Council concerning the National Health Service Act and acceptance of service was held in the Great Hall of B.M.A. House, London, on Wednesday, March 17. About 350 representatives were in attendance from all Branches and Divisions of Great Britain. Dr. J. B. Miller, of Bishopbriggs, presided. He was supported by Dr. H. Guy Dain, the Chairman of Council, Sir Hugh Lett, Bt., President, Dr. J. W. Bone, Treasurer, and other officers of the Association. The agenda contained 170 motions and amendments, but the whole of it was covered in a meeting which lasted, with two short intervals, for 8½ hours. Except for a short private session, the meeting was open to the Press and to strangers.

Tribute to Council and Headquarters Staff

Mr. Douglas S. Pracy (Nuneaton and Tamworth), before the meeting proceeded to its main business, moved to place on record the gratitude of the profession to Dr. Dain and the other members of the Council for their untiring efforts, especially during the last three months, in addressing meetings of Divisions and otherwise making known the important matters at stake; also to Dr. Hill and the Headquarters staff for the efficient manner in which they had carried out the duties falling to them and especially in the difficult task of keeping in touch with members in all branches of the profession.

The motion was carried with prolonged acclamation, which was renewed when Dr. Dain rose to acknowledge the tribute. He said that on behalf of the Council he wished to thank the meeting for the way in which this motion had been received. "We have as your servants endeavoured to put forward the policy you have laid down, and I take it from the terms of this resolution and from the way you have received it that you are satisfied with the manner in which we have advanced the policy for which the Representative Meeting is responsible. I hope that we shall be able to retain that confidence."

A further motion by Salisbury was carried expressing appreciation of the work of the Editor and staff of the *Journal* both in keeping the profession informed of the progress of events and in moulding opinion by means of a valuable series of leading articles.

Dr. O. C. Carter (Chairman of the Journal Committee) said that the Association expected so superlatively high a standard of work from its officers that it was inclined to take too much for granted. They had in their Editor and staff a first-class team, and he knew that their work during the last few months had been welcomed throughout the country. The quality of argument advanced in the *Journal* had played a large part in enabling the members of the profession to come to a decision on how they should vote in the plebiscite.

Representative Character of the Association

Lord Horder (Marylebone) moved:

"That in view of the continued misleading statements made by the Minister of Health and supported by some sections of the Press this Meeting wishes to place on record its opinion that the British Medical Association is thoroughly representative of the medical profession and that the Council and the B.M.A. representatives on the Negotiating Committee could not be elected more fairly or freely."

Lord Horder said that this was in effect a vote of confidence in the Association as being thoroughly representative of the profession. In such a meeting as the present the motion might be redundant, but outside that hall, largely as a result of mendacious statements in the House of Commons and in a section of the Press, doubt had been thrown on the position of the Association as a constitutional democratic body and on whether in fact it represented the profession. It was an example of the unscrupulousness of the Minister that he arranged for a period of some 12 months that his chief secretary, his principal medical officer, and his chief adviser should meet a body appointed in the main by the Association, with an addition from other bodies in the profession, and should then, as a result of two short sessions following that prolonged period, having failed to get what he wanted, say that this body was a small body of spokesmen who had consistently misled the great profession which they were supposed to represent. He had also accused the B.M.A. of being engaged in a "squalid political conspiracy." The same unscrupulousness had been followed by certain of the Minister's colleagues. A gentleman with a "song in his heart," which turned out to be his swan song, copied the line taken by a certain newspaper and spoke of the Negotiating Committee as a handful of elderly doctors dictating to the profession. In the public interest it seemed desirable to nail these lies to the counter. (Applause.)

Perhaps a slight significance, Lord Horder continued, attached to the fact that it was Marylebone which proposed this resolution, because Marylebone had not in the past been averse from offering criticism, he hoped of a constructive kind, and Marylebone was thoroughly appreciative of the fact that the Council had accepted these criticisms in good spirit.

"We believe that the Association has got the confidence of the public in a fuller measure to-day than ever before. This is reflected in the fact that, of 68,350 doctors registered in the British Isles in January of this year, 58,000 are members of the Association. But I would not put the profession's confidence to-day at the height at which I believe it to exist merely on numerical strength. I believe it to be due to the realization that the Association's policy, as crystallized in the well-known principles, to give way on which would be to sell the pass, commands the adherence of the whole profession. The

Association regards the points at issue not as bargaining points but as indicating the desire of the doctor to be a free man—free to practise his science and art in the patient's interests. It is because we feel that the same spirit animates the Council that we are satisfied that the Council adequately represents us.

"I am sometimes accused of being too much a 'B.M.A. man,' but I do not lose my equanimity over that. I am more and more a 'B.M.A. man' because I realize that if we stick together we shall win. In order to stick together we must have a focus point for our power, and that focus point is the B.M.A. There are certain other distinguished bodies within the ambit of medicine, but, whether from their constitution or some other reason, the immediate fight lies not with them.

"Can we possibly lose? Yes, I think we can possibly lose. We can lose by squabbling as to which of these principles is the most important. We can lose by arguing as to which of these principles we should yield to the Minister first or last. That way madness lies. We must not yield on any of the points which collectively or individually sell the doctor's freedom. I have watched the Negotiating Committee cut the joint to the bone. There is nothing left to go, except our freedom, and that we dare not give. Once this position is made abundantly clear to the Government, legislation against the nationalization of medicine is quite certain. We in Marylebone believe that the Association shares this view, and we confidently bring this motion before you." (Loud applause.)

Dr. J. A. Pridham (Chairman of the Organization Committee), reported that the membership of the Association had reached the record height of 58,195, or 75% of the total profession in the United Kingdom. If retired practitioners were eliminated the percentage was 77.5. Between 1935 and 1940 the Association increased by 5,000 members, but from 1940, when the profession became aware of the events impending, to the present date the membership had risen by 19,000.

The motion was carried unanimously.

The Plebiscite

The Chairman of Council (Dr. Dain), in moving that the statement of the results of the plebiscite be received, emphasized the more striking features. It must be apparent to the whole country that there was something seriously wrong with a National Health Service Act which had provoked so strong a demonstration against it as the overall figures of the plebiscite revealed. The Minister had made a definite effort to split the profession into two by offering certain concessions to consultants and specialists; the results must have been disappointing to him, because the consultants and specialists headed the list with the largest percentages of those who regarded the Service with disfavour. They had to thank the consultants for realizing the extent to which these proposals were likely to impair their freedom. It appeared that the whole profession was seriously disturbed. Members who were not concerned in any way with service under the Act, such as whole-time research people, medical personnel in Government service, and in the public health services, all saw that if the Service in its present form came into operation their essential freedoms would be endangered.

Dr. Noy Scott (Plymouth) asked the meeting to express the opinion that the profession should stand by the position as revealed by the plebiscite results. "The fight is now on and the time for action is now."

Dr. Dain said that Plymouth was rather short-circuiting the whole business of the meeting by saying, "Stand by the plebiscite and that is all there is to do." Of course they stood by the results of the plebiscite, but that was not to say how they should implement them.

The Chairman of Council's Statement

Dr. Dain at this point reviewed the situation. He said:

"We had better start with the history which leads to the plebiscite, because we want to have a clear understanding of our position and of the action which should flow from it. In the early part of last year we agreed to go into discussions at the Ministry on the understanding that amendment of the Act was not excluded. But in fact amendment of the Act was excluded, as we found when we came to meet the Minister.

We were satisfied, by the attitude that he adopted, that he had never intended to amend. He knew that, following the discussions, we should take a plebiscite. We did our utmost to place things fairly before the profession as a whole. We gave our report of the discussions and the Minister's reply equal publicity, sending them to every member of the profession. That, however, has not protected us from manœuvres of various kinds. When the plebiscite was arranged the first thing that happened was a suggestion that this was a form of intimidation to be put across to the profession in order to force them, against their will presumably, to stay out of the Service. The Minister made that accusation without the slightest grounds for doing so. When a body like ours gives an undertaking that the secrecy of a document will not be broken it must be assumed that we are honest in such an undertaking. We should take such steps as are necessary to protect ourselves against any imputations to the contrary. (Applause.)

"Then, although the Minister had told us that we were free to come or not to come into the Service, we have been accused of sabotaging an Act of Parliament. The Minister had himself given us the authority to decide whether we should come in or should not come in. Then a charge was made that the plebiscite was not being correctly counted and that secrecy was being given away. Indeed, so far from intimidation on our part, I may say that when we invited the Minister to come and see for himself how it was done we had letters expressing the hope that the Minister would not be allowed to come too close to the papers in order that he might see how any particular practitioner had voted! (Laughter.)

"During the taking of the plebiscite the extraordinary thing happened that a debate was arranged in the House of Commons on an Act which had already become law, the debate taking place on a resolution by the Minister who had been in charge of the Bill. We can take credit for having set up a new precedent in the House of Commons. If you ask me why the House of Commons should have undertaken such an extraordinary proceeding, it is hard to find any other answer than that it was an attempt by the Minister to intimidate us during the course of our voting. In the debate we were accused of being politically inspired, and at the same time we were told that we were awkward people who had not agreed with Ministers of Health to whatever party they might have belonged. What sort of party politics inspires us when we are so awkward with all parties it is not easy to say. But those are the manœuvres which the Minister has improperly used to influence us in our important decision with regard to service under the Act.

"The results of the plebiscite showed that he has completely failed to divide the profession or to influence it in forming its opinion. It is very unfortunate that a problem which is of great national importance should have been approached either with emotion or in a spirit of party politics. We are perfectly competent to devise a service in which it is entirely unnecessary for anybody to become emotional. We want to have regard only to the efficiency of the proposed Service and to exclude it from entirely unnecessary political ideologies.

The Power of the Minister

"What are our objections to the Act? How comes it about that 90% of doctors think it unsatisfactory? The overall considerations are the Minister's powers. It has been said that power corrupts, and absolute power corrupts absolutely. The Minister's power in this Act is absolute. All sections of the profession are opposed to it and we speak for all of them. The Minister claims that we are 'raucous voiced people' speaking without authority. That claim has been completely disproved by the plebiscite and our solidarity has remained more evident than ever. We have not been shaken by threats or abuse. The power of the Minister will lead to the enslavement of the medical profession. We believe that ultimately it will lead to a service in which we shall be completely controlled, in effect, by the officers of the Ministry. We, of course, deal with Ministers, but, assuming that a service of some kind is running, it will be run by the principal officers of the Ministry and it is for them to see that their controls are so good that they will not get into trouble with the Minister himself or have unpleasant questions asked

in the House of Commons. If we enter this service without proper safeguards we shall be landed as servants of the Ministry of Health, whether whole-time salaried or not.

"We set out, as we thought, to establish a health service, and we found to our great disappointment that we were engaged in a life-and-death struggle for our freedom and independence. We never anticipated that that would be the ultimate outcome of the attempt to set up a National Health Service, but we must not disguise it that that is the position. If we do not have this Act amended in appropriate ways before it comes into force we shall have lost our independence and our freedom. It is for us to see, in the interests of the progress of medicine in this country and in other countries, that we do not fail. If you say that the Act does not put us in jeopardy my answer is that 40,000 doctors have said in the plebiscite that they believe that it does so.

"We are not concerned at this moment with financial considerations. There has been no proper opportunity of discussing remuneration for consultants or general practitioners or any other branch of the profession. The monetary question is not one which has influenced us in our decision. Unscrupulous propaganda has been put out that this is a stunt of the doctors to make more money. We can completely refute the statement that in the action we have taken we are influenced by financial or monetary considerations in any way.

"This Act is a paper service and nothing more. (Applause.) The people who have been promised a free-for-all service available to everybody are going to be very greatly disappointed. The Service will not and cannot be there on July 5 or on any reasonably approximate date. A wise Government would have thought it the proper way to start such a service by stages. I hope we shall not lend ourselves to any idea that the Service can properly be implemented by the given date. The failure of the Service must recoil on the people who produced it well knowing that it was impossible to implement it. (Applause.) The temptation to try to get the medical profession into the grip of a Government Department has been too much for them. The Government is starting an insurance service on July 5 and it wants certifying doctors firmly in its grip before certificates are required to be issued.

"All our points of objection are based only on one thing, our determination that when we take part in a service we shall not risk our freedom and independence and shall act always in the interests of the patients who have placed their confidence in us." (Loud applause.)

Ready to Enter into Discussions

In conclusion Dr. Dain said:

"We are accused of intransigence. Yet our position to-day is that we are willing to explore the problems afresh provided that the outcome is a service in which the medical profession remains an independent profession secure from domination by the State. Can I say more?

"We doctors want a health service. We want our services to be available to all who need them. We are ready to enter into any discussions directed to making it possible for the medical profession to co-operate with the Government. If the Government can show us other ways, new ways, of preserving our independence, we are willing to listen. But if this cannot be done, we owe it to the public to make our stand.

"We ourselves approach the prospect of a fight in anything but a light-hearted mood. Whatever may be said on the other side—and it has been often rumoured that some political circles are not unwilling, as they put it, to 'smash the doctors' as the first step to reducing all independent workers to subservience—we ourselves can have no place for any such irresponsible levity. We know there is too much at stake in this fight—for ourselves, for medicine, and for the public as a whole. But prepared as we are for discussions aimed at conserving our essential freedom, willing as we are to examine new proposals, I should be failing in my duty to the profession and to the public if I did not make absolutely clear that in the absence of such necessary changes we shall stand as a united profession outside this Service, continuing with our daily work, but unwilling to enter a service which in its present form is inconsistent with the freedom of medicine and of the public." (Loud continued applause.)

The Council's Recommendation

The Chairman of Council then moved, on behalf of the Council, the following recommendation:

That the Representative Body, reaffirming the whole-hearted desire of the medical profession for a comprehensive health service available to everyone, urges that in the public interest such changes should be made in the National Health Service Acts of 1946 and 1947 as are necessary to maintain the integrity of Medicine and to prevent doctors being turned into State servants, with harmful consequences to patient and doctor alike. The Representative Body, therefore expresses the hope that the Government will make it possible for the profession to co-operate by making such changes, and states its view that it is not in the best interests of the public or of Medicine for members of the profession to enter the Service until such changes are made.

Dr. Dain said that this resolution had been framed carefully and it expressed exactly what they needed to say. There were many resolutions on the agenda seeking to modify it in one way or another. There were resolutions which suggested that it was too mild. His reply to that was that one did not show one's courage or determination by the force of one's words. They were a reasonable body of people determined if possible to get a service established in which they could co-operate. He hoped the meeting would not spend a great deal of its useful time that day in altering the words of the motion.

Dr. H. A. Summers (Nottingham) moved a substituted wording for the Council's recommendation. He said that the sense was the same, but the Nottingham phraseology, he thought, was more clear and simple.

Dr. W. Gunn (Greenwich and Deptford) also thought that the wording was not direct enough.

Dr. E. A. Gregg said that the Panel Conference on the previous day had spent some time considering similar amendments and had come to the conclusion that the original resolution was quite good enough to express their views.

The Nottingham substitution found no support and was lost.

Dr. D. L. Little (Dudley) moved that the following be substituted:

The Representative Body, confirmed in its judgment by a plebiscite of doctors most carefully and honestly carried out, declares the National Health Act, unamended, to be contrary to the public weal and the traditions of the profession. The Representative Body therefore calls on the medical profession to reject the Act and to continue to serve the public by independent practice, making suitable provision for everyone in this Island.

He said that in Dudley they felt strongly that the Minister had no intention now, nor had a year ago, of amending the Act, and if they went on hoping that the Government would change its attitude in the matter they were really playing into the Government's hands.

Dr. Dain said that he hoped the meeting would not accept this amendment. It was an attempt to mix policy with action. The Council's resolution was concerned with policy; they would have to consider action later in the day.

Dr. G. O. Barber (Mid-Essex) commended to the movers of this and other amendments that they should implement the vote of confidence they had already passed in the Council by withdrawing their amendments.

It was agreed to pass to the next business, and the original recommendation of Council as moved by Dr. Dain was then put to the meeting and carried unanimously.

Conditions of Any Future Settlement

The first of 40 motions on this subject was by Mr. Tudor Thomas (Cardiff), who moved:

That ownership of goodwill by the practitioner, abolition of basic salary and of powers of direction, and the right of appeal to the courts be regarded as essentials in any settlement with the Minister.

Each of these individually was important, but there was a close relation between them. It was desirable that they should be emphasized collectively rather than separately. It was not an exclusive list, but contained the essentials to guarantee their freedom.

Dr. E. W. Goodwin (Leicester and Rutland) said that if the results of the plebiscite meant anything at all they meant that every section of the profession was voicing its deep protest

against the attempt of the Minister to deprive the individual practitioner of a large measure of his independence and freedom. The safeguards of freedom were these four well-known principles. Dr. D. V. M. Adams (Lanarkshire) declared that the continued right to buy and sell practices and to be paid only by capitation were vital to the freedom and security of the profession.

Dr. Dain said that on many occasions the Representative Body had expressed with great forcefulness its determination that certain principles should be maintained. The time of the present meeting was not being spent profitably in saying the same thing over again. More than that, they might be driven into the undesirable position of establishing a list of priorities in their demands. If the Government came along with new proposals they were prepared to examine them, on one basis, that they provided for the freedom for which the present Act did not provide. He hoped they would not go on reiterating their opinions on the importance of these things, because in doing so they lost sight of the one thing that was essential—namely, their objection to the vast powers which the Act placed in the hands of the Minister. He begged them not to enter into a Dutch auction or a bargain sale, but to keep in mind the maintenance of freedom and independence. (Applause.)

The Chairman said that that was a statesmanlike appeal, but as chairman he must maintain the rights of Divisions and allow motions which appeared on the agenda to be moved, or, if they were covered by other motions, give the representative an opportunity to speak.

Dr. A. H. Forman (Fife) said that his Division felt that the Council should adopt a more vigorous, constructive, and fighting policy. Dr. A. G. Manley (Richmond) said that he wanted to take the opportunity, in view of the public speeches of a former representative of Richmond (Dr. Stark Murray), of saying that in that Division, save for a very small minority, they were wholeheartedly behind Headquarters policy. Dr. D. C. Barron (Sheffield) said that his Division wanted the meeting to reaffirm its opinion that the continued ownership of practices was an essential factor in maintaining the freedom of the doctor, upon which depended the rights and privileges of the patient. If the profession accepted compensation for the abolition of goodwill it would be "buying" control.

Dr. C. K. Cullen (City of London) moved an amendment instructing the Council to seek the abolition of the Minister's power to convert the profession to a full-time salaried service, the amendment adding:

This meeting does not consider the buying and selling of practices, negative direction of doctors, and appeal to the courts as essential factors in the solution of the deadlock.

Their basic fear was of a whole-time salaried service. If they could get a guarantee from the Government that such whole-time salaried service was not in the offing, these other questions were not really essential. The main point was that the Minister had power by regulation to alter certain features of the Act, and the Council should take that as their main ground of opposition in any further negotiation.

Dr. J. A. Gorsky (Westminster and Holborn) said that a serious misrepresentation in the Press which had troubled many doctors was a statement that the B.M.A. was in favour of the abolition of the right to buy and sell practices. Those who made this statement quoted the draft interim report of the Medical Planning Commission published in 1942. That, however, was a guarded statement, and was governed by certain words in italics:

The suggestions contained in the present report should not, therefore, be regarded as expressing the Commission's conclusions but as recommendations made to it which the Commission as a whole has not yet considered and will not consider until the profession has made known its views through the usual channels.

The question relating to buying and selling of practices was merely put down as a question for decision.

Dr. Dain took up the City of London amendment. He hoped the meeting would not attempt to set up priorities either in what it was ready to discard or in what must be retained. He asked that the City amendment be turned down.

The City amendment was put to the meeting and decisively rejected, and the debate continued, with the Cardiff motion as the peg.

Mr. H. H. Langston (Winchester) said that the primary issue was the possible conversion of members of the profession into full-time

salaried servants of the State. Dr. D. T. McDonald (North Northumberland), from a Division consisting almost entirely of general practitioners in rural and semi-rural practice, said that his constituents also held that view.

The Question of Goodwill

Dr. R. W. Cockshut (Council) protested against the picking out of the question of buying and selling practices and making it stand alone. If the Minister were left with his present powers, the retention of buying and selling might not be of any particular use. What would be the value of the right to sell a practice in a closed area or in an area where, owing to shortage of doctors, anyone could get a practice? There was the last body in the world which should deal with symptoms rather than with causes. So far the B.M.A. had played its part with great finesse, and had not made a single mistake. Things that could have gone wrong for them had gone right. He hoped that they would continue to be guided by Dr. Dain in his insistence that the power of the Minister was the primary objection, and the primary requisite was that the profession should be free. In any profession administered by the Minister they could never have any certain guarantee of total freedom.

Dr. J. C. Arthur (Gateshead) said that if at this stage they endeavoured to assess one principle as of more importance than another they would affect the morale of their people. On the practical side it would be foolish to tell their opponents which position they intended to hold strongly and which not to hold at all.

Dr. Dain said that the debate had been confused. He suggested that they got rid of the whole matter by passing to the next business.

It was agreed accordingly to proceed to the next business, which meant that no vote was taken on the Cardiff motion.

Dr. Arthur then moved to reaffirm adherence to the principle that no penalty should attach to doctor or patient who elected to remain outside the Service. Incidentally he referred to a letter by Sir Henry Morris Jones, M.P., in *The Times* of that morning which supported the suggestion made by a correspondent of that paper that many of the powers now conferred on the Minister could with advantage be transferred to a Central Medical Practices Committee; in particular the method of payment could be handed over to that committee, and payment by attendance, which had worked well in France, should not be excluded.

Mr. C. E. Beare (Reigate) said that the principle of no penalty for remaining outside the Service had been endorsed over and over again. It was on the understanding that that principle would be safeguarded that they gave up their point on the 100% issue. Dr. J. A. Ireland (Council) said that "no victimization" was a principle of organized labour and he thought it should be the principle of the profession also.

Dr. O. C. Carter (Council) said that they were wasting time in trying to safeguard interests in one respect or another. The importance of that day's meeting did not lie in the motions so much as in the statement made by the Chairman of Council. It was the freedom of the profession that concerned them. Once in history the great contest was over the divine right of kings. The situation had now changed and "we are faced with the divine right of a Cabinet Minister to play hell with the medical profession and the health of the country."

The Gateshead motion reaffirming adherence to the principle that no penalty should attach to either doctor or patient who elected to remain outside the Service was carried, as was also a motion by South-West Essex urging that, in the event of negotiations being resumed, neither consultants nor general practitioners should agree to terms until both sections of the profession were mutually satisfied with them. The mover, Dr. E. R. Tivy, said that the Minister had made an attempt to divide consultants from general practitioners, but the consultants had rallied gallantly to the support of their general practitioner colleagues, and no division of the profession must be allowed to occur again.

Question of Reopening Negotiations

Dr. G. W. Ireland (Lothians) moved a resolution expressing willingness to reopen negotiations with the Government, and that if there was such reopening, concessions might be made provided that an amending Act was passed to ensure that a whole-time salaried service would not be introduced. This motion was not inspired by fear or indecision. His Division was as loyal to the B.M.A. as any in the country. Both sides were strong enough to stand firm against each other. The present situation, if unrelieved, would only lead to bandying of words, exchange of threats, and abuse. Moderate people wanted to see a satisfactory solution of their outstanding difficulties. The only hope lay in one side or the other taking the first step. Was there not some case for a compromise, and

was it not in keeping with the ideals of the profession that they should take the first step? "We have had fine leadership up to now; let us now have statesmanship. As Smuts has said, quarrels are dangerous tactics. This is not peace at any price. If you offer concessions and the Government remains adamant, public opinion will swing right round in your favour. It is rare in these days to see the spirit of magnanimity, but it is most rewarding."

Dr. Helme (Guildford) considered this to be "one of the most frightful expositions of appeasement" he had ever heard.

Dr. D. S. Robertson (Edinburgh), while agreeing with a part of the motion, thought the word "reopen" an unfortunate one. It was very important that a clear expression of opinion should go out from that meeting that they were prepared to take part in further negotiations if and when these were opened. He said this because of the repercussions on public opinion. He did not advocate defeatism; but he thought they should indicate their willingness to take part in fresh negotiations and so rally public opinion to their side.

Dr. Dain hoped the meeting would not have anything to do with the resolution. He repeated what he had said in his speech in opening the debate concerning their readiness to enter into discussions. Could it be said more clearly, definitely, or firmly? He hoped it would be left at that.

The Lothians motion was lost, hardly a hand being lifted in its favour, and the same fate befell other motions by North Northumberland and Winchester suggesting certain provisions which should be made in an amending Act. A motion by the Isle of Wight (Dr. Howie Wood) was accepted, advising the profession against participating in the new Service unless guaranteed that no material changes in the terms of service (when finally agreed with the profession) would be made without prior consultation and agreement with the profession.

The Independence Fund

At this point the Representative Meeting went into committee, under the chairmanship of Dr. E. A. Gregg, and afterwards it was announced that it had passed unanimously a resolution moved by Dr. Dain establishing an Independence Fund to help to finance the profession's activities during the present dispute with the Government. The following had been invited to serve as trustees of the new Fund:

Mr. Lawrence Abel, Dr. J. C. Arthur, Dr. J. A. Brown, Dr. G. F. Buchan, Dr. R. W. Cockshut, Dr. H. Guy Dain, Dr. W. E. Dorman, Mr. A. Staveley Gough, Dr. F. Gray, Dr. Charles Hill, Lord Horder, Dr. J. A. Pridham, Prof. G. I. Strachan, Dr. S. Wand, Sir Reginald Watson-Jones, Dr. J. B. Miller, Dr. E. A. Gregg, Dr. W. M. Knox, Dr. J. C. Pearce, Dr. W. D. Steel, Dr. D. J. B. Wilson, and Dr. W. Woolley.

The Compensation Issue

Dr. A. C. E. Breach (Bromley), taking up the point that an attempt is being made to coerce practitioners into joining the Service by the threat of forfeiture of right to compensation unless they join by July 5 next, moved that as a condition prior to any further negotiation the period during which a practitioner might join the Service with full right to compensation should be extended to July 5, 1949. He mentioned the difficulties of the younger men not firmly established in their practices.

Mr. C. E. Beare (Reigate) said that to talk about compensation at all might be implied as signifying willingness to give up goodwill.

Dr. J. A. Gorsky (Westminster and Holborn) said that many of the young members of the profession were under the impression that they were fully entitled to compensation if they went into the Service. That illusion would be dispelled by a study of Sect. 36 of the Act, where it was laid down that the practitioner must show loss by reason of his inability to sell the goodwill of his practice "by virtue of the last foregoing section"—and this was Sect. 35, prohibition of sale of practices, containing the penal clause which they opposed entirely. It was difficult to understand how a practitioner was expected to prove loss when in fact that loss had not yet occurred and might not occur until such time as the compensation was computed. The Minister might refute any suggestion that a loss had been suffered. He commended a study of Sect. 36 (3) (a) as illustrating the Minister's abnormal and inordinate power under regulations. Those younger practitioners who thought they were going to get compensation and were fully entitled to it were labouring under an illusion.

Dr. Laurie Smith (Blackpool) said that to accept the Bromley motion would imply consent to abolition of goodwill.

Dr. Breach said that he was sorry if the wording conveyed that idea. His point had been that the Ministry was here using a big stick with which to coerce the profession, and it was for them to insist that it be laid aside before they entered on any further discussion.

The Bromley motion was lost.

Political Pressure upon Doctors

Dr. J. A. Brown (Birmingham) moved as a matter of urgency the following resolution:

That this meeting condemns as grossly improper the bringing to bear of pressure for political purposes upon individual doctors to induce them to inform outside bodies of their intentions in relation to the new Service.

In support of this motion he read two letters received by doctors in different parts of the country—Cambridgeshire and South Wales. The Cambridgeshire letter, dated March 10, was signed by the chairman and secretary of the local Labour Party and the chairman and secretary of the local branch of the Transport and General Workers Union, and read as follows:

"The attitude of the medical profession towards the new Act which comes into operation in July next is causing considerable anxiety to our combined membership. It will be appreciated that with the advent of the new health service our members are anxious to ensure that they and their families receive the medical advice and assistance to which they will then be entitled. We have therefore been requested to ask you whether or not you propose to participate in the new Service. Should your decision be a negative one we think it only fair that we should know this in order that we should be in a position to take such steps as may be open to us for the protection of our members."

The other letter, dated March 12, was signed by an official of a local branch of the National Union of Railwaymen in South Wales:

"I have been instructed by our members residing in . . . area, at our branch meeting on March 7, 1948, to inquire as to your views regarding the National Health Act to be operated from July 5. They wish to know if you are prepared to operate it on and from July 5. Thanking you for an early reply," etc.

Dr. Brown pointed out that up to the present moment the regulations of the Service had not been published. No official invitation had been issued to any doctor to join the Service. The legal committee to examine the partnership question had not even been appointed. These two districts, Cambridgeshire and South Wales, were so far apart that there could be only one conclusion—namely, that there was some central thought behind these communications. What looked like organized political and trade-union pressure was beginning to be brought to bear on individual doctors.

Dr. Brown said the Association was accused of attempting to intimidate doctors in connexion with the plebiscite, but here was an attempt—and a scandalous attempt—to intimidate doctors by local political and trade-union pressure. No doubt the Association would advise individual practitioners how to respond to such pressure, but it was the duty of the Representative Meeting here and now to condemn this disgraceful attempt at intimidation. (Applause.)

Dr. Brown was handed another communication, this time from the Letchworth Trades Council, which stated:

"At a recent meeting it was unanimously agreed that we should endeavour to ascertain the number of practitioners locally who intend practising under the new Act."

and it was added that concern was expressed regarding the medical service of 3,000 families of trade unionists after July 5. The communication concluded:

"Let us know your intentions so that a general idea of what the situation is going to be like here may be obtained."

No doubt other examples could be brought forward.

The motion was carried.

The Question of a New Approach

Dr. R. H. Bailey (West Middlesex) moved to instruct the Council to take no steps to reopen negotiations with the Minister or his department before July 5. He strongly urged that after the experience of last year they should not be induced

to enter discussions again until their just claims were guaranteed by someone who could speak with authority for the Government.

Dr. S. F. L. Dahne (Reading) said that all that the motion intended was that the profession should not make the first move. If the Minister saw fit to approach them, yes, by all means start negotiations. It would be a despicable sign of weakness to start approaching the Minister now.

Mr. C. E. Beare (Reigate) spoke in the same vein. The Council's resolution had not slammed the door, but it was not for them to make the first move.

Dr. Dain said that he had already stated that they were reasonable people ready to consider any possibility for securing a service consonant with the independence of Medicine. If the motion meant that they should approach the Minister to learn whether he would agree to further discussions, he would be entirely opposed to any such step, but did not want to go out of his way to be rude about it, and he saw no reason why the meeting, having expressed itself as it had done that morning, should pass this resolution, which really did not strengthen the position at all and might only aggravate the situation.

It was moved and agreed to pass to the next business.

Dr. F. E. Gould (Birmingham) moved:

That the Negotiating Committee should approach the Prime Minister forthwith with a view to reopening negotiations.

Everything they had been told confirmed their determination to have nothing to do with this Act until it had been amended. The Association had the support of the profession, but what was it going to do with that support? A good general did not allow his forces to sit down in front of a fortress and waste their time. He believed the action should be a direct approach to the Prime Minister.

Dr. Howie Wood (Isle of Wight), in supporting the motion, said that it was not part of his business to make a personal attack on the Minister of Health, but the events of recent months had shown that he was not a man with whom they could successfully conduct negotiations. The onus of providing a solution should be placed upon the Government. The Prime Minister should be approached directly and asked to make such arrangements as were necessary to allow amicable and successful conversations to be started.

Dr. D. G. Morgan (Kingston-on-Thames) said that it was evident that the profession had lost confidence in the present Minister, and in its anxiety to provide a service for the nation it should certainly approach the Prime Minister and ask him to intervene personally or through some other responsible person with a view to the reopening of negotiations.

Dr. Dain asked that this be turned down. Although it came from Birmingham he dissociated himself from the motion. He reminded the meeting that the Prime Minister and the Chancellor of the Exchequer backed with their signature the resolution which Mr. Bevan brought forward in the recent Commons debate. It was not for them to go either to the Minister of Health or the Prime Minister.

Dr. J. A. Gorsky (Westminster and Holborn) suggested that it would be unconstitutional to go to the Prime Minister.

Dr. Gould, in reply, said that doctors who were not representatives felt that this was not the time to sit still and glare at Mr. Bevan. If the procedure suggested was unconstitutional he was very sorry, but it should not stop them from doing it.

The motion was lost by a majority.

Postponement of Service

Dr. Leslie Hartley (Guildford) moved:

That in view of the recent plebiscite result . . . the Representative Body, whilst agreeing with a comprehensive health service available to everyone, requests that it should be postponed until the necessary hospitals and other facilities have been built and equipped, and the personnel for a complete service have been trained.

The Service at present was "an empty egg-shell." He could not believe that 41,000 doctors had voted against the Act in its present form only on grounds of objection to State service; they must have had grave disappointment and misgiving in their hearts as well concerning the possibility of such service having in view the shortage of nurses, the overburdening of general practice, and other considerations. Doctors were skilled in prognosis, and they had given this Act a bad prognosis. They feared that the child would be stillborn. Nevertheless, Mr. Bevan intended to hand them the baby, dead or alive.

Dr. Helme (Guildford) referred to the lack of personnel. They had been told by the Government that this country was in an extremely

serious economic position, largely owing to lack of manpower. If this Act came in, in view of the lack of facilities and manpower, they would be doing a great disservice if they tried to work it. It would call for the employment of vast numbers of Civil Servants, and it seemed really a patriotic duty on the part of the profession to let the people understand that the nurses, ward maids, and the like were just not available for running a service like this. The production of food was far more important to the nation than the production of a vast bureaucratic scheme of this kind.

Dr. D. A. Robertson (Reigate) said that if the Government wished to provide a service it should build health centres and hospitals. This thing which was being rushed upon us had only a political background.

The motion was carried, but a further motion by the Hartlepool calling for the postponement *sine die* of the implementation of the Act, and for the Association to draw up in outline a scheme of medical service which could be carried out, was lost.

Dr. W. N. Leak (Mid-Cheshire) said that the Government was in trouble because it had been trying to do too much and to go too far. That was the situation with regard to this Act. It attempted something for which neither the personnel nor the equipment was available.

A motion by Reading calling for the suspension for two years of the suggested arrangement for the correction of maldistribution of doctors (except that of financial inducement to under-doctored areas), and its review at the end of that time, was lost. The following was carried on a motion by the City of Edinburgh:

That inasmuch as the medical profession believe that a complete health service cannot be made available to everyone in July, 1948, because of lack of staff and other facilities, this meeting is of opinion that particular consideration should be given in future negotiations to the possibility of introducing the Service by stages, as this becomes feasible.

Alternative Schemes

Dr. A. C. de B. Helme (Guildford) moved that in the event of a complete deadlock the Council should be instructed to draw up and submit to the profession an interim scheme based on the Marylebone resolution passed by the Representative Body in December, 1944.

(The Marylebone resolution read: "That health legislation should proceed by evolution, and the Representative Body is of opinion that the objects aimed at will be achieved by completion of the N.H.I. service to embrace institutional, specialist, and all auxiliary services; and, when this is accomplished, the expansion and extension of N.H.I. to dependants of those insured and to others of similar economic status." It was carried by 113 to 106.)

On July 5 they would be presented with alternatives, either with postponement or with something in the nature of a fraud on the public. In 1929 and 1931 the Association requested that the National Health Insurance Act should be amended to include dependants of insured persons and others of like economic status. The Marylebone resolution offered an opportunity for acting in conformity with the Association's views and also with what might reasonably be carried out. As for hospital services, if the hospitals were given something like £15 million a year as a grant they could do a great deal to improve their facilities and eliminate their shortages. Possibly for every pound subscribed by the public the Government might offer an equal amount. With regard to general practitioner services, dependants of insured persons and certain other dependants might be included. As for specialists, the increase of the money to the hospitals would undoubtedly help the specialist situation. Some such scheme would at all events be practical and would be likely to lead in the future to something really good. It would safeguard the voluntary hospitals, and it would afford time for the proper consideration of a health service which would commend itself to the whole nation.

Dr. Murray-Browne (Gloucestershire) said that the profession had been faced with a good many negatives. They would like a positive statement of what could be achieved.

Dr. Woodhouse (Harrow) said that her Division, at a meeting with an attendance of 80, with only three dissentients, had recommended that the Council be instructed to prepare an interim scheme comprising an extension of the present panel system to cover all persons in need of such service, on the lines of the scheme published by the Association under the title "Proposals for a General Medical

Service for the Nation." Mr. Bevan was in a tight corner. Would it not be a great kindness on the part of the medical profession to get him out? If they co-operated to make an alternative service a magnificent success and put it forward as an interim scheme perhaps it would not be unacceptable to the Government. It might end this unhappy impasse while at the same time making for the independence of the profession.

Dr. David Haler (Guildford) and one or two other representatives asked that consideration be given to the Marylebone scheme as a practical method of alternative service should the deadlock persist.

Dr. E. A. Gregg said that in so far as this resolution meant the organization of a nation-wide scheme for the provision of medical service for the people, the Association had already published its views. Everyone was familiar with the Association's proposals to give a medical service for dependants of insured persons and others of similar economic status. For a long time those proposals fell on deaf ears so far as the Government was concerned; it was only in recent times that they had shown this great interest in the subject. But if the resolution was directed to what the doctors should do in the interval before their present problem was solved, an Association committee under the chairmanship of Dr. F. Gray had sat for a long time endeavouring to frame schemes. The material this committee had gathered together had been circulated, but it was found that there was no general desire for a standard form of medical service all over the country; various parts of the country preferred to have schemes of their own. Some favoured an extension of existing public medical services.

The Guildford motion was carried.

Midwifery Services

Dr. R. W. Rae (North Staffordshire) moved that the Council advise all practitioners that it is not in accordance with the policy of the Association to accept election to the proposed Local Obstetric Committees; to which Dr. N. J. P. Hewlings (Oxford) moved to add the words: "Until further negotiations have taken place between the Royal College of Obstetricians and Gynaecologists and the Association." Dr. Hewlings felt that means should be found for preventing the standard of general midwifery practice falling to danger level.

Dr. Dain said that advice had been issued on this point, but they had not taken the step of telling members that they must not accept appointment.

Dr. Isabella Little (Oxford) said that no one with knowledge of the varying standards of midwifery in this country would deny that there were very large problems involved in this matter, and instead of shutting the door completely to the appointment of such committees she hoped that further discussion with the Royal College would take place.

Dr. J. A. Gorsky supported the North Staffordshire motion. The instruction had been sent out by the Ministry of Health to Local Executive Councils that they appoint an *ad hoc* committee, to include two general practitioners, which would review the experience of doctors desiring to do midwifery work, and if they considered any doctors were not sufficiently experienced they might call upon them to undertake further training. It was therefore a matter of importance that doctors should not take office on these *ad hoc* committees. If he himself, although actually he did not practise midwifery, were instructed by local practitioners to undertake another course of training he might be inclined to institute proceedings for libel.

The Oxford amendment was lost and the North Staffordshire motion carried. A further motion by Wakefield protesting strongly against the "closed panel" for midwifery under the new Health Service was also agreed to. Dr. D. L. S. Johnston (Halifax) asked why, if doctors by virtue of their qualification from their university were entitled to practise midwifery in Scotland and Northern Ireland, they should not be allowed to do so in England. This might become a precedent for some other limitation on general practice. It might be declared in time that a general practitioner was not to be allowed to open an abscess, and ultimately his work might be limited to signing forms.

A series of motions bearing on the presentation of the profession's case to the public was referred to the Council.

Proposed Withdrawal of Certification

Dr. H. W. Donovan (Birmingham Central) had a motion on the paper "That as this is a fight for freedom which cannot be conducted by appeasement or kid-glove methods, the Representative Body should press for withdrawal of certification prior to July 5." He said that this was a weapon which would put them on equal terms with the Minister.

Dr. Dain asked the meeting to remember that they were a body of responsible people under contract to give service to

the insured, and part of such service was the issue of certificates. If this was to cease, it could only be done after notice, and the notice would more or less take them to July 5. Therefore it was not a means of forcing the issue earlier. This was a course not open to them to take unless they individually risked a summons for breach of contract.

Dr. H. H. Goodman (Newcastle-upon-Tyne) said that doctors did not want to offend anyone, least of all their patients. But the refusal of all forms of certification, other than death certificates, would be a sort of token resistance. It would produce some chaos in administrative ranks and expedite the solution of the whole matter. The onus would be on the Government to find some alternative method.

Dr. Donovan said that it was true, as Dr. Dain had stated, that they could not break their contract, but they could resign straight away. He did not believe patients would suffer anything like so much as they would suffer if the Act could not properly be worked.

The Birmingham motion was lost by an overwhelming majority.

Dr. W. V. Howells (Swansea) brought forward a somewhat different motion:

That this meeting considers it essential, if the profession is advised not to accept service after July 5, that no certificates other than infectious diseases notifications, certification under the Lunacy Act, and death certificates be signed by any member of the profession.

They wanted to make it clear that after July 5 they would not withdraw their services for sick people, but they could not carry on their practices exactly as they were before.

Dr. J. L. McKenzie Brown (South-West Essex) said that his Division considered that if they were instructed to refuse service after July 5 no certificates of incapacity should be issued.

Dr. R. W. Cockshut (Hendon) said that if after July 5 they were to carry on the medical services of the nation exactly as in the past Mr. Bevan might well say, "We will see who is going to get tired first." He agreed that they could not stop certifying now, but they must warn the public that if they allowed this thing to come to a conflict a lot of people would have to get hurt.

Dr. E. A. Gregg (Deputy Chairman) entirely disagreed with what had just been said. There could be no more unwise action from the standpoint of policy than to withhold from patients a statement regarding their illness if they asked for it. He was not saying that they should fill in official forms, but the withholding of a private form certifying unfitness for work would only embarrass the patient, and might indeed cause difficulty in providing the ordinary necessities of life for a sick person. That would be a grave reproach to a great profession. ("Hear, hear.") This "paltry act" of withholding a necessary certificate which would have enabled a patient to make such claim as he could make would do the profession no good with the public, and it would be contrary to all the instincts they had inherited in their professional traditions (Applause.)

Dr. Dain said that it was impossible for a body of gentle people to contemplate making progress in a dispute at the expense of their patients. He had never heard such an atrocious proposal put up as that they should refuse to order the food which a sick person required. Dr. Cockshut had said that somebody was going to be hurt—yes, but not their patients. Their patients would always come first. They were going to fight this battle fairly with proper regard to their responsibilities to their patients. He was amazed that such a suggestion as that they should refuse certificates should have been produced at that meeting. (Applause.)

Dr. J. A. Pridham spoke of the great practical difficulty of refusing certificates.

Dr. Helme (Guildford) thought that, nevertheless, there was a good deal behind these resolutions. There was no intention to hurt people—no one had used the word "hurt" except Dr. Cockshut—and this weapon could be used reasonably. He thought it better not to turn the resolution down but to refer it to some other body which could give it consideration "without sentimentality."

Dr. Howells replied that in bringing forward this motion his Division had not intended to cause hardship, but it felt that, apart from the exceptions mentioned in the resolution, certificates should not be issued.

The Swansea motion was rejected.

Democracy and Freedom

Dr. Geoffrey Evans (Marylebone) submitted a motion approving the statement of the National Executive Committee of the Labour Party, published on March 3, namely:

"... Democracy cannot live without freedom of speech, press, and organization; without the right to protection against arbitrary arrest, the right of appeal to a non-political judiciary."

The motion went on to propose that the National Executive Committee be asked if the profession might rely on them to support the B.M.A. in obtaining these freedoms for the medical profession under the National Health Service. Dr. Evans said that this motion was no manoeuvre for appeasement. The fact was that they were a strong and united profession on the principles for which they stood. Nevertheless, in order to achieve their ideals they required public support, and approach to public opinion as a whole was difficult to make. The first section of the community with which to make contact was obviously the Labour Party because it claimed to be representative of the working class, and doctors themselves were working men and women. He knew that they had strong support in some quarters of the Labour Party, and the motion drew attention to the fact that the profession and the Labour Party subscribed to the same principles.

The motion was carried.

A motion by North-East Essex calling for a nation-wide scale of minimum fees for ex-insurance patients, to be recommended by the Association in the event of refusal of service, was referred to Council. Two motions by Plymouth were carried, one that the appointment of medical representatives to bodies set up for administration of the Act should be made only after agreement with the elected representatives of the profession, and the other that the Act must be amended to guarantee freedom of expression to doctors in all matters relating to the clinical and administrative aspects of the Service. South Essex desired the remuneration and conditions of service for junior staffs in hospitals to be considered by the Spens Committee at the earliest possible moment. Dr. Dain said that he was prepared to agree that this should be considered, though he thought the reference to the Spens Committee should be left out because that was not the best method of determining the remuneration of hospital residents.

Consultants Liaison

Mr. G. Whyte Watson (Bradford) asked that there should be adequate provincial representation on the proposed London Liaison Committee, and that the new committee should represent all consultants. Provincial consultants, he said, felt that something should be done to safeguard their interests.

Dr. Dain said that Bradford was under a misapprehension. The London Consultants Committee was set up to consider conditions in London, and he hoped Bradford would set up a committee for its own area. It was expected to see similar committees in different areas, and they would report to the Association's central committee. They were in the process of establishing permanent machinery for the discovery of consultant and specialist opinion in all areas.

Lord Horder (Chairman of the London Consultants Committee) said that the London Liaison Committee was only established formally on the previous day. The committee arose as the result of a desire to carry on the positive effort of standing by their general practitioner colleagues in the present fight. It came about partly in response to an invitation from the Association Council to the Marylebone Division, but he hoped it was obvious that Marylebone did not consider it had a corner in consultant and specialist work and opinion. They valued their provincial colleagues too much to stand in the way of their doing in various centres what Marylebone was doing in London.

The Bradford motion was withdrawn.

Miscellaneous Motions

At this late stage in the meeting a number of motions were put from the chair without discussion, and the following were carried:

South-East Essex: Deprecating the abusive comments made by the Minister of Health upon their democratically elected representatives.

Greenwich and Deptford: Instructing the Council, the profession having expressed its emphatic view through the plebiscite, not to be influenced by any "quislings" however exalted they might be.

South Bedfordshire: Reaffirming that the opposition of the profession to the National Health Service Act in its present form is not connected with parliamentary party politics.

Derby: Pledging support to the Council in all measures considered necessary to safeguard the essential freedom of the profession.

Derby: Warning the Government and the public that medical facilities and personnel are at present entirely inadequate for a full service, the immediate implementation of which will result in a less efficient service than now obtains, and may well lead to a state of chaos.

Doncaster: Supporting the action of the Council of the Association in any action it may take.

And finally, a bouquet to the Representative Body itself.

Oxford: Reaffirming confidence in the deliberations of the Representative Body, and expressing its belief that any recommendations it might make would be based on fair and reasonable discussion.

Regional Hospital Boards and Local Executive Councils

The Chairman of Council moved the following recommendation:

That medical members of Regional Hospital Boards and Local Executive Councils be requested to continue their membership of these bodies for the present.

Dr. Dain said that the question had been considered whether the medical members of these bodies should be asked to retire, and it had been decided to recommend that they remained. They were bodies of which the Association had approved in its policy, and they were looking at the administrative details of the new Service. It was thought that medical members should be present to take part in such administrative construction.

Dr. J. M. Christie (Finchley) had an amendment which made the continuance of membership contingent upon the Government reopening negotiations with the representatives of the profession. He considered that the Council's recommendation would be open to misrepresentation. Medical members of Regional Boards and Executive Councils had been appointed to administer the Act as it stood, and the plebiscite had condemned the Act. An anomalous position might arise if medical members were asked to continue to serve. A hostile Press might well point out an apparent inconsistency, and interpret it in the sense that the profession no longer wanted to stand by the plebiscite.

Dr. Dain hoped the meeting would not agree to this amendment. At any moment it would be possible to change the policy if circumstances suggested that it was the proper thing to do. He deprecated laying down the conditions under which these medical members might be allowed to remain or asked to withdraw.

The Finchley amendment was lost, and the Council's recommendation accepted. Dr. Dain agreed on the amendment of the Isle of Wight to extend the recommendation to cover Health Committees of local authorities.

This completed the business, and the meeting ended after according votes of thanks to the Chairman and Deputy Chairman.

SPECIAL PANEL CONFERENCE DEMAND FOR CHANGES IN THE ACT UNANIMOUS DECISIONS

A Special Conference of Representatives of Local Medical and Panel Committees was held at B.M.A. House, London, on March 16, the day before the Special Representative Meeting. The chair was taken by Dr. J. A. Brown (Birmingham), and almost all the insurance areas of Great Britain were represented. The President of the British Medical Association Sir Hugh Lett, Bt., was on the platform. A visitor was Dr. P. J. Delaney, newly appointed secretary of the Irish Medical Association, who, in reply to a welcome, said that in the Irish Free State the fight of British doctors was viewed with the greatest possible sympathy. "We can do little for you, but at least we wish you well."

The Governing Resolution

A resolution identical with the one to be moved on the following day at the Representative Meeting was proposed on behalf of the Insurance Acts Committee by Dr. E. A. Gregg:

That this Special Conference of Local Medical and Panel Committees, reaffirming the whole-hearted desire of the medical profession for a comprehensive health service available to everyone, urges that in the public interest such changes should be made in the

National Health Service Acts of 1946 and 1947 as are necessary to maintain the integrity of Medicine and to prevent doctors being turned into State servants, with harmful consequences to patient and doctor alike. The Conference therefore expresses the hope that the Government will make it possible for the profession to co-operate by making such changes, and states its view that it is not in the best interests of the public or of Medicine for members of the profession to enter the Service until such changes are made.

Dr. Gregg: "We have reached a further stage in our journey. The various steps we outlined in our programme have been taken one by one. We have had the process of discussion among ourselves and a long series of talks with the Ministry. We have furnished to the profession an account of them and the Minister's reply. We have taken a plebiscite, which was conducted in such a way that no one can ever know how an individual practitioner voted, and by an overwhelming majority in every branch of the profession the vote was against approval of the Act as it now stands. The Government proposes to start this service on July 5, and we as a profession—not the negotiators only, not the leaders of the B.M.A.—have said that we do not approve and do not propose to take service under it. I assure you that there are in preparation ample arrangements to enable every practitioner to look forward with confidence to the difficult period between now and July. If the Minister does not get the doctors by the appointed day he has only himself to blame. Our negotiators have tried patiently to help him, but on all essential points he has consistently refused to consider any modification. It is stated that he has made concession after concession. As a negotiator myself I cannot recall a single concession he has made beyond his proposal to allow consultants to have private beds in hospitals, a proportion with a ceiling and a proportion with no ceiling, 'provided that the hospital needs of the community are met.'

"We are prepared as a profession to stand our ground and resist coercion and all attempts to place us by economic pressure in service under this Act in its present form. The Insurance Acts Committee thought it right that this Conference, which for a long period of years has endeavoured by constructive criticism and suggestion to guide insurance practice, should be called to offer its opinion on the resolution which will be placed before the representatives of the whole profession tomorrow. The resolution has been so worded as to be non-provocative. If the Government want to think again we are ready to listen to what they have to say.

"At the present moment one thing is of the greatest importance to us—to stand in proper relationship to the public—and this resolution is so framed as to enable the public to realize that we as doctors are perfectly reasonable people. There is no truth in the suggestion that doctors are sabotaging the Act. We want a comprehensive health service—we have been agitating for it for years. Only the Government itself is in the way of that ideal by having introduced into this Act certain elements which make it impossible for us as a profession to accept it as satisfactory. Throughout the Act and the speeches supporting it there runs the implication that it is but a step to a goal, and that the goal is a whole-time salaried State service. Some of you will say this resolution is not strong enough, but I hope you will allow it to stand in its unprovocative form, expressing as it does to the public at large the desire of the profession for the setting up of a national health service in which it can take a satisfactory part." (Loud applause.)

An amendment stood in the name of Edinburgh to insert after the words "available to everyone" the following:

declares its willingness to co-operate with the Government and to reopen negotiations through its representatives towards the establishment of such a service, but urges that in the public interest such changes should be made in the Acts of 1946 and 1947 as are necessary to maintain the independent status of Medicine and to prevent doctors being turned into State servants with harmful consequences to the patient and doctor alike

and then continuing with the last sentence of the I.A.C. resolution.

Dr. N. B. Stewart said that Edinburgh was as steadfastly opposed to the Acts in their present form as the rest of the profession, but it felt that the recommendation was just an expression of opinion and hope; it was not positive enough. Some more clear indication of the profession's attitude should be given for the benefit of the public at large. With the unity

demonstrated in the result of the plebiscite they were in a strong position to make the declaration of willingness to co-operate in the terms of the Edinburgh amendment. This was no sign of weakness—far from it.

Dr. Gregg said that he did not think the Edinburgh amendment was any improvement on the resolution.

Only two hands were held up in favour of Edinburgh's amendment, which was heavily lost, and a similar fate befell a Nottinghamshire amendment which proposed a rearrangement of the resolution.

The resolution as moved by Dr. Gregg was then put. No dissentient hand was raised, and assent appeared to be unanimous.

The Next Step

Dr. F. E. Gould (Birmingham) moved that the Negotiating Committee should approach the Prime Minister forthwith with a view to reopening negotiations. The whole country, he said, was waiting for the profession to give a lead, and, armed with the plebiscite result, it could do so without fear of an accusation of weakness. The Prime Minister had said that he was willing to meet anyone. Let our leaders go to Mr. Attlee. "Negotiate," according to the O.E.D., was "to confer with another with a view to compromise or agreement."

Dr. Howie Wood (Isle of Wight) pointed out the danger of arriving at a conclusion on such a matter different from that which the Representative Body might reach on the following day. Dr. A. V. Russell (Wolverhampton) hoped that this suggestion would be turned down. Dr. A. Beauchamp (Birmingham) said that it was of no use both sides uttering the Molotovian "No." The Prime Minister had said in the House, in reply to Mr. Wilson Harris, "I am prepared to consider any suggestion put before me." Dr. J. A. Ireland (Shropshire) considered that to approach the Prime Minister would be futile.

The Chairman of Council (Dr. Dain), who was received with acclamation, said that although this motion came from Birmingham it did not have his approval and he dissociated himself from it entirely.

The motion was lost by a very large majority. Only about six voted in favour.

Transactions in Goodwill

Dr. D. L. S. Johnston (Halifax) moved a resolution reaffirming that the continuation of the buying and selling of practices was fundamental to the freedom of medicine, and that on this issue above all else the Association should stand firm. This was met by an amendment from Kincardineshire that the profession should consider agreeing to abolition of goodwill provided that all doctors on committees under the Act be directly elected by the profession, and that the committees elect their own chairmen.

Dr. G. H. Sedgwick (Rotherham) was in favour of the Halifax resolution. Surrender on this point meant loss of freedom, and having given up their freedom it would matter very little whether they were paid by salary or capitation fee. "If we are not prepared to stand for this principle the plebiscite is worth nothing at all." Dr. G. M. Goodwille (Norfolk) said that on the various principles to which the profession had declared its adherence nearly all, he thought, might have been conceded by the Russian Government to Russian doctors, except the ownership of practices. They had been told that this was a weak wicket on which to bat. On the contrary, as Public Relations Secretary in his Division, he had found it a strong one. Labour men in his area had seen the point in a manner which had surprised him.

Dr. Gregg described the Halifax motion as unwise because it was starting the setting up of priorities, "and we have not got that length." He hoped the decision would be left open.

The Kincardineshire amendment was rejected by an overwhelming majority, and the Halifax motion was disposed of by proceeding to the next business. A resolution by Cumberland asked the Conference to express the opinion that the Minister should not have the power to alter or add to the terms of service without consultation with the profession.

Dr. Gregg said that he thought this resolution, too, might be left to the future. On one occasion when a Minister broke faith with the I.A.C. an apology was received and a firm

assurance was given that such a thing would not happen again. If present difficulties were resolved and the Service was in operation there would be a body comparable with the I.A.C. which would discuss with the Minister matters pertaining to the Service and they would insist on the same position as had obtained under National Health Insurance.

It was agreed to refer the Cumberland motion to the I.A.C.

Public Relations

A motion by Newport asked that "immediate steps be taken to inform the public of the exact conditions on which the profession was prepared to enter the Service." Dr. A. C. E. Breach (Kent) suggested that this resolution be withdrawn. "Exact conditions," even if definable at all, were exceedingly complicated and technical. The public, of course, had a right to some sort of statement as to the profession's aims, but in its present form the resolution was thoroughly objectionable. Dr. W. Woolley (Bristol) also spoke against the proposal. It was for the Divisions, through their public relations committees, to do this work. Dr. J. T. McCutcheon (Glasgow) said that people wanted to know the policy of the Association, but it was very wrong to use the phrase "exact conditions." Dr. Gregg said that this was a question of public relations, on which a great deal of work had already been done, and a mass of material would be available and in the hands of the profession up and down the country.

The Newport motion was withdrawn.

Medical Cards

Dr. I. G. Innes (Hull) moved that practitioners be advised not to accept any medical cards under the Act until so advised by the Association. He understood that medical cards would shortly be issued.

Dr. Gregg said that this matter bristled with difficulties. The phrase "accept medical cards" was open to various constructions. It was a matter which would require consideration in connexion with the conduct of the campaign. Dr. F. M. Rose said that his Preston Committee was anxious to have some ruling as to what was to be done with these cards. If they were accepted and put aside did it not imply some acceptance of contract? Dr. Jope (I.A.C.) said that there was no present intention to issue medical cards and he suggested that it be referred to the I.A.C. Dr. Howie Wood hoped that if the motion was referred to the I.A.C. it would not be with the implied approval of the Conference.

It was agreed to refer the matter to the Committee.

The Independence Fund

Dr. Gregg, as chairman of the National Insurance Defence Trust, moved:

That this Conference endorses the action of the Trustees in voting the sum of £400,000 as an initial contribution from the Trust to the Independence Fund.

A great deal would be heard soon about the Independence Fund, which would provide the sinews of war for the conduct of the campaign. The Trustees of the Defence Fund felt that as insurance practitioners were to such a tremendous extent involved it was appropriate that they should support the Independence Fund to the utmost. It might not be necessary to use this money. Such money as was not required in carrying out the campaign and in providing assistance for hardship cases among loyal practitioners would be returned to those contributing in the proportion of their contributions.

The motion was carried unanimously.

Terms and Conditions of Service

Dr. W. Parker (Swansea) moved that in view of the promise given that practitioners should have six months to study the terms and conditions of service, the fullest details of the Service should be published, as affecting the whole profession, before any one section was asked to join. The appointed day was now little more than three months ahead.

The Swansea motion was carried unanimously.

Alternative Service

Dr. P. Y. Lyle (Southport) moved that the Conference welcome a definite assurance that there was in existence an alternative plan for the medical services of the nation should the profession be advised not to accept service under the Act.

Dr. Gregg said that if in spite of the resolutions of the Conference and those of the Representative Meeting on the morrow no reopening of relations between the profession and the Government took place, and they were faced with a struggle, the question of how practices were to be conducted would undoubtedly arise. A committee was set up which had gone into the whole question of the conduct of practice in the event of a dispute of this kind with the Government, and the report of that committee had been circulated to all Panel Committees. It appeared that Panel Committees did not wish to have a stereotyped standard method applied all over the country, and that this was a matter which should be determined in each locality.

Dr. Lyle found the reply disappointing, and pressed his motion to a division, on which it was carried by 99 to 56.

Dr. D. G. Buchanan (Rutherglen) moved that the B.M.A. Council be asked to frame and publish to the profession at the earliest possible moment its alternative to the National Health Service scheme.

Dr. Gregg: Our alternative is the National Health Service scheme with the changes in it for which we have asked and of which you are all aware.

It was agreed to pass to the next business, which was a motion by Cheshire asking that fresh consideration be given by the Council to the possibility of a National Health Service divorced from direct political control.

Dr. Gregg reminded the conference that the question of a "corporate body" had been argued, but the decision had been in favour of a scheme administered by a Government department. There did not seem to be much good in going over the old ground.

Here again it was agreed to pass to the next business.

Service on Local Executive Councils

Dr. A. C. E. Breach (Kent) moved as a recommendation to Local Medical Committees:

That they inform those medical practitioners whom they have appointed to serve on Local Executive Councils that they regard such appointments as provisional, and that they will expect these members to place their resignations from the Local Executive Councils at the disposal of the Insurance Acts Committee.

He said that this was an attempt to express the utility of the profession and their loyalty to their leaders. The Local Executive Councils were one of the principal bones in the skeleton of the Act and of first-class importance to its whole structure. The recommendation would help to dispel the illusion that acceptance of membership on the Executive Councils was equivalent to acceptance of service under the Act.

The motion was carried.

The Spens Committee

A motion by Birmingham, and similar motions by Warwickshire and Dudley, read:

That the Minister of Health having agreed to accept the Spens Report on remuneration for general practitioners, the proposal for payment to doctors in his statement to the profession should be referred to that Committee for their consideration.

Dr. A. Beauchamp, in moving, said that this would not cross any decision of the Representative Meeting. He was aware that the Spens Committee was no longer in existence but it could be reconstituted. He had hoped that it would be a permanent body for the reference of matters connected with remuneration.

Dr. Gregg said that he could see no value in this motion. They had had the Spens Committee report, had considered it and understood the yardstick, and could apply it quite easily.

Dr. Dain also disagreed with this suggestion. The Spens Committee was set up for a particular purpose, to discover the range of income which a general practitioner should be able

attain. Its report had been accepted by themselves and by the Minister. When the Service was established the question of terms would be debated between the Government and themselves by means of the Whitley machinery so as to ensure that there was a proper relation between the remuneration of the different branches of the profession. That was a business they ought to keep in their own hands.

The Birmingham motion was lost by a large majority. A further motion on remuneration was by Swansea, that the capitation fee should be determined independently of the demands of the basic salary on the global sum. The mover, Dr. W. Parker, said that, while it was hoped that if the new service was satisfactorily established the number of doctors coming into it would increase as the years went on, this ought not to mean any diminution in the capitation fee. "Let us have a fixed capitation fee, and we shall know where we stand." Dr. Gregg reminded the Conference that the remuneration set out by the Ministry had not by any means been accepted. Moreover, he did not like the reference to basic salary.

It was agreed to pass to the next business. A resolution was moved by East Sussex declaring that should negotiations be resumed the I.A.C. should insist that, on the coming in of the new Service, provision should be made for the prompt registration of every person with a doctor. Dr. C. M. Stevenson (Cambridge) asked what, under this proposal, would happen to the principle of free choice. Dr. Gregg also criticized the resolution and said that such matters would have to be dealt with at a later time. Undoubtedly the problem would arise in connexion with the Health Service in a way in which it had not arisen under National Health Insurance.

The resolution was withdrawn.

Dr. F. M. Rose (Preston) had a motion calling upon the Conference to reaffirm its confidence in the Negotiating Committee. The mover was met with cries of "Agreed" before he could begin his speech, and the motion was unanimously carried.

CONFERENCE OF REPRESENTATIVES OF SCOTTISH DIVISIONS AND LOCAL MEDICAL AND PANEL COMMITTEES IN SCOTLAND

A fully representative meeting of Scottish Divisions of the British Medical Association was held in Edinburgh on March 10. The Conference, which was held in the Scottish House of the Association, was attended by representatives of the Scottish Constituencies in the Representative Body, representatives of the Local Medical and Panel Committees, members of the Scottish Committee of the B.M.A., and members of the Insurance Acts Subcommittee (Scotland). It was agreed that the Council's recommendations be adhered to, emphasis being laid on the fact that these recommendations were in themselves sufficient indication that the Association was prepared to negotiate, but that the first steps should be taken by the Government.

Dr. J. B. Miller, Bishopbriggs, presided, with Dr. W. D. Frew, Kilmarnock, as deputy chairman. Dr. Miller's first action was to extend a warm welcome to Dr. H. Guy Dain, chairman of Council. In his reply Dr. Dain said that it was important that they should all have every opportunity of understanding the situation, knowing what was going on, and looking to the prospect in front as well as at what had happened in the past. They had the 1946 Act for England and the 1947 Act for Scotland and on the points with which they were most intimately concerned there was very little difference between the two. They hoped that, whatever alterations could be made in one Act would be made in the other.

Statements on the discussions on the Scottish Act between the Scottish Negotiating Committee and the Department of Health for Scotland were introduced by Dr. A. F. Wilkie Millar, chairman of the Scottish Negotiating Committee. "The Scottish Negotiating Committee had no specific remit," he said, "but it has always been understood that we would not discuss, with a view to arriving at any agreement, matters which were properly of U.K. concern. These are being left to the Central Committee. Our talks were on matters arising out of the Scottish Act, particularly with regard to administrative arrangements and regulations made under that Act."

General Practice

Giving the report of the General Practice Subcommittee of the Negotiating Committee, Dr. I. D. Grant, its chairman, referred to the fact that succeeding chairmen of the Executive Councils would be nominated by the Councils themselves, the first chairman, appointed by the Secretary of State, holding office for three years.

Discussing partnerships in relation to the suggestion that there would be a maximum number of 4,000 patients on any one list, the Department had agreed that a partnership of two might have 8,000 people on their general list but one partner could have 5,000 and the other 3,000. The Department of Health had concluded that, on the basis of 95% being the appropriate proportion of the United Kingdom population likely to avail themselves of the Service, the appropriate figure for Scotland could be regarded as 96%.

Dr. Dain and Dr. Joje explained the method of distributing the Central Pool and pointed out that there were already 20,000,000 insured persons, so there was no question of a ridiculously small proportion of the people being on the lists at first.

Several speakers questioned the wisdom of considering amendments at that stage and it was agreed to proceed to the next business. There followed some discussion on the Maternity and Consultant Services and on the special problems of the Highlands and Islands.

The meeting then passed to the consideration of the motion, formally moved by the chairman, that the following recommendations of the Council of the Association to the Special Representative Meeting, March, 1948, be received:

"(a) That the Representative Body, reaffirming the whole-hearted desire of the medical profession for a comprehensive health service available to everyone, urges that in the public interest such changes should be made in the Acts of 1946 and 1947 as are necessary to maintain the integrity of Medicine and to prevent doctors being turned into State servants, with harmful consequences to patient and doctor alike. The Representative Body therefore expresses the hope that the Government will make it possible for the profession to co-operate by making such changes, and states its view that it is not in the best interests of the public or of Medicine for members of the profession to enter the Service until such changes are made."

"(b) That an Independence Fund be established to help to finance the profession's activities during the present dispute with the Government."

"(c) That medical members of Regional Hospital Boards and Local Executive Councils be requested to continue their membership of those bodies for the present."

Dr. Dain said it might be appropriate that he should say something about the present position.

The plebiscite figures were interesting in that every type of practitioner regarded the present Act as unsatisfactory. People like medical officers of health and medical research workers had all, by a large majority, decided that the Act was unsatisfactory.

"Our aim," he declared, "is the establishment of a service in which we retain our professional independence. It is better said like that—as a whole—rather than by speaking of individual things like losing goodwill, or direction, or basic salary."

Explaining what he meant by professional independence, Dr. Dain said he had in mind such things as the power of the Minister to do anything he liked, change anything he liked, just by putting a paper on the table of the House of Commons to say he had done it, so that unless someone got up and raised a row in the House nothing could be done about it. This situation could be modified without destroying the Act or the Service if they proceeded about it in the proper way.

These and other matters could be dealt with in the Act without destroying the framework of the Service, and Dr. Dain hoped that the Representative Meeting would express views along these lines. He hoped that they would be able to agree some day with the Government, or with some Government, on a form of service in which their freedoms as well as the patients' and the Minister's were properly provided for.

Suggested Amendments

Dr. D. S. Robertson, Edinburgh, put to the meeting an amendment asking that a clause be inserted in the Council's recommendation to the S.R.M. to the effect that they were

willing to co-operate with the Government and reopen negotiations, this amendment being later altered to replace the word "reopen" with the words "take part in." Similar amendments from the City of Aberdeen and Lothian Divisions were merged with the Edinburgh one. Dr. Robertson emphasized that the amendment left intact the main part of the Council's motion, but it emphasized in a positive rather than a negative way their desire to participate in a health service which would be fair to the profession and good for the nation.

Dr. J. Inglis Cameron, Glasgow, led several speakers in disapproving of the Edinburgh proposal. Dr. Cameron said that offering to take part in negotiations would be taken to mean that they were giving way.

Prof. R. S. Aitken, Aberdeen City, said the Aberdeen Executive felt that from the position of strength in which the plebiscite placed them they ought to approach the Government and offer to reopen negotiations.

Dr. Dain said the Council's resolution had been received by the public as a very statesmanlike resolution. He again deprecated suggestions for more fierce and warlike action and said that the Representative Body hoped the Government would make it possible for the profession to co-operate. He had heard nothing in the discussion that would improve the words of the motion.

The Edinburgh amendment was lost when put to the vote. The meeting also rejected two subsidiary amendments—one suggesting that the phrase "integrity of medicine" be replaced by "independent status of medicine," and another suggesting the addition of the words "and Parliament" after the word "Government" in the first clause of the Council's motion.

Proposing a motion by the City of Aberdeen that service under the National Health Service Acts should be accepted by the profession only when terms of the whole service, including those of the consultants and specialists, were known, Dr. H. G. McPherson, Stonehaven, said specialists had sided with the general practitioners in holding out against the Act and they wanted the assurance that the general practitioners would not accept service under the Act, or the amended Act, until the specialists had a chance of knowing their terms of service. Mention was made of the length of time it might take to have the report on the specialists' terms, but Dr. Dain gave an undertaking that everything would be done to see that the specialists and general practitioners' terms were properly related to one another.

Scottish Negotiating Committee

The meeting adopted a motion from Caithness and Sutherland asking that all future negotiations concerning administration under the Scottish Act should be dealt with by a Scottish Negotiating Committee in Scotland.

OPHTHALMOLOGICAL SOCIETY OF AUSTRALIA

The Ophthalmological Society of Australia will hold its eighth Annual General and Scientific Meeting at Perth, Western Australia, on Aug. 15-21, in conjunction with the sixth Session of the Australasian Medical Congress (British Medical Association). The Society would cordially welcome members of the British Medical Association Section of Ophthalmology. Intending visitors are asked to get further information from the Congress Office, 230, St. George's Terrace, Perth, Western Australia.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Poplar.

Non-County Borough Councils.—Dartford, Radcliffe (limited to future appointments), Tottenham, Wallsend.

Urban District Councils.—Denton, Droylsden, Houghton-le-Spring, Huyton-with-Roby, Portlaid, Redditch (restricted to new appointments), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

Association Notices

Diary of Central Meetings

APRIL

8 Thurs. Publishing Subcommittee, 11 a.m.

Meetings of Branches and Divisions

KENYA BRANCH

The Annual General Meeting was held in the Medical Research Laboratory on Feb. 5, with Dr. Paterson in the chair and 41 members present.

The Hon. Treasurer gave a report on the position of E.A.M.J. and proposed that the Branch give a grant of £20 to the Journal. This was approved. Officers for the ensuing year were then elected as follows: President: Dr. R. Guy Johnson (*vice* Dr. A. R. Paterson); President-Elect: Dr. E. A. Trim; Vice-President: Dr. Mary Harris; Hon. Treasurer: Dr. J. A. Carman; Hon. Secretary: Dr. A. McK. Fleming; Council: Dr. G. V. Anderson, Dr. A. R. N. Dhanji, Dr. R. S. McElroy, Dr. G. E. Nevill, Dr. A. R. Paterson (*ex officio*), Dr. P. G. Preston, Dr. A. T. G. Thomas.

Mr. Gay French moved that "this Branch of the B.M.A. deprecates strongly the action of the Colonial Secretary in granting indiscriminate priorities, especially to the groundnut scheme and the Army, which reacts to the detriment of the civilian population of Kenya, with particular reference to the recent grave shortage of nitrous oxide gas." This motion was unanimously approved. The meeting further instructed the Council to take such action as may be possible to rectify this, and further to take notice of the serious shortage of medical supplies in general in the Colony.

Dr. Johnson's presidential address took the form of a programme of two cinema films: (a) D.D.T. against Malaria, prepared by the Medical Department of Kenya; (b) Surgery of the Chest. Dr. Trim moved a very hearty vote of thanks to the President for the trouble he had taken to obtain and show these films.

LINCOLN DIVISION

A General Meeting of the Division to which all practitioners in the area were invited was held on March 5, with Dr. A. M. Maider in the chair. Thirty-two members and non-members were present.

The meeting considered Council's recommendations to the S.R.M., and the chairman read the resolution that was to be put forward. Dr. Wray thought the motion very mild and acceptable to everybody. Dr. Cheshire thought that of Council's four points the two important ones were ownership of goodwill and the question of basic salary. He proposed that the Division should instruct its representative that he should stand firm against any basic salary and against abolition of the buying and selling of practices. This was seconded by Dr. Semple. Dr. Wray thought that to stand by the buying and selling of practices was wrong particularly as all parties had supported the abolition and there had been a majority in favour of this at the previous plebiscite. Mr. Briggs said that most of us at that time had not studied the question sufficiently nor realized its implications, and the previous vote was therefore not of much value. Dr. Robertson thought that if Dr. Wray held such views he was not suitable to represent the Division. Dr. Wray said that as the Division's representative he would of course vote according to their wishes, but feeling as he did he could not get up and speak with conviction on the subject. He then offered to resign.

After discussion it was proposed and seconded that "this meeting has full confidence in Dr. Wray and that he should continue to represent us." This was carried by 19 votes to 7. Dr. Cheshire's proposition was then put before the meeting and was carried without dissent. Dr. Robertson proposed that Dr. Cheshire's resolution be sent up as a motion for the S.R.M. agenda and this was seconded by Dr. Wray. On a show of hands, the resolution was lost by 1 to 3. Next, the meeting approved the establishment of the Independence Fund. Finally, the meeting agreed that in other matters their representative should follow the lead of Council.

NORTH-EAST ESSEX DIVISION

Dr. Douglas Guthrie gave a B.M.A. lecture on "The Patient as a Factor in the History of Medicine" before a combined meeting of the Colchester Medical Society and the North-east Essex Division on March 4. The meeting was preceded by the regular monthly dinner of the Medical Society, to which members of the B.M.J. were invited.

Dr. Guthrie reminded his audience that while the stories of great advances in the history of medicine and surgery generally record the names of the doctors concerned, the names of the patients to whom their theories were tested were seldom mentioned. A few indeed were known and deserved honour, such as Mrs. Crawford who heroically permitted Ephraim McDowell to perform on her the first successful ovariectomy. There must be many such whose names are unknown. He then reviewed some instances, from an Egyptian mummy to Queen Victoria, where the names of the patients were known. Some, such as Joseph Meister, who had been successfully inoculated against rabies by Pasteur, though honoured in their day came to a tragic end. He also mentioned some of the medical men who had recorded their own experiences as patients—for instance Dr. Mark, who suffered from acromegaly, and John Hunter, who inadvertently inoculated himself with syphilis.

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THE PUBLIC HEALTH LABORATORY SERVICE*

BY

G. S. WILSON, M.D., F.R.C.P., D.P.H.

Director of the Public Health Laboratory Service (Medical Research Council)

"Immer höher muss ich steigen,
Immer weiter muss ich schauen."—GOETHE.

In the codicil to his will, prepared in 1877, Dr. Milroy speaks of the importance of determining the part played by contagion in the development and spread of various diseases. "This can only be effected by the patient investigation of numerous *verified* and *authenticated* facts in various localities and regions, and under different circumstances and conditions, apart from all previous speculation and any mere traditional or customary beliefs." Though we have progressed a long way in our knowledge of infection since that time, these words might well be taken as its text by the Public Health Laboratory Service, whose aim it is, by a combination of careful and accurate observations in the laboratory and in the field, to interpret the various manifestations of contagious disease in the community and to discover the causative agents of those diseases that have so far remained obscure.

During the past ten years or so, mainly stimulated by the demands of war, the pathological services of this country have expanded greatly. New laboratories have been established, existing laboratories have been enlarged, and the number of persons engaged in pathological work has increased beyond expectation. Some of this development was the result of deliberate planning to counter emergencies; some of it was of an *ad hoc* and almost fortuitous nature, designed to meet the pressing demands of the moment. The bodies taking part comprised the Ministry of Health, the Medical Research Council, universities, local authorities, and private pathologists, each working towards a separate end and each acting to some extent independently of the other. What, may we ask, has the result been? Have we now got the pathological services that we need to fulfil the extensive obligations imposed by the National Health Service Act? Are our laboratories staffed by properly trained and experienced pathologists? Are the laboratories under Government control working in harmony with those owned by the universities? And is the great body of pathologists actuated by a desire not only to provide efficient help for the clinician and the medical officer of health but to carry research into the various fields where our knowledge is still deficient? These are some of the questions that need answering, and I feel the time has come to review our present position. It is difficult to appraise the situation as it now is without understanding

how it has come about, and I propose therefore to devote the major part of the time allotted to me to a historical retrospect of the gradual intrusion of the laboratory into the practice of preventive medicine.

[The lecturer then dwelt at some length on the studies of John Snow on cholera, William Budd on typhoid fever, and Villemin on tuberculosis, in order to illustrate how, by their pathological insight and epidemiological acumen, these pioneers of the pre-bacteriological era were able to prove as fully as was then possible not only that the diseases they investigated were contagious but that the contagion must consist of minute particles indefinitely reproducible in the body of the host.]

Development of Public Health Bacteriology

The rise of public health laboratory work must be traced to the stimulating influence of Sir John Simon (1890) and of his successors at the Local Government Board—George Buchanan, Thorne Thorne, and William Power. Simon held it necessary that special investigations should be promptly made in all parts of England wherever and whenever the local prevalence of disease afforded ground for apprehending the existence of epidemics or the prevalence of local, occupational, or other insanitary conditions. He also maintained that special laboratory researches should be undertaken by the department for the elucidation of obscure aetiological questions, and for bringing the data so obtained to bear on sanitary administration. Under his aegis a series of careful, minute, painstaking, and accurate field inquiries was made by officers of the Board into such diseases as enteric fever, scarlet fever, smallpox, and food-poisoning, supported by an increasing volume of laboratory work designed to control the quality of water, milk, shellfish, foods, and air. The administrative side of the organization that was built up and galvanized by Simon has recently been described by Sir Arthur MacNalty (1947, 1948a, 1948b) in his FitzPatrick Lectures to the College. I shall therefore content myself with giving a brief résumé of the gradual development of laboratory examinations in relation to public health and sanitary science.

Water

From the middle of last century onwards the chemical analysis of water came to be practised more widely, but from the hygienic point of view the results were disappointing. Several careful investigations into water-borne outbreaks of enteric fever combined to show that water which satisfied the strictest tests for chemical purity might nevertheless be capable of giving rise to serious disease. Cory

*The first of two Milroy Lectures (abridged) delivered to the Royal College of Physicians of London on Feb. 10 and 12.

(1881-2) relates how he tested the truth of this conclusion by adding known amounts of typhoid excreta to water and sending it for chemical analysis to Dr. A. Dupré of the Westminster Hospital. It was found that the addition of 3.5 gr. (0.23 g.) of a typhoid stool to a gallon (4.5 litres) of water caused a rise of only 0.02 part per million in the albuminoid ammonia. According to the standards then in vogue such a sample fell into Class I, comprising waters of extraordinary organic purity to which no objection could be taken. The position at the time was ably epitomized by Buchanan (1881-2) in the words: "The chemist can, in brief, tell us of impurity and hazard, but not of purity and safety."

From about 1882 onwards attempts were made by exponents of the rapidly developing science of bacteriology to improve on the methods of the chemists. Robert Koch in Germany, Percy Frankland at Dundee and later at Birmingham, and Emanuel Klein at the Brown Institute and St. Bartholomew's Hospital, among others, used the plate method for the quantitative estimation of bacteria in water. Gelatin was employed, and attention was paid to the total number of colonies developing and the proportion liquefying the medium. Little immediate progress, however, was made, but it began to be recognized that the potential harmfulness of polluted water was due to the micro-organisms it contained, and that the results of chemical analysis had their highest value in the light they threw on the quality of the water from the standpoint of bacterial contamination (Brown, 1890).

It soon became apparent that the attempt to gauge the degree of impurity of a water by the isolation from it of pathogenic organisms like the typhoid bacillus was technically too difficult and what we might call strategically unsound. Instead a search was made for the common intestinal organisms, which would act as indicators of excretal contamination. Again little progress resulted. It was left to Alexander Houston to show that it was not enough to demonstrate the presence of intestinal organisms in a water, it was necessary in addition to measure their numbers and so gain some idea of the degree of pollution of which they afforded an index.

Working with Klein (Klein and Houston, 1897-8), Houston found that crude sewage usually contained about 100,000 coliform bacilli per millilitre and about 10 to 1,000 spores of *Bacillus enteritidis sporogenes*. Together, Klein and Houston (1898-9) performed a very illuminating experiment. They obtained sewage from eight different sources, diluted it progressively with sterile water, and carried out chemical and bacteriological analyses on the mixtures. The results revealed that the bacteriological method was 10 to 100 times more delicate than the chemical, and led the authors to conclude that "chemistry, as usually applied, is powerless to detect a degree of pollution of water with sewage which, from the viewpoint of the bacteriologist, would be considered gross in amount."

This conclusion was soon substantiated in practice. For some years there had been a series of dropping cases of enteric fever at Chichester. The town was supplied from several wells. The water from all of them was apparently pure as judged by chemical methods, but when Houston (1901-2) examined them bacteriologically he found that most of them were contaminated with organisms of excretal origin.

During the succeeding years Houston expended his whole energy on developing and improving bacteriological methods for the examination of water. He studied different index organisms; he elaborated methods for their recognition and differentiation; he followed the rate at which

they died out in sewage under natural and artificial conditions; and he defined the particular type of information that each of them could give. From his appointment in 1905 to the newly created post of Director of Water Examinations to the Metropolitan Water Board till his death in 1933 he occupied a position of authority that none could challenge. It is as true now as it was fifty years ago when he made his first great contribution, that bacteriology alone of the laboratory sciences is able to provide the assurance of safety which is demanded of the water supplies of our great cities. Subsequent work, though it has refined the means for distinguishing between different members of the coliform group, has done nothing to impair the essential soundness of Houston's conclusions, and his methods are in daily use throughout the public health laboratories of this country.

It may be noted that systematic bacteriological examination of the water supply was begun by the Metropolitan Water Board in 1885, by Professor Rubert Boyce at Liverpool in 1898, by Manchester and Birmingham Universities and by the West Riding Laboratory about 1900, and by the University of Leeds about 1904.

Shell-fish

By 1895 it had become clear that shell-fish might serve as a vehicle for infection with typhoid fever. At the request of Dr. Thorne Thorne, who was then Chief Medical Officer of the Local Government Board, Dr. Bulstrode (1894-5) surveyed the conditions under which oysters and certain other edible molluscs were cultivated and stored along the coast of England and Wales, and in a later report (Bulstrode, 1909-10) he summarized the evidence incriminating shell-fish as carriers of enteric fever.

Though Klein (1894-5) was unable at first to distinguish between polluted and non-polluted oysters, he was helped by the work of Houston, and subsequently (Klein, 1899-1900) succeeded in demonstrating excretal pollution of cockles bought from a street hawker. He showed (Klein 1900-1) that cockles and mussels readily took up pathogenic organisms like the typhoid bacillus and the cholera vibrio from sea-water and remained infected sometime for days. It followed from this, and from the observation of later workers, that to ensure safety shell-fish ought to be laid down in non-polluted water for a few days before being marketed, so as to undergo a process of natural self-purification. For this purpose artificial tanks containing chlorinated water have come to be used for oysters and mussels (see Dodgson, 1936), and the purity of the shell-fish is gauged by the coliform count or, still better, by the faecal coli count using the 44° C. MacConkey broth fermentation test (Dodgson, 1938).

Sewage

Some of the early bacteriologists studied the flora predominating in different stages of decomposition and prepared the way for the so-called biological method of the purification of sewage. The story is told in Sir Woodhead's fourth Harben Lecture of 1897 and is continued in the reports of the Royal Commission on Sewage Disposal appointed in 1898.

Of late years the public health bacteriologist has been interested in the demonstration of pathogenic micro-organisms in sewage. Since the introduction in 1927 of Wilson and Blair's medium, and the subsequent development of further valuable liquid enrichment and solid selective media, it has become practicable to isolate pathogenic intestinal bacteria from highly contaminate materials like sewage. As a result typhoid and paratyphoid

bacilli have often been demonstrated in town sewage even in the absence of any known cases of enteric fever. This discovery is becoming of considerable epidemiological interest. It seems probable that the organisms are derived from subclinical cases or from carriers, and the problem now is to determine their precise origin. Already a start has been made, at Cardiff, by King (1944), who was able by examining sewage effluents from a factory to detect the presence of paratyphoid bacilli of a particular phage type, and then by examining the faeces of the individual employees to discover a symptomless carrier infected with the same type. The exploitation of this method for revealing unsuspected foci of enteric infection will be watched with considerable interest.

Milk

According to Newsholme (1936) Dr. Michael Taylor, of Penrith, first drew attention in 1858 to contaminated milk as a cause of fever, and in 1870 published the first recorded account of an outbreak of scarlet fever due to milk. In Norway, Homan and Harting, who practised in the town of Kragerø, described in 1859 an outbreak of dysentery spread by milk, and brought strong epidemiological evidence to show that the infecting agent was a living organism which had gained access to the milk by excretal contamination (Kohro, 1923).

The annual reports of the Local Government Board during the latter half of the nineteenth century contain records of numerous milk-borne outbreaks of scarlet fever, diphtheria, enteric fever, and diarrhoea, of which some of the most interesting refer to scarlet fever. In 1882 Power (1882-3) investigated the occurrence of multiple cases of this disease occurring simultaneously in several districts of central London, and ascribed the infection to milk coming from a particular farm in Surrey. He postulated that one of the cows in the herd must have been infected with the scarlet fever organism. He reached the same conclusion again three years later (Power, 1885-6a), when he traced another outbreak affecting several of the North London boroughs to milk from a farm at Hendon. Just before the outbreak three newly calved cows suffering from udder disease had been admitted to the herd from Derbyshire, and it is highly probable that one at least of these animals was suffering from streptococcal mastitis. Unfortunately another disease causing fever, constitutional disturbance, and a localized vesicular eruption spread through the herd soon after the arrival of these animals, and both Power and Klein concluded that this generalized disease—known as the Hendon cow disease—was due to the same streptococcal organism as was responsible for the scarlet fever cases in man.

Though Power and Klein have been severely criticized for confusing these two diseases, it is only fair to point out that they deserve a great deal more credit than they received. Power was almost certainly right in attributing milk-borne scarlet fever to the diseased udder of a cow, though it was not till fifty years later that he was vindicated by the observations of Bendixen and Minett (1938) on the occurrence of bovine mastitis caused by infection with the human type of haemolytic streptococcus—*Streptococcus pyogenes*. Klein (1886-7) was also right in concluding that scarlet fever was due to a streptococcus, which he called *Micrococcus scarlatinae*. He isolated this organism from the finger blood of four cases of scarlet fever during life and from the heart blood of one case after death. Klein's conclusions were confirmed shortly afterwards by Gordon (1898-9; 1900-1); but it was not till the extensive work of Dochez, Avery, Lancefield, and the Dicks in the United States and of Fred Griffith in this country during the second and third decades of the present

century that the aetiological role of streptococci in scarlet fever was finally established.

[The lecturer then described the gradual incrimination of milk as a carrier of tuberculosis, undulant fever, and epidemic respiratory and intestinal disease, and deplored the effect of Koch's pronouncement in 1901 at the London Congress on Tuberculosis that the bovine type of tubercle bacillus was relatively harmless to man. This led to discontinuance of the current practice of boiling milk, and put back the clock of pasteurization for many years. He ended with the following words.]

It is a sombre thought that our people are still suffering from the effects of an ill-considered authoritative pronouncement made nearly fifty years ago by a German bacteriologist to whom we, and the whole world, owe so much for the other services he rendered to medical science. We may perhaps recall the words of the book of Job: "Great men are not always wise: neither do the aged understand judgment."

On the laboratory side bacteriological methods of testing milk were not introduced till after Bang's discovery of tubercle bacilli in milk in 1884. Delépine at Manchester started examining milk for these organisms in 1892, and Sims Woodhead, Kanthack, and Klein were early in the field. Between 1896 and 1908 Delépine (1908-9) examined no fewer than 7,000 samples of milk for the Manchester Corporation; he found that of 5,320 samples of milk as delivered to the consumer 8.9% contained living tubercle bacilli.

In 1901 Park in New York drew attention to the "great bacterial contamination of the milk of cities," and Pakes (1909) reported that London milk contained over 3 million bacteria per millilitre. Savage, Delépine, and Thomas Orr, among others, laboured to devise some way of measuring the degree of bacterial pollution, but without much success. The value of the plate count was recognized as being limited, and no such clear answer was obtainable from the coliform test in milk as Houston had derived from its use in water examination. It was not till the concept of purity in milk was differentiated into its two components of cleanliness and safety that the failure of laboratory methods to protect the consumer became evident. It is now realized that by routine methods the bacteriologist cannot say, as he can with water, whether a given sample of milk is safe to drink. All he can do is to say whether the milk is of a reasonable standard of bacterial cleanliness and whether its keeping quality is likely to be satisfactory to the housewife. For this purpose much simpler methods, based on the reduction of certain aniline dyes and designed to estimate the total metabolic activity of bacteria in the milk, are sufficient.

Heat-treated milk forms an exception. The introduction of the phosphatase test by Kay and Graham in 1935 provided a means of assessing the degree of heat treatment a milk had received, improved the control of pasteurizing plants, and went a long way to ensure that only milk which has been adequately heat-treated and freed from the risk of causing human disease shall be offered to the public under the designation "pasteurized."

Food

Knowledge of the animal parasites that are conveyed by food was well advanced before bacterial food-poisoning had even been recognized. Thudichum in 1864 gave a detailed description of the helminths of animals, of the diseases they cause, and of the illnesses that may result in man if he becomes infected with them. Power (1879-80) recorded what was probably the first account of trichiniasis in England, occurring on board the reformatory school ship *Cornwall*. The diagnosis was made retrospectively by

microscopical examination of the muscles of one of the victims exhumed two months after death.

[The lecturer then recounted the steps that had led to the displacement of Brieger's ptomaine theory of food-poisoning by the belief that it was a specific infection with organisms of the *Salmonella* group; and told of the later definition by Daek and his colleagues (1930) of the staphylococcal toxin type of food-poisoning. He went on as follows.]

The great increase in food-poisoning during the second world war led to renewed interest in the aetiology of this disease; and, though much of the increase was traced to the presence of salmonellae in imported spray-dried egg, and to staphylococcal intoxication attributable to the low hygienic standards of communal feeding centres, the causation of many outbreaks remained obscure. Suspicion is now being cast on other organisms, and a great deal of research will be necessary before the full story is unfolded.

The diagnosis of food-poisoning can usually be made on clinical grounds alone, but laboratory investigation is necessary to define the particular bacterial agent concerned. Indeed, it is mainly as the result of systematic examinations of material from food-poisoning outbreaks that our present knowledge of some of the factors causing this disease has been gained. The value of field investigations has been greatly increased of recent years by the development of methods for the serological typing of salmonellae and the bacteriophage typing of staphylococci which can often throw light on the probable article of food responsible and the way in which it became contaminated.

Air

The observations of the mid-Victorian epidemiologists on the effect of overcrowding in favouring the spread of such diseases as typhus, cholera, and tuberculosis prepared the way for bacteriological investigations of the air as soon as it became evident from the work of Pasteur, Lister, Koch, Loeffler, and others that infectious diseases were almost certainly due to the action of living micro-organisms.

Systematic research on the bacterial content of the air was begun in Germany by Hesse, who published his records in 1884. Two years later Percy Frankland (1886), in this country, making use of Hesse's gelatin-coated tubes for the detection of organisms suspended in the atmosphere, and of gelatin plates for the detection of organisms attached to heavier particles undergoing sedimentation, found that bacterial contamination of the air was higher in the town than in the country, higher at street level than at the top of St. Paul's or of Norwich Cathedral, higher indoors if people were moving about than if they were still, and very high indeed in a crowded railway compartment.

Considerable work was carried out during the 'nineties, and at the beginning of the present century Gordon (1902-3) and Graham-Smith (1903) both made quantitative studies on the air of the House of Commons. Influenced by Houston's work on the value of coliform bacilli as indicative of excretal pollution of water, Gordon selected salivary streptococci as his index organisms, and by this means was able to show that during loud speaking in a closed room air-borne organisms derived from the mouth could be detected 40 ft. (12.3 m.) in front and 12 ft. (3.7 m.) behind the orator. Indeed, he found by examination of the air in the chamber that different speakers on the Treasury bench emitted their own characteristic salivary flora. The Chancellor of the Exchequer harboured a *longissimus* strain, the Prime Minister a *brevis*, and the President of the Board of Trade a haemolytic streptococcus (Gordon, personal communication).

The gradually increasing recognition of the importance of the carrier in the spread of infectious disease led to a

diminution of interest in the part played by air, and it was not till the study of Wells (1934) in the United States on the characters of air-borne droplets, and the observations in this country on cross-infection by Allison and Brown (1937) in fever hospitals, and by Leonard Colebrook and others in surgical wards, that it was revived. The old controversy between the supporters of Cornet and Flügge on the relative importance of dust and droplets was taken up again, and even the long-discredited work of Power (1880-1; 1884-5; 1885-6b) on the aerial dissemination of infection around smallpox hospitals began to be reconsidered.

To-day air-borne infection stands in the forefront of epidemiological and laboratory studies in public health work, and numerous teams are investigating the different modes of aerial spread and the measures that can be taken to control them.

Disinfection

The study of disinfection played a large part in the early laboratory work on public health. Even before the bacteriological era, Budd in 1856 had advocated the use of chemical agents for the destruction of the infecting agent in typhoid stools. Parkes in 1873 defined a disinfectant as a substance that destroys the specific poison of an infectious disease. Lister's paper in 1867 on the successful treatment of compound fractures by the use of phenol opened up a wide field of investigation, and careful observations were made by Baxter (1875), among others, to determine the range of usefulness of the common disinfectants such as chlorine, potassium permanganate, sulphur dioxide, and phenol. He came to the conclusion that dry heat was probably the most effective of all bactericidal agencies, and emphasized the difficulties of aerial disinfection.

Robert Koch in his classical paper of 1881 with Gaffky and Loeffler drew attention to the particular virtue of saturated steam under pressure, and introduced the first quantitative method for estimating the comparative value of chemical disinfectants. Intensive quantitative work was carried out during the following thirty years by Geppert in Germany, Arrhenius and Madsen in Denmark, and by Chick and Martin, and Rideal and Walker, in this country. No satisfactory method of standardizing chemical disinfectants has yet been devised, and inquiry still proceeds.

The last ten years have witnessed the introduction into medicine of the sulphonamides and of the antibiotics like penicillin and streptomycin, and the attention of bacteriologists is now focused largely on the action of these drugs in the tissues. The older use of disinfectants for the destruction of micro-organisms outside the body is, however, not altogether forgotten; and renewed interest is being taken in the disinfection of the air by ultra-violet light and by various sprays distributed in the form of aerosols or vapours.

Laboratory Investigation of the Infectious Diseases

Time does not permit me to review, even briefly, the epidemiological studies undertaken on the major infectious diseases during the past century, and I must confine myself to a short account of the laboratory investigations made in respect of their prevention and control. Even here I must restrict myself to one or two examples, beginning with diphtheria.

Diphtheria

After the successful isolation in pure culture of the diphtheria bacillus by Loeffler in 1884 there followed an interval of about ten years before the examination of throat swabs for this organism was introduced into routine practice in Great Britain. In 1894 Sims Woodhead, who was director of the laboratories on the Victoria Embankment

belonging to the Conjoint Board of the Royal Colleges, organized a service for the systematic examination of material from diphtheria patients admitted to hospitals of the Metropolitan Asylums Board. In 1895 specimens were examined from 3,648 cases, in 1896 from 4,870 cases; and in 1897 Sims Woodhead was able to take the bacteriological diagnosis of diphtheria as his subject for the first of a series of four Harben Lectures delivered to the Royal Institute of Public Health. Using primary cultivation on Loeffler's medium, followed, when necessary for confirmatory purposes, by growth in broth, he claimed to have found diphtheria bacilli in 95% of clinical cases. What was perhaps more interesting for the epidemiologist was his discovery of these organisms in a number of mild cases of sore throat, not diagnosed clinically as diphtheria, in fully recovered patients during convalescence, and even in healthy contacts. He insisted on keeping convalescents in hospital till they were bacteriologically free from infection, and on isolating child contacts if they were found to be carrying diphtheria bacilli, partly because they might spread the disease and partly because half of these children developed diphtheria themselves in the course of a few days.

Sims Woodhead's work affords an excellent example of the early application of public health bacteriological findings to administrative practice. The routine laboratory diagnosis of diphtheria was begun by Delépine at Manchester in 1894, and by Robertson at St. Helens in 1895. While investigating an outbreak of diphtheria at Cambridge, Cobbett (1901) drew attention to the danger of the nasal carrier.

The discovery by von Behring and Kitasato in 1890 of diphtheria antitoxin, and the introduction by Ehrlich of a method for its exact quantitative estimation, stimulated a demand in this country for preparation of the serum on a large scale. Armand Ruffer in 1894 was the first to make antitoxic serum in this country. The following year Sims Woodhead, with the help of Cartwright Wood, undertook its manufacture for use in the hospitals of the Metropolitan Asylums Board. In 1897 George Dean was appointed to the post of superintendent of the antitoxin department of the British Institute of Preventive Medicine (now the Lister Institute), situated at Sudbury (moved in 1902 to Elstree), and started on a series of investigations that contributed substantially to the present method of producing diphtheria toxin and of immunizing horses against it. In the large outbreak of diphtheria at Cambridge already referred to, Cobbett used antitoxic serum for passive protection of contacts, combined with the isolation of cases and carriers, and succeeded by this means in bringing the infection rapidly under control.

Further progress in the struggle against diphtheria was made when James Ritchie at Oxford described in 1901 a method of modifying toxins by weak acids and alkalis in such a way as to deprive them of their toxicity without destroying their antigenic power. Many years elapsed, however, before this line of investigation was developed, and it was not till the early 'twenties that Glenny and his colleagues in this country and Ramon in France introduced the formol method of detoxication that forms the basis of preparation of our modern diphtheria prophylactics.

The last great weapon in the public health armamentarium against diphtheria is the test introduced by Schick and his colleagues in Vienna in 1913 for ascertaining the susceptibility or immunity of subjects to infection. Though this test has been exploited beyond its capabilities, it provides, when carried out on groups of inoculated children, a simple and reasonably accurate index of the antigenic

potency of diphtheria prophylactic agents and, when carried out on individual adults, a guide to those who need protection and those who do not.

Typhoid Fever

The discovery of the typhoid bacillus by Eberth in 1880, and its isolation in pure culture by Gaffky in 1884, opened the way for the bacteriological diagnosis of enteric fever. The difficulties, however, of culturing this organism from the faeces at a time before enrichment and selective media had been devised were very great, and the application to human serum by Widal and by Grünbaum in 1896 of the agglutination reaction recently discovered by Gruber and Durham afforded a simpler method for distinguishing enteric fever from the numerous other pyrexial diseases with which it could be so readily confused. In this country Dr. D. S. Davies, medical officer of health for Bristol, is credited by Newsholme (1935) as being the first to apply the Widal-Grünbaum test to the investigation of an outbreak of enteric fever and to show its importance in discovering overlooked cases of the disease. Delépine introduced the test into routine practice at Manchester almost immediately after its description, and by 1902 he was able to report that he had used it in 8,000 cases of suspected typhoid fever. Employing a modification of his own, he was satisfied that the error of the test when carried out on sera taken after the first week of illness was not more than 2%.

The interpretation of the results of this test became complicated by the introduction during the South African War of anti-typhoid inoculation, and by the discovery around 1900 of the paratyphoid group of bacilli, in 1903 by Smith and Reagh of flagellar and somatic antigens, in 1920 by Arkwright of the smooth-rough variation, and in 1934 by Felix and Pitt of the Vi antigen. Though the Widal-Grünbaum test is still used in practice, it has been mainly superseded for the diagnosis of enteric fever in inoculated persons by the more reliable cultural methods now available, and its main value probably lies in the detection of the chronic carrier state by means of the modified Vi-agglutination technique.

[The lecturer then summarized the early history of the bacteriological examinations carried out for public health purposes on anthrax, cholera, plague, typhus fever, smallpox, rabies, cerebrospinal fever, and Siberian cattle plague. In respect of the last disease, better known as rinderpest, he drew attention to the discovery by Burdon-Sanderson (1866; see also Lady Burdon-Sanderson, 1911) that the infectious agent in the blood of diseased animals was incapable of passing through an animal membrane, thus providing the first clear-cut laboratory evidence of the existence of filtrable viruses.]

[The second lecture, with a list of references, will appear in our next issue.]

Nearly 1,000 volumes of medical books and periodicals have been distributed through Unesco during the past two months to libraries in eight war-devastated countries. The literature was given by the Army Medical Library of Washington and the Vanderbilt University School of Medicine Library, Nashville, Tennessee. The Army Medical Library in Washington, D.C., acting upon the recommendations of Unesco, distributed to five libraries in Hungary, Poland, and Yugoslavia a total of 635 volumes of scientific periodicals and books in the field of medicine. Following an agreement between Unesco and the American Medical Library Association by which duplicate books and periodicals of American medical libraries will be made available to medical libraries in other countries, a list of duplicates has been received from the Vanderbilt University School of Medicine Library in Nashville. So far 155 volumes have been allocated to ten libraries in Austria, Belgium, China, France, Greece, Hungary, and Poland. A list of the remaining titles for which no specific allocations have been received is being circulated to more than 50 libraries in war-devastated areas.

IDENTIFICATION OF MEDICAL DOCUMENTS

BY

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To fulfil administrative requirements for cross-reference with respect to successive admissions of one and the same person to the same medical institution and to different ones, or to subserve the ends of research involving reference to original records, a system of medical documentation must make provision for identification of individual patients. *Ipso facto* the method of designation must be highly specific in the sense that it excludes the possibility of confusing two individuals. It must also be suitable for transcription by recourse to a numerical code. Otherwise it is not feasible to take advantage of current mechanical methods of sorting and tabulation involving the use of punch-cards.

For the purposes of the punch-card, numerical coding of the birth name is unsatisfactory both because it monopolizes a considerable fraction of space available for other uses and because allocation of requisite columns is highly variable. The complete birth name of an individual may require any number of letters, from a minimum of about seven—e.g., May Hall—to a maximum of about 30. For instance, Henry William Howard Waterhouse would entail the allocation of 28 columns by the alpha system of punching and sorting with respect to a single letter of the alphabet per column.

Frequency of Surnames

Equally important, though too rarely recognized, is the fact that birth names are not highly specific. Farr recognized this long ago, and emphasized its statistical implications in words which are still worthy of citation: "From the indexes of the registers for the year 1853, the probable number of persons in England and Wales bearing each of the 50 most frequent surnames has been computed. . . . The persons by whom these 50 surnames are borne amount to about 3,253,800; nearly one-sixth of the entire population of England and Wales. On an average, it seems, one person in 73 is a Smith, one in 76 a Jones, one in 115 a Williams, one in 148 a Taylor, one in 162 a Davies, and one in 174 a Brown."

In an investigation into the frequency of surnames in a Midland telephone directory we found that the following seven names accounted for 5.6% of 88,351 persons listed: Smith, 1,330 (1.5%); Jones, 965 (1.1%); Williams, 614 (0.70%); Taylor, 550 (0.62%); Green, 520 (0.59%); Brown, 502 (0.57%); Evans, 468 (0.53%).

In one year (1946) the number of new in- and out-patients treated in the Birmingham United Hospital was also about 88,000. With such an intake we might therefore expect the central file of the hospital to accumulate in the course of 10 years records of several thousand Smiths, Joneses, Williamses, Taylors, Greens, Browns, and Evanses. Evidently the task of extracting the records of an individual from a set of documents filed by birth name, or extracting the file number of an individual from a ledger of birth

names, would assume alarming dimensions if there were centralization of medical documents in an administrative region.

In the long run, filing by serial code number without recourse to a ledger of birth names is therefore an administrative necessity. It is also the only practicable system of operating large-scale therapeutic trials or comparable statistical inquiries which entail recourse to detailed information not recorded on the punch-card case summary. Given a punch-card file based on diagnosis, it is possible by present methods of mechanical sorting and tabulation to run off a nominal roll (see Truelove, S. C., and Hogben, L., *Brit. J. soc. Med.*, 1947, 1, 18) of such serial numbers to identify the location of the individual in a central file of complete medical documents with minimum effort.

Three Requirements of Coding

To subserve both ends stated above, a system of serial code numbers must conform to three requirements. It must ensure that: (a) two patients will rarely receive the same serial number; (b) the *fixed* number of ciphers employed do not make excessive demands on the available number of columns of a standard punch-card; and (c) record officers in different institutions will assign without difficulty the same serial number to one and the same patient.

The objective defined by (a) is to ensure the possibility of turning up a patient's records with the utmost dispatch. Since the complete records will necessarily contain information sufficient to distinguish occasional individuals who receive the same serial number, it is not necessary to insist on the absolute specificity of the serial number assigned to him or her. All that matters is to circumscribe the search for a particular document within narrowly defined limits. As regards (b) the allocation of 9 or 10 columns is certainly not excessive, being less than the mean number requisite to code a full birth name as such and on all fours with the new national registration numbers of three letters followed by seven ciphers. The remaining criterion (c) calls for more detailed comment. It carries with it two desiderata: (1) individual ciphers must be referable to personal information which is easily accessible to the record officer and liable to no dubiety with respect to its interpretation; and (2) such information must refer to such characteristics of the individual as do not change in his or her lifetime.

That the choice of such information must be consistent with the fulfilment of the criteria of specificity and of economy of column space imposes further limitations. In particular, it excludes sex as a single unit of classification because the specification of the two sexes leaves vacant eight out of the ten rows of a column assigned to it. It excludes birth rank for a less obvious reason. Though it would be easy to assign the birth rank to a single column by reserving the last row for tenth or later live births in the patient's sibship, such an arrangement would not be economical inasmuch as high-grade specificity presumes *equipartition of statistical frequency to each of a set of exclusive classes*. As it happens, more than one-third of all children are firstborn. Hence the probability that two individuals taken from a population at random will have the same birth rank is far greater than 0.1, which is the minimum attainable for a single column of 10 rows.

The desideratum specified by (1) above excludes numerical coding of blood groups because this would necessitate the performance of a laboratory test, and of birthplace because this would entail recourse to a voluminous gazetteer. Birthplace is also exceptionable on account of (2), because topographical landmarks often change in the lifetime of an

individual consequent upon redistribution of local government responsibilities. For both reasons we may also dismiss fingerprints, since their interpretation is too specialized an art, and the loss of a limb destroys the possibility of subsequent identification. Aside from this, fingerprints have associations which do not find favour with a considerable body of patients. It goes without saying that eye colour, marital status, religion, and occupation are each inconsistent with (2) above, though eminently appropriate if (1) were the only prerequisite.

Considerations stated above are largely relevant to any satisfactory method of serial-number specification attached to a birth certificate or analogous personal document for purposes other than the one which is the theme of this discussion. Admittedly, a quite arbitrary national identity number assigned at birth would dispense with the need for an *ad hoc* examination of the issue in this context; but we have as yet no guarantee that the wartime system of national identity numbers will survive, and any proposal for its permanent adoption would encounter a formidable body of public opinion suspicious of regimentation. In any case, the present system is for several reasons unsatisfactory as it stands. One is that individuals on leaving the armed Services at present receive an identity number which is not the one they had before enlistment. Another, which will be more evident at a later stage, is that it lacks the merit of making explicit information, which has otherwise to be coded separately for general use.

Six-cipher Code

The principle implicit in the last statement offers an opportunity for illustrating how it is possible to make use of a run of ciphers embodying information which is at the same time (a) immediately accessible to a recording officer, (b) invariant with respect to the lifetime of the individual, and (c) useful for a wide variety of statistical purposes. A hospital record must give the age of the patient, and the six ciphers which can specify this suffice to make the datum explicit on any document which bears a serial number in which they occupy a *fixed* position. For instance, the birth date of one of us is Dec. 9, 1895, that of another Aug. 16, 1925. Transcribed direct by day, month, and year without specification of the century, as in general irrelevant, these would be respectively 091295 and 160825. Clearly the act of assigning such a label to an individual involves no issue of regimentation, since no one except the record officer and hospital staff with access to the confidential documents involved would need to know the patient's number. Nor would the patient need to know it. Equally clearly, record officers in different institutions would fill in the same run of ciphers assigned to the same fixed position in the serial number in the same way. These six digits do not necessarily require six columns on a punch-card. Since there are only 12 calendar months, it would be possible to record the two ciphers standing for the month on one column by recourse to the X and Y pigeon-holes.

We have now to ask what level of specificity a six-cipher sequence based on the birth date would guarantee. A convenient measure is the chance that two individuals taken at random will have the same cipher sequence. The chance that any individual will have the same birthday as another is of the order of 1 in 360. In Britain we may put the chance that two individuals taken at random will be of the same age—i.e., that they will have been born in the same year—at about 1 in 50. Thus the number of live individuals in England and Wales with one and the same six-cipher birth-date sequence should be about 2,000.

Ten-cipher Code

By employing four additional ciphers we can greatly reduce the possibility of confusion: how greatly depends on partition of information employed to assure approximately equal relevance to each of the 10,000 compartments which four ten-row columns accommodate. Whether such partition is more or less easy is an empirical issue. Accordingly we have made an analysis of the initial run of letters in 88,000 surnames of a Midland telephone directory to explore the possibility of grouping such initials in 100 blocks of equal frequency with a two-figure code for each block—e.g.:

AA—AK	... 00	BAA—BAJ	... 04
AL	... 01	BAK—BAQ	... 05
AM—AR	... 02	BAR	... 06

If p_x is the proportion of surnames assignable to the x th block we may define a convenient coefficient of specificity (C_x) for the two relevant columns in accordance with the following definition:

$$C_x = \frac{x - 99}{\sum P_x^2} \quad x = 0$$

As against the theoretically realizable C_x ($=0.01$) a straightforward code designed as stated on the basis of information supplied by an 88,000 sample of surnames yielded the highly gratifying figure 0.01073. This result does not justify us in offering for national use the specimen surname initial code (C) printed below, since the best code for the whole nation should be based on a national sample more representative of the population than the contents of a regional telephone directory. None the less, the Midland region is fairly representative of the country as a whole, and we may therefore assert with confidence that a foolproof two-cipher surname code devised for use on the *same pattern* would prove to have a C_x not far off 0.01. The only name in our sample which requires a block to itself is Smith (1.5%). If Smiths are more common in the country as a whole than they are in the Midland region it will be possible to deal with them as we deal below with first names such as William.

To make good use of two additional ciphers we have examined the possibility of coding first names on a principle which makes the sex of the individual explicit in the first digit. For this purpose we have prepared a frequency distribution of 3,000 *male* first names and 4,000 *female* first names in our hospital register. The result shows that certain first names have a relative frequency much higher than 0.01. Where this is so it is possible to ensure approximate equipartition of information by recourse to live-birth rank specification—e.g.:

						Code No.
Francis	...	...	...	...	...	15
Frank	...	...	...	...	...	15
Frederick, Birth rank	1	...	...	...	...	16
" "	> 1	...	...	...	...	17
F (excluding above)	...	...	...	...	...	14

By assigning the two-cipher sequence 00–49 (Code A) to males and 50–99 (Code B) to females we are able to distribute first names with a C_x equal to 0.0103. As it stands we do not claim that such a code is ideal for the nation, or even for the Midland region. We are content to assert that Codes A and B provide a pattern for a more satisfactory attempt in conformity with the requirements stated above.

The complete proposal which emerges from the foregoing analysis of surnames and first names undertaken to

One minor issue which calls for comment is the occurrence of first names, such as Evelyn or Francis, which are not distinctively male or female. The proposed system takes this into account by prescribing a separate code A for the

Codic C. Initial Letters of Surname at Birth

×	×								
---	---	--	--	--	--	--	--	--	--

	x	x				
--	---	---	--	--	--	--

Alice	50	Kathleen	79
Annie	51	K (excluding Kathleen) ..	80
Ada	52	Laura	81
Amelia	52	Lillian	81
Amy	52	Lily	82
Agnes	53	Louisa	82
Ann	53	L (excluding above) ..	80
Anne	53	Margaret Birth rank 1	83
A (excluding above) ..	54	" " " >1	84
Barbara	55	Margery	85
Beatrice	55	Marjorie	85
B (excluding above) ..	56	Madge	85
Catherine	57	Mary Birth rank 1	86
Charlotte	57	" " " >1	87
Clara	57	Mabel	88
Connie	57	Maria	88
Constance	57	Marie	88
C (excluding above) ..	54	Marion	88
Dorothy	58	Maud	89
Doris	59	Minnie	89
Dora	59	Muriel	89
D (excluding above) ..	60	Martha	90
Editb	61	May	90
Elizabeth	62	Millicent	90
Elsie	63	M (excluding above) ..	91
Ethel	64	Nellie	92
Eliza	64	Nora	92
Eleanor	64	Norah	92
Emily	65	N (excluding above) ..	91
Emma	65	O	93
Eileen	66	Patricia	94
Edna	67	Pauline	94
Eva	67	Phyllis	94
Evelyn	67	Polly	94
E (excluding above) ..	60	P (excluding above) ..	93
Florence Birth rank 1	68	Q	93
" " " >1	69	Rosa	95
F (excluding Florence) ..	70	Rosalind	95
Gertrude	71	Rosanna	95
Grace	71	Rose	95
Gladys	72	Rosemary	95
Gwendoline	72	Rosetta	95
G (excluding above) ..	70	Rosina	95
Hilda	73	R (excluding above) ..	96
H (excluding Hilda) ..	74	S	97
Ida	75	T-U	96
Irene	75	Violet	98
Ivy	75	Vera	98
I (excluding above) ..	76	V (excluding above) ..	96
Jane	77	Winifred	99
Jean	77	W (excluding Winifred) ..	96
Jessie	77		
Joan(ne)	78		
Joy(ce)	78		

AA-AK	..	00	GO-GO	..	35	PEO-PH	..	68
AL	..	01	GRA-GRE	..	36	PI-PN	..	69
AM-AR	..	02	GRF-GZ	..	37	PO-PRH	..	70
AS-AZ	..	03	HAA-HAL	..	38	PRI-PZ	..	71
BAA-BAJ	..	04	HAM-HAQ	..	39	QA-QZ	..	97
BAK-BAQ	..	05	HAR	..	40	RA-RG	..	72
BAR	..	06	HAS-HAZ	..	41	RH-RI	..	73
BAS-BD	..	07	HB-HH	..	42	RJ-ROB	..	74
BEA-BEK	..	08	HIA-HIL	..	43	ROC-RZ	..	75
BEL-BEZ	..	09	HIM-HOK	..	44	SA-SB	..	76
BF-BJ	..	10	HOL	..	45	SC-SHA	..	77
BK-BN	..	11	HOM-HOU	..	46	SHB-SHZ	..	78
BO-BQ	..	12	HOV-HUF	..	47	SI-SM	..	79
BRA-BRN	..	13	HUG-HZ	..	48	(excl. Smith)		
BRO-BRZ	..	14	IA-IZ	..	97	SMITH	..	80
BS-BZ	..	15	JA-JD	..	49	SN-SS	..	81
CA-CG	..	16	JE-JOM	..	50	STA-STN	..	82
CH-CK	..	17	JON-JZ	..	51	STO-SZ	..	83
CL-CN	..	18	KA-KH	..	52	TA-TD	..	84
COA-COL	..	19	KI-KZ	..	53	TE-YH	..	85
COM-COP	..	20	LA-LD	..	54	TI-TO	..	86
COQ-COZ	..	21	LE-LH	..	55	TP-TZ	..	87
CP-CZ	..	22	LI-LN	..	56	UA-UZ	..	98
DAA-DAU	..	23	LO-LZ	..	57	VA-VZ	..	99
DAV-DAZ	..	24	MAA-MAN	..	58	WAA-WAQ	..	88
DB-DI	..	25	MAO-MAN	..	59	WAR-WAZ	..	89
DJ-DZ	..	26	MAS-MD	..	60	WB-WG	..	90
EA-EL	..	27	ME-MI	..	61	WH	..	91
EM-EZ	..	28	MJ-MOQ	..	62	WIA-WILK	..	92
FA-FH	..	29	MOR-MZ	..	63	WILL	..	93
FI-FL	..	30	NA-NE	..	64	WILM-WIZ	..	94
FM-FO	..	31	NF-NZ	..	65	WJ-WOO	..	95
FP-FZ	..	32	OA-OZ	..	97	WOP-WZ	..	96
GA-GH	..	33	PAA-PAR	..	66	X-Z	..	99
GI-GN	..	34	PAS-PEN	..	67			

individual treated in different institutions and relies on a name-and-address ledger for identification of the numerical locus of an individual in a large-scale file.

Conclusion

Our submission is that a code based on the same pattern as the Birmingham system, though not necessarily satisfactory in detail for the nation as a whole, would ensure:

(a) That a record officer in Beachy Head would assign to a commercial traveller treated for fracture in the Birmingham Accident Hospital and subsequently re-examined in Bedford the same serial number, which would identify his position in the record file of the Birmingham or Bedford institution; and he or she would hence be able to obtain therefrom information relevant to treatment with minimum effort and delay.

(b) That all records of one and the same individual successively admitted to one and the same institution either as an in-patient or as an out-patient would be available for research in one and the same niche in its file of medical documents without recourse to a name-address admission-and-discharge register.

first two ciphers if the individual is a male in contradistinction to Code B for females. Thus Evelyn, a male, being known as such, is "E (excluding above) 14" in Code A. Evelyn, a female, is "Evelyn 67" in Code B.

In the best of possible worlds clerical errors must occasionally occur ; but clerical errors in transcription of a code such as this could be open to supervisory inspection at source by recourse to a standard admission card, explicitly recording a woman's maiden name and the birth date of an individual irrespective of sex. As a safeguard against erroneous statement on the part of the patient or the relatives of the patient it would be easy to specify an appropriate *check question* routine for the record officer engaged in filling in the standard admission slip or card. The most generous allowance for occasional errors of this sort can have little weight if the alternative is a system which necessarily assigns different serial numbers to the same

A delegation from Charing Cross Hospital visited five hospitals in Europe to study methods of hospital design and planning. The five hospitals were the Neue Bürgerspital in Basle; the Polyclinic in Zurich; the Kinderspital in Zurich; the Beaugnon Hospital in Paris; and the New Southern Hospital in Stockholm. This visit was arranged by the King Edward's Hospital Fund for London, and the long report which was subsequently prepared by Sir John Stewart-Wallace, Mr. Norman C. Lake, Dr. H. W. C. Vines, and Dr. A. Doyne Bell was reviewed in the *Journal* of Nov. 1, 1947 (p. 704). The report has now been published and copies are available, price 1s., from the Honorary Secretaries of the Fund at 10, Old Jewry, London, E.C.2.

TREATMENT OF HYPERIDROSIS

BY

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The condition of essential hyperidrosis is seen in those parts of the body which are affected by mental or emotional sweating, as opposed to thermoregulatory sweating. These are the palms of the hands, the soles of the feet, all the digits, and to a smaller extent the head and face.

Hyperidrosis is met with in varying degrees of severity, from a slight excess of normal sweat-gland activity to a condition in which sweat drips from the skin continuously during waking hours, often leading to considerable embarrassment and to interference with activities, even to the extent of making the patient's usual work impossible. The milder types may be controlled by formalin foot and hand baths, with some risk of a dermatitis developing, or by painting with a solution of alum, but such treatment is of no avail in the severe degrees. X-ray treatment must be pushed to a dangerous limit in order to damage the secreting glands in the skin, and there is grave danger of a chronic dermatitis, or even skin necrosis, resulting. On the other hand, section of the sympathetic pathway to the affected part provides a safe and certain cure. This procedure cuts off all sudomotor activity and results in an immediate and profound dryness of the skin in the distribution of the divided fibres.

Previous reports (Adson, Craig, and Brown, 1935; Telford, 1938; White, 1939) have shown that hyperidrosis can be abolished by such operations, but the follow-up periods were short. (Out of five cases in each of the series by Adson *et al.* and by White only one was seen more than twelve months after operation, and out of three cases reported by Telford only one had been followed up for a prolonged period.) In view of the fact that regeneration of divided sympathetic fibres occurs in animals (Langley, 1894, 1897; Lee, 1929; Grimson, 1946) and that there is strong evidence that it takes place in man (Simmons and Sheehan, 1939; Haxton, 1947) a longer follow-up is necessary to evaluate the permanency of the cure.

The present study includes the follow-up of several cases for much longer periods. In all, 12 cases of severe hyperidrosis have been treated by sympathetic section in this clinic over the past 15 years, and have been followed up with great care. Operation was considered to be justified in cases in which the sweating was a severe nuisance or an embarrassment, or when it actually interfered with the patient's occupation.

Operations

Three operations have been used. For hyperidrosis of the face and neck section of the sympathetic chain has been carried out above the middle cervical ganglion, with dislocation of the upper end by drawing it through the sternomastoid muscle. The incision employed has been in the line of the skin folds of the neck, centred on the posterior border of the sternomastoid muscle at the midpoint of its length. The muscle is retracted forwards and the sympathetic chain is found lying on the longus cervicis muscle when the carotid sheath and its contents are retracted medially. It is worth recording that a partial result has been seen after the undoubted division of a sympathetic filament in this region, and on second exposure a further filament was found, situated more medially, division of which gave a completely satisfactory result. Therefore the region posterior to the common carotid artery and

internal jugular vein must be carefully searched for reduplication of the cervical sympathetic chain.

For hyperidrosis in the hands the operation employed is the Telford (1935) procedure of thoracic sympathectomy below the third thoracic ganglion, with dislocation of the upper cut end after section of the rami to the second and third thoracic ganglia. This operation, carried out by the anterior approach, is a relatively easy one to the experienced hand, and the convalescence is rapid and free from pain. It has the advantage over cervico-thoracic ganglionectomy that the disfiguring Horner syndrome is entirely avoided by leaving intact the first thoracic white ramus communicans.

Lumbar sympathectomy is now done through separate oblique muscle cutting or splitting incisions in the flanks, with extraperitoneal approach to the sympathetic chain. From 3 to 6 cm. of each chain, centred on the third lumbar vertebra, are removed. Both sides are done at one session, under spinal analgesia, and convalescence has been singularly uneventful.

Results.—The immediate result has been a complete anidrosis in the zone of sympathetic denervation, the extremity being quite dry. The inevitable vasodilatation does not appear to have caused any trouble. For practical purposes the cure seems to be permanent, since in no case has hyperidrosis returned, the most that has been noticed in the way of sweating being a slight moistness of the hands when warm. The patients have all been most grateful for the relief obtained in this uncomfortable and embarrassing condition.

Case Reports

Case 1.—A meter inspector aged 38 noticed excessive sweating of the feet one year before admission. The condition was so bad that in the course of his daily round of 12 to 14 miles he had to empty his shoes of water and wring out his socks six times. His feet became macerated, and he was laid up for nine months, receiving treatment in various hospitals for mycotic infection with no benefit. Bilateral lumbar sympathectomy was carried out in January, 1932, by Prof. Telford, and the feet were dry and healed in three weeks. When last seen, in October, 1941, he remained free from trouble and the feet were quite dry.

Case 2.—A female cotton-packer aged 16 was troubled with excessive sweating of the hands and feet, with blistering of the hands in hot weather which prevented her from working. The Telford operation was carried out on both sides in September, 1937, and was followed by complete dryness of the hands. They became slightly moist two years later, and have remained so without getting any worse. She has had marked gustatory sweating of the forehead and face since 1942, six years after the operations. The chief stimulant is cheese, and now the thought of this brings on the sweating. On Oct. 20, 1945, the whole body was heated strongly in a radiant-heat apparatus. After remaining dry for ten minutes the hands suddenly began to sweat profusely. A trace of perspiration was seen on the forehead. On March 11, 1947, paravertebral block of the sympathetic chains in the upper thorax with 2% procaine resulted in a great increase in skin temperature and electrical resistance in the hands but no sensor, or motor disturbance.

Case 3.—A man aged 22 had profuse sweating of the hand for three months which resulted in excoriation of the skin on the pads of his fingers. He had to give up his work in a paper mill because the sweat spoilt the materials which he handled. In November, 1937, the Telford operation was carried out on both sides, and was followed by immediate and complete dryness of the hands. He was last seen two years later, at which time he remained completely cured.

Case 4.—A male cleaner aged 48 had a twelve-month history of hyperidrosis in the hands, with swelling at cheirpompophylx which made them useless for work. On April 30, 1938, he had a Telford operation on the right side following which the right hand has remained warm and dry

he left hand has also improved, though it still sweats. No normal sweating of the face has been noticed. At a test on July 10, 1945, both hands were very warm, the right being dry and the left sweating. Measurement of the electrical conductivity of the skin of the digits was made before and after block of the right ulnar nerve with 2% procaine, and after strong heating of the body. The method is described elsewhere (Axton, 1947). The test shows that sudomotor activity was present in the right upper limb seven years after sympathetic section, but in spite of this the clinical result is good and the hyperidrosis remains cured.

Electrical Conductivity of the Skin in Microamperes

	Fingers of Right Hand					Fingers of Left Hand				
	1	2	3	4	5	1	2	3	4	5
art.	2	6	8	10	10	20	45	50	45	40
mins. after injection ..	5	12	15	15	5	—	—	—	—	—
" heat " ..	5	15	18	18	2	1	—	—	—	—
	10	25	25	20	2	35	50	50	50	50

NOTE.—The sign + indicates the midline of the ring finger.

Case 5.—A lad aged 16 had severe hyperidrosis for 10 years. It was so bad that when he was reading a book the sweat used to run from his hands down to the elbows and drip from there on to his trousers. He could not write without a double sheet of blotting-paper under his hand to catch the drips. He was unable to go dancing because of the trouble. In January, 1939, he had a Telford operation on both sides, with immediate and complete relief from the hyperidrosis. He has remained cured, though when very warm he has noticed slight sweating of both hands since the beginning of 1945. In the last three years he has noticed gustatory sweating on the face and forehead on eating sour things, although these areas have remained free from sweating in response to heat.

Case 6.—A female domestic servant aged 26 had excessive sweating of the hands for three years. She was also troubled with Raynaud's disease in the hands, which was progressing in severity. In June, 1939, a Telford operation was performed on both sides. The immediate result was excellent, both for the hyperidrosis and for the Raynaud spasms. When seen in February, 1941, however, the latter had returned and the condition was little better than before operation, although the hands remained dry.

Case 7.—A female warehouse assistant aged 18 had hyperidrosis of the hands and feet for three years, severe enough to interfere with her work. She had a Telford operation on the right side in October, 1939, and on the left side in January, 1940. The hands have remained completely dry since then, but within two months of operation she noticed gustatory sweating on taking cheese or sweetmeats, and particularly on eating chocolate. This condition persisted unchanged when she was last contacted in May, 1947.

Case 8.—A female school attendance officer aged 35 had a history of cold and damp hands and feet for as long as she could remember. The sweating of the feet was so bad that it caused her stockings to rot. She was troubled with Raynaud attacks in the hands in cold weather, and suffered from severe chilblains on the hands and feet all the winter. When examined the hands and feet were cold and quite wet with perspiration. In September, 1943, a bilateral lumbar sympathectomy was carried out, and in October, 1943, Telford operations were done on both sides. Since then the hands and feet have remained dry, but the fingers are again red and painful in cold weather. She noticed gustatory sweating of the face on taking vinegar six weeks after the operations. The hyperidrosis, then, has been cured by operation, but the sensitivity to cold has been only partially relieved.

Case 9.—A housewife aged 36 had a six-months history of hyperidrosis of the left side of the face when warm or embarrassed. The sweating extended to the lower border of the mandible and was accompanied by flushing and tingling of the skin. For the same period she had a marked rhinorrhoea confined to the left side, for which she had two nasal operations without benefit. In July, 1945, the left cervical sympathetic chain was sectioned above the middle cervical ganglion. The result was complete anidrosis of the left side of the face and

neck, and cessation of the rhinorrhoea. The cure remained complete when she was seen in May, 1947. She had, of course, pronounced Horner's syndrome, but this is well concealed by the stroop cocoave lenses which she normally wears.

Case 10.—A man aged 22 had suffered from hyperidrosis, mainly of the face, when at work, at the cinema, or after hot meals, and the condition was causing him considerable worry and embarrassment. In June, 1946, a bilateral section of the cervical sympathetic chains was carried out above the middle cervical ganglion. The immediate result was complete dryness of the face and bilateral Horner's syndrome. He was tested three months later by strong radiant heat to the body and limbs, when profuse sweating was induced all over, except for the head and neck down to the level of the second rib, which remained quite dry. When he was last examined, in May, 1947, the cure remained complete.

Case 11.—A machinist aged 22 had had excessive perspiration of the hands and feet for as long as she could remember. The sweat dripped from her fingers at times. She had also noticed slight sweating of the face on eating sauce. In August, 1946, she had a Telford operation on both sides, and when tested by strong radiant heat several weeks later she sweated profusely up to the third intercostal space, and remained dry above that level, including the upper limbs, head, and neck. When seen on May 15, 1947, the cure remained complete in the hands, and the feet still sweated excessively. Her slight gustatory sweating remained as before operation.

Case 12.—A coach painter aged 20 was troubled with pronounced sweating and flushing in a small area on the ulnar border of the left forearm just above the wrist. The syndrome came in attacks, lasting two to nine hours, when he was nervous or making a mental or physical effort. This condition had been present for four years. On March 11, 1947, he had a left thoracic sympathectomy, with immediate cessation of the hyperidrosis, and he has had no further trouble with it since.

Discussion

Five of these cases have been followed up for more than seven years after operation (average 8.6 years), and in none of them has the hyperidrosis returned. It can therefore be claimed that a prolonged and probably permanent cure is effected by this treatment. Two of the cases reported slight sweating of the hands two and six years after operation, and this has continued, unchanged in degree, up to the time of writing. In one of these cases this slight moistness of the hands was abolished by a paravertebral block of the sympathetic chains in the upper thorax, and this, along with the accompanying rise in skin temperature, indicates that regeneration of sympathetic fibres has taken place. In spite of this, however, there is no indication that more than a very slight degree of sweating returns, and from a practical standpoint the patients remain cured.

The causes of hyperidrosis can be divided into those known and those unknown. Of the former, irritative lesions affecting the sympathetic pathways in the spinal cord or at any point between it and the periphery have been associated with hyperidrosis. Syringomyelia, for example, may be a cause of excessive sweating of the face (Wilson, 1936). Pressure on the fasciculus of sympathetic fibres in the lower trunk of the brachial plexus (Telford and Stopford, 1931) by a cervical rib is an uncommon cause of hyperidrosis, usually affecting one hand only (Telford, 1942). In hyperidrosis of the hands, therefore, a radiograph should be taken to exclude this possible cause. This type is cured at once by removal of the cervical rib, or in some cases by division of a tense fibrous band in the scalenus medius muscle.

For most of the cases no definite cause can be found, and the explanation remains obscure. Psychic disturbances have been blamed (Cobb, 1938), but the development of the condition before the age of 10, as in two of the cases reported here, is against this theory, as is the very localized distribution of the hyperidrosis in some cases—for example,

Case 12. The theory of Leslie-Roberts (1934) that the condition is due to abnormal function of mesenchymal cells in the dermis is hard to reconcile with the spontaneous development of the trouble in a localized area of skin, and with the finding that the hyperidrosis does not return although regeneration of the sympathetic fibres takes place. If, as he believes, these fibres function as a trigger mechanism for starting the excessive sweating, then any return of sympathetic activity should provoke the full response, since the sweat glands do not undergo degeneration after sympathetic denervation (Adson *et al.*, 1935). Evidence of sympathetic overactivity is present in some cases of hyperidrosis in the form of excessive vasospasm, resulting in acrocyanosis or in attacks of the Raynaud phenomenon. Most cases are, however, free from these manifestations, and the disturbance is most likely due to excessive activity in some localized part of a sudomotor centre, probably in the hypothalamus.

No fewer than four of the patients whose cases are reported above had observed that after the Telford operation of thoracic sympathectomy the eating of food was accompanied by sweating of the forehead and face. The foods which provoked the strongest reaction differed in these cases, being cheese in one, chocolate in another, and vinegar in the third and fourth. The latent period between operation and the first detection of the sweating varied between six weeks and six years, and in three cases the condition has persisted unchanged for three to five years. The patients state characteristically that on eating the appropriate food, usually a strongly flavoured food, they feel a tingling or warm sensation in the face or scalp, accompanied by flushing of the face, and in a short time beads of sweat appear, mainly on the forehead but also in the circumoral region. The condition is not severe enough to cause the patient much trouble or embarrassment.

The gustatory sweating has not previously been reported as a complication of upper-limb sympathectomy, although its occurrence after superior cervical ganglionectomy has been noted. Conflicting theories have been advanced in explanation, and indeed it is difficult to account for sweating occurring after the sudomotor pathways have been divided. (Thermoregulatory sweating on the head and face is almost or completely abolished by preganglionic operations for the upper limb.) This fascinating phenomenon is the subject of a special study which will be reported later.

Summary

A study of 12 cases of hyperidrosis treated by sympathetic section, five of them followed for more than seven years, has shown that the operation affords a prolonged and probably permanent cure for this uncomfortable and sometimes disabling condition.

Gustatory sweating of the head and face is a frequent development after the upper-limb operations.

I wish to express my grateful thanks to Prof. Telford for his stimulating interest in this work, and for permission to report on his cases.

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IMMEDIATE PROSTATECTOMY FOR RETENTION OF URINE

BY

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In recent times so many different procedures have been advocated for dealing with cases of benign prostatic hypertrophy that it is becoming increasingly difficult to estimate the value of new methods of treatment. This difficulty has been amply shown by the conflicting views put forward at discussions which took place in 1946 at the Medical Society of London and at the Annual Meeting of the British Association of Urological Surgeons. It seems important, therefore, for surgeons employing new methods to publish their results so that their experiences may be shared by others, and this reason prompts me to place on record a small series of cases.

On going through my case records some years ago I was shocked at the bad results they revealed: in spite of refusing radical operation to a big proportion of cases, the mortality rate was appallingly high. Among 27 cases of permanent suprapubic cystotomy there were 6 deaths (22%), and the rate for prostatectomies was over 15% (Table I, Series I). Unfortunately, this does not appear to

TABLE I.—Results of Treatment in Cases of Benign Prostatic Hypertrophy

	No. of Cases	No. of Deaths	Mortality Rate
Series I.—82 cases: 52 (63%) submitted to radical operation			
Suprapubic prostatectomy, I or II stage ..	38	7	15.4%
Perurethral prostatectomy (McCarthy) ..	14	1	
Permanent suprapubic cystotomy ..	27	6	22.2%
No operation ..	3	2	66.6%
Series II.—132 cases: 106 (80%) submitted to radical operation			
Suprapubic prostatectomy, I or II stage ..	11	1	8.5%
Perurethral prostatectomy (cold punch) ..	95	8	
Permanent suprapubic cystotomy ..	23	6	26%
No operation ..	3	1	33.3%

be an isolated experience; for instance, Harbord (1943) records 15% for 94 cases of suprapubic prostatectomy. Owing to these depressing figures my attention was directed to the perurethral operation with the Thompson cold punch, and this method was used almost exclusively for the next series of over 100 cases (Table I, Series II). Though this resulted in diminished mortality, a big drop in the number of patients treated by permanent suprapubic cystotomy, and a welcome rise in the operation rate, the method was not entirely satisfactory. A very high degree of technical ability, which can be acquired only after considerable experience, is required for the successful use of the cold punch, and the need for intensive after-care puts a big strain on the staff where cases have to be nursed in the general surgical wards of a busy hospital. Furthermore, there is a definite recurrence rate (though admittedly dependent on the skill of the individual surgeon); haemorrhage is sometimes very difficult to control, and various complications such as extravasation or urethral damage may arise. Hoffman and Werthammer (1946) even go so far as to state that "statistics show that approximately one out of three cases of transurethral resection of the prostate gland develops complications."

For some considerable time the belief has been gaining ground that gradual decompression is not necessary for treatment of cases of urinary retention. Ten years ago Creevy (1938) concluded that "gradual decompression should be abandoned." He reached this conclusion after treating two groups of 120 cases with more than 500 ml.

of residual urine—one series by gradual decompression and the other without regard to the rate of emptying—the mortality of each group being almost identical. More recently other surgeons have supported the principle of early operation; for instance, D. K. Rose (1945) stated: "Gradual decompression is omitted in fact and in principle, because as a normal or particularly a gradually obstructed bladder empties, its pressure increases. . . . The patient is operated on from the street in better health than from the 'sulfa, catheter, anticipatory, lost appetite, and lessened physiological tone' bed." Moreover, preliminary drainage by catheter or suprapubic tube carries a high mortality, mainly from the resulting infection.

Skyrme Rees (1947), in recording 643 cases of benign prostatic enlargement from Birmingham, found 18 patients had died during gradual decompression of the bladder by catheter, and of 106 cases treated by suprapubic drainage 30 died in hospital (28%). Further, from the results of 64 post-mortem examinations he concluded "by far the commonest cause of death after surgical treatment was severe sepsis in the urinary tract." In addition there are other disadvantages of preliminary drainage. For instance, Wardill (1946) is reported as saying: "I do not believe in permanent suprapubic drainage. If a tube were put into the bladder it might be found that it did not in any way improve the patient's condition. The same applies to catheter drainage for any length of time. I believe that often the enlarged prostate pushed its way up into the bladder and that the ureters were actually obstructed by the prostate itself." My own experience has proved that a permanent suprapubic tube is extremely unsatisfactory for the type of patient predominant in my clinic, most of whom come from a sparsely populated rural area.*

Immediate Prostatectomy

In this country it was Wilson Hey (1945) who first used immediate operation for a large series of cases, and he showed a mortality rate of only 6% for his "aseptic operation." Later figures were even better—24 deaths in 565 consecutive cases—4.3% (Hey, 1946). As Hey's procedure abolished the use of a suprapubic tube, gave a short convalescence, and required a minimum of post-operative care, it seemed a better operation for routine use than the complicated technique of the cold punch. The method of "immediate prostatectomy" was therefore adopted for all cases in my next series irrespective of their condition, though a perurethral operation was still used where it appeared specially indicated, such as for dealing with small fibrous glands. This term is used in preference to "aseptic prostatectomy" because, though asepsis is of paramount importance and an ideal to be aimed at, in

*Since this paper was completed I have successfully removed the prostate from a patient who had been treated by permanent drainage and was in such a miserable condition that he had twice been in another hospital after attempts at suicide.

practice it is very difficult of attainment for various reasons. Thus a high proportion of my cases had been catheterized before admission, a few were referred after they had already been treated by either an indwelling catheter or a suprapubic tube, and, lastly, where the diagnosis was in doubt some cases were cystoscoped immediately before operation.

More recently Millin's (1945) retropubic operation has been performed; in my hands it gives better control of bleeding and there is much less chance of leakage from the suture line in infected cases. At the same time the principles laid down by Hey have been adhered to and immediate operation is practised wherever possible, cases of acute retention being done as emergencies where practicable, or else a suprapubic needle is inserted for a few hours until operation can be undertaken. The actual operative technique employed differs little from Millin's original description, but a V-shaped wedge is excised from the posterior margin of the prostatic rim in every case. Spinal anaesthesia with heavy "nupercaine" by the volumetric method (Hunter, 1945) is employed as a routine, but in some of the worst cases a rectus muscle block and cyclopropane have been used with satisfactory results.

Table II is a complete record of cases from the first immediate prostatectomy, for unless every case is recorded

TABLE II.—Results of Treatment by Immediate Prostatectomy
Series III.—141 cases: 133 (95%) submitted to radical operation

	No. of Cases	No. of Deaths	Mortality Rate
Suprapubic prostatectomy (Hey or Millin) ..	115	9	7.2%
Perurethral prostatectomy (cold punch) ..	23	1	
Permanent suprapubic cystostomy ..	0	—	100%
No operation* ..	3	3	
Cases of acute retention ..	70	4	5.7%
Cases of chronic retention with overflow ..	27	3	11.1%
Cases of prostatic syndrome ..	41	3	7.3%

* Aged 76: admitted with acute retention and cardiac failure; died the same day. Aged 76: admitted with acute retention and cerebral thrombosis; died the 6th day. Aged 71: admitted with chronic retention, uraemia, pyelonephritis, and bronchitis; died the following day.

any series of figures is without much value. It is difficult to define "chronic" retention, particularly when no catheter is passed before operation to determine the amount of residual urine: I have therefore classed as chronic retention only those cases which showed a distended bladder with overflow incontinence. All cases not classed as acute or chronic retention have been grouped together under the heading "prostatic syndrome," and they include cases referred after a previous suprapubic cystostomy.

Deaths

Detailed examination of Table III shows that of the four deaths out of 70 cases of acute retention two were not treated by immediate operation. Case 2 was admitted with

TABLE III.—Details of Deaths in Series III

Case No.	Age	Condition on Admission	Blood Urea mg./100 ml.	Pre-operative Treatment	Type of Operation	Time and Cause of Death
1	78	Acute retention B.P. 260/140	114	Nil	Hey	9th day. Pneumonia and uraemia
2	73	Acute retention; pneumonia	46	10 days cath. and for chest	Millin	6th day. Pneumonia and cardiac failure
3	76	Acute retention; cardiac failure	26	16 days cath. and for heart		8th day. Cardiac failure. Necropsy also showed carcinoma of stomach
4	82	Acute retention	26	Catheterized before admission	Hey	8th day. Cardiac failure and senility
5	67	Chronic retention; oedema of legs	133	Nil		8th day. Uraemia and myocarditis; post-op. clot retention
6	77	Chronic retention	—	5 weeks in bed at home	Millin	5th day. Bronchopneumonia
7	73	Chronic retention; oedema of legs	266	Nil		19th day. Cardio-renal failure after blood transfusion
8	61	Prostatic syndrome	39	Nil	Hey	21st day. Septicaemia from wound sepsis—cross-infection in ward
9	53	Senile: permanent suprapubic tube	40	Bladder wash-outs and for heart	Punch	10th day. Cardiac failure and senility
10	79	" "	37	Bladder wash-outs		19th day. Cardiac failure 2 days after closure of suprapubic sinus under local anaesthesia

severe bronchitis, and was treated conservatively till the chest was better. Unfortunately he had a relapse about 12 days after operation, and finally died on the 63rd day. Case 3 was admitted with cardiac failure and auricular fibrillation. I therefore attempted to tide him over with catheterization, but when this had failed to relieve him and the cardiac condition had improved operation was undertaken. Possibly these patients might have survived had they been treated with simple suprapubic drainage. In neither instance was there evidence of much renal damage, and therefore not such strong contraindication to tube drainage and its associated sepsis.

Among the cases of overflow retention there were three deaths out of 27 operations. Case 5 had a bad setback with post-operative clot retention, and this was a material factor contributing towards his death. Case 6 had been kept in bed for five weeks before I saw him, and this fact probably contributed to the onset of the chest condition to which he succumbed. Case 7 was a bitter disappointment: in spite of an initial blood urea of 266 mg., he made good but slow progress till the 19th day. At this stage it was decided to expedite his recovery with a blood transfusion. While this was in progress he had a rigor followed by left-sided facial paralysis, and died shortly afterwards. Necropsy showed a poor myocardium, and Dr. H. R. Mavor, the pathologist, considered death was due to transfusion reaction.

Of the group classified as "prostatic syndrome," Case 8, a fit man of 61, developed mild wound sepsis, but unfortunately at that time there was an outbreak of streptococcal infection in the ward, and he died on the 21st day from cross-infection: blood culture showed a haemolytic streptococcus. Cases 9 and 10 both insisted on having something further done as they were so miserable with their suprapubic tubes: in each instance they were advised against further operation. Case 9 had refused to have his tube put back when it was taken out by his doctor for routine replacement, and was in a miserable condition owing to a suprapubic fistula. Case 10 always had a low-grade infection around his tube, and this resulted in an unpleasant eczematous condition of the genitalia.

Commentary

Admittedly it is difficult to draw conclusions from a small series of cases, and owing to the advent of new sulphonamides and penicillin the three series quoted here are not strictly comparable. However, it is submitted that the figures shown give strong support to the theories put forward by Wilson Hey (1945), who maintains that "post-operative uraemia is due to infection and is encouraged by any method of slow decompression, open drainage, or instrumentation." Certainly it has been my experience that cases catheterized before admission were far more apt to give trouble during their convalescence.

If only selected cases are submitted to radical operation a low mortality rate can be obtained, but emphasis is laid on the fact that *all* my cases are included in this report, and some were extremely sick patients and really deplorable operative risks.

The benefits of immediate prostatectomy for the patient with retention of urine are very great, for he is spared prolonged and sometimes painful pre-operative treatment and a long illness. Some notice must also be taken of the economic factors involved, as the rapid recovery of patients is most necessary at the present time, when there is such a shortage of hospital beds.

Attention to details in treatment is of paramount importance, for even a comparatively trivial setback, such as a blocked catheter, may have serious consequences in

elderly and decrepit patients. All cases get out of bed the day after operation, and to this may be attributed the low incidence of chest complications. The majority go home in good condition about the 12th to 16th day.

Summary

A consecutive series of 141 cases of benign prostatic hypertrophy is recorded; 138 were submitted to radical operation.

Except on very rare occasions, drainage before operation, whether by catheter or suprapubic tube, is not considered necessary or desirable.

There were 97 cases of retention of urine which, wherever feasible, were treated by immediate prostatectomy: 7 (7.2%) died; 70 were operated on for acute retention, with 4 (5.7%) deaths.

As many cases were admitted in very poor condition, the results shown are considered satisfactory. It seems that the method of immediate prostatectomy is well worthy of an extended trial.

I am indebted to Dr. J. Clutton Brock, who was responsible for most of the anaesthetics, and to my house-surgeon, Mr. P. F. Philip, for his help in compiling statistics and for doing some of the emergency operations on my behalf.

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SOME SIMPLE OBSERVATIONS ON TRANSFUSION REACTIONS

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During the training of several hundred transfusion orderlies it was possible to make some simple observations on transfusion reactions. It was essential that these orderlies should be able to perform venepuncture and to carry out transfusions themselves lest at any time under active service conditions the medical officer was not available. In order to give them the opportunity of acquiring the technique of inserting needles into veins, the majority of the orderlies volunteered to undergo venesection, and subsequent reinfusion by their colleagues, under the supervision of one of the instructors. The volunteers were each venesected to the extent of 440 ml. of blood, and their own citrated blood was reinfused. In this way 324 collections and reinfusions of blood were performed, and in addition 56 infusions of glucose-saline, each of 540 ml., were given. The reactions observed are described.

Febrile Reactions

Oral temperatures were recorded by leaving a thermometer *in situ* for at least three minutes, and records were taken before and at hourly intervals for four hours after

infusions. Out of a total of 324 infusions of blood a rise of temperature was observed on nine occasions, an incidence of 2.8%. Using the classification of Riddell (1939), seven of these reactions were Grade II (2.2%) and two were Grade III (0.6%). It was possible to state the probable cause of these reactions in all but one case.

Investigation of the first reaction showed that a new orderly had inadvertently taken a set from the non-sterile pile unknown to the supervising medical officer. This was a Grade II reaction, and that it was not more severe was probably explained by the fact that the set had been recently assembled from carefully washed components, and by the fact that the blood was fresh and therefore still retained some bacteriostatic properties.

The second febrile reaction occurred in a volunteer reinfused with his blood, which had been collected into a sample of sodium citrate free from moulds but containing numerous small particles such as are not infrequently present in bottles of crystalloid transfusion fluids. A Grade III reaction ensued, but an interesting feature of this case was that the onset of the rigor was delayed for some two hours after the end of the transfusion.

For the third observed febrile reaction no explanation could be found, but the remaining six reactions were very interesting. It was customary to use "giving" sets assembled and sterilized by the transfusion orderlies, or sets recently issued from the Army Blood Supply Depot. One day it was discovered that an orderly had collected sets sterilized eighteen months previously. Although the "cellophane" wrapping had lost its "crispness," these sets were still sealed, and it was therefore decided to use them. Out of five infusions three subjects developed Grade II reactions. The following day only three subjects were reinfused with these old sets, and all developed a febrile reaction, including one Grade III reaction.

No febrile reactions have followed the 56 infusions of glucose-saline, but it is of interest to note one false reaction. In this particular case it was found that the subject had a temperature of 102° F. (38.9° C.) four hours after the infusion. He was, however, found to be suffering from acute follicular tonsillitis.

Infusions

Duration of Blood Storage.—In most cases the reinfusion was started within one hour of collection, but in 11 cases the blood was stored for two days and in 20 cases for seven days before reinfusion. The blood was cleanly and properly collected, and immediately, accurately, and continuously refrigerated between 2 and 6° C. In none of these 31 cases did a febrile reaction follow the infusion.

Temperature of the Infusion Fluid.—In 36 infusions of glucose-saline the fluid was given at room temperature, while in the other 20 the fluid was warmed in a bucket of water at approximately 40° C. As previously noted, febrile reactions did not occur in any of these saline infusions. The infusions of blood were performed at room temperature, the refrigerated blood being warmed to that temperature. In three cases blood was taken straight from the refrigerator and immediately reinfused (as was the practice in several field transfusion units on active service) without any reaction apart from venous spasm in one case, described below.

Rate of Administration.—The saline infusions were given at a standard rate of approximately 40 ml. a minute and no reactions were observed. With blood the usual rate of administration was 20 ml. a minute, but in 24 cases a rapid infusion was given at rates varying from 80 to 110 ml. a

minute. The following observations were made during these 24 rapid infusions:

Nature of Reaction	No. of Cases in which Observed
Rise in temperature	0
Flushing	2
Venous filling	9
Fullness in head	7
Shivering and feeling of cold	7
Feeling cold without shivering	3
Tingling of lips	14

These reactions were transient, and in each case passed off a few minutes after ending the infusion.

Venous Spasm

This was observed in five cases only. In three of these the intense local spasm of the vein was enough to interfere with the administration, but on the application of local heat the spasm was relieved and the infusion given without difficulty. In all five cases it seemed to be the mechanical insertion of the needle which caused the spasm. Veins which were large, obviously visible, and easily palpable suddenly became small and almost impalpable on the insertion of the needle. In one case, however, the temperature of the fluid was an additional factor causing venous spasm, and this case is described in detail.

The subject was a healthy young man with very large veins. When he had been venesected it had been noted that his large vein suddenly became small on the insertion of the needle, but the spasm rapidly passed off. On this particular occasion the blood for reinfusion, which had been stored for two days, was administered at the temperature of the refrigerator. The venepuncture of an anteubital vein was cleanly performed, but the vein immediately went into spasm. In spite of the fluid's being cold the spasm appeared to pass off and 540 ml. was given without difficulty in half an hour. The only subjective phenomenon was that he felt his arm cold, and it was observed that the skin of the upper arm was much colder on the infusion arm, although the skin of the forearm appeared equally warm on the two sides. No difference in colour was noted between the two sides. About half an hour after the end of the infusion the subject complained of "stiffness" of the upper arm used for the infusion. There was at this time full movement at the elbow, but the skin of the upper arm was intensely cold. The subject was reassured, but two hours later he reported acute stiffness of his elbow.

On examination only a few degrees of flexion at the elbow was possible and supination was limited. There was acute tenderness over the biceps, particularly over the tendon, and this was limited to the muscle. The skin was now equally warm on both arms and the brachial pulses were equal. There was no evidence of any discoloration; the vein which had been used for the infusion was still patent and there was no tenderness over it. Otherwise the subject felt perfectly well and his pulse and temperature were normal. The diameter of the upper arm was 2 in. (5 cm.) greater on the affected side than on the other. He was given a hot bath and a sedative and sent to bed. The next day his movements at the elbow were almost normal and he had only slight stiffness. The difference in diameter persisted, but there was only slight tenderness over the biceps. No abnormality of the vein was detected. Then 48 hours after the infusion he noticed a bluish discoloration over the medial aspect of his forearm. Movement at the elbow was now normal, the difference in diameter was 1½ in. (3.75 cm.), and there was no discoloration in relation to the vein used for the infusion. The vein itself was patent and there was no pain or tenderness along it. The discoloration spread along the medial aspect of the forearm, but the whole condition cleared up in a few days, the normal difference in diameter between the two arms being 1 in. (2.5 cm.).

A similar phenomenon was observed in another of the five cases of venous spasm, although in this case the reinfused blood was at room temperature. Here also it had been noted that the vein went into spasm during the collection of the blood. The venepuncture for the infusion was cleanly performed, and 100 ml. was infused without

difficulty in three minutes in spite of the fact that the vein had gone into spasm at the insertion of the needle. Then the subject complained of intense pain over the upper arm and the infusion was stopped. The subsequent course was very similar to the previous case, with restricted movement at the elbow and swelling of and intense tenderness over the biceps muscle. The discoloration did not appear until 72 hours after the infusion.

It is suggested that these two cases were not examples of extravasation of blood from faulty venepuncture, because of the apparently clean insertion of the needle, the ease of administration, the absence of pain around the site of puncture, and the long delay in the appearance of the discoloration. Rather it is suggested that there was an intense spasm of veins draining the biceps muscle, with rupture of some tributaries within the muscle. To support this we have the swelling and tenderness confined to the biceps and the delayed appearance of discoloration as the blood slowly tracked down.

Other Reactions

Thrombosis of the vein used for reinfusion occurred in only three cases. Apart from slight pain there were no other subjective features in these cases of thrombosis. There were no cases of *infection* following the venepuncture or the use of the local analgesic. Mild *sensitivity* to the "elastoplast" dressings used was seen in only one case. Air embolism never occurred, but the danger was constantly emphasized, particularly from the emptying of the transfusion bottle when using the Army overseas pattern set with its one-way air inlet.

Careful records were kept of reactions occurring during or after venesection. There were no cases of fainting either during or after the collection of blood. Out of the 324 blood collections there were only six cases which showed mild incipient and transient features of the vasovagal syndrome. These all occurred a few minutes after the blood collection had ended. There were no cases of delayed faints among the 31 subjects in whom the blood was not immediately reinfused.

Discussion

Kordenat and Smithies (1925) and Riddell (1939) state that nearly all transfusions of fresh blood were associated with a rise of temperature even though this might be symptomless. Again, Jewesbury (1941) states that a rigor occurs in about 8% of fresh blood transfusions. These febrile reactions are caused by foreign protein, dead bacteria, stale distilled water, impure chemicals, and, above all, dirty apparatus. It was shown by Lewisohn and Rosenthal (1933) that the incidence of febrile reactions was reduced from 12% to 1.2% by the scrupulous cleaning of apparatus and by using freshly distilled water. The present observations show that with fresh blood, stored blood, and crystalloid solutions febrile reactions can be reduced to almost negligible proportions provided every care is taken in the preparation of the solutions and apparatus and in the collection and storage of the blood. Whitby (1942) emphasizes the care that is necessary in the handling of stored blood in order to avoid these hazards.

Maycock and Whitby (1941) state that too fast a rate can cause a rigor, which ceases instantly if the rate is slowed. In the present observations no rigors occurred in the cases of rapid infusions, but some of the subjects receiving them felt cold and shivery. This shivering passed off almost immediately after the end of the infusion, and it should be noted that no rise of temperature was associated with the shivering. In our opinion these shivering attacks and rigors associated with rapid infusions are not true

febrile reactions. In our clinical experience of true febrile transfusion reactions it has been noted that slowing the rate of administration does not abolish the shivering of a true febrile reaction. The exact nature of these non-febrile shivering 'attacks' or rigors sometimes associated with a rapid transfusion is not clear. It is of interest to note in the present series that the three cases of shivering and the three cases of feeling cold during the rapid infusion did not show any signs of vasodilatation such as fullness in the head, flushing, or distended peripheral veins; indeed, in three of these six cases the subject became pale. Conversely, none of the subjects showing signs of vasodilatation during the rapid infusions developed a feeling of cold or shivering. It is suggested that the sudden introduction of a large volume of fluid at room temperature into the circulation produces in some subjects a compensatory vasoconstriction, with a resultant feeling of cold. In a previous observation made by one of us (Sharpey-Schafer and Wallace, 1942a, 1942b) on rapid infusions in subjects who had been venesected and then infused with serum there were no rigors or shivering attacks even in those who showed no signs of vasodilatation, although the volumes of fluid infused were much larger than in the present series. In the previous series, however, the infused fluid was warmed to body temperature, whereas in the present one it was given at room temperature.

If this explanation of these shiverings and rigors associated with rapid transfusions is the correct one it raises the practical problem of the advisability of warming transfusion fluids. It is theoretically sound to warm all transfusion fluids to body temperature, but in practice in a busy resuscitation ward this has usually proved impossible. In those cases of oligæmic shock which have developed a shivering attack or a rigor during a rapid infusion of fluid at room temperature it has been our practice to continue the rapid infusion if the level of the blood pressure demanded a rapid transfusion. Our impression has been that those suffering from oligæmic shock who had developed these shivering attacks improved dramatically with the onset of the shivering just as if there had been a stimulation of the vasomotor centre. It must be emphasized, however, that this rapid infusion of blood should be continued only if it is not a haemolytic reaction or circulatory overloading which is causing the rigor.

It was shown by Sharpey-Schafer and Wallace (1942b) that when the blood volume was reduced by a large venesection (1,000 ml.) injection of serum or saline in similar quantities at a rapid rate produced little or no change in venous pressure or other signs or symptoms of vasodilatation. In the present series, however, where the venesection was smaller and the replacement fluid was blood, some subjects did show a transient rise in venous pressure and manifestations of vasodilatation. After a large venesection in man haemodilution is slow, but in some cases there is an immediate small dilution (Stead, 1940; Wallace and Sharpey-Schafer, 1941). In a small venesection (440 ml.) this immediate dilution may be enough to restore the blood volume to its original level, and it is probable that the cases showing vasodilatation in the present series were those which had already restored their blood volumes by this rapid initial dilution.

The complete absence of faints following blood collection and the low incidence of even mild vasovagal attacks are probably explained by the type of donor with whom we were dealing. These orderlies were intensely interested in transfusion work, and most of them had volunteered for it. The whole atmosphere was friendly and reassuring, for although most of the venepunctures were performed by orderlies there was always a medical officer in attendance.

Summary

The collection of 440 ml. of blood and the reinfusion of this citrated blood were performed on 324 individuals. An infusion of 540 ml. of glucose-saline was given to 56 individuals.

Febrile reactions occurred in nine of the 324 infusions of blood, but in none of the infusions of glucose-saline. The causes of these reactions are elucidated.

Febrile reactions are no more common with stored blood than with fresh blood, provided the blood is cleanly collected and properly stored.

The effect of the temperature and the rate of administration of the infused fluid on reactions are described.

Venous spasm, thrombosis, and mild vasovagal features were observed in a few cases.

The avoidance of pyrexial reactions and the cause of rigors associated with rapid infusions are discussed.

These observations were made during the routine training of transfusion orderlies, and we thank our commanding officer, Brigadier Sir Lionel Whitby, for his great interest and help in the training of personnel in transfusion and resuscitation.

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ISO-IMMUNIZATION BY THE BLOOD FACTOR N

BY

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It is well known that blood factors of the ABO, MN, and Rh systems are found in the erythrocytes of every human being. In contrast with the ABO system, no naturally occurring antibodies directed against the Rh factors are found in the plasma. Immune or normal M and N antibodies are very rarely observed in human sera in spite of the fact that in giving blood transfusions no account is taken of the M and N blood types of donor and recipient. From this we may conclude that the M and N factors are very weak antigens for human beings.

Allot and Holman (1947) found several irregular antibodies, including one anti-N agglutinin. The late G. L. Taylor also found normal N antibodies in one case (Callender and Race, 1946).

So far as we know, only two cases of an N immunization are described in the literature. The first was published in 1943 by Singer. It concerned a Rh-positive patient with blood type M. This patient had received a transfusion with Rh-positive N blood. After further transfusions, again with Rh-positive N blood, the patient showed a haemolytic reaction. Anti-N agglutinins were indicated in the serum. Transfusion with M blood was endured without any reaction. The second case was described in 1946 by Callender and Race. A patient suffering from lupus

erythematosus diffusus displayed a great aptitude in forming various rare antibodies—so much so that some "new" blood factors were discovered by the authors. During the course of her illness, in which a number of large and small transfusions were given, anti-c (anti-Hr) and anti-N antibodies were found in the plasma. These two cases of iso-sensitization by the N antigen occurred in patients who were immunized in consequence of blood transfusions.

In recent years we have become conversant with another method of iso-sensitization—namely, with the immunization of mothers by Rh and A or B antigens of the foetus. It is now generally known that iso-antibodies formed during pregnancy are responsible for erythroblastosis foetalis. The question arises whether an antagonism in MN blood types of mother and child might be responsible for symptoms of the newborn. No cases of iso-sensitization by the N antigen in MN heterospecific pregnancies are mentioned in the literature so far. At the end of 1946 we came into contact with the following case.

Case History

A married woman, aged 33, had had her first pregnancy end in 1944 at term with the birth of a foetus maceratus. Her second, in 1945, ended at term after a long partus. A living child was born, which died, however, some hours later. From this infant no further clinical data could be obtained. In the seventh month of her third pregnancy a specimen of her blood was sent to us by Dr. Castelein, St. Elisabeth Hospital, Tilburg. It was Rh-positive and had the blood formula R,R, (CDe/cDe)-A-M. In the combination CDe/cDe of rhesus elementary antigens only d is missing. Concerning the possibility of a sensitization within the Rh system, therefore, this mother theoretically should be able to form only anti-d antibodies, but this antibody could not be found in the serum at any time.

In the meantime we also received blood from the husband for examination. He also was Rh-positive and had the blood formula R,r (CDe/cde)-O-MN. Contrary to our expectation the blood cells of the man were agglutinated by the serum of the woman. By testing a large number of A and O bloods with the serum of the mother we obtained some more positive reactions, without finding any connexion with the factor d.

With regard to the MN types, it was possible that the woman (M) had been immunized by the factor N inherited from the husband (MN)—a possibility overlooked before. Indeed, the serum of the mother was found to contain anti-N antibodies and to agglutinate only N or MN blood (Group A or O being used). We supposed the N antibodies originated from the iso-immunization during the preceding pregnancy(ies), and that both affected foetuses had inherited the N antigen from the father. Naturally this could not now be proved. If the N antibodies had made both children ill it would be expected that the subsequent child, if MN, would show symptoms. If the child turned out to be NM then it might be expected not to show symptoms.

Three months after our examination caesarean section was carried out. Blood from the umbilical cord was sent to us for examination. The child was Rh-positive and had the formula R,r (cDe/cde)-O-M. It is certain that this child could not have suffered from the existing abnormal anti-N antibodies, which, moreover, could not be detected in his own serum. As we expected, the baby seemed to be completely normal at birth and it developed like a healthy child. We believe that the occurrence of the anti-N agglutinins in the mother's plasma must be due to sensitization by foetal agglutinogens during the first two pregnancies. Indeed, though it is remarkable that the first child was affected, we are fairly certain of the correctness of this assumption, since 10 months after the second pregnancy the agglutinin titre seemed to be rather low (<4), tending to decrease slowly but continuously during the following three months—the last three months of the third pregnancy. Also, anti-N agglutinins could not be detected in the child's plasma at the moment of birth.

Comment

The question arises whether we are entitled to impute the death of the first two children to the action of the N antibodies detected in the mother's plasma. Of course we cannot be sure. Against this suggestion is the fact that the agglutinin was active only at room or colder temperatures, but inactive at 37° C. On the other hand the possibility cannot be absolutely excluded that under such circumstances as those present *in vivo* these cold agglutinins are able to damage the erythrocytes at body temperature. In connexion with this we recall the observations of Weiner, who, by using his conglutination technique in a case of acquired haemolytic anaemia, succeeded in demonstrating auto-agglutination *in vitro* at body temperature as well as in the refrigerator. It is clear that the circumstances *in vivo* show a greater resemblance to those of the conglutination reaction than to those of the agglutination reaction. Moreover, we do not know how high the anti-N titre had been during the first two pregnancies, and we do not know if the anti-N agglutinins then present *in vitro* were active only at lower temperatures.

Summary

In the serum of a pregnant woman anti-N agglutinins have been detected. These agglutinins are considered to be immune iso-antibodies.

The possibility of these anti-N antibodies being responsible for a stillbirth as well as for the death of a child some hours after birth is discussed.

We wish to thank Dr. R. R. Race for his kindness in confirming our serological findings and for his interest in our work.

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Medical Memoranda

Rupture of the Stomach in an African Child

Rupture of the stomach in the following case was, we believe, caused by gross gastric distension due to the action of gas-forming fermentative organisms, and we consider this unusual case may be of some interest.

CASE REPORT

A 5-year-old Acholi boy was brought to Mulago Hospital at 4 p.m. on April 26, 1946, for the fifth injection (N.A.B. and bismuth) in a course of treatment for yaws. The child was examined by an assistant medical officer, who, finding a solid mobile tumour in the hypogastrium, admitted him to hospital for investigation. Food was brought by the mother and given to the child at 6 p.m. At 11 p.m. the patient complained of abdominal pain, and there was vomiting of mucus. The condition progressed during the night, and when he was seen by one of us (R. G. L.) at 8 o'clock the next morning there was considerable distension confined to the epigastric and right hypochondriac regions.

The general condition was very poor, the patient being only semi-conscious. Continuous intravenous saline was given, and laparotomy was performed at 11 a.m. The abdominal distension by that time had increased and had become generalized.

At operation the mobile abdominal tumour was found to be a spleen with a very long mesentery; there was nothing to suggest that recent displacement had occurred. The peritoneal cavity was grossly distended with gas and fluid, but there was no evidence of peritonitis. The stomach was spherical in shape and about 7 in. (17.5 cm.) in diameter. There was a tear about 3 in. (7.5 cm.) long in the posterior wall of the stomach beginning at the cardiac sphincter. From this tear large amounts of fluid and gas poured out as soon as the stomach was handled. The peritoneal and gastric contents had a very penetrating smell which, though clearly alcoholic, did not

resemble any form of native beer. Closure of the tear was attempted, but the child died.

Necropsy was performed three hours after death (J. N. P. D.). In view of the history a careful search was made for evidence of trauma, but nothing was found. Relevant findings were confined to the abdomen. An enlarged spleen was lying in the right iliac fossa, its long mesentery lying across the transverse colon but below the stomach and causing congestion in the part of the pancreas which was lying underneath. The peritoneal cavity was full of gas and of a frothy grey-white fluid, like thin gruel, in which were floating solid particles of food. A curious penetrating alcoholic odour was given off. This could not be identified by anyone present, including the head African mortuary attendant—a great expert in recognizing post-mortem alcoholic odours.

The posterior wall of the stomach showed a linear tear 3 in. long that extended about 1/2 in. (1.25 cm.) into the oesophagus. The stomach otherwise was normal. It was filled with gas and liquid similar to that in the peritoneum; the fluid continued to ferment and to produce quantities of gas and ethyl alcohol from the particles of sweet potatoes which were identified in the peritoneal fluid.

Microscopically the stomach wall was normal and showed no evidence of any condition likely to lead to rupture. The peritoneal contents on culture grew a mixture of organisms, including Gram-negative cocci and bacilli. This mixture of organisms fermented a wide range of sugars and produced large quantities of gas, but unfortunately the cultures were lost and further investigation was impossible.

DISCUSSION

Close inquiry revealed that no native medicine or beer had been given to the child, and, as stated, there was no evidence of trauma. We suggest that the fermentation of the evening meal of sweet potato produced gas under such pressure as to rupture the stomach. It may be that a very slight trauma inflicted on a greatly distended stomach might have caused the rupture. Clinically it appeared clear that at 8 a.m. the distension was of gastric origin, whereas by 11 a.m. general distension had occurred following intraperitoneal rupture, and during this time the child was lying in bed. By European standards the meals taken by African children are enormous, which probably accounts for their thinner stomach walls, with presumably a greater tendency to rupture. In this case there seemed to be no reason why the gas should not have been eructated. The dependent spleen seemed to be of no concern here.

It is perhaps of interest to point out that the overdistension of the African stomach not infrequently leads to death because of the inhaling of vomitus. This was the cause of death in six cases out of 100 necropsies performed by police request on cases of sudden death not due to violence recorded at Mulago Hospital.

A further case is on record of a young male African child whose death was due to shock from rupture of a grossly over-distended stomach, the result of an enormous meal. As in the case here recorded there was no history or sign of disease or trauma.

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Advances in medical knowledge are reported in an increasingly large number of publications, and it is now more difficult than ever to discover every paper published which has some bearing on a particular topic, such as leprosy. The British Empire Leprosy Relief Association, therefore, has started publishing monographs by recognized authorities covering recent advances in knowledge on various aspects of leprosy. The first monograph is a well-produced illustrated pamphlet entitled *The Lepromin Test*, by Dr. Dharmendra, and is obtainable from B.E.L.R.A., 167, Victoria Street, London, S.W.1 (price 2s. 6d.). Dr. Dharmendra considers the active principle of lepromin to be a protein antigen of the leprosy bacillus. He discusses a method for preparing lepromin standardized by the weight of dry leprosy bacilli. He then considers the results of the test in cases of leprosy, contacts, and non-contacts, and concludes that a positive reaction is an allergic phenomenon. He regards the test as of definite prognostic value in all cases of leprosy, but of little use in diagnosis or treatment.

Reviews

MEDICINE IN TRANSITION

Nursing and Nursing Education. By Agnes Gelinus, R.N. *Health Insurance in the United States.* By Nathan Sinai, Dr.P.H., O. W. Anderson, and Melvin L. Dollar. *Medical Addenda.* Related Essays on Medicine and the Changing Order. *Medicine in the Changing Order.* New York: Commonwealth Fund. London: Geoffrey Cumberlege. (\$1.00 or 6s. \$1.50 or 8s. 6d. \$1.75 or 10s. 6d. \$2.00 or 11s. 6d. respectively.)

The U.S.A. is a big country and it does big things in a big way. In 1942 the New York Academy of Medicine appointed a strong committee representing every side of opinion, medical and allied, to consider the present and future outlook of medicine. It began by defining its objectives as follows: "To be informed on the nature, quality, and direction of the economic and social changes that are taking place now and are clearly forecast for the immediate future; to define in particular how these changes are likely to affect medicine in its various aspects; to determine how the best elements in the science of medicine and in its services to the public may be preserved and embodied in whatever new social order may ultimately develop."

During the years that have elapsed the Committee has issued some ten volumes of monographs on every aspect of its task; the latest are *Nursing and Nursing Education*, *Health Insurance in the U.S.A.*, a volume of *Medical Addenda*, and *Medicine in the Changing Order*. Owing to the exigencies of space it is necessary to confine this review to the last named, in which the Committee states its considered views on the subject of its reference. It is very frank about what it thinks are the defects in the present provision of medical care. It believes that both the public and the profession want a great extension of it in quantity and in quality. It finds public health measures—"the first steps in the evolution of good medical care"—to be very inadequate in many areas. It notes with pleasure the great increase to the number of hospitals, but judges their quality in many areas to be in great need of improvement.

There is a strong disposition in many young doctors to avoid the rural areas not only on financial grounds. The provision of good hospitals accompanied by group practice (which it strongly recommends) would be a great attraction to many young men, and it advocates their being sent in their clinical years to approved rural hospitals by arrangement between the hospitals and the medical schools.

Much attention is given to medical insurance and to the numerous experiments of a voluntary nature made in recent years. The Committee comes down heavily on the side of voluntary schemes, and hopes that more encouragement will be given to people above the lower-paid groups to enter them, since they are a better insurance risk and their presence would help to popularize and to improve the quality and status of such schemes. "Voluntary insurance," it says, "leaves the physician the play of initiative and resourcefulness and individual responsibility." The report advocates Government grants and employers' contributions on behalf of the lower-paid people "as a sound alternative to an overall programme of compulsory insurance." The schemes, it thinks, "are much safer and more adaptable than compulsory plans, the consequences of which are at best uncertain and are in any event irrevocable." "It is on a voluntary basis that the great progress of medicine has been achieved in the past, and it is thus that continuance of progress can be assured." It is rather startling to read, "We do know from European experience that even as the general level of medical practice is lowered its costs are raised."

Discussing the various methods of payment of doctors the Committee says, "Abuses are possible in all methods of payment, whether fee for service, capitation, or salary. Thus no valid statement can be made that this or that system is best *per se*. There lies the great advantage of voluntary plans as compared with compulsory: they permit wide local experimentation in working out the system best adapted to a given time and place." While there is room for differences of opinion on

many of the knotty points raised in this report, there can be no doubt that the Committee has done its work ably and thoroughly and that its volumes cannot be ignored by students of medical sociology wherever they may be.

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BLOOD PROTEINS

Die Bluteiweisskörper des Menschen. By F. Wührmann and C. H. Wunderly. (Pp. 354; illustrated. 36 Swiss francs.) Basle: Benno Schwabe. 1947.

This book is mainly about the value of examining the blood proteins in human clinical practice. After reviewing the methods available for this type of investigation the authors present the results of the experience gained over a number of years by themselves and their colleagues on clinical material. The methods used in their investigations were: (1) the salting-out curve in strong phosphate buffers; (2) the electrophoretic pattern; (3) the Weltmann test; (4) the cadmium-sulphate turbidity test, a recently developed simple clinical test; (5) the Takata-Ara reaction; and (6) the sedimentation rate.

The following correlations of empirical tests with the electrophoretic pattern may be noted. The Weltmann band was found to be broad when the γ -globulin was very high, and narrowed by an increased α - or β -globulin. The cadmium turbidity test was given when a high γ - or α -globulin was present and inhibited by an excess of β -globulin. The Takata-Ara reaction was given when a high β - or γ -globulin was present. The authors discuss the blood-protein reactions in various diseases of importance in practice and disturbances of the blood proteins. This part of the book is well illustrated by appropriate data, most notably by the presentation of salting-out curves and electrophoretic patterns.

The six types of reaction pattern distinguished are (1) acute inflammations; (2) subacute and chronic inflammatory processes; (3) diffuse liver-cell injury; (4) the nephrotic symptom complex; (5) γ -plasmacytoma; (6) β -plasmacytoma. Abnormal fibrinogen values were most common in diseases involving abnormalities of blood coagulation and haemorrhagic diatheses. Disturbances of serum globulin were mostly related to malignant tumours such as leukaemia, sarcoma, carcinoma, and particularly to the plasmacytomas. They do not, however, provide a specific test for tumours, since they may occur in inflammatory processes, especially chronic forms which might be diagnosed as malignant tumours; but they do afford an interesting basis for subdividing the plasmacytomas according to whether the γ - or β -globulin is abnormally high. The changes in serum globulins were usefully followed by electrophoretic methods in acute and chronic infections, and in these diseases, especially in phthisis, it was the α -globulin which was mainly affected. Albumin, when it was disturbed, was always lowered, and this was nearly always the cause of hypoproteinaemia.

The observations embodied in this book are both empirical and fundamental, so that they should be of interest to the research worker as well as the clinician.

D. P. CUTHBERTSON.

EXAMINING THE SURGICAL CASE

Clinical Methods in Surgery. By K. Das, M.B., F.R.C.S. (Pp. 240; 199 illustrations. Rs. 20 or 35s.) Calcutta: The City Book Company. 1947.

The student beginning his surgical work in the wards is usually given some elementary lessons in case-taking to help him in his task, but some of the printed guides which accompany the lectures are mere lists of instructions—dull and uninspiring. The author of this book states that he has tried to answer the question, "How shall I investigate this case?" and on the whole he has answered it satisfactorily. In 41 chapters he discusses the method of examining the various conditions which the surgeon meets with, and at the end of each section he briefly, perhaps too briefly, enumerates the common causes of the condition which need differentiation. The book is very well produced and the illustrations are for the most part excellent; in Fig. 70, however, we think one eye should be shown covered

up by one hand so that the consensual reflex may be avoided. The necessity for brevity has in some instances resulted in descriptions which may have an unexpected effect on the reader, as for example when he reads concerning duodenal ulcer, "a young man, quite busy, swallows his meals hastily at irregular intervals between cigarettes and telephone calls."

In the preface the author states that the book was composed in a fateful year during which continual disturbances prevailed in the city of Calcutta, disturbances which considerably hindered his choice of material. It is to his credit that in spite of this drawback he has succeeded in producing a book which should be of considerable assistance to the beginner in surgery.

V. ZACHARY COPE.

SPANISH-ENGLISH DICTIONARY

Spanish-English Medical Dictionary. By Maurice McElligott, F.R.C.S.I., D.P.H. (Pp. 250. 12s. 6d.) London: H. K. Lewis and Co., Ltd. 1946.

The author of this small dictionary says in the preface that he has compiled it after many years of search for the Spanish equivalents of English medical terms. It contains 14,000 Spanish words translated into their English equivalents, but there are many lacunae, more especially among the less ordinary terms. He gives no explanations or examples of how to use the words, and the dictionary therefore does not meet the need of translators. The volume might be more correctly described as a glossary and be of use in checking spelling or in conjunction with works of reference. Used alone, its adequacy as a dictionary is questionable. The author is apparently aware of these limitations, for he asks in his preface that readers inform him of any omissions they may observe so that they may be made good in future editions. He has taken every precaution to ensure the accuracy of the words listed, and the orthography of the English terms is that of the *Oxford English Dictionary*. He proposes to follow this dictionary with a companion volume of English-Spanish medical terms.

V. McGUIRE.

IDEALISM IN ACTION

Albert Schweitzer. The Man and his Mind. By George Seaver. (Pp. 346; 30 illustrations. 18s.) London: Adam and Charles Black. 1947.

Even the irreligious and the non-musical know the name of Albert Schweitzer. Born in Alsace in 1875, he had before he was 30 acquired a European reputation in music, philosophy, and theology. An outstanding organist, he early illustrated his capacity for taking pains by becoming not only expert in the craft of organ-building but also the leading interpreter of Bach. At 30 he decided to take a medical qualification so that he might carry healing to the sick African, and the greater part of the second half of his life has been spent in Equatorial Africa working in a mission hospital built by himself. Reverence for life has been his philosophical keyword and compassion the mainspring of his action. His biographer regards him as "probably the most gifted genius of our age, as well as its most prophetic thinker."

These are large claims, and some of the interest of the biography lies in the assessment of them. One concludes that while his gifts are incomparable the quality of his thought is less striking, and his philosophic concept of reverence for life has hardly the basic comprehensiveness which he attributes to it. The truly remarkable thing about Schweitzer is his personality and the ethic that inspires it. Rarely does the artist and thinker voluntarily renounce his art and his thought for a life of action in physical discomfort and danger. If the twentieth century is hurrying to its materialist doom it cannot complain that it has lacked extraordinary and topical examples of the strength of idealism in action. The lives of Gandhi and Nansen, as well as of Schweitzer, come readily to mind. Those who read biography to enjoy the spectacle of littleness in great men (and I confess to being encouraged by even the tiniest wart on the illustrious nose) should avoid this life of Schweitzer as they would that of the Archangel Gabriel.

D. V. HURBLE.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

Dermatoses Among Gas and Tar Workers. By W. D. Jenkins, J.P., B.A., M.R.C.S., L.R.C.P. (Pp. 54. 25s.) Bristol: John Wright. 1948.

A monograph, with illustrations.

Fundamentals of Neurology. By E. Gardner, M.D. (Pp. 336. 24s.) Philadelphia and London: W. B. Saunders. 1947.

An introduction for medical students.

Textbook of Bacteriology. By T. B. Rice, A.M., M.D. 4th ed. (Pp. 603. 32s. 6d.) Philadelphia and London: W. B. Saunders. 1947.

A short textbook for medical students and practitioners.

Textbook of Surgery for Nurses. By E. S. Stafford, B.A., M.D., F.A.C.S., and D. Diller, B.A., R.N. (Pp. 577. 16s. 6d.) Philadelphia and London: W. B. Saunders. 1947.

Intended to provide general surgical information for the student nurse.

Cineplasty. By H. H. Kessler, M.D., Ph.D. (Pp. 201. 35s.) Oxford: Blackwell Scientific Publications. 1947.

An account of operative techniques, prostheses, and rehabilitation.

Osteotomy of the Long Bones. By H. Milch, M.D. (Pp. 294. 35s.) Oxford: Blackwell Scientific Publications. 1947.

A practical account of osteotomy, with many illustrations.

Sexual Behaviour in the Human Male. By A. C. Kinsey et al. (Pp. 804. 32s. 6d.) London: W. B. Saunders. 1948.

A compendious account of the sexual conduct of men in the U.S.A.

P-Q-R-S-T. A Guide to Electrocardiogram Interpretation. By J. E. F. Riseman, M.D., 2nd ed. (Pp. 84. 17s. 6d.) New York: The Macmillan Company. 1947.

Many diagrams of E.C.G. records and notes on interpreting their significance.

The Child's Hearing for Speech. By M. D. Sheridan, M.A., M.D., D.C.H., L.R.A.M. (Pp. 120. 10s. 6d.) London: Methuen. 1948.

An investigation into the relation between speech, hearing, and intelligence in childhood.

Principles of Medical Statistics. By A. Bradford Hill, D.Sc., Ph.D. 4th ed. (Pp. 252. 10s. 6d.) London: The Lancet. 1948.

A practical introduction to statistics for the medical man.

The Science and Practice of Surgery. By W. H. C. Romanis, M.A., M.B., M.Ch., F.R.C.S., F.R.S.Ed., and P. H. Mitchiner, C.B., C.B.E., F.D., M.D., M.S., F.R.C.S., D.Ch. Vols. I and II. 8th ed. (Pp. 892, vol. I; 955, vol. II. 25s. each vol.) London: J. and A. Churchill. 1948.

This well-known textbook includes new material on plastic surgery, x-ray therapy and diagnosis, anaesthesia, and venereal diseases.

Diseases of the Breast. By Sir Crisp English, K.C.M.G., F.R.C.S. (Pp. 128. 8s. 6d.) London: J. and A. Churchill. 1948.

A short account based on the author's experience.

Surgery of the Ambulatory Patient. By L. K. Ferguson, A.B., M.D., F.A.C.S. 2nd ed. (Pp. 932. 72s.) London: J. B. Lippincott. 1947.

A practical manual of minor surgery intended for house-surgeons and general practitioners.

Textbook of Endocrinology. By Hans Selye, M.D., Ph.D., D.Sc., F.R.S.Can. (Pp. 914. \$10.24.) Montreal: Acta Endocrinologica. 1947.

A textbook for student and physician.

Milk Products. By W. C. Harvey, M.D., D.P.H., F.R.San.I., and H. Hill, F.R.San.I., A.M.I.S.E., F.S.I.A. 2nd ed. (Pp. 341. 30s.) London: H. K. Lewis. 1948.

A practical manual on the manufacture, composition, and examination of edible milk products.

Textbook of the Nervous System. By H. C. Elliott, M.A., Ph.D. (Pp. 384. 48s.) London: J. B. Lippincott. 1947.

An account of the anatomy of the nervous system, with many diagrams, for medical students.

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THE PATIENT'S RECORDS

Any efficient system of recording admissions to a hospital should clearly permit, with a minimum of trouble, the certain identification of the individual patient's documents, with all particulars of his (or her) previous entries to the same, or indeed to another, institution. Such information may be needed either for administrative reasons or to reveal the past history of the patient's illnesses and the treatment given, while at the same time it will ultimately serve the ends of research. In a brief but comprehensive conclusion to their article published on p. 632 Prof. Lancelot Hogben and his colleagues suggest that such a system should ensure: "(a) That a record officer in Beachy Head would assign to a commercial traveller treated for fracture in the Birmingham Accident Hospital and subsequently re-examined in Bedford the same serial number, which would identify his position in the record file of the Birmingham or Bedford institution; and he or she would hence be able to obtain therefrom information relevant to treatment with minimum effort and delay. (b) That all records of one and the same individual successively admitted to one and the same institution either as an in-patient or as an out-patient would be available for research in one and the same niche in its file of medical documents without recourse to a name-address admission-and-discharge register." They point out that the use of birth names may lead in any large-scale institution, and *a fortiori* in any regional organization, to insuperable difficulties—in the Birmingham United Hospital alone, for instance, there would be in 10 years some thousands of patients named Smith or Jones. This dilemma has led them to develop an ingenious system of numbering the patient from information given by him, in such a way, it is hoped, that the same number would always be allocated to the same individual whenever or wherever admitted to hospital.

Their method is based upon a punch-card system, but in small institutions could easily be used without it. The three main items of information required are merely the Christian names, surname, and date of birth of the patient, all of which would normally be required by a records department and are not likely to give rise to any suspicion of regimentation. The patient's number is then very simply determined from code lists provided on the basis of (a) the first Christian name (the whole name if a common one, the initial letter if less common); (b) the first two or three letters of the surname, except for Smith, which needs a number to itself; and (c) the exact date of birth. Thus the identity of Mr. Aneurin Bevan, born on November 15, 1897, can be succinctly, comprehensively, and probably uniquely comprised under the number 0509151197.

In the development of this scheme Hogben and his colleagues have worked hard to ensure an adequate allocation of code numbers to prevailing Christian and surnames. They point out that their data, taken from the Birmingham area, are not necessarily representative of the country as a whole, but as regards surnames a comparison of some interest can be made. Using their code list C, based upon a Midland telephone directory, it is possible to compute with reasonable accuracy the percentage of names that begin with an A, B, C, etc., and then to see how this distribution compares with that given by Farr for England and Wales in 1853.¹ The results are as follows:

Initial Letter of Surname	Percent		Initial Letter of Surname	Percent	
	Farr	Hogben		Farr	Hogben
A	3	4	M	7	6
B	11	12	N	2	2
C	8	7	P	6	6
D	5	4	R	5	4
E	2	2	S	9	8
F	3	4	T	4	4
G	5	5	W	9	9
H	9	11	I, J, O, Q	5	4
K	2	2	U, V, X, Y, Z	1	1
L	4	4			
			Total	100	99

The agreement, considering the differences in the data both in space and time, is remarkably close. There is likely to be a much greater variation with Christian names, for, of course, parents are greatly influenced by fashion. (See, for instance, *83rd Annual Report of Registrar-General for Scotland, 1937*.) There is a point here of some importance in Hogben's scheme. Some Christian names are so common that to ensure almost certain identification of a patient it is necessary to incorporate birth rank into the code. Thus George, first-born, is number 18, while George, not first-born, is 19. But if this personal information, "easily accessible to the record officer," is to be "liable to no dubiety with respect to its interpretation," a precise definition of birth rank will be essential. For example, should the inquiry relate solely to live-born children, living or dead at the time of the patient's admission? Without careful definition record officers may easily differ in their approach, in the information they elicit, and thus in their allocation of numbers to the same patient.

A less important point is that the maiden name of a married woman must be obtained and used in the coding in order that she may have the same number throughout life. The question may sound odd to the widow of 80 with two husbands on the credit side and a fractured femur on the debit; but hers, perhaps, not to reason why. A much more serious matter, to which the authors do not refer, is the date of birth. Their system is based upon "such characteristics of the individual as do not change in his or her lifetime." The date of birth fulfils the criterion, but does the patient's memory of it? It is clear from past censuses that ages are by no means always given accurately. The amount of error, with increasing education and increasing precision in the question asked, has become less with time, but at the last census in 1931 there still were obvious mis-statements. Between the ages of twenty and seventy there is a marked rise in the numbers of individuals with

¹ 16th Annual Report of the Registrar-General for England and Wales, 1853.

ages ending in the figure 0, and, curiously, also those ending in an 8 (there appears to be a dislike of 7). Some such errors are due merely to haziness about the date of birth, others (principally, it seems, in women) to deliberate mis-statements at certain "critical" ages. It may well be that a record officer will elicit better information than a census enumerator, but it is a moot point whether throughout life there will be "no dubiety" in this respect. Even in school records the entries are not infrequently found to be wrong. This is clearly a matter for inquiry—no doubt a difficult one—for it is fundamental to the coding scheme.

D.D.T. IN USE

The remarkable advantages of D.D.T. have firmly established its value as an insecticide, but it has faults which seriously limit its value if it is not used correctly. It may be useful, therefore, to list these drawbacks and discuss the ways in which they can be overcome.

D.D.T. is primarily a contact insecticide with no action at a distance. Its lethal action is slow, and though it is apparently lethal to all insects and acarines there are a few on which its action is relatively ineffective. The time needed for an insect to acquire a lethal dose from a treated surface is often longer than is commonly supposed. Also, contrary to earlier belief, insects may recover after showing slight signs of D.D.T. poisoning.¹ Reports of susceptible insects such as mosquitoes² and tsetse flies³ picking up a lethal dose in 10–30 seconds relate to artificial conditions of forced contact, perhaps with abnormally favourable surfaces like impermeable glass. Where treatments are applied to the permeable plaster or brickwork surfaces usual in houses the periods of exposure needed for the acquisition of a lethal dose, as distinct from the killing times, are more of the order of an hour for mosquitoes,⁴ twenty-four hours for bed-bugs,⁶ and up to six days for the beetle pests of stored food.⁷ An interesting observation is that the percentage kill of insects does not increase regularly with exposure, as would be expected.⁸ Sometimes great increases in the period of exposure do not result in an increased kill.

Surfaces treated with D.D.T. are irritant to mosquitoes and reduce their resting time.¹ This is a serious matter in malaria control, for it has been shown that partly affected *Anopheles gambiae* may be captured escaping from treated rooms without having remained long enough to pick up a lethal dose.¹⁰ The irritant effect probably applies to other flying insects, and where the total treated surface in a room is small they may escape death by resting for longer periods on untreated areas. This suggests that the value of the little impregnated cards which are now being sold to

destroy house-flies may not be great. In spite of the physical and chemical inertness of D.D.T., residual deposits do gradually lose their effectiveness in the course of time. The rates of loss depend on the underlying surfaces, which may vary from smooth walls to the hair of animals or even collections of water. The cause of the gradual loss may be obvious or obscure, but since a prolongation of insecticidal effect is usually to be desired it is important properly to understand the factors responsible. Another difficulty is that D.D.T. is toxic to beneficial insects and to vertebrates.

The problem of danger to beneficial insects such as bees and certain parasitic and predatory forms is common to all insecticides. D.D.T., because it is more efficient than earlier insecticides, poses the question more emphatically. The toxicity of D.D.T. to vertebrates is not nearly so high as that of many insecticides which have been used for years. Furthermore, its high insecticidal value means that in practice only small concentrations need be used. A comprehensive review of the hazards was published recently.¹¹ A final point is that very little is yet understood about the mechanism of the action of D.D.T. This does not limit its application on empirical lines, but it must be admitted as a deficiency.

The slow lethal action of D.D.T., and the fact that contact with the insect is necessary, depend on essential qualities of D.D.T. which cannot be altered. Its lack of toxic vapour demands contact, and there seems to be no way of accelerating its lethal action to give the rapid "knock-down" produced by pyrethrum, or of increasing its powers against the relatively resistant pests. Where such matters are important it may be necessary to choose another insecticide. The lag in acquiring a lethal dose, the irritant effect, and the non-persistence of D.D.T. present a difficult problem which does not arise in the case of certain pests which are best attacked directly with immediate heavy contamination. The 10% D.D.T. dust kills human lice¹² or the fleas of domestic animals¹³ or rats¹⁴ in a short time, and the relatively short residual action (ten days or so) is still long enough to end the infestation. Other pests cannot benefit from the slow acquisition of the lethal dose or from possible irritant action, because they cannot escape from the treated surface. Thus lice are confined to impregnated underwear¹⁵ and bed-bugs cannot escape from treated walls and furniture.⁶ Pests which may benefit are flying insects such as house-flies, mosquitoes, tsetse flies, sandflies, etc., which only spend short periods in contact with the treated surfaces. These three problems are interconnected—all concern the relative availability of the insecticide. The D.D.T. must be left in a condition to contaminate the insect rapidly before the irritant effect becomes important, and yet must be sufficiently firmly attached to the surface to

¹ Kennedy, J. S., *Bull. ent. Res.*, 1947, 37, 593.

² Kartman, L., and da Silveira, M., *J. econ. Ent.*, 1946, 39, 356.

³ Vanderplank, F. L., *Trans. roy. Soc. trop. Med. Hyg.*, 1947, 40, 603.

⁴ Fay, R. W., *et al.*, *Publ. Hlth. Rep., Wash.*, 1947, 62, 149.

⁵ MacInnes, D. G., *Bull. ent. Res.*, 1947, 38, 123.

⁶ Barnes, S., *ibid.*, 1945, 36, 273.

⁷ Parkin, E. A., and Hewlett, P. S., *Ann. appl. Biol.*, 1946, 33, 351.

⁸ Busvine, J. R., and Barnes, S., *Bull. ent. Res.*, 1947, 38, 81.

⁹ Monro, H., *et al.*, *Soap*, 1947, 23 (8), 123.

¹⁰ Thompson, R. C. M., *Trans. roy. Soc. trop. Med. Hyg.*, 1947, 40, 511.

¹¹ Stammers, F. M. G., and Whitfield, F. G. S., *Bull. ent. Res.*, 1947, 38, 1.

¹² Stock, P. G., *et al.*, *Bull. Min. Hlth. Emerg. publ. Hlth. Lab. Serv.*, 1945, 4, 238.

¹³ Lindquist, A. W., *et al.*, *J. econ. Ent.*, 1944, 37, 138.

¹⁴ Ludwig, R. G., and Nicholson, H. P., *Publ. Hlth. Rep., Wash.*, 1947, 62, 77.

¹⁵ Jones, H. A., *et al.*, *J. econ. Ent.*, 1945, 38, 207.

¹⁶ Musgrave, A. J., *Bull. ent. Res.*, 1946, 37, 43.

¹⁷ Clapp, J. M., *et al.*, *Publ. Hlth. Rep., Wash.*, 1947, 62, 158.

¹⁸ Ribbands, C. R., *Bull. ent. Res.*, 1947, 37, 567.

¹⁹ Barlow, F., and Haddaway, A., *ibid.*, 1947, 38, 335.

²⁰ Hackman, R. H., *J. Coun. Sci. Ind. Res.*, 1946, 19, 77.

²¹ Jones, H. A., *et al.*, *Soap*, 1946, 22 (12), 155.

²² McKenny-Hughes, A. W., *Bull. Min. Hlth. Emerg. publ. Hlth. Lab. Serv.*, 1947, 6, 129.

²³ Hackman, R. H., *J. Coun. Sci. Ind. Res.*, 1947, 20, 56.

²⁴ Barnes, S., *Bull. ent. Res.*, 1946, 37, 173.

²⁵ McIntosh, A. H., *Nature*, 1946, 159, 417.

²⁶ Parkin, E. A., and Green, F. L., *Bull. ent. Res.*, 1947, 38, 311.

²⁷ Busvine, J. R., *J. Soc. chem. Ind.*, 1946, 65, 356.

²⁸ von Ottingen, W. F., and Sharpless, N., *J. Pharmacol. exp. Therap.*, 1946, 88, 400.

²⁹ Tobias, J. M., *et al.*, *J. cell. comp. Physiol.*, 1946, 28, 159.

³⁰ Merrill, R. S., *et al.*, *ibid.*, 1946, 28, 465.

³¹ FitzHugh, O. G., and Nelson, A. A., *J. Pharmacol. exp. Therap.*, 1947, 89, 18.

remain effective for a long time. These are difficult conditions to satisfy, and it is clear that many methods of applying D.D.T. are inefficient. With porous materials D.D.T. is absorbed away from the surface and becomes unavailable; it is therefore difficult to render such surfaces insecticidal.^{17 18 19} A possible remedy is to apply the D.D.T. in the form of an emulsion rather than a kerosene solution,¹⁸ or, better still, as an aqueous suspension which leaves the insecticide deposited superficially.¹⁹ Some useful emulsion concentrates have been described.^{20 21} Loss of toxicity from walls may be due perhaps to cleansing operations²²; loss from the hides of treated cattle appears to be due mainly to them licking themselves.²³ In both cases the residual action can be prolonged to some extent by adhesive agents used with the insecticide.^{2 24}

There is disagreement on the exact type of deposit required for maximum insecticidal action. Some workers have found small crystals most active,^{2 6} others say that size is unimportant,²⁶ yet others report that the larger crystals are most toxic.²⁵ Again, it has been noted that D.D.T. crystals are more toxic than supersaturated solutions²⁸; but in another investigation dry crystals were made more toxic by spraying with plain oil.⁶

Interesting results have also been obtained with numerous analogous compounds tested on various insects²⁷ and on white mice,²⁸ and these results may have some bearing on the problem of the mode of action of D.D.T. Progress has also been made in determining the physiological effects of D.D.T. on insect metabolism.^{29 30} Finally, the most important problem in the field of vertebrate poisoning with D.D.T. is the effect of long-continued small doses. One report is already available³¹ and further work is known to be in progress.

TRANSFUSION PRECAUTIONS

Since the end of the war the E.M.S. Transfusion Service in England and Wales has been continued as the National Blood Transfusion Service, and a measure of its need is the increase shown in all its activities during 1946 and 1947. To take two examples—the demands for stored blood in 1947 were greater than in 1946 by some 50,000 bottles, and the issues of dried plasma also showed a considerable increase, rising by some 10,000 bottles. In Scotland the Scottish National Blood Transfusion Association has carried on the service it set up during the war, and in Northern Ireland a transfusion service on the lines of the National Blood Transfusion Service is being established. More blood and plasma are being used now than during the war. Generally, the wider use of transfusion is commendable, for previously many patients who would have benefited were not transfused. On the other hand, blood and plasma are potentially dangerous fluids unless prepared, stored, chosen, and used with extreme care.

The relative profusion of these fluids may be dangerous if the simple but important points to be observed in their use are neglected, if the need for the often complex investigations demanded by modern knowledge of the blood groups is not realized, and if the possible harmful, and sometimes tragic, results of transfusion are not considered. Dr. J. Wallace and Mr. R. D. Richards bring out a number of these points in their article in this issue. They confirm previous observations that properly collected

and refrigerated stored blood is no more productive of reactions than fresh blood. Six of the nine reactions they report are attributed to the use of long-stored sterile giving sets, an event which may occur in any blood bank unless there is close supervision and a steady turn-over. Without constant supervision stored blood itself may be overlooked in the refrigerator and used after the normal expiry period of 3-4 weeks. In fact, blood stored for much longer than this has been transfused.

The wider understanding of the implications of the Rh factor has increased the need for care in the use of blood. Intramuscular and subcutaneous injection, as well as the transfusion of Rh-positive blood to Rh-negative recipients, can cause immunization which is permanent and may have serious results. It is essential that only Rh-compatible blood be given when transfusing any female of child-bearing age or younger, and all women who have been pregnant. Ideally, in males and nulliparous females past the menopause Rh-compatible blood should also be used: at any event an Rh-compatibility test should be made if such people have previously been transfused. The simple expedient of always giving only Rh-negative blood cannot, however, be accepted as a solution of the problem, because it would be wasteful of supplies which are naturally limited and should be reserved for Rh-negative cases. Only in emergencies should the Rh grouping be omitted and Rh-negative blood used irrespective of the Rh group.

It seems established that the transfusion of plasma or serum may be followed in up to 10% of cases by the development of hepatitis, which is sometimes fatal and is indistinguishable from infective hepatitis save for its long incubation period of some 40-120 days. Two such cases have recently been reported in this *Journal*.^{1 2} This risk must always be considered when the use of plasma is contemplated, and plasma should be given only when the benefits likely to accrue from the transfusion outweigh it. Until the various methods now being investigated of destroying the infective agent have been shown to be effective, or a laboratory test to detect infected plasma has been developed, the only methods of control are the withdrawal of batches of plasma shown by transmission of the disease to be infected, the preparation of plasma from small pools, and the rejection of donors with a recent history of jaundice. All plasma now being dried in England is made from pools containing not more than the plasma from 10 bottles of blood, but there is much plasma made from larger pools still in use. The prompt withdrawal of infected material will depend upon the possible association in the clinician's mind of hepatitis with transfusion of plasma, upon the reporting of such cases to the Regional Transfusion Centre, and upon the accurate recording of bottle numbers in the case notes of all patients given plasma. Too often when cases of homologous serum jaundice are reported it is found that no such record has been made.

Constant and close supervision of the use of blood and plasma is required, and in large hospitals at least there would seem to be the need for the appointment of a transfusion officer to supervise not only the administration of the blood bank provided by the Transfusion Service but also to perform the necessary and often complex tests to ensure compatibility and to make any subsequent investigations. The Regional Transfusion Centres can perform much of this work, particularly for the hospitals in their vicinity or for hospitals having no laboratory, but they cannot, even if they wished, carry out all the tests and investigations which should be made in their regions. The appointment of resident clinical pathologists in larger hospitals would seem to be the best way of solving this problem.

¹Scott, K. B., and Tovey, G. H., *British Medical Journal*, 1948, 1, 196.

²Apley, J., and Wallis, H. R. E., *ibid.*, 197.

HUMAN CHORIONIC GONADOTROPHIN

In 1939 Astwood and Fevold¹ reported evidence which suggested that the anterior pituitary secretes three rather than two gonadotrophic factors. The first of these (FSH) stimulates the ovarian follicle to ripen, the second (LH), acting after and in conjunction with FSH, causes ovulation and initiates luteinization, whilst the third (luteotrophin) is said to be essential for the maintenance of the formed corpus luteum. As none of the pituitary hormones have been isolated, and as they are not available in adequate amounts for therapeutic purposes, various anterior-pituitary-like substances of chorionic origin are employed instead. Chief among the latter are equine serum gonadotrophin, which is follicle-stimulating, and human pregnancy urine gonadotrophin, the action of which has been the subject of controversy. In laboratory animals it is mainly luteinizing, but its effect on the human ovary is doubtful, and M. E. Davis² goes so far as to state that it "does not affect the human female favourably so that it is probably of no value in gynaecological therapy." This is an extreme view, but certainly human chorionic gonadotrophin when given alone has never been shown to possess the property at one time attributed to it of inducing ovulation and of initiating luteinization in woman. However, an investigation controlled by hormone assays and endometrial biopsies into the possibility of inducing ovulation in the human by a combination of follicle-stimulating hormone and chorionic gonadotrophin—the "one-two cyclic gonadotrophin therapy" of Hamblen and C. D. Davis³—gave promising results in a small series of cases. Other workers have failed to confirm these findings, but it is possible that the conflicting results may to some extent be due to variations in the dosage, purity, and potency of the preparations used.

Further light has now been shed on the subject by Brown and Bradbury,⁴ who describe a controlled study of the physiological action of chorionic gonadotrophin in normal women. In four cases the daily injection during the secretory phase of the menstrual cycle of amounts varying between 5,000 and 20,000 international units of the hormone produced a state of pseudo-pregnancy for periods of up to 19 days. Biopsy in these cases revealed the presence of decidual changes in the endometrium; the urinary excretion of pregnanediol continued beyond the usual life-span of the corpus luteum of menstruation; and in one case a well-developed and active corpus luteum was demonstrated at laparotomy on the fourteenth day of treatment. The onset of menstruation, however, could not be delayed indefinitely in these cases, bleeding occurring during, and despite, uninterrupted treatment. No explanation is offered for this last phenomenon, but it may lie in the fact that Brown and Bradbury gave the same dose daily in each case, whereas progressively larger doses may be required to maintain luteal activity. Once menstruation had begun the injection of the hormone was without effect. A more significant finding was that in five individuals treatment during the follicular phase of the cycle did not appear to hasten ovulation or the onset of luteal function. These observations strengthen the suggestion previously made that while chorionic gonadotrophin prolongs the activity of a pre-existing and functioning corpus luteum it does not by itself induce ovulation or initiate luteal activity. This view does not necessarily confirm the theory that there are three pituitary gonadotrophins, but if there are, then chorionic gonadotrophin resembles in its action luteotrophin

rather than LH. It also follows that it should be used when it is desired to enhance already established but deficient luteal activity. This is not to deny that chorionic gonadotrophin may have other uses. Thus it is sometimes of value in the treatment of metrorrhagia haemorrhagica where there is a complete absence of luteal activity, but in such cases there is some reason to believe that it controls the bleeding not by stimulating corpus luteum function but by depressing follicular activity.

THE TREATMENT OF CHOLERA

Hopes that the commoner sulphonamides or antibiotics would be active against cholera were disappointed; Bhatnagar and his colleagues,¹ however, have now produced a compound which in preliminary trials seems to have been much more effective. The first observation was that hexamethylene-tetra-amine in a 10% solution in physiological saline would kill cholera vibrios *in vitro* in less than half an hour. Crude compounds in which hexamine was linked with sulphanilamide were then prepared and in preliminary experiments gave promising results in animals and man. Later a condensation product containing two molecules of sulphathiazole and three molecules of formaldehyde was made. This compound has the formula $C_{21}H_{22}O_6N_8S_2$, but its actual constitution has not yet been worked out: for the present it is termed Compound 6257. *In vitro* bactericidal action on cholera vibrios was well marked in concentrations of 50 mg. per 10 ml., while with lesser concentrations above 5 mg. per 10 ml. there was bacteriostatic activity. The *in vitro* tests were confirmed in mice inoculated intraperitoneally with 2 M.L.D. of cholera vibrios. When mice were given 40 or 50 mg. in divided doses for two days prior to inoculation and then the same dose morning and evening for four days after inoculation there was complete protection if the drug was given subcutaneously or intraperitoneally. If given by mouth the drug saved only 10% of mice, presumably because of poor absorption from the alimentary tract.

Field trials were carried out in the Tanjore District of Southern India. The patients were for the most part undernourished women and children suffering from the effects of purgation, vomiting, and suppression of urine. A specimen of stools was first examined to establish the diagnosis, and the drug was then given in a dose of 6 g., followed 4 hours later by 4 g.—usually by mouth, though if vomiting were profuse the drug was administered per rectum. As a rule the total dosage was 28 g., of which 10 g. was given on the first day, two doses of 4 g. on the second day, and thereafter two doses of 1 g., morning and evening, for the next five days. Under this regime vomiting ceased and purgation was reduced within six hours: the urinary output was normal in about nine hours. Cholera vibrios were absent from the stools by the fifth morning.

So far 85 cases of bacteriologically proved cholera have been treated under field conditions in 27 villages, with a mortality of only 4%—in contrast to the usual mortality during the past seven years of 60%. No toxic manifestations have been seen even when as much as 50 g. has been given. Plenty of water, however, was drunk by the patients, and soda water when available. Although no details are given, it is said that the drug has been remarkably effective when administered prophylactically to contacts living in infected villages. If these results are confirmed a considerable advance in the chemotherapy of cholera has been made.

¹ Amer. J. Physiol., 1939, 127, 192.

² Progress in Gynecology, 1946, p. 203. Edited by J. V. Meigs and S. H. Sturgis. New York: Grune and Stratton.

³ Amer. J. Obstet. Gynec., 1945, 50, 137.

⁴ Ibid., 1947, 53, 749.

¹ Bhatnagar, S. S., Fernandes, F., De Sa, H., and Divekar, P. V., Nature, 1948, 161, 395.

BITING MIDGES IN SCOTLAND

The minute black midges of the family *Ceratopogonidae* are very common in parts of Scotland during the summer months, particularly in the West Highlands, where the indignant sportsman frequently blames them for the lost salmon or the missed grouse. They do not transmit human diseases in this country, but most people who are bitten find the consequences very unpleasant. The irritation from the bite begins at once and may continue for several days; scratching aggravates it and may cause secondary infection. Nor do bites come singly: it is estimated that there are at least 50,000 active midges to the acre in areas where they are abundant. Investigations in the Trossachs at the height of the midge season (July–September) have given averages of 150 midges per person per hour. It is not surprising that agricultural work has been seriously impeded by midges in some places, and that the tourist traffic has suffered in the summer months.

A few years ago the subject of midge control was made the study of a special committee of the Scottish Department of Health. In 1946 an interim report was issued,¹ and recently a second report has appeared.² The most important item in the first report was the recommended use of the repellent dimethyl phthalate³ as a protection against midge bites. Biological data were few, and existing records showed the difficulty of direct control measures. The midges belong to the genus *Culicoides*, of which fifteen species were found; most of the trouble was clearly due to one species, *C. impunctatus*.

The recently published report contains details about the methods adopted to obtain further information about the life history of the midges. A trap was made in the form of a box, and in the bottom and sides of this small glass vials were inserted. Traps of this type were inverted over likely breeding-grounds, and the emerging midges were attracted by light into the glass vials. By this means some information has been obtained about the types of breeding-sites chosen by different species. Unfortunately relatively few of the most important species were caught in the traps, so that their preferences are still uncertain. When the breeding areas are known it may be possible to render them unsuitable or unattractive by drainage or similar operations. Alternatively it may prove feasible to attack them with insecticides. In the meantime sufferers will have to rely on the DMP (dimethyl phthalate) repellent. Further trials have confirmed its value. It can be applied to the skin—various formulae are suitable, but they must contain at least 40% of the substance. Skin applications only remain effective for a few hours, but more prolonged protection is possible by using wide mesh (4/16 in. \times 5/16 in.) veils impregnated with DMP. These are worn over the head and give protection without obscuring vision. If kept in a tin when not in use they remain effective for a fortnight.

COPENHAGEN INSTITUTE FOR HUMAN GENETICS

The foundation of an Institute for Human Genetics at the University of Copenhagen was first proposed by Prof. Oluf Thomsen in 1935. In 1938, with the help of a grant from the Rockefeller Foundation, the Institute was established, Prof. Tage Kemp being its first head. There is no doubt that had this department not existed it would have been necessary to create it in order to meet an urgent need. During the years 1929 to 1939 several eugenic laws were

adopted in Denmark. These dealt with sterilization, prohibition of marriage in certain circumstances, and abortion on eugenic grounds. The laws were skilfully framed and provided ample safeguards; they might well serve as a model for study should similar measures be contemplated in this country.

In a recent account¹ given to the Eugenics Society Prof. Kemp explained the working of the system and its practical results. It is not claimed that the new laws are having any great effect on the population as a whole. The aim has been different—the humane and intelligent application of measures to the benefit of the individual patient. To quote Prof. Kemp: "It is sometimes stated that the main purpose of eugenics is to spare society a good deal of expense. This, of course, is a great mistake. Negative eugenic measures are of an entirely medical character, aiming at the prevention of disease and misfortune." The average annual number of sterilizations was less than 20 in 1929–34, rising to 280 in 1935–9, and was no more than 350 during the years 1940–5. The use of these laws and the operation of the medico-legal machinery which they set up created the demand for genetic advice, and this the University Institute has been well qualified to supply.

During its brief life the research record of the Institute has been magnificent. In some ways the war almost helped research in Denmark: at least research was not interrupted to anything like the same extent as in many other countries. The Danes had no armed forces in which to serve. So far as they could they ignored the German occupiers and for long periods could concentrate on their work. We in this country can also be grateful because, presumably to annoy the Germans, English became the standard medium of publication. Apart from one volume in Danish (with English summary), all the wartime publications of the Institute are in English. From 1941 to 1946 ten large volumes of *Opera*² have appeared. Two of these are bound collections of reprints; the others deal with the following subjects: Graves's disease, achondroplasia, harelip and cleft palate, gypsies in Denmark, haemophilia, pituitary dwarfism in mice, deaf-mutism, and cancer of the breast. The attempt was being made, apparently with success, to ascertain and study every case of the rarer of the above diseases in Denmark. The material is carefully analysed and the conclusions fully set out. But what is even more valuable is that the individual case histories are given in detail, so that these volumes will remain an admirable source of material for research workers for many years to come. It was only after the war was over that the *Opera* became known in this country. Accordingly we propose to deal with some of them in a series of annotations. The first, on haemophilia, will appear in a later issue.

Prof. Warren H. Cole, M.D., F.A.C.S., Professor of Surgery in the University of Illinois, will deliver a Moynihan Lecture before the Royal College of Surgeons of England (Lincoln's Inn Fields, London, W.C.) to-day (Friday, April 2) at 5 p.m. His subject is "Repair of Strictures of the Common Bile Duct."

Dr. F. J. Nattrass, F.R.C.P., will deliver the Lumleian Lectures before the Royal College of Physicians of London (Pall Mall East, S.W.) on Tuesday and Thursday, April 13 and 15, at 5 p.m. His subject is "Clinical and Social Problems of Epilepsy."

¹ Control of Midges, 1946, Edinburgh: H.M.S.O.

² Second Report on Control of Midges, 1948, Edinburgh: H.M.S.O.

³ British Medical Journal, 1945, 1, 705.

¹ Eugen. Rev., 1947, 23, 181.

² Opera ex Domina Biologicae Hereditariae Universitatis Hafniensis, Copenhagen, Ejnar Munksgaard.

MEDICAL SERVICES IN N.H.S.

Regulations governing the proposed general medical services have been issued under the title of National Health Service (General Medical and Pharmaceutical Services) Regulations. They provide for arrangements to be made by the Executive Councils with medical practitioners, the setting up of the Medical Practices Committee, and the terms of service for practitioners. They also prescribe the form of certificate to be issued by the Medical Practices Committee certifying that a transaction does not involve sale of goodwill.

Each Executive Council will furnish reports to the Medical Practices Committee before Dec. 31, 1948, and thereafter annually or more frequently if required, in order that the Committee may judge of the adequacy of the medical services in the Council's area. The Council must inform the Committee when a practitioner's name ceases to be on the medical list, because of death or any other cause, and it is empowered to advertise the vacancy in the Press or elsewhere.

If the number of applicants exceeds the number of practitioners required for vacancies notified by Executive Councils the Medical Practices Committee must consider the views expressed by the Council concerned, give any applicants an opportunity to attend before it or make written representations, and inform the successful and unsuccessful applicants of its decision. An unsuccessful applicant may appeal to the Minister, who may himself determine the appeal summarily or appoint one or more persons to hear it.

The Executive Council shall consult with the Local Medical Committee and constitute an Allocation Committee, consisting of equal numbers of persons appointed by the Council and Local Medical Committee and of a chairman. This committee will be responsible for administering the Council's "allocation scheme," by which it provides for, among other matters, the assignment of practitioners to patients and vice versa where necessary, and for placing a limit on the number of persons on a practitioner's list. This limit is normally 4,000, but when two or more partners practise together there may be 5,000 on any list provided that the average remains 4,000. A practitioner employing an assistant may take on 2,400 more patients for each assistant. The allocation scheme is subject to the approval of the Minister.

On the death of a medical practitioner (or on his name being withdrawn from the list) the Council may consult with the Local Medical Committee and appoint one or more practitioners to care for the deceased practitioner's patients. A person who no longer wishes to use the general medical services may get the Council to remove his name after 14 days. A person temporarily residing in a district who is not on a practitioner's list in that district may be accepted by a practitioner during his residence.

Distribution of Funds

The sum to be distributed for the remuneration of practitioners will be credited to the Local Executive Council, which will prepare a scheme for its distribution after consultation with the Local Medical Committee. If the two bodies fail to agree the matter will be referred to the Minister, whose determination is final. The provisions of the scheme are in any case subject to the approval of the Minister.

The first schedule of these regulations prescribes the terms of service for medical practitioners. "A practitioner is required to render to his patients all proper and necessary treatment." The scope of treatment required is that which does not involve the application of special skill or experience "of a degree or kind which general practitioners as a class cannot reasonably be expected to possess." Within these limits it includes the administration of anaesthetics and operative procedures. In the case of maternity medical services such treatment also includes antenatal supervision. In an emergency a practitioner must do whatever is best in the interest of the patient.

"A practitioner is required to attend and treat at the places, on the days, and at the hours to be arranged to the satisfaction of the Council" the patients in his care, but he may alter the time and place with the consent of the Council or, on appeal, if the Minister allows it.

"A practitioner is required to provide proper and sufficient surgery and waiting-room accommodation for his patients, having regard for the circumstances of his practice." He must allow any officer or member of the Council or Local Medical Committee to inspect his surgery or waiting-room at any reasonable time, on his receiving a written request.

A practitioner must visit a patient whose condition requires him to do so, and he must issue any certificates free of charge if they are reasonably required by the patient or required by an Act. A practitioner must prescribe for his patients on a form provided by the Council, and he is prohibited from giving the instructions "Rep. Mist."

A practitioner must keep records of the illnesses of his patients and his treatment of them in a form determined by the Minister, after consultation with an organization which in his opinion is representative of the general body of general practitioners. He must forward these records to the Executive Council when called for, and in any case within seven days of a patient's dying.

A practitioner must furnish in writing to the medical officer appointed by the Minister for the area any clinical information that he may require about a patient to whom the practitioner has issued, or declined to issue, a medical certificate. He must also allow the medical officer access at reasonable times to his surgery so that he may inspect the records, and he must answer any inquiries by the medical officer about prescriptions, certificates, or statements in any report made under the terms of service.

Partners and Assistants

A practitioner will normally treat his patients personally, but if he has a partner or an assistant one of these may treat his patients. Nevertheless the patient is entitled to require the personal services of the principal instead of the assistant's, unless professional duties or other reasonable cause prevent the principal from rendering them himself.

If the Executive Council, after consultation with the local medical committee, considers that a practitioner is not carrying out his obligations under the terms of service—owing, for example, to continued absence or disability—they may, with the consent of the Minister, notify persons on the practitioner's list that he is for the time being, in their opinion, not in a position to carry out his obligations.

The remuneration will be in accordance with the following scheme. There will be an annual payment of £300, provided that after a specified period the practitioner has a minimum number of patients specified by the scheme. There will be a capitation payment, payment in respect of temporary residents, payment for treatment given in an emergency of a patient not on that practitioner's list, a mileage payment, and payment in cases where the practitioner is required to provide the service of a second practitioner to administer an anaesthetic. Other payment will also be determined as follows. There will be an inducement payment made in areas unattractive to medical practitioners. A practitioner will receive a supervision fee for training an assistant under an arrangement approved by the Minister. Practitioners with obstetric experience will receive payment in respect of their providing maternity services. Practitioners will be paid in respect of the supply of drugs and appliances.

A report by the Liberal Party entitled *The Aged and the Nation* (8, Gayferc Street, S.W.1; 2s.) surveys the problems of old people and makes recommendations for consideration by the Party Assembly in Blackpool on April 22-24. The Report recommends improvements in pensions, housing, welfare services, homes and hostel medical treatment and administration of the services for the care of old people. It also urges that everything possible should be done to enable older workers to continue working as long as possible after pensionable age. The Report concludes that the medical profession should be encouraged to take an interest and undertake research in preventive and remedial treatment of the diseases of old age; that the aged should be admitted into geriatric departments of general hospitals, not into chronic sick wards; that long-stay residential annexes should be attached to general hospitals; and that senile dementias should receive treatment in special wards.

DISCIPLINE IN N.H.S.

Regulations entitled National Health Service (Service Committees and Tribunal) Regulations, 1948, have been issued. They empower every Executive Council to establish medical, pharmaceutical, and dental service committees, and a joint services committee. The medical service committee consists of a chairman and six other members, of whom three will be appointed by and from the lay members of the council, and three by the local medical committee. The joint services committee will have a chairman and eight other members, of whom two will be appointed by the medical service committee from their members, and two each from the dental and pharmaceutical services committees.

The medical service committee will investigate any complaint against a medical practitioner accusing him of failure to comply with the terms of service. The person making the complaint must do so within six weeks of the event which gives rise to it, unless there are exceptional circumstances preventing his doing so, such as illness. The committee will hear the proceedings in private and will draw up a report stating the evidence and its inferences, together with a recommendation about what action, if any, should be taken. It will present the report to the Executive Council, and the Council must accept as conclusive any finding of fact contained in it.

The Executive Council will send the Minister a copy of the report and a statement of its own decision on it, which may include action in one or more of the following ways: (a) If the Council considers that the practitioner's conduct complained of arises from his having too many patients, it may impose a special limit on the number of persons on his list. (b) The Council may recover from a practitioner by deduction from his remuneration or otherwise any expenses incurred by a patient owing to a practitioner's failure to comply with the terms of service. (c) The Council may represent to the Minister that an amount should be withheld from a practitioner's remuneration. (d) The Council may represent to the Tribunal that the continued inclusion of the medical practitioner on the medical list would be prejudicial to the medical services. Any party aggrieved by such a decision is entitled to appeal to the Minister, with the exception that no appeal can lie against the decision of a Council to make representations about the continued inclusion of a practitioner on the medical list.

If the Minister considers that the appeal is unreasonable, vexatious, or frivolous he may dismiss it forthwith, but he may not do so without an oral hearing if it is against a decision of the Council to take action according to (a), (b), or (c). The Minister may appoint one or more officers of the Ministry of Health, or other people (not more than three), for the oral hearing. His decision is final.

Advice on Fines

A medical advisory committee will be constituted to advise the Minister in relation to withholding money from medical practitioners when the terms of service have been broken. The breaches in question include failure to visit or treat a patient whose condition so requires and failure to supply necessary drugs. The committee will consist of the Chief Medical Officer of the Ministry of Health or his deputy, two other medical practitioners in the service of the Ministry of Health, and three medical practitioners selected by the Minister in rotation from a panel.

If after an investigation the Minister considers that orders for drugs, etc., given by a medical practitioner are excessive he may refer the matter to the local medical committee. The committee will furnish the practitioner with a statement of the matters of which an explanation is required. He may submit his evidence to them in person or in writing. If the committee considers that excessive cost is being incurred it will inform the Executive Council, the practitioner, and the Minister, and may add recommendations about withholding money from the practitioner. The practitioner can appeal against the decision of the local medical committee to the Minister, and the latter will appoint not more than three people (not officers of the Ministry of Health), of whom at least one will be a medical practitioner, to hear and determine the appeal. The Minister

may also adopt this procedure if he is dissatisfied with the decision of the local medical committee. Once it has been decided that excessive cost is being incurred the Minister may direct the Executive Council to withhold such sum as it thinks fit.

A similar procedure governs the investigation of alleged improper certification and record keeping. If the Minister considers that the practitioner has failed to exercise reasonable care in certification he may direct the council to withhold some amount from his remuneration.

AFTER-CARE OF MENTAL PATIENTS

Mr. Justice Birkett's Tribute

Presiding at the 68th annual meeting of the Mental After-Care Association on March 22, Dr. Henry Yellowlees, chairman of the Association, said that progress had been made in a number of branches of the work during the year, alike in the placing of patients in convalescent or holiday homes, the boarding-out of patients from mental hospitals, and the visits paid to patient homes. The little community of boarded-out patients was specially deserving of sympathy. These were people not in need of mental hospital care, but not well or strong enough to stand the rough-and-tumble of ordinary life. The Association was doing some of its most useful service in finding suitable homes for them.

Dr. J. S. I. Skottowe, medical superintendent of Buckinghamshire County Mental Hospital, said that not all discharged mental patients wanted what was commonly known as rehabilitation. Many of them just wanted to be left to go their own way in their own time, and slowly to take up the threads again. That they were able to do, by means of the Association, with the help of people who had some capacity for seeing things with the patients' eyes.

Sir Norman Birkett said that the work of a King's Bench judge was infinitely varied. He had to do with matters of dispute which covered the whole range of human feeling, and especially was this true, of course, of criminal proceedings. He had been greatly struck by the number of defendants who appeared in the criminal court of whom it had to be said on their behalf that much of their trouble and their conflict with the law had been due to mental abnormality. "When I hear, as I do hear in court, of the after-care which is available for them, I have often felt that it was one of the greatest qualities of our British people that there is no phase of social redemption or amelioration to which people will not be found ready and willing to give of their time, money, and service."

Mr. Justice Birkett recalled that at the Nuremberg trial one of the defendants was charged because he, as Minister of Health, responsible for the care and nurture of great numbers of people, had cultivated and ordered and carried out in respect of the old, the ill, and the mentally disabled, not measures of restoration or amelioration, but measures of destruction. "I could not help thinking as I sat there day after day listening to that melancholy record that whatever might be said of our own country—and critics are not lacking—at any rate there is one distinguishing feature, and that is that for those who are sick in body or mind there is a fund of compassion and pity which finds expression in societies like yours." It was not indiscriminate assistance which was afforded, but it called for the discerning mind and the qualities of insight and imagination, so that not only were material remedies applied but human sympathy given.

Delegates from Italy, Denmark, and Austria have attended a course in public health administration at Cardiff organized by the British Council with the co-operation of the Welsh National School of Medicine and the City of Cardiff Public Health Department. The visitors included Dr. G. Garaci, Permanent Under-Secretary, Italian Ministry of Health. There were lectures on the National Health Service Act, the Insurance Act of 1946, health administration in a city and a county area, the health of the school child, the mother and the infant, hospital services, health clinics, midwifery, the treatment of mental and nervous disorders, laboratory services, the treatment of venereal diseases, voluntary health services, and rehabilitation centres.

Reports of Societies

NUTRITIONAL STATUS IN BRITAIN

RECENT INVESTIGATIONS

A conference on "The Results of Recent Investigations of Nutritional Status in Great Britain" was held by the Nutrition Society at the London School of Hygiene and Tropical Medicine on March 13, with Dr. J. A. Charles in the chair.

Laboratory Investigations

Prof. J. R. MARRACK described the application of biochemical methods to nutritional surveys. These methods were used in the hope of collecting data free from local and temperamental bias and expressed in terms which had the same meaning all over the world. They should not only demonstrate the existence of malnutrition but also indicate the specific faults in the diet which caused this malnutrition. Before the investigator could interpret his data with confidence, however, he must make sure that his methods could be relied upon to give trustworthy results. The need for caution was emphasized during the survey of haemoglobin levels organized in 1943 by the Medical Research Council. Although an attempt was made to secure uniformity by asking all workers to use Haldane's visual method of estimation the agreement between results was poor. Thus a difference of about 7% was found between the mean values obtained by the two workers whose results showed the least variation among themselves, while there was a difference of 14% between the highest and lowest values of the worker whose results showed the widest variation. A careful sifting of the available evidence, however, indicated that in 1943 haemoglobin levels were no lower than before the war, while between 1943 and 1945 there has probably been some improvement, particularly in pregnant women and in school-children. The observation of lower haemoglobin levels in agricultural workers than in policemen or Civil Servants still presented a puzzling problem.

For vitamin C surveys most workers had used the "saturation tests" devised by L. J. Harris. According to this technique vitamin C status was measured by the rapidity with which ascorbic acid appeared in the urine after massive doses had been given under carefully standardized conditions. Harris and Olliver had established that vitamin C status varied consistently with the season. The lowest level occurred in spring, when few home-grown vegetables were available, but under normal economic circumstances the decline was arrested by plentiful imports of citrus fruits. Prof. Marrack considered that while our dietary restrictions had involved no risk of scurvy we could not be certain that health and efficiency had not suffered.

Surveys of vitamin A status by examinations of the plasma using the antimony trichloride method had at times given such inconsistent results that it was questionable how much trust could be put in them. Estimations of liver reserves post-mortem were probably more reliable, and suggested that so far as could be judged by comparison with data obtained by Moore in 1937 our vitamin A supplies had improved during the last few years. Thus in examinations of the livers of newborn babies Hoch and Marraek found much higher reserves than those reported by various workers before the war.

Laboratory methods for the estimation of the body's stores of several vitamins of the B group now seemed to be fairly trustworthy, but had not been used in any large-scale investigations. Surveys of vitamin D status by estimations of inorganic phosphates and phosphatase in plasma had also seldom been attempted, although in 1944 Graham found low values for phosphate in many Glasgow school-children. Estimations of the level of protein in the plasma could not be accepted as indicating the amount or quality of the protein available in the diet.

The first requirement for future progress was to check the reliability of biochemical methods. The second was to collect enough data in any one year to establish a "base line" against which future data could be compared. Finally it would be necessary to study for prolonged periods the health of groups

of subjects about whom biochemical data had been collected, so that the clinical significance of biochemical abnormalities might be correctly appraised. It seemed too much to expect that the effects of moderate changes in the diet would be apparent within a few months.

Anthropometric and Performance Tests

Prof. J. YUDKIN agreed that the establishment of "base lines" was one of the most pressing requirements in studying the effect of dietary changes on the health of the population. He considered that the problem could not be solved by the uncoordinated efforts of a few interested workers, and reminded the society that some years ago he had advocated the setting up of a National Nutritional Council.

In the interpretation of anthropometric data another difficulty had to be faced in deciding how far subnormality in height and weight could be correlated with malnutrition. Thus a child might be small for its age either through genetic factors or through falling short of the standards of perfect health. If genetic factors were ruled out it might be difficult to decide whether malnutrition was the cause of poor health or whether more importance should be attached to body hygiene, bad housing, lack of sleep, or other disadvantages which had poverty as their common origin. Fortunately these complicating factors could be minimized by studying groups of subjects of the same social class.

Many alternative forms of anthropometric measurement had been suggested, which perhaps implied that none had given complete satisfaction. Thus "static" data might be collected by recording body measurements and weights on a single occasion. These data might be related, simply to age, or various devices may be employed with the intention of emphasizing the effects of malnutrition. Sitting height, for example, might be considered to be more significant than the standing height, or the Tuxford index relating weight to height might be calculated on the assumption that malnourished subjects were lighter than well-nourished subjects of the same height. "Dynamic" data might be obtained by studying gains in height or weight over a given period, and for this purpose the Wetzel grid was useful.

Anthropometric data collected by Prof. Yudkin, mainly at Cambridge, indicated that weights and heights were slightly lower in children from families with low incomes than in children from families with higher incomes. In the same income groups children were larger in small families than in large families. Data collected by Milligan and Lewis-Fanning indicated that there had been an improvement in the height and weight of infants in Glossop up to 1944 as compared with before the war.

Since the ultimate effect of malnutrition was disease it was highly desirable that clinical methods for the diagnosis of malnutrition should be devised. Apart from the recognition of gross signs little progress had been made in this direction. Thus the system used in the school medical service of recognizing four grades of nutritional status—excellent, normal, fair, and poor—had given inconsistent results when the same group of children had been examined by different doctors, or even on different occasions by the same doctor. Tests of strength by the dynamometer and other means had given encouraging results, but must obviously be used with discretion. Jokl had claimed that while well-nourished children could beat poorly nourished children at putting the shot or sprinting 100 yards the situation was reversed in a "middle distance" race of 600 yards.

Clinical Surveys

Dr. H. M. SINCLAIR criticized methods, such as those used by the Board of Education and the Ministry of Health, in which general development, posture, and muscular strength were taken as indications of the state of nutrition at the time of examination. Physical development depended upon both genetic factors and past nutrition, and signs of current dietary deficiency were by no means confined to subjects of poor physique. A rapid examination of the subject for signs of malnutrition, as conducted by Dr. Sydenstricker during his visit to this country in 1942, was less open to error. After inquiring into the medical history of each subject the doctor should seek information on certain specific symptoms, including

change in body weight, muscle pains or cramps, sore tongue, sore eyes, rapidly failing vision, weakness or fatigue, nycturia, and diarrhoea. Information about menstruation and lactation should also be obtained if relevant. The skin, hair, nails, tongue, gums, mucous membranes, and eyes should be carefully inspected, and note should be taken of any general abnormalities such as obesity, thinness, active rickets or osteomalacia, oedema, paresis, or tenderness of the muscles. In examining large groups of subjects the use of the "Hollerith" punched card system was a great convenience.

In the interpretation of the results of clinical examinations great caution was necessary. Thus folliculosis might be caused by deficiency of vitamin C or of vitamin A, but another possible cause was shortage of soap. Denudation of the filiform papillae of the tongue was much more common in those with dentures than in those with natural teeth. In the diagnosis of malnutrition therefore it was necessary to take into consideration all information which might be gained from the dietary history, somatometric data, and biochemical estimations. It was equally essential to decide on the nature of the deficiency causing malnutrition. Nothing could be gained by attempting to grade the severity of malnutrition on a general basis; a severe case of rickets could not be compared numerically with a case involving mild deficiencies of several nutrients.

During the past several years there had been a marked increase in the rate of growth of children, although in England and the U.S.A. the adult male height had remained unchanged. It had not been shown that this increase in growth rate was necessarily advantageous; it might indeed be undesirable since the long time taken to reach maturity was characteristic of the human genus. Biochemical studies by the Oxford Nutrition Survey had indicated considerable differences in the vitamin contents of the blood plasma at different times of the year and in different parts of the country. Thus women in an Oxfordshire village examined in September, 1942, gave a mean of 0.92 mg. of ascorbic acid per 100 ml., as against 0.1 mg. for women in Accrington examined in January and February of the same year. The mean level of vitamin A in the plasma of Oxford undergraduates in November, 1943, was 132 I.U. per 100 ml., as against 64.5 I.U. for factory workers near Oxford in November, 1942.

Discussion

Dr. C. C. UNGLEY stressed the need for combining clinical and biochemical observations in the examination of patients suspected to be suffering from malnutrition, and illustrated his arguments by describing two cases in which deficiency of vitamin B₁ was diagnosed and treated. Dr. E. R. BRANSBY considered that the heights and weights of groups of children were reliable indices of their nutritional status, provided genetic factors did not interfere. He hoped that a target would be set to bring the physique of poor children up to the level of those in better economic circumstances.

Dr. M. PYKE showed diagrams, prepared by the Ministry of Food, which indicated the supplies of nutrients available in Britain during recent years. He asserted that there was no evidence of any serious deficiency. Points of interest were the seasonal variation in the supplies of vitamins C and A, which reached their lowest point in spring, and also the marked rise in the iron intake which occurred in 1945 on account of a temporary raising of the extraction rate of flour to 90%. Dr. E. H. M. MILLIGAN spoke on the value of performance tests, and considered that they should not exclude the factor of will power.

Dr. A. P. MEIKLEJOHN said that in poor families, particularly with large numbers of children, malnutrition might result from lack of time and facilities to prepare nourishing meals even when the foods were available. Dr. S. K. KON described a survey of the nutrient contents of human milk: an increase in the vitamin B₁ content had been observed which could be correlated with the introduction of flour of high extraction rate. Miss M. ANDROSS presented data comparing the food intake of students in a Glasgow hostel in 1935 and 1948. There appeared to have been a slight fall in the consumption of protein, but a surprising rise from 78 g. to 101 g. daily in the consumption of fat.

Dr. R. B. HAWES summarized the day's proceedings on behalf of his colleague Dr. H. E. MAGEE, of the Ministry of Health.

He regretted that none of the speakers had provided any substantial information on the present nutritional status of the country, but had focused their attention mainly on the discussion of methods. In his opinion the severe criticism of the methods used by the Board of Education was unjustified.

Rh FACTOR

At a meeting of the Medical Society of the L.C.C. Service at County Hall on March 5, Dr. E. N. ALLOTT, of the Lewisham Group Laboratory, read a paper on the rhesus factor and blood transfusion.

There had been a great increase in blood transfusion in recent years, and a lot of transfusions, he thought, were unnecessary. Rh tests should always be done before transfusing a woman of child-bearing age. The dangers of giving Rh-positive blood to Rh-negative female patients were just as great as those of ABO incompatibility. In a large proportion of Rh-negative patients transfused with Rh-positive blood antibodies were produced.

He had records of 38 patients whose first affected pregnancy followed transfusion with blood of unknown Rh type. Of these 38 patients 26 received transfusions before 1944, when the significance of Rh groups was perhaps not sufficiently widely recognized. But 12 of the transfusions had been given since 1944, and were inexcusable. Only 4 were given for medical and surgical conditions not associated with obstetrics and gynaecology. Of the 38 patients 8 had never been pregnant or had only had one miscarriage before transfusion. Subsequently they had had 11 pregnancies: 3 children were living and the other 8 infants died or were stillborn.

In the last three years he had come across 9 reactions due to Rh-positive blood in Rh-negative patients. Two at least of the transfusions, including that in one of the two fatal cases, gave rise to no abnormal symptoms while the blood was being given, but were followed by complete urinary suppression. The others all had reactions of varying degree, followed in many by more or less complete urinary suppression. At least 6 of the 9 transfusions were unjustifiable.

Erythroblastosis Foetalis

Dr. C. A. HOLMAN, assistant pathologist at the Lewisham Group Laboratory, reading a paper on the treatment of erythroblastosis foetalis, said that it was important to recognize isoimmunization early in pregnancy and to do routine Rh tests on all pregnant women. The serum examination should be repeated regularly in all Rh-negative women and others with suspicious histories throughout the last two months of pregnancy. If this was not possible, the serum should be checked at about the thirty-fifth week. Known cases should have regular estimations of the serum titres. If there was a significant rise in the titre—and he considered a fourfold rise a danger signal—or if the infant's movements became feeble, induction of labour should be considered at once. In any case induction should be undertaken at 36 weeks, as the last month *in utero* was the most dangerous.

Cord blood should be collected from the newly born infant immediately after delivery for a direct Coombs test and a haemoglobin estimation. If the former was positive, a replacement transfusion via the umbilical vein should be proceeded with at once, using at least 1 pint (568 ml.) of compatible Rh-negative blood. This was the simplest and safest way of treating infants suffering from erythroblastosis; it prevented any gross anaemia and minimized the jaundice. It did not, however, offer any protection against kernicterus. If the Coombs test was negative, transfusion was not necessary, but the child should be watched.

Dr. Holman described the technique of replacement transfusion in detail, and pointed out that in suspicious cases everything should be ready before delivery for replacement transfusion, and the operator should be prepared to spend several hours doing the transfusion. As a result of replacement transfusion with a pint of blood about 80-90% of the infant's cells were removed and replaced by non-reacting normal adult cells. If the disease was recognized twelve hours or more after birth, when replacement transfusion by the

umbilical vein was no longer possible, it was necessary to watch the infant's haemoglobin. If this fell rapidly on the first or second day a transfusion should be arranged at once; otherwise it was advisable to wait until the haemoglobin had dropped to about 50% and then give about 250 ml. of Rh-negative blood by slow drip. A transfusion of this size would carry the infant over the period during which its initial blood cells were being destroyed and would maintain it until these had been replaced. All infants treated in this way should be followed up and given iron and ammonium citrate as required, if necessary until fully weaned.

Immediate and Delayed Jaundice

Dr. A. G. SIGNY, of St. Mary Abbots' Hospital Group Laboratory, said that cases of jaundice after transfusion might be immediate or delayed. The immediate ones were part of a more general haemolytic shock associated with destruction of the donor's cells and, very occasionally, of the recipient's cells. He recalled Mollison's report to the Medical Research Council describing the investigations which should be undertaken when such cases occurred. He pointed out that the duration of the jaundice would depend not only on the degree of haemolysis but also on the extent of the liver damage. He described the method of treatment by immediate alkalization. Discussing delayed jaundice, he reviewed many reported cases, including the series followed up by Janet Vaughan and her colleagues. He also mentioned some cases he had seen, and described the clinical, biochemical, and histological features, which were on the whole identical with those of infective hepatitis except for the longer incubation period and the severer type of disease with a longer period of recovery time and a higher proportion of deaths. He stressed the increased risks when serum or plasma was used as against those when using blood.

On the question of general prophylaxis there were many measures which were obvious, such as not using blood from donors who had recently been jaundiced or in contact with cases of jaundice. Treatment of the plasma had so far failed to remove the icterogenic agent, but he thought that the advice of Makari should be followed and that a routine flocculation test should be done on all blood donors at the same time as Wassermann and grouping tests. No blood showing any change in its colloidal gold reaction or other flocculation tests should be used for transfusion.

NEURITIS

A discussion on neuritis took place at a meeting of the Hunterian Society on March 15, with Mr. A. E. ROCHE presiding.

Dr. PHILIP ELLMAN said that neuritis was a term loosely used, a dumping ground for many things from neurosis to neuralgia, even including the shooting pains of tabes. He discussed localized forms, in particular sciatica, brachial neuritis, and the so-called costoclavicular syndrome. The principal causes of polyneuropathy could be classified as infection, chemical agents, and metabolic deficiency. Fibrositis, like neuritis itself, was a term which had been applied to innumerable maladies showing a common symptomatology, but in spite of the valuable work of Copeman and others its aetiology and pathology remained obscure. In his general conclusion Dr. Ellman emphasized the dangers of surrendering judgment to the fascination of a name—dangers nowhere more apparent than in this field.

Dr. ALDREN TURNER said that neuritis in the sense of inflammation of the peripheral nerves seemed to be rapidly losing ground as an accurate diagnosis. Actual inflammation of the peripheral nerve was uncommon; in the majority of cases there appeared to be a metabolic or degenerative process at work rather than an inflammatory one. He discussed three conditions which had been "rescued" comparatively recently: (1) lateral prolapse of the intervertebral disk; (2) axillary inlet syndrome due to mechanical compression, albeit intermittent, of the nerves and great vessels as they passed through the neck to the axilla, and (3) severe pain round the shoulder, followed by a palsy. Dr. Turner described the favourable clinical results in 46 cases of prolapse of the cervical disk treated conservatively by means of rest in bed, four or five pillows behind the

neck, a sling for the arm, and a mild analgesic. The third condition he had mentioned might possibly be a true neuritis. Pain was felt around the shoulder girdle and radiating down the arm, lasting for a few days or even two or three weeks, and followed by a certain amount of paresis. There was no fever or constitutional disturbance. His observations on this condition were based on 136 Army cases. He did not know the aetiology and pathology, and a suitable name was lacking. The terms "localized neuritis of the shoulder girdle," "infective neuritis," and "acute brachial neuritis" had all been used, but a non-specific name seemed to be preferable.

Surgeon's Point of View

Mr. DUDLEY BUXTON said that "martyrs to sciatica" were no longer to be found, but a considerable number of people still told their friends that they had "neuritis." He had seen patients labelled cases of neuritis when they had thromboangiitis obliterans. Surgical treatment should be considered when the nerves were irritated, when there was compression, and when there was tension. The costoclavicular syndrome had been dealt with surgically—an important advance was the realization that a cervical rib or a fibrous band was only part of the causation.

Dr. FRANK COCKSEY agreed that rest was the key to treatment for the relief of pain, but rest might not always be sufficient, and three further methods presented themselves, namely, heat, ultra-violet light, and ionization. He spoke in particular of the value of dark heat and moist heat. Radiant heat should be used with the lamp further away than usual, and the time of application should be short. He usually started with applications of five minutes' duration, increasing gradually. Diathermy was useful for neuralgia or neuritic pains arising from osteoarthritis of the spine.

Dr. KENNETH MCFADYEN had heard with surprise that one of the best remedies was rest, because as a general practitioner, when sending patients to the physiotherapeutic department of a teaching hospital, he had learned from them afterwards that they had done exercises. With regard to moist heat, he wished that some people in the big hospitals would themselves learn, and teach others, how to make a really good linseed poultice.

Dr. WILFRED HARRIS, Dr. F. WRIGLEY, and Mr. DICKSON WRIGHT joined in some further discussion. Dr. W. S. C. COPEMAN said that twenty years ago, when he was registrar to the late Sir William Willcox, who was also interested in this subject, he congratulated his chief on one occasion on a very learned lecture he had given at St. Mary's, and Willcox said in reply, "Well, you know, there are a lot of eases with this sort of thing, but the cure is the same in all of them," and after his interrogator had waited expectantly, Willcox added, "Six weeks." The theory of this subject had advanced more rapidly than the therapy.

Delegates to the Scottish Council of Social Service's week-end conference in Edinburgh recently heard Mr. J. Callan Wilson, of the Department of Health for Scotland, give some reasons for the introduction of the National Health Service. Hospital organization, he said, had grown up without plan or system. Some hospitals, dealing mainly with general medicine and surgery, were voluntary and supported by subscriptions, donations, flag days, and charitable efforts of various kinds. Others, such as infectious-diseases hospitals, sanatoria for tuberculosis, and maternity hospitals, were run by local authorities. There was no cohesion; existing services were not comprehensive and there was unnecessary overlapping and competition. Moreover, the provision of special services, such as for orthopaedics, was totally inadequate. The absence of regional organization had confined the university influence and concentrated specialized skill in small groups for teaching hospitals. The increasing cost of hospital service was another factor to consider. Exchequer assistance was inevitable, therefore control by the Exchequer was unavoidable. Discussing the family doctor, Mr. Wilson said that to-day there was an organized public service providing a family doctor for only about half the population. There was no provision for the families of dependants of insured persons—a serious gap which must be bridged. Most difficult of access to people of moderate means to-day were the consultant and specialist services. The person who could pay a fee for consultant advice had no difficulty, but the person who could not afford a fee could have access to consultant and specialist advice only through the out-patient departments of the voluntary hospitals. Arrangements of this kind were not well organized at present.

Correspondence

Consultant Leadership

SIR.—Mr Reginald Payne's contention (March 13, p. 514) that consultants were bitterly disappointed that they had received no guidance or leadership from those in high authority, who had been elected to represent them, is justifiable and unanswerable. For some reason these leaders appeared to be unwilling to commit themselves to any declared policy or public pronouncement. The long and disturbing silence going on from month to month left the consultants baffled and disoriented and raised doubts and suspicions in the mind of the general practitioner. How comforting and encouraging it must have been to the Minister to feel that no breath of criticism or threat of battle need be feared from those in high representative office in the largest medical centre in the British Isles. What a contrast was provided by the declaration issued by the Royal Faculty of Physicians and Surgeons of Glasgow on March 3, 1947, which they reaffirmed on Jan. 5, 1948 (see *Journal*, Feb. 7, p. 257). There was no ambiguity in their memorandum; it was bold and constructive, and it was crystal clear which side of the fence they were on. They rejected totalitarian dictation from a politician.

One heard of members of the staffs of some hospitals receiving payment in the interim period, and some not; the payment, ostensibly, came from the boards of management. This is no criticism levelled at those who received it; there had been no declared policy, and payment was said to carry no liability. Hospitals and institutions were receiving financial help to a hitherto-unheard-of extent, with the sky as the limit. We heard vaguely of large grants from the Ministry being made to representative and influential bodies. It is difficult to accept all such and then vilify the Minister; whether they incur a liability or not is not the point at issue: their reception must exert an influence (in the interim period), and the impression was left that a rather insidious form of bribery was raising its head.

The Minister was quick to see that a wedge might be successfully driven between the consultant and the general practitioner, and he may still covet that hope. Not until 800 consultants met in London of their own free will, with no coercion from the B.M.A. or encouragement from any corporate body, and most emphatically expressed their individual refusal to work the Act as constituted—then, and then only, did the general practitioner begin to look upon the consultant as an ally. And is this suspicion entirely allayed yet? I doubt whether it will be until an unmistakable lead is given from representative consultant authority. For the silence is still unbroken and threatens to remain so. 2,600 Fellows of the College of Surgeons may know where they stand individually; in fact the great majority have instinctively realized the danger of investing a politician with the immense dictatorial power which this one, and possibly others, even irrespective of party, intend to assume, but do they know, or does the Minister know, where they stand collectively as a representative body?

Is it not essential that those who are elected to high office in the near future as representing the various consultant branches have openly declared their intention of calling for the repeal of such an Act, or insisting on the deletion of all clauses which the profession cannot tolerate? Such representatives should have no personal axe to grind and no fence to sit upon.—I am, etc.,

London, W.1.

A. R. DINGLEY.

What is Professional Freedom?

SIR.—We doctors are fighting to retain our professional freedom. If we remain clear-headed and united we are bound to win by a comfortable margin. But how many of us are clear that *professional freedom is a compound of civil and political liberties*? A brief glance at the following quotation from C. D. Hardie's *Background to Modern Thought* (Thinker's Library, 1947), should satisfy the doubters, if there are any. (Hardie is professor of education in the University of Tasmania, not a medical man. It is interesting to note how many of the funda-

mental freedoms we are determined to retain are basic to truly democratic citizenship.)

"Under the idea of civil freedom can be listed at least the following: Freedom (1) from fear as to my personal safety; (2) from fear as to the safety of my property; (3) to move when and where I please; (4) to speak and write what I think; (5) from fear of unjust imprisonment; (6) from fear of economic insecurity; (7) to worship as I please; (8) to assemble with whom I like. Under the idea of political freedom I should be inclined to list: Freedom (1) to advocate amendment of the laws; (2) to criticize policies; (3) to vote by secret ballot; (4) to hold office in government if selected by one's fellows."

He goes on: "It is . . . quite impossible that all of these freedoms will ever be obtained." (The complete attainment of one must sometimes interfere with the complete attainment of another.) "Yet most people at most times have, with sound instinct, striven for as much as possible of each one. And here, it seems to me, we come to the chief contribution which the English-speaking peoples have made to civilization. Ever since the thirteenth century, when the foundations of both civil and political liberty were laid, the English have been in the forefront of the struggle. It is unfortunately true that they have struggled much more for themselves than for others . . . but it seems probable that they are beginning to realize that when liberty is threatened in one place it is threatened everywhere." (My immediate comment on this last observation is a very simple one. Are they?)

It is up to us doctors, then, to get the people to see—so far as they can be got to see—that the present threat to *our* freedom is also a threat to *theirs*. But even if we fail in this, we still know we are right; and by simply standing firm we can win—without the public's support. In this contest, of such vital importance to the whole country, what truly lucky people they—and we—are!—I am, etc.

Glasgow.

J. INGLIS CAMERON.

A Phoenix Act Needed

SIR.—Touching general practice, the French "Assurance Sociales" scheme is ably outlined by Dr. J. Delafresnaye (March 13, p. 519). After spending some two months in its study I was convinced that it functions no less smoothly as regards hospital and consultant services.

I am given to understand that New Zealand has operated for many years past a fundamentally similar scheme. A comparative study would be illuminating, for the Dominion appears—from many critical accounts—to have failed lamentably where France has succeeded so well—i.e., to promote specialization, postgraduate study, and research.

I cannot speak with knowledge of New Zealand's alleged failure, but am sure that France's admitted success is due to the fact that:

(1) Its basic motive was a genuine desire to promote health. *Incredibile dictu* for a Government-sponsored scheme, its inception was unconnected with political theories and intrigue. (The advance of Communism in the country can be fully explained without: praying in aid hospitals or doctors. The latter are *not* State-controlled: they are in full possession of their liberties.)

(2) The doctor-patient relationship is secret, inviolable, indeed unaffected. The "complicated administrative machine" of which Dr. Delafresnaye speaks is a lay accountancy which minds its own business and conducts it well. It is not unduly expensive.

(3) The 20% deduction just happily suffices to prevent abuse of the system by patient or doctor without penalizing the sick. A very poor or chronically ill patient might find his 20% contribution a burden: public funds from other sources can deal with such a totally exceptional case. *Everyone is 20% a private patient*—at once a status and a delicate tribute to private enterprise. As far as the doctor is concerned, he is 100% private.

I have long hoped we may eventually devise a counterpart which need not slavishly follow either France or New Zealand, and that is why I want to know where New Zealand went wrong. I suspect she concentrated too much on the G.P., just as we did in 1911, forgetting that the G.P. is nothing without his specialized colleagues or they without him, or either without a hospital.

The scheme of 1911 was a century behind the times even then. It is something "to provide the breadwinner with a doctor," but not much when you reflect that the breadwinner is on the whole the least expensive member of the family in regard to medical services, and the "doctor" usually a consultant—now a squad of consultants where the illness is of the more disabling type, physically or financially speaking.

I admit the employment of women and the later extensions to N.H.I. have tended to enhance its value (so, very greatly, have the dental benefits, where the French "20% principle" seems to be recognized but less equitably applied). But on the whole I am sure that N.H.I. has failed wretchedly. On a hundred counts it could be indicted apart from a tendency to laxity in certification. I am sure the Government tacitly admit its failure and that the N.H.S. has been devised in great part to abolish the panel without loss of face.

If that view is correct, we are likely to be confronted with a health service that possesses none of the advantages of the French plan and may be a thousand times worse than the New Zealand scheme. Meanwhile the abolition of the panel is a moral triumph (I wish I could see how it will work out in practice) for the opponents of Lloyd George's Act 37 years ago. The majority of the medical profession in 1911 said it would not work, and, while they had to endure it for a season, they proved right in the long run. It remains for those of us who oppose the Act of 1948 to do even better—not to submit to its yoke even for 37 minutes.

I have never understood the eternal moan, "We gave way in 1911—we shall do it again." It is a parrot's repetition and it is false. The death of the panel is a colossal triumph: we can create a new entity phoenix-like from the ashes, but we shall have to nip in pretty smartly on July 5, 1948.—I am, etc.,

Stratford-on-Avon

PETER PARRY.

The New Despotism

SIR,—In following the correspondence arising out of the controversy over the proposed N.H.S. I have been struck by the failure, if not to appreciate certain points, at least to stress them adequately. As I see it, the first point is that the Ministry concerned not only will not give way but *cannot* give way on any essential point, and this for a simple reason which should be obvious to all and which, briefly, is this: the Government is *not* primarily after the doctor but after the working man, and we are but an unfortunate small obstacle on the way.

The Government has made itself responsible for all treatment and maintenance thereof and for the payment of all sick and compensation benefits. Under the Act as it stands the costs of treatment maintenance and the payments of benefits, if made on anything like a fair basis, will manifestly bankrupt the Ministry in a very short time, and the Treasury will see to it that this does not happen. It is time that someone put the thing into plain language: we all know that the collection of publicly allocated money by potential beneficiaries can be (and occasionally has been) something of a ramp. We know equally that it is a matter of the most extreme difficulty to devise methods of safeguarding such funds which are not readily capable of the most deadly abuse. We know as well (we are even told so by the Government) that there is too much absenteeism. We are told also that the Minister must obtain control of certification. I submit that there can be no one who is such an imbecile as not to know perfectly well just what this means. Let us then have it in good plain English and without ambiguity: the Government's real intention is to keep the working man at work to the maximum possible extent and to deny him absence benefits except in those cases in which denial will be obviously impossible or blatantly scandalous. Anything else on the arithmetic of the Act means a scheme bankrupt before it is well started. There can be no other explanation for the implacable attitudes of all the Ministers who have been concerned, for the denial to us of the most elementary rights of conscience, and for the revival of what promises to be a very good parallel to the Star Chamber.

The most striking thing about this proposed abrogation of civil rights is that it is not political in the "party" sense. The Government, for reasons obvious to the point of blatancy, is making a party stunt of the present struggle, but there seems to be no one to point out the vital fact that this measure is *not* a party matter. It was worked out and sponsored by another party, and one of our most unimpeachable legal authorities (Hewart) has warned us of the implications of this kind of legislation.

Another fact has become clear, I think, to all, and let us make no mistake about the matter. The Government will use every means in its power to crush us and to make us instruments of its oppression. It is not so long ago, even in England, that free men have lost their all for the freedom of their consciences. Let us

remember, too, that a government bent on oppression can very soon create powerful instruments for its purpose should the occasion arise and we need not look very far back into our history to find illuminating examples. Contemporary examples abroad need no stressing.

What, then, are we to do? I suggest that, whatever the cost, there is but one course open to us and that is resistance to the uttermost. To do anything else is to become something unnamable and to stink in the nostrils of every decent civilized man along with those who knuckled under to Laud, Jeffreys, Hitler, and their kind—past and present.

Our weapons are as obvious as they are potent. First let us realize that, if all of the enormous majority of us who are against it refuse to work the Act and are but consistent, not only do we win but we take from our opponents one of their most powerful weapons, because we make it impossible for creditors to foreclose on us to recover payments temporarily suspended (the creditor cannot realize on the security—i.e., the practice—because there is no purchaser). The one obvious possible purchaser *can be barred in the interests of the creditors* by a very simple manoeuvre. We can, if we go about it the right way, and keep an eye on certain possible eventualities which will be well known to our legal advisers, lead these interests to give us their very powerful backing for their own sakes. Secondly, and most important of all, if we can force on to the realization of the working man that this Act goes far beyond any consideration of mere party politics and is directed primarily and principally against him, the battle is automatically won. These men through their political machinery and directly can, by their voting power, turn this Government any way they like.

A simple, brief, and trenchant statement of the threat to them and, indeed, to everyone should turn the scale easily enough. It must be brief, it must be simple, and above all it must be put in good, plain, hard-hitting English. There is no time to be lost. I may add that, as I have no practice, I am interested solely as a question of freedom and liberty, but, nevertheless, like all those in my position who voted "against," am none the less interested.—I am, etc.,

Sunderland.

A. KEF H.A.S.

Way of Freedom

SIR,—Persons may be divided into two classes: (a) dictators and would-be dictators whose chief ambition is to attain increasing power over other persons and whose highest good is freedom without responsibility, and (b) those who are *not* so minded. The latter have their choice of two policies: either (1) spoon-feeding on condition that they accept the domination of men of dictator mind, or (2) freedom to act, to choose, or to refuse with the attendant responsibilities.

Great numbers of persons are now choosing to be spoon-fed. They are attracted by the proposition of everything being made safe for them from the cradle to the grave. This is assured to them so long as they lick and stick the required stamps and do exactly as they are told. All they want of freedom is freedom to choose the apparently easy way.

As the plebiscite figures show, doctors, by an overwhelming majority, have rejected spoon-feeding and have chosen the way of freedom and its responsibilities. They recognize that men are by nature free, and that in defending their freedom they are defending their life. That is the policy of those who solemnly and honestly have voted with the majority. We have put our hand to the plough. For us in truth there can be no looking back—not even in the presence of what looks like defeat, if this should come. We have stated where we want to go. We now want leadership, and we are looking to the executive of the Association for guidance to the best means to attain our objective. It is for this purpose that we are associated. If at this crucial moment the executive fail to give the leadership which the situation demands, or if, leadership being given, the members fail to follow, the fruits of association must inevitably be lost and the Association as a whole correspondingly discredited.

Finally, if there are those who are still undecided, one would say to such: "Either choose now to join the fight for the preservation of our traditional liberties or separate yourselves from those who have made this choice and attach yourselves openly to whichever section you belong—the dictators or the material upon which the dictators work, namely, the spoon-fed masses."—I am, etc.,

Bewley, Kent.

E. U. MACWILLIAM.

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Safeguarding Private Practice

SIR,—It was a pleasure to read Dr. W. Reginald Wilson's letter (March 20, p. 565). It should cheer him to know that the principle that "there should be no penalty to either doctor or patient who remains outside the National Health Service" was carried with very little opposition at the S.R.M. on March 17. For the sake of those who are not aware of all the motions that have been passed by the Representative Body I would point out to my colleagues who are in doubt as to the B.M.A.'s policy that the representatives only gave way on the 100% issue (after the discussions with Mr. Willink) provided that "any member of the community, whatever his income, should be entitled to obtain his medical service in part or in whole privately, as, for example, by grant-in-aid provision" (S.R.M., 1945). Further motions supporting "contracting-out" were passed at the A.R.M., July, 1945.

In May, 1946, the Council, in its report on the N.H.S. Bill, stated: "The freedom of the citizen requires not only that he should be free to obtain his medical care privately, but that the arrangements should be such as not to penalize him or his doctor if he does." In July, 1946, the A.R.M. passed a further motion urging that the financial and administrative arrangements should be such that neither doctor nor patient should be penalized if he chooses to remain outside the national service. This is the policy of the B.M.A., and it is of the utmost importance that there should be an absolute refusal to yield on this vital issue.

The representatives have continually reiterated their request that private practice should be effectively safeguarded. Should it be found that after all it is not possible to give effective safeguards to prevent a State monopoly, then it is time we reverted to the policy that: "There is no need for the State to provide a service for those willing and able to provide it for themselves." Perhaps this is what the Representative Body meant when on March 17 it passed the motion instructing the Council, in the event of a deadlock with the Government, to draw up and submit to the profession an alternative scheme based on the 1944 A.R.M. motion by Marylebone.—I am, etc.,

Dorking, Surrey.

CYRIL E. BEARE.

Ownership of Goodwill

SIR,—You have published so many excellent letters that most of the ground is covered and one can only underline what others have said and what you have said in your leading articles.

The letter from Dr. R. Preston Hendry headed "The Minister's Confusion" (March 20, p. 561) is most forceful, and I heartily agree that it is a most pernicious lie to say the "patients are bought and sold." Such a statement can hardly be made in ignorance—although it would seem that the opposition as well as the public are inclined to agree.

The hardship of buying a practice or partnership has been grossly exaggerated. Surely it is the easiest and safest way for a young man to begin practice. At two years' purchase he gets a 50% return for the money invested and he still has his practice, which he can sell again when he so desires, and at a higher price if he has improved it—a point which is so often forgotten.

As your correspondent points out, the right to buy and sell should be firmly retained because it solves so many other problems and is therefore a corner-stone in our opposition to the Act—freedom is thereby retained, and this is the only way this priceless principle can be retained. Indeed, it might be said that this right to buy and sell, if granted, would almost make the Act acceptable to us and workable. On the other hand, if we lose this right it is difficult to see how we can avoid a full-time State service.

How about concentrating on this one point? Let us now say to the Minister, "If you are prepared to grant this privilege, then we are ready to discuss and do our best to adjust the other points in dispute and all join in on July 5."

Finally, Sir, I think Dr. Wm. A. MacIlraith's little letter (p. 565) contains an excellent suggestion that local doctors who feel they must enter the Service on July 5 should agree not to accept other doctors' patients who do not enter the service. This, I think, would be a very fine expression of

good faith between us. It would relieve and strengthen the timid and would weaken very little our stand against the Act as it is, at present.—I am, etc.,

Chiswell.

N. BEATTIE.

SIR,—It has been insisted that retention of the ownership of the goodwill of a practice is essential to the freedom of the doctor. No one has explained how this works out. "Ownership" of one's practice will not prevent any interference with liberty, such as the imposition of regulations as to (a) the use or non-use of drugs and methods of treatment, (b) certification, (c) limitation of lists (and so, indirectly, interference with free choice of doctor), and lastly (d) the requirement to complete a mass of unnecessary forms. The fact is that, once the principle of a State medical service has been admitted, as it has by the B.M.A., then the pass has been sold. No safeguards will prevent the abuses just mentioned.

If the principle of compensation is not admitted the cash value of a practice will certainly disappear. What young man will buy a practice with the probability or certainty that then or in the future it will be made easy to start in practice without the expenditure of any capital?

If these are not valid arguments, I would welcome reasons why they are not. If they are, what is the point of objecting to the abolition of the purchase and sale of goodwill?—I am, etc.,

Binfield, Berks

L. G. JACOB

Doctors Who Might

SIR,—I have not so far attempted to enter the present controversy. I do, however, resent the stigmatization as a fifth columnist by one Lieut.-Col. J. T. Harold (March 13, p. 518). It did not fall to my lot to have to leave a practice. It did seem to me to be rather a noble act for a man to leave a personal an undertaking as a practice, especially a single-handed one, as so many young and not-so-young doctors did during the war. I met many whose quarterly cheques dwindled to nothing as their practices continued to be "protected." I wonder whether Lieut.-Col. Harold experienced what these men felt. I believe that there are now about 5,000 ex-Service doctors with higher qualifications for whom there is little prospect of work outside the new Service, apart from a series of registrations. Perhaps Lieut.-Col. Harold would counsel these young men as to how they can face the problems of supporting a family and pay off life-assurance policies if they do not join the Service. At between 30 and 40 one cannot afford to accept £400-a-year appointments.

I have ten years' experience of a State service and I think it can work if a few points are observed. (a) Clinical freedom. This must include freedom from lay interference. Actually, it has been my experience that the standard of assistance in administrative affairs received from non-medical sources was often far superior to that to be expected from medical officers of "the administrative grade." The latter are often without more than minimal professional knowledge, but are able by its possession to sway potentially helpful lay authority. Lack of professional knowledge is balanced by the high rank often held. This will be confirmed by many ex-Service officers. I have often known the local (non-medical) commander care far more about the hospital than his medical counterpart. (b) Absence of intimidation of the professional cadre by the "office boys." The "punitive posting," familiar to us all, must not be available as a weapon to silence criticism. (c) The first loyalty must be to the patient. In this there will be no difficulty so far as I can see. I have sat on about 5,000 Boards and I have never seen a patient denied the benefit of the doubt. In these Boards, however, two of the three members were clinicians, and bureaucracy had no say.—I am, etc.,

Hoylake, Cheshire.

T. DENNESS

An Interim Plan

SIR,—The plebiscite has established clearly the determination of the medical profession to resist the National Health Service Act in its present form. The public utterances of Government spokesmen seem to indicate the Government's determination to impose it. The question which therefore becomes urgent is what action the general practitioner should take on the appointed day if fresh negotiations prove impracticable and we are obliged to refuse service.

The issue of the battle, if unhappily a battle is to be, would seem to depend upon our ability to find a substitute for the panel system to tide over the period between the termination of the present panel service and the settlement of the dispute. The characteristic feature of panel practice is the large attendance at surgeries. If we attempt to charge full private rates to these people, very many will stay at home or seek attention from one of the few practitioners who take service under the Act. In this way we might suffer a severe falling off of income and seriously antagonize the public. If, however, they are charged a very small fee they will probably continue to attend in considerable numbers. The practitioner will thus retain his connexion, the large turnover of small fees will provide him with an income which will at least partially compensate him for the loss of his panel cheque, and this will enable him to carry on without becoming a charge on the fighting fund.

A large notice in the waiting-room to the effect that the practitioner, while feeling obliged on principle to refuse service till the Act was amended, would attend his old panel patients at, say, half his normal private fees till the dispute was settled, might be very good propaganda. Finally, if when a patient presents a card or form for acceptance as a State patient his form or card were accepted, signed, and endorsed "subject to an equitable settlement of the dispute," or some such phrase, accompanied by a verbal promise that he should be taken on as a State patient when the matter was finally settled, it would have a better moral effect than simply turning the patient away with his form or card unsigned.—I am, etc.,

Kingston-on-Thames

F. B. LAKE.

Committee of Those Who Accept

SIR.—The time has now arrived for the minority in the profession to consider its action. The B.M.A., I am pleased to see, are the first to state categorically that the N.H.S. Act allows complete freedom of choice as to entry into the new Service or not. I, like a few thousand others, although quite able to vote against the Act in its *present form*, do feel justified in accepting service under the Act.

Only three months remain in which to thrash out hundreds of minor details necessary to the smooth running of the Act. With the B.M.A. Council pledged by the S.R.M. not to negotiate with the Minister unless certain conditions are fulfilled, we are left with no one to discuss with the Minister these vital details, found by experience to be detrimental in the N.H.I. service, which could quite easily at the present time be corrected in the regulations for the new Act.

It would of course be quite impossible for members of the present Negotiating Committee to stand out against the Act on the one hand and to negotiate for the Act on the other. In view of this difficulty I would suggest that the B.M.A. form a separate committee of those practitioners who are going to accept service, together with three clerks to committees of the present N.H.I. service. With this body to represent those willing to take part in the Service, at least some order and intelligent planning of regulations would result.

If no such committee is formed then all the regulations will emanate from the Ministry of Health, which cannot have any practical experience in running insurance practices. The final Act, even with amendments in accordance with the B.M.A. policy, would still show a mass of poor regulations, which after the appointed day would be very difficult to change or modify.

As far as I am concerned—and I am sure that I speak for the vast majority of those that will take part in the Service—there need be no fear on the part of those doctors who stay out that any of their patients will be accepted on the State lists, at least for a full three months after July 5. After that date, as it is quite clear to everyone that a doctor can either enter the Service or not of his own free will, there will be no need for the N.H.S. doctors to consider from whom any patient applying for treatment may have come.

I would just like to add one word about the lot of the assistant. All those doctors not taking part in the Service will hardly be in a position to find the money to pay their assistants at the rate of £700 per annum. I suppose all these hard-working young men will find themselves out of a job on or about Aug. 1 of this year.—I am, etc.,

Old Church, Hants

EDWARD F. HUNT.

The Junior Partner

SIR,—July 5 will present me with a problem which I think must also face some other doctors in partnership. I should be interested to hear how they propose to solve this problem. I am junior partner to a doctor who is willing to come into the new scheme on the appointed day. I have expressed my willingness to abide by the majority decision. I am in considerable debt to my senior partner, as he has been very generous and helpful to me and I am still really only doing the work which before the partnership I did as his assistant—that is, I have so far by my admission to partnership done little to increase the size of the practice.

On July 5 all our present patients, private and insured, will sign on with my partner. What do I do? There seem to be two possible courses: (a) Dissolve the partnership and practice in an entirely new locality. This amounts to starting again, and with present commitments is a financial impossibility. (b) Revoke my decision and continue to work with my partner.

It is understood that there is no difference of opinion between myself and my partner, that I respect his decision, and that I have a moral obligation to continue to help him. Others may have a legal obligation to continue their partnerships until purchase is complete.—I am, etc.,

JUNIOR PARTNER.

Informing the Public

SIR.—Some Labour M.P.s are giving public lectures on the new National Health Service. They are emphasizing only the advantages of the scheme. They are also convincing the public that the doctors will join the scheme as they did in 1911. To achieve success it is essential that the whole profession pull their weight. I therefore suggest a few methods by which the rank and file of the profession can help.

(1) Every local B.M.A. Branch should arrange for a doctor to give public lectures on why the doctors disapprove of the new National Health Act. In these lectures stress must be laid on how the Act will adversely affect the patients. The following are examples of this: (a) The Service will be of a utility nature and not nearly the best that the profession can provide. (b) Criticism by those who understand (the doctors and nurses) how the scheme could be improved will die. Who can afford to criticize his master? (c) Direction of doctors must lead to direction of patients in their choice of doctor, specialist, and hospital. (d) Patients' medical records will be inspected by Government officials. (e) Patients will be forced in many cases to obey the doctor's recommendations—e.g., operations, etc.—in order to qualify for benefits. (f) Doctors will be forced to give certificates according to the orders of the Government. (g) The personal loyalty of the doctor will move from the patient to the State. (h) Medical appointments to practices and hospitals are bound to be influenced by the political outlook of the doctor rather than only by his professional ability. (i) The annual financial deficit of about £150 million in the cost of running the scheme. This must eventually entail new taxes or the weekly payment by patients must be vastly increased.

(2) In addition every doctor should be in possession of copies of a printed pamphlet entitled "Why the Doctors Disapprove of the New National Health Act." They should distribute these among their patients. Doctors like myself who have no civil patients would gladly distribute them at random among the population.

Finally, we must never forget that modern history has proved that unopposed propaganda can enslave a nation.—I am, etc.,

SERVICE PRACTITIONER.

Continuity of Practice

SIR.—The more the Health Service is argued the more one appreciates what a two-edged weapon is the phrase "comprehensive medical service available to all," and the greater grows one's apprehension lest all the principles put together prove insufficient to avert the bureaucratization of medicine, which has been and which should always remain the most free and individual of the sciences. Lord Horder's dictum that the Negotiating Body had cut concession to the bone is more likely to be an understatement than an overstatement. In these circumstances it is remarkable that some doctors should have apparently so little vision of the future as to believe that the

rescission of the basic salary will be sufficient in itself to maintain essential freedom. While this proviso may perhaps provide escape from the State salaried service in name and title it is very far from doing so in effect and in fact, as these innocents would very quickly find if the Government became the sole owner and patron of their practices—which Heaven forbid. It is by no means appreciated how great is the value to the public of continuity of practice. A doctor who buys a general practice purchases, as it were, a stake in the locality. Almost invariably he settles down for a term of years, and not infrequently for the whole of his working life. In the way that only time can give he gains a real knowledge of his patients, their characters, their interests, their antecedents, indeed almost everything about them. To him they are individuals, not numbers. Frequently and in a very real sense he is a father of his people. In due course he may be succeeded by his son.

Now consider what might well happen under Government patronage, the doctor being appointed to his living. There is no incentive to like the place or to care for the people, there is no incentive to remain, and indeed much inducement to keep moving. Thus he becomes no more than a temporary resident, or, more aptly, the equivalent of the political "carpet-bagger."

Those who are wavering or weak in the faith, and those who are casting anxious eyes at their compensation, should try to look into the future of ten, twenty, or thirty years hence, when their sons and successors will be practising, and should always remember that they themselves are but custodians, that the science of medicine is a heritage common to the past, the present, and the future. It is worth hazard or sacrifice, especially of personal position and amenity, if thereby that heritage can be passed on in all the greatness of freedom.—I am, etc.,

Wirksworth Derby

E. D. BROSTER.

Economy of Service

SIR.—If the available number of doctors is ever to deal with any contract covering the whole population great economy will have to be observed in the use of each doctor's time. It is not economic to use his time writing, dispensing, waiting for clinical laboratory services, x-ray services, and hospital beds. How reduce or eliminate these wastages? (1) Provide a shorthand typist for each doctor. (2) Provide a 24-hour 7-day dispensing service for the whole country. (3) Provide a "mobile" clinical laboratory service for the whole country. (4) Provide a "mobile" x-ray service for the whole country. (5) Provide a "mobile" consultant service for the whole country. (6) Provide at once sufficient hospital beds. (7) Establish a "one only incapacity certificate a week" service.

If (3), (4), and (5) are "mobilized" much work now absorbing hospital beds would be done at the patient's home, interesting cases would not be so entirely removed out of the care of their own doctor—to the advantage of both—so that this "mobilization" would have the effect at once of providing more hospital beds complete with staff. Such a development of the panel is a natural growth, and would work under the same sort of contract we have become accustomed to. The Spens Report covers the remuneration.

It would give the doctor the tools, leave him free, leave him subject to competition, and leave him responsible to his patient and his conscience.—I am, etc.,

Market Rasen, Lincs

DUDLEY F. TORRENS.

Benefits for Doctors' Wives

SIR.—I should like the opportunity of replying to the letter from Mrs. Gladys M. Woolf (March 13, p. 520). She is indeed more fortunate than most doctors' wives in that she has had a maid throughout the war. We have received many hundreds of letters from doctors' wives enclosing their subscriptions to the League of Doctors' Wives, and the gist of most of them is that the only time they are able to leave their homes to do any shopping is whilst their husbands are working in the surgery, because they have had no domestic help.

The doctors' wives are quite distraught at the thought of what is to happen on July 5 when the number of patients actually attending the doctors' houses will probably be trebled.

In addition to this there will be all the extra paper work which will have to be seen to by the doctor or his wife. There will be record-cards for every patient on which every item of service—even if it is only a repeat medicine or a certificate—will have to be entered. The doctors' wives feel that this burden is too great for either their husbands or themselves after the long exhausting years of the war. There is little opportunity for these women to leave their homes with their husbands on social visits in the car as Mrs. Woolf suggests, because the house cannot be left unattended. We insist that the Minister should have made some provision in his Act for the essential domestic and secretarial help which this scheme will necessitate.—I am, etc.,

IRENE HARTLEY,

Camberley, Surrey

President, League of Doctors' Wives

SIR.—It is with some regret that I write to dispel a little of the sunny light of favouritism in which Mrs. Gladys M. Woolf (March 13, p. 520) imagines that she, as a doctor's wife, is basking.

(a) The practice of medicine being considered an essential occupation during the war period, maids of military age were allowed to remain in the employ of doctors because their services were considered necessary for the efficient carrying on of those practices and not out of compliment to the doctors' wives.

(b) Income-tax allowances are granted to all professional or business men whose professional or business activities involve them in unavoidable overhead expenses. Since this perfectly fair concession is made to any person entitled to claim it, precisely why it should now be regarded as designed for the particular benefit of the doctor's wife entirely escapes me.

(c) Doctors have been permitted to use their cars for recreational purposes, as they occupy the surely unique position of always being liable to recall, thus giving the frailest possible guarantee of their being able to enjoy any leisure time and certainly not with that feeling of absolute freedom with which other sections of the community are blessed.

What a pity it is that Mrs. Woolf is unable to secure for us in the heart of the Minister of Health the "soft spot" which she appears to think exists in those of the Ministers of Labour, Fuel and Power, and the Commissioner for Inland Revenue. All our troubles would then indeed be over.—I am, etc.,

Hayas End, Middlesex.

MARGARET ELMES.

Relief of Pain in Midwifery

SIR.—Dr. C. A. Allan (Jan. 24, p. 175) states that it is surprising that so little attention is given to the problem of analgesia in labour. The true position is that the perfect analgesic for labour has yet to be discovered and that the objections to many of the available analgesic agents are so great that many doctors avoid their use not from callous indifference but from a distrust and appreciation of the dangers of such methods as prolonged narcosis with the barbiturates or the opium alkaloids, and from the experience that the use of Minnitt's apparatus and other methods of gas-air analgesia have been unsatisfactory.

In my experience the objections to the barbiturates have been principally in their effect upon the foetus. If an adequate relief of pain is obtained for the mother the foetus is frequently slow to respond at birth, and I am sure that every now and again a foetal death results from the use of the barbiturates alone.

The uses of morphine-hyoscine narcosis and similar methods may give rise in a considerable proportion of women to uncontrollable excitement which may cause extreme difficulty in delivery, and particularly in the management of a patient in her home.

Minnitt's apparatus, in an investigation in which I took part in 1934, gave satisfactory analgesia in 94% of cases, the criterion of satisfaction being the joint opinion of the obstetrician-in-charge and the patient. There is no doubt that when used by a patient who has been familiarized with its use, as advocated by Dr. Anne M. Toms (March 6, p. 475), it is a very valuable method indeed, but in various parts of the country I have found a regrettable ignorance of the proper use of the apparatus on the part not only of the patient but, as Dr. Allan points out, of the doctor or nurse. The substitution of pure nitrous oxide inhalation for the gas and air of the Minnitt apparatus, as advocated by Dr. H. Thistlethwaite (Feb. 14, p. 318) and Dr. R. John Gourlay (Feb. 23, p. 417), carries with it a danger of foetal anoxia, as in the case quoted by the latter writer. In many cases a very short period of anoxia may

be sufficient to determine a fatal outcome for a foetus, possibly already suffering from the strain of prolonged and difficult labour, and for this reason it seems to me that the safety factor of the air inlets in the Minnitt apparatus is of prime importance.

In the United States and to a less extent in this country the recent interest in continuous caudal and saddle-block spinal anaesthesia, and in other local anaesthetic methods, has been followed by enthusiastic reports from various authors, and one of the most recent of these (Hingson *et al.*, *J. Amer. med. Ass.*, 1948, 136, 221) claims to have demonstrated a considerably lower mortality rate where these methods have been used than in cases treated by systemic narcosis or general anaesthetics. They point out that the stillbirths and neonatal deaths were four times as great in cases where no anaesthetic was used as in those where local and regional anaesthetics were applied. This is probably an even more cogent argument for the use of analgesics than the dictates of common humanity, but it is impracticable to undertake these particular methods in any but large, well-equipped, and fully staffed hospital units owing to the prolonged and continuous supervision required.

The use of pethidine described by Miss Josephine Barnes (April 5, 1947, p. 437) gave relief in 87% of patients: It is a method simple to apply and safe for both mother and foetus, and in my experience leads in a considerable proportion of patients to strikingly easy labour. 100 mg. of pethidine should be given as soon as pains are well established, and repeated in three hours if necessary and if delivery does not appear imminent. This gives ample analgesia in the majority of cases, but in a few women it appears to be inadequate and in these the addition of morphine gr. 1/4 (16 mg.) by hypodermic injection will usually prove satisfactory.

One is forced to the conclusion that, as has been so often stressed before, the ideal analgesic method for labour has yet to be discovered, but in general practice the use of pethidine or morphine, with an inhalation anaesthetic for delivery such as "trilene," or even the much maligned chloroform in small dosage, is still probably the most satisfactory practicable method—I am, etc.,

Inverness.

J. A. CHALMERS.

Leucocytosis following Treatment with Thiouracil

SIR.—The toxicity of thiouracil has been much discussed in the past few years in English and American literature. There were some cases with agranulocytosis, but leucopenia was described as the usual reaction. In the case reported below—treated with methylthiouracil—a significant leucocytosis was observed with marked increase of lymphocytes.

Female, aged 37. Diagnosis—Graves-Basedow disease, cardiomyopathy compens. Basal metabolism rate +32%. White blood cell count 8,000.

The treatment was started with minimal dose. The total dose of 4 gr. (0.25 g.) was reached only on the 13th day. On that day the white cells—previously constant at 8,000 per c.mm. even on the 10th day of the treatment—were 15,000 in number. 1.25 gr. (81 mg.) was added during the following two days. The white cell count was still high, 16,500. Then treatment was stopped. Two days later the white cell count was 9,000 and this remained unchanged the following 6 days.

The differential count at the leucocytic state: neutrophil metamyelocytes, 2%; band forms, 4%; polymorphs, 36% (5,600 in absolute count); eosinophils, 12% (1,850); lymphocytes, 40.5% (6,200); polymorphocytes, 4%; Gumprecht's shadows, 1%; monocytes, 0.5%. Two days after treatment was stopped; neutrophil metamyelocytes, 0%; band forms, 2%; polymorphs, 59%; eosinophils, 7%; lymphocytes, 30%; monocytes, 2%. Five days after this: neutrophil metamyelocytes, 1%; band forms, 4%; polymorphs, 57%; eosinophils, 4%; lymphocytes, 32%; monocytes, 2%.

The bone marrow at the time of the above deviation was unchanged. Lymphoid cells were not increased. Subfebrility, tachycardia, and basal metabolism rate remained unchanged. The response to treatment was nil.

—I am, etc.,

Szeged, Hungary.

E. KELEMEN.

Trichlorethylene in General Anaesthesia

SIR.—As Dr. Ronald Millar (March 13, p. 524) has rightly pointed out, the use of trichlorethylene in anaesthesia is still in its trial stage, and it behoves anaesthetists to report their experiences with the drug so that the full range of its useful and harmful properties may become known.

Dr. Millar reports several interesting observations regarding trichlorethylene which concur with my own experiences of the anaesthetic. I cannot agree with him, however, that a per-

centage of oxygen as low as 20 should be used with trichlorethylene. Owing to the diminished depth of respiration, I have found that CO₂ "build-up" and anoxia will occur unless a good flow of gases (at least 6 litres a minute) and 30% to 40% oxygen are given, especially in longer cases. I cannot help feeling that the increased muscular tone observed by Dr. Millar is at least partly due to hypoxia.

Dr. Millar's case of jerky abdominal movement under trichlorethylene is very interesting, as I had a similar case not long ago. The condition commenced during a period of strong surgical stimulation; a change over to ether did not completely abolish the abnormality, but within a matter of ten minutes the condition improved, and by the end of the operation respiration was normal.

I have had one case of "false anaesthesia" resembling that described under chloroform.¹ The patient, a healthy woman of 39 years, was to undergo Keller's operation. Six ml. of 5% thiopentone was given, followed by gas-oxygen-trilene with a well-fitting mask. A tourniquet was applied, and ten minutes later, when the surgeon was ready to start, respirations were regular, the limbs were relaxed, and the eyelash and eyelid reflexes were absent. The surgeon's knife showed that the patient was not indeed anaesthetized, but fortunately the deepened respirations ensuing rapidly brought on true anaesthesia.

Unlike Dr. G. Ostlere (Jan. 31, p. 195) I have had no complaints that trichlorethylene increases bleeding. On the contrary one or two surgeons have expressly asked for it because of the diminished capillary oozing. This accords with Dr. Langton Hower's view.²

Finally I should like to say that I have found trichlorethylene very useful for ensuring a smooth transition from gas-oxygen to ether (preparing the larynx, as it were, for the stronger stimulus to come), and for most cases where anaesthesia deeper than stage 3, plane 1, is not required—provided always that adequate oxygen is given, that the warning signs of tachypnoea and cardiac arrhythmia are acted upon, and that the minimum only of the drug is used.—I am, etc.,

MARK SVERDLOW.

REFERENCES

- ¹ Minnitt, R. J., and Gillies, J., *Textbook of Anaesthetics*, 1944, p. 220, Edinburgh.
- ² *Recent Advances in Anaesthesia*, 1944, p. 103, London.

SIR.—I should like to express my appreciation of the criticism afforded my paper on trichlorethylene. There are three points in this recent correspondence upon which I beg leave to comment.

1. Safety. No fatality definitely incriminating trichlorethylene was described by any correspondent.

2. Oxygenation. We have found that in appropriate cases a mixture of 20% oxygen and 80% nitrous oxide is suitable for maintenance. Small amounts of trichlorethylene may be added to this mixture as necessary. It was finally considered that increasing the oxygen percentage when trichlorethylene was employed, which was the usual practice at Hill End Hospital between 1940 and 1944, did not decrease the tendency of the drug to produce tachypnoea. I must apologize for not making clear that adequate oxygenation of the patient is essential as with the employment of any anaesthetic agent, and that we administer up to 50% oxygen with trichlorethylene if the tidal air is markedly decreased by the action of curare. If the tidal air remains at or above normal volume an increase of the inhaled oxygen from 20 to 100% only slightly raises the oxygen content of the arterial blood.

3. Intubation. We perform nearly all our nasal intubations under trichlorethylene, a few breaths of which, following induction with thiopentone, have always appeared to establish sufficiently deep anaesthesia to prevent the appearance of vagal reflexes. Breath-holding and coughing may occur, although the patients rapidly settle down. The danger of the respiratory disturbances following intubation in light anaesthesia has been noted by Gillespie (*Endotracheal Anaesthesia*, 1948, p. 145, Wisconsin): "If the function of the patient's heart or lungs is seriously handicapped by disease, even a slight lack of oxygen, such as can be caused by holding the breath, may be sufficient to cause death." This may be the explanation of some deaths attributed to "reflex factors" and emphasizes the care that should be taken for the full oxygenation of such cases, but hardly condemns trichlorethylene out of hand as an unsuitable agent for intubation. However, I do not wish to become involved in a discussion of intubation in light anaesthesia.—I am, etc.,

Hill End, St. Albans.

GORDON OSTLER.

Natural Position in Childbirth

SIR,—I was much interested in Dr. Kathleen Vaughan's letter (Jan. 31, p. 222). I have seen women in Persia deliver themselves in the squatting position, walking to the doorway of their hut to do so. Placenta followed baby almost immediately, and there were never any perineal tears. The babies, however, were always small, averaging 5½ lb. (2.5 kg.), and with much smaller heads than most English ones.

In practice I have found the best position for the woman is on her back, with plenty of pillows under her shoulders, and the knees well-flexed—in fact the nearest thing to squatting. The women tell me they can use their pains much better than in the lateral position, and indeed it seems natural that it should be so. If one happens to be single-handed it is easier to control the patient, and for doctor and mother to co-operate. I believe this is the French practice.

As regards perineal tears and stretching of the perineum (which can result in much more lasting damage than a simple tear), I am inclined to think that episiotomy is the answer.

I would like to add that I am the mother of four children, my eldest being born when I was 32. I was never delivered in the "natural" position, but I practised squatting frequently during the last month of pregnancy and during labour. My babies were always born quickly and easily.—I am, etc.,

Kendal, Westmorland.

FRANCES M. TAYLOR.

Health of Students

SIR,—May I comment on some of Dr. John Pemberton's conclusions (March 13, p. 490)? He states that "some 20% (of students) were found to be suffering from minor anxiety states and depression." He gives as an example of this that they were afraid of failing their examinations, with all that that entails nowadays. Surely, Sir, this is a normal and very temporary state to be in, or does Dr. Pemberton consider it abnormal to be afraid of ploughing an examination? His other example of anxiety state is that 9% had insomnia (whether permanent or just before examinations is not stated). He uses as a standard an inability to fall asleep after being in bed for one hour. Is this really meant as a scientific standard? I suggest that Dr. Pemberton talks to a junior probationer nurse, who will tell him about patients who "never sleep a wink" yet manage to snore all night.

In the section on orthopaedic defects he claims an incidence of 34%, with 14% having flat foot. I wonder if Dr. Pemberton realizes that there is a difference between a flat foot and a foot which looks flat but which stands up to playing tennis, Saturday night dances at the Union, Sunday hikes, and other strenuous activities. Those of us with considerable experience of having cases referred to us after routine inspections of school-children and Service men know that this is a common error.

There is claimed to be a 16% incidence of postural defects of the spine, that is "scoliosis, kyphosis, and lordosis" (*sic*). Even if I were prepared to believe that such a high incidence of abnormalities was present, I must disagree with his conclusions. He states, "Most of the orthopaedic abnormalities found were due to lack of muscle tone and physical development, and could perhaps have been prevented by better previous physical education. They emphasize again the value of adequate and easily available facilities for athletics, sports, and gymnastics as a positive contribution to student health." Later he further states, "The frequency of postural and other orthopaedic defects raises the question of the value of compulsory physical education such as has been introduced for freshmen in at least one British university." Has Dr. Pemberton the slightest evidence to support these conclusions? Does he think that gymnasts never suffer from flat foot or postural scoliosis? Has he any proof that exercises have ever prevented or cured these conditions? I am, of course, quite aware that this is a very common but nevertheless erroneous belief, and that in your leading article you state, "Yet even a young person with severe kyphosis and unfit for most sports may overcome his handicap by learning to swim on his back." If a kyphosis is amenable to treatment it is by developing secondary curves above and below the lesion, and surely a breast and not a back stroke would best do this.

Social medicine has been claimed as "a new scientific approach to medicine." Where are Dr. Pemberton's controls? Has he examined a similar group of non-students to find out how many of them had postural defects or had ever lain awake

at night? Did he discover the relative incidence of postural defects in those students who do and those who do not play games? Is there a significant difference between those who had compulsory physical exercises and games at school and those who did not?

Many medical men have wondered what the exact function of social medicine is. I hope it is not to produce field surveys without any controls.—I am, etc.,

Sheffield.

SIDNEY PAPPWORTH.

Intervertebral Disk Lesions

SIR,—Dr. J. Donaldson Craig and Mr. A. W. Lipmann-Kessel's letter (March 20, p. 570) on this subject is most illuminating. Andrew Taylor Still and, subsequently, the osteopaths have for sixty years suggested that sciatica and many other referred neuralgic pains are "due to joint disturbances." Evidence is gradually accumulating to prove there is more truth and value in the osteopathic theory than has so far been admitted by the orthodox medical profession.

While from the patient's point of view it is probably unimportant where and by whom knowledge is developed, it is only fair, in my opinion, that medical writers should give credit to the author of any theory they propound or elaborate.—I am, etc.,

London, W 1

GEORGE MACDONALD.

Diagnosis of Relapsing Fever

SIR,—With reference to the interesting paper of Drs. R. I. Bodman and I. S. Stewart (Feb. 14, p. 291) the following notes on diagnostic difficulties in sporadic cases of relapsing fever might be of some interest.

Sporadic cases of comparatively rare diseases often present diagnostic difficulties. Four cases of relapsing fever were observed here in the period from May, 1946, to November, 1947. Three ran a typical course, and *Spirochaeta recurrentis* could easily be found in the blood smears of two, whilst all responded well to nearsphenamine. The fourth case caused considerable anxiety and was first considered an acute abdominal condition, then typhoid, until his temperature chart and prompt response to a single injection of 0.45 g. of nearsphenamine disclosed the true nature of his grave condition.

The case history was as follows. A farmer aged 40 was taken ill with high temperature on May 5, 1946. Next day he was admitted to a surgical ward with colicky pain in the right hypogastric region. W.B.C., 15,000; B.S.R., 20–40 mm. He was given sulphadiazine orally (28 g.) and his temperature returned to normal. On May 13, seven days after his admission, he was discharged at his own request, only to be readmitted on May 25. Once more his temperature was around 38° C. (100.4° F.), which did not subside after another course of sulphadiazine (30 g.) and 180,000 units of sodium penicillin. His spleen was enlarged, and he was transferred to the fever department. The Widal was negative, and, as his temperature chart took on a recurrent character with attacks of fever alternating with temperature-free intervals, relapsing fever was suspected. By now, nearly 5 weeks from his first attack, his general condition had become very critical, and without microscopical confirmation 0.45 g. nearsphenamine was injected. He responded promptly, and his temperature dropped to normal within 24 hours, after which his general condition improved steadily. He was in perfect health when last seen in September, 1947, more than a year after his illness.

—I am, etc.,

Kosice, Czechoslovakia.

I. FRIEDMANN.

Appendicular Dysfunction

SIR,—Chronic appendicitis or appendicular dysfunction is a difficult condition to diagnose with any degree of certainty. The physical signs are minimal or even absent, excepting perhaps during an exacerbation.

The surgeon has therefore to make a diagnosis from the history and exclusion by investigation of other types of right-sided pain. It was with interest, therefore, that I elicited a physical sign during the examination of a case of abdominal pain and indigestion which pointed quite definitely to the appendix being the cause of a patient's symptoms. The patient,

had been referred to me with a diagnosis of a duodenal ulcer, and on pressure over the appendix the pain was referred to the umbilical region and reproduced the pain of which he was complaining. This clinical finding could be repeated at will.

The mechanism of the sign was apparent at operation, as the appendix contained a large faecolith, distal to which there was a collection of mucus. Pressure on the appendix therefore probably increased intra-appendicular pressure and produced the referred pain already described. It would seem most unlikely that this observation has not already been described in the voluminous literature regarding appendicular dysfunction. It is, however, not described in Hamilton Bailey's *Demonstration of Physical Signs in Clinical Surgery*, which is a very comprehensive treatise on this subject.

McBurney's sign is used extensively in the diagnosis of appendicular dysfunction, but the sign described above requires more generalized pressure in the right iliac fossa, and it should be possible to obtain it in any case where the appendix contains fluid in its lumen associated with partial obstruction and complete obstruction. This is a dangerous type of appendicular dysfunction, as perforation and peritonitis are likely to occur should acute infection supervene.—I am, etc.,

Newcastle-upon-Tyne.

F. DENIS HINDMARSH.

The Lazy Eye

SIR,—During the four months that have elapsed since my letter to you concerning defective vision in recruits (Nov. 15, 1947, p. 796) some forty to fifty boys have been referred every fortnight to the ophthalmic centre which I attend because their vision in one eye is 6/12 or less. In the intervals of refracting them I have read with keen interest the letters that have appeared in your correspondence columns on the school ophthalmic service and the lazy eye.

As a Devonian I was pleased to learn from Dr. Margaret L. Foxwell's letter (Jan. 31, p. 228) that the Devon County Council made all their school-children read the letters on the chart. I was equally delighted to read in Dr. Francis J. Lorrimer's letter (March 6, p. 476) that Kent County Council had "a plan." I sensed Mr. S. Black's frustration (Jan. 10, p. 77) at the non-fulfilment of the various recommendations of the committees. I was appropriately horrified at Dr. Mark Bradford's statement (March 6, p. 476) that the health visitor had to do the "eye testing" because the doctor was driven too hard by time and bureaucracy's relentless pressure. I shuddered at the thought of the school medical officers having to do a yearly refraction of every school-child at Mr. Black's behest (Feb. 21, p. 368).

I wondered about the type of "refractive error" which afflicted 70% of Dr. John Pemberton's Sheffield students and which only required 37% of them to wear glasses. But I became really angry when I read that one-third of the 150 students had either the wrong spectacles or else none at all (March 13, p. 490). So I went and dug out some figures on the eye defects of recruits. Apparently when they were trying to estimate the number of men who would be wearing spectacles if such were to be permitted on active service in the Boer War, the answer was 5%. During the 1914-18 war some 4% of the men in the average division were said to need glasses. The Americans rejected 8% of their "Draft" for visual defect, and calculated that 4% needed to wear spectacles. In the recent war the Americans estimated that 6% of their enlisted men had vision in the one eye of 6/18 and below. Some sample analyses of National Service recruits in the United Kingdom during the winter 1946-7 showed that 8% had vision of 6/18 in the one eye and below. Approximately 5% of the whole entry needed spectacles.

Therefore it would seem that though a considerable amount of hard work and good will has gone into the treatment of the ophthalmic conditions of the school-child, the end-results cannot in any way be held to be satisfactory. The hard core of the problem remains for solution—that 10% of the children need a thorough examination by an ophthalmologist, and that 5% will need to wear spectacles.

I trust, Sir, that you will regard this letter as fair comment. Admittedly I do not advance any constructive policy; I hope, however, that the scheme that is receiving consideration by the Council of the Faculty of Ophthalmologists will provide a successful solution.—I am, etc.,

London S.W.1

G. C. DANSEY-BROWNING.

The Department of Medical Photography

SIR,—In his unusual article entitled "Where are we going?" Dr. Ff. Roberts (March 13, p. 485) devotes half a column to clinical, or better termed medical, photographic departments. His comments in this connexion rest beneath the curious subtitle "The Fetish of Perpetual Expansion," and it seems unfortunate that of the many examples which could be marshalled to illustrate this section Dr. Roberts has chosen one which lends but little support to many of his arguments.

As one of the authors quoted without context, I would submit that subsequent remarks concerning Pasteur, Thomson, and Hopkins are both facetious and irrelevant. The very extent of quotation in this complete reference seems indicative of a lack of first-hand experience and hence detracts from any conviction apparent in other passages.

By the very nature of their work medical photographic departments are further divorced from the general run of hospital practice than are many of the other special departments: in many instances they are to be found in the medical schools and not in hospitals. It seems only fair to point out that these departments do not exist primarily to ease the burden of the clinician, to conserve manpower, or to show an economic return in the strict sense of the term: the accent is, or should be, placed far more on the record and educational aspects.

As the above comments are not offered in any sense of justification for the existence of medical photographic departments, no further elaboration should be necessary. It would be interesting to know, however, if Dr. Roberts would condescend to use lantern slides and material for publications prepared to meet his own requirements, or if he would prefer to perpetuate cracked and faded slides, and further blur the impression of half-tone blocks monotonously copied from book to book?—I am, etc.,

London, S.W.1.

PETER HANSELL.

Alcoholics Anonymous

SIR,—You have no doubt heard before this of our organization, which, though American in origin, has in the past year commenced activities in Great Britain. We have already had some measure of success and are now enrolling new members every week.

A brief description of our aims and objects appeared in the *Lancet* last year, and from time to time the daily, Sunday, and weekly Press have had articles about us. We are most anxious, however, to have the approval of the medical profession as a whole, as we consider that without any doubt the best approach to an alcoholic patient is through his or her own doctor.

In recent weeks we have had contacts with many doctors, and not only have we had no adverse word of criticism from them, but several have written to us or telephoned to us in terms of the warmest commendation. In particular they appreciate our help in rehabilitation of the patient after medical treatment. Needless to say we have no patent medicine, nor do we offer any form of medical treatment, though it often falls to our lot on meeting a new patient who asks for our help to recommend that he obtains treatment from his or her own doctor. We claim that our most valuable work lies in showing to the alcoholic who wishes to recover, through our own personal example, that it really is possible to achieve total abstinence and at the same time find an entirely new and completely happy way of living.

Above all we like it to be very plainly understood that we are not a reform society, and we have no interest in alcoholic patients unless they have a genuine desire to stop drinking. We expect them to approach us, or at any rate to express to someone else a desire to hear more of our methods.

I should be most grateful if you would allow me space for this letter, and in particular if you would state that we would welcome enquiries to our monomark address, simply "BM/AAL, London, W.C.1." For your own information, I enclose my name and address as a guarantee of good faith, and regret that our rules compel me to sign this letter,

ALCOHOLICS ANONYMOUS.

POINTS FROM LETTERS

Make Act a Success

Dr. G. POLLOCK (London, S.W.13) writes: After plodding through the letters (March 6) on the National Health Service I came to the name Aleck Bourne (p. 465) before I had read his letter. With most of the letters that I had just been reading in my mind, I had a feeling that I was going to be disappointed by seeing such a writer marching forwards (or is it backwards?), the victim of the psychology of the crowd. My mind, however, was soon set at rest when I found him calling attention to the doubtful value of the answers to Question A, and I agree "that scarcely a single doctor—perhaps not even Mr. Bevan himself—could have answered 'Yes' without mental reservations." Confusion of the issue could not have been more successfully brought about by the phrase in its present form, even if someone had set out with the deliberate purpose of causing confusion by a choice of words. . . . Mr. Aleck Bourne says that this is not a time "for battle-cries and the metaphors of war." The words of Lord Palmerston as quoted in *States and Morals* by Prof. D. Weldon aptly apply: "Half the wrong conclusions at which mankind arrive are reached by the abuse of metaphors, and by mistaking general resemblance or imaginary similarity for real identity." Not only the metaphors of war have been used, for I see the use has been extended into the ethical or moral sphere. I don't think it was quite the meaning intended in the New Testament language, "what shall it profit a man if he gain the whole world and lose his own soul," that it can rightly be applied as a censure to a doctor who expresses his intention to help to work the National Health Insurance scheme. I remember well the controversy and emotional upsets of the time of the introduction of the panel system, and I am resolved to do my best to make this Act a success. I believe that the doctors of the future will be quite able to secure any necessary improvements in their conditions as the need for these becomes apparent.

Only a Beginning

Major J. STARTIN, R.A.M.C.(ret.), writes: With reference to the leading article "Only a Beginning" (March 6, p. 454), I think the profession should ask themselves the questions (1) Is this the beginning of further opposition to the Act? or (2) Is it a suggestion that a more open view should be taken, as regards the Act as a whole, with the health of the nation at stake? I hope the answer to (1) is No and the answer to (2) is Yes. . . . During 20 years' service in the Army I never had any interference with my clinical work. We worked as a team with the team spirit. We had a large proportion of highly qualified men as specialists, and I think we may say that such men as Sir Ronald Ross, Sir William Leishman, and Sir Leonard Rogers made no small contribution to the advancement of medicine and the health of the universe. These men were bred in the Government service of medicine, in which I was proud to serve. I appeal to you gentlemen, in the words of John Hunter, "Don't think, try it!" Is the profession to remain *in statu quo* or is it to strive after higher ideals?

Good Policy

Dr. H. T. N. MERRICK (London, S.W.5) writes: In *Ulster Commentary*, February, 1948, published by the North of Ireland Government, the North of Ireland Minister of Health in a recent speech said: "The health scheme is being left in the hands of those who are accustomed to the work. The Government's part is to provide the means to enable them to get on with their job." This is a good policy for the B.M.A.

Simple Certificates

Dr. P. S. D. GOWERS (Sheffield) writes: However the National Health Service is organized, may we ask for simplicity in certification forms? I would suggest that the name and address spaces on prescriptions and all certificates in common use be identical in size and spacing, facilitating the use of carbon copies.

Severe Reaction to Penicillin

Surgeon Commander J. C. GENT (Dartmouth) writes: With reference to correspondence on the subject of severe reaction to penicillin the following case may be of interest. On Feb. 20 an officer aged 35 reported complaining of a sore throat and swelling in his neck. His temperature was 101° F. (38.3° C.). There was tonsillitis with an acutely inflamed left tonsil which had become ulcerated at its upper pole. The glands in the angle of the jaw on the left side were enlarged and tender; the skin over them was red and tense. He was given gargles, local kaolin poultices to the neck, and sulphathiazole internally. His condition improved rapidly, but he continued to run an evening temperature up to about 100° F. (37.8° C.), and on Feb. 25 penicillin therapy was started. 30,000 units of the sodium salt were given intramuscularly at 1 p.m. At 3.30 p.m. he had a rigor, and another 30,000 units of penicillin were given at 5 p.m. Soon after this he noticed a rash beginning to appear on the flexor surfaces of his forearms.

When I saw him at 6 p.m. his temperature was 102° F. (38.9° C.) and there was a morbilliform rash involving the flexor surfaces of his forearms and his trunk, front and back. The rash had avoided the face, and there were no Koplik spots. He complained that his throat was more painful, and the glandular swelling in his neck had increased in size. No more penicillin was given. He slept well; his morning temperature was normal and the rash had completely disappeared. Thereafter his recovery was uneventful and he remained afebrile save for a slight evening rise of temperature to 99° F. (37.2° C.) on Feb. 27. He was discharged to his ship on March 1.

To my mind the point of interest is that the rash was morbilliform in character, as I have not previously seen any mention of this type of rash following penicillin. It is arguable, of course, that it was in reality due to the sulphathiazole, but I think this is unlikely as he had had 21 g. without any signs of intolerance and the rash disappeared as soon as the penicillin was stopped, though sulphathiazole was continued. Moreover there were the constitutional symptoms—rigor, etc.—which made their appearance within an hour-and-a-half of the first injection. Another point is that his temperature, which had been rising to 100° F. or thereabouts at night before penicillin, settled afterwards in spite of the severe reaction. Could the rash in reality have been a toxic manifestation due to the sudden release of toxins resulting from the destruction of a large number of organisms? I should be interested to know if any similar cases have been experienced.

Dr. KENNETH MACKENSON (Isle of Tiree, Argyll) writes: I was much interested in the cases of severe reaction to penicillin reported by Dr. D. Heffernan (Feb. 7, p. 277), Dr. J. F. L. Wallis (Jan. 24, p. 150), and Dr. William Corner (Feb. 28, p. 417), and so perhaps my own personal experience of a severe reaction after treatment by penicillin for two-sided acute lobar pneumonia on two occasions within the last twelve months may be of some interest to others.

In the years 1946-7 I suffered from three attacks of two-sided lobar pneumonia within the space of eighteen months and at intervals of six months. The first attack was treated successfully with sulphapyridine, and there was no reaction of any kind.

The second attack failed to respond to sulphonamide treatment, and 3-hourly injections of penicillin were resorted to. After five days of 3-hourly injections of penicillin the temperature dropped and the injections were stopped, but unfortunately there was a relapse and the 3-hourly injections of penicillin had to be continued for a further period of five days, when the temperature again dropped and the chest condition gradually cleared up. On getting out of bed and attempting to dress I had great difficulty in getting my coat on, on account of pain and stiffness in the left shoulder-joint, and all movements of the joint became difficult and were greatly restricted. The pain and stiffness increased and I was compelled to go to hospital to have the shoulder-joint manipulated under an anaesthetic, and this was followed by physiotherapy for three weeks.

The left elbow-joint was also painful and stiff, but not too troublesome, and I had recovered the use of my left arm to a large extent. When I developed the third attack of two-sided lobar pneumonia, which was also treated with fairly large doses of penicillin by injection, and very successfully treated. No sooner had the chest condition cleared up than there was a return of the joint pains and stiffness—this time in the right shoulder-joint and also in the left elbow-joint. After three weeks of massage and radiant heat treatment the shoulder-joint gradually improved, but the left elbow-joint still gives a lot of trouble at times.

At the time I was of the opinion that the pain and stiffness of the joints was a reaction to the penicillin, and now after reading the letters I have already mentioned I am more convinced than ever that this is the case. There was no reaction whatsoever after the attack which was treated with sulphapyridine.

Relief of Pain in Midwifery

Dr. MARTIN JENNER (Woking, Surrey) writes: I cannot agree with Dr. Anne Toms (March 6, p. 475) when she says that the pains of perineal stretching in labour "in most cases call for anaesthesia." Having worked in close association with Dr. Dick Read for some time I have seen many cases conducted both by doctors and midwives according to his ideas. Of those women interested and instructed in their task of childbirth it is unusual to meet one who will use the "trilene" inhaler or Minnitt's machine during the second stage of labour, although these are freely offered to all of them.

At the start of perineal stretching most women are a little apprehensive, but near "crowning" the perineum is insensitive, and should it rupture the actual tearing is never felt. The delivery of a case instructed in this way gives the mother more joy than pain, while the purely obstetrical advantages of delivery with the full co-operation of the mother and trouble-free third stage have to be seen to be believed. . . .

Obituary

W. R. REYNELL, M.A., D.M., F.R.C.P.

We announce with regret the death on March 21, at the age of 63, of Dr. Walter Rupert Reynell, who until two years ago was senior physician to the West End Hospital for Nervous Diseases.

Dr. Reynell was born in South Australia and educated at Queen's School and St. Peter's College, Adelaide. In 1906 he came to Balliol College, Oxford, as a Rhodes scholar, and there he distinguished himself as a boxer and at tennis. He was a student at Guy's Hospital and graduated in 1913, a year after he had taken the conjoint diploma. He was a house-surgeon, out-patients officer, and house-physician at Guy's Hospital until July, 1914. He served with the R.A.M.C. in the 1914-18 war and was with the Australian Voluntary Hospital in Belgium for some time and at the Seale-Hayne Hospital for neurological cases at Newton Abbot.

Dr. Reynell took the M.R.C.P. in 1918, and was elected assistant physician to the West End Hospital for Nervous Diseases in 1920 and physician in 1926. Most of his active work was done at this hospital, and he soon became more interested in the psychopathological problems of diseases and disorders of the nervous system than in the purely organic side of neurology. He was always a sound neurological diagnostician, but he devoted an increasing amount of his time and energy to psychotherapy. His interest in this work was well shown in some of the papers he published in the 1930's on morbid depression and anxiety and similar subjects. In 1934 he was elected F.R.C.P. Then early in 1940 he was again commissioned in the R.A.M.C., and with the rank of major he joined the Hospital for Head Injuries at Oxford. There he continued to work throughout the war, concerning himself mainly with the psychiatric aspects of head injuries. He returned to London at the end of the war, but retired from the West End Hospital in 1946.

Dr. C. Worster-Drought writes: W. R. Reynell was my valued hospital colleague for more than twenty-five years; very early in this period I became aware of his reliability, loyalty, and integrity, the realization of which increased as the years passed by. Always of somewhat retiring disposition, at times almost self-effacing, he disliked teaching in the form of set lectures or demonstrations and was not altogether keen on hospital committee work. Nevertheless he could always be relied on to respond to any suggestion that his help in a course of demonstrations would be appreciated, or that his presence at a particular committee would be of value. In such circumstances the opinions he expressed were invariably sound and of great assistance. On many occasions of difficulty with regard to hospital matters I have been deeply conscious of his loyal co-operation. One could always discuss any such problem with Reynell and be sure of sympathetic understanding and sound advice.

In earlier days he was attracted by the more organic aspects of neurology, but gradually became more and more interested in the psychopathological problems of nervous disease, and particularly in psychosomatic disorders. In the out-patient department Reynell was at his best, and there is no doubt that he was happier in the purely clinical side of his work than in any other. Reynell, a great sportsman, will be sadly missed by patients and colleagues alike.

Dr. W. Ritchie Russell writes: Throughout the late war Dr. Reynell was a much valued member of the staff of the Military Hospital for Head Injuries, Oxford. His wide experience of practical psychiatry in civilian life and of battle neurosis during the first world war made him a specially useful addition to the neurological staff. He took great interest in devising psychometric tests for detecting loss of mental capacity after head injury, and the large number of reports he made are carefully preserved for reference; these are still of great value in the treatment and care of those many soldiers and airmen who when convalescent from brain wounds were studied by Dr. Reynell. He was a natural physician and never failed to take extra time and trouble if by so doing he could help his

patients or colleagues. He had the highest ideals and his conscientious devotion to duty never faltered. We who worked with him came to admire his philosophy and to enjoy his friendship. His death brings a feeling of personal loss and deep regret that we shall not again meet to take part in the stimulating discussions we remember so well. One cannot think of Rupert Reynell without picturing him at home with his wife and family, of whom he was rightly so proud, and we can only send them our deepest sympathy.

JOHN ROWAN, M.B., F.R.F.P.S.

The pupils of Edward Nettleship spread throughout the world of ophthalmology for many years at the end of the nineteenth century. One of the most loyal was John Rowan, who died suddenly on March 17 at his home near Prestwick, where he retired about ten years ago. He was born in Greenock, and all his life he was influenced by the traditions of the West of Scotland and the Firth of Clyde. He graduated M.B., C.M. in the University of Glasgow in 1889, and was subsequently senior house-surgeon at the Greenock Royal Infirmary. At an early age he was attracted towards the study of ophthalmology as a specialty, and he worked in London, Dublin, Göttingen, Paris, and Berlin. At the old Moorfields, in Moorgate, he worked as a clinical assistant with Nettleship, and this led to a life-long association. To the last, Rowan was deeply interested in a family affected with retinitis pigmentosa and cataract, whose forebears from Devonshire had been traced out by Nettleship, and some of whose descendants were resident in the Glasgow area.

After his training period he returned to the Glasgow Royal Infirmary, and was ultimately appointed surgeon to the Ophthalmic Institution. He carried out his clinical work with patience and integrity. His passing will be a loss to many correspondents in all parts of the world. He had a gift for prolonged friendship, and was at his best when entertaining his chosen companions on the grouse moor or on the golf course. He admired and loved the out-of-door life, and brought to these interests the intensity of study characteristic of the townsman.

Dr. Rowan was elected a Fellow of the Royal Faculty of Physicians and Surgeons in 1900, and represented his colleagues on various boards of management until the end. At the annual meeting of the British Medical Association in 1922 he was vice-president of the Section of Ophthalmology. He contributed several carefully thought out papers to the literature of his chosen specialty, and he was considered to be a first-class clinical observer. Although he retired from active practice over ten years ago, he retained an active interest in the developments in ophthalmology in Glasgow. In later years he was rarely seen at medical society meetings; nevertheless, we have suffered a great loss in the passing of a man who could claim as his personal friends colleagues of the calibre of Nettleship, Treacher Collins, and Critchett.—W. J. B. R.

Medical Notes in Parliament

National Health Service Act

Mr. BOSSOM on March 18 inquired whether Mr. Bevan was yet satisfied that he would be able to provide the medical services proposed in the Health Service Act.

Mr. BEVAN replied that he certainly saw no reason why the Service should not start in the manner always contemplated.

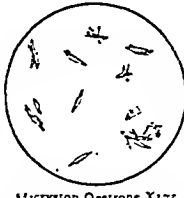
Disclosure of Service Records

Dr. MORGAN, during the discussion of the Air Estimates on Report on March 15, raised the subject of the disclosure from R.A.F. records of medical information on personnel who have left the Air Force. He said that sometimes Service departments, including the Royal Air Force, gave information to other Government Departments which were opposing claim and the men might thereby be prevented from obtaining employment, yet trade unions which asked for such information confidentially and were willing to pledge themselves never to abuse the disclosure of the medical record of any man were refused such information. In one Government Department the grant of such information had been conceded 25 years

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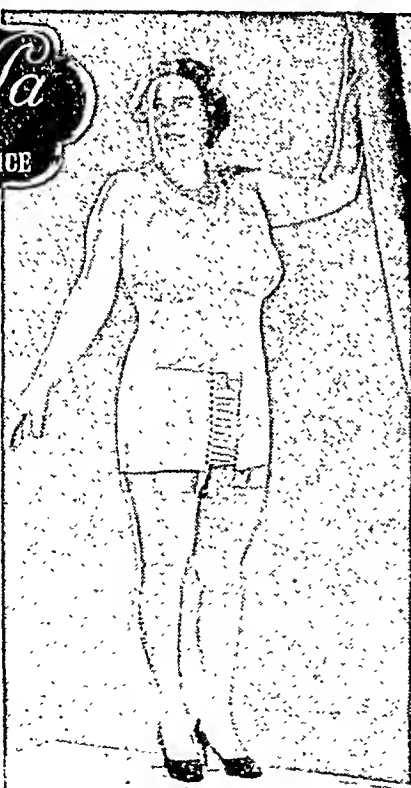
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References:—Full documentation may be obtained on application to Clinical Research Dept. 12.A.



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ago and had since then worked admirably in the interchange of medical information between medical officers of the Department and of the trade union concerned. He asked the Royal Air Force to find a way by which such information could be given to the man to enable him to get justice in any future claim in which he might be involved. The Government might answer that if it disclosed this information to one person it would have to disclose it to insurance companies and other concerns for purposes which a Government Department might not consider legitimate. But a Department could impose restrictions on the disclosure of confidential information which would ensure that such disclosure was not abused while at the same time giving the man the opportunity of dealing on equal terms with the Service department. Dr. Morgan added that he did not demand an immediate answer to the point he had raised.

University Votes

When the House of Commons went into Committee on March 16 Mr. PEAKE challenged a proposal to abolish the university vote. He recalled that the Speaker's Conference had recommended the maintenance of university representation and methods of election. Mr. Peake contended that the case for the abolition of university seats was now weaker than it ever had been because university education was open to all who had talent, and in future 90% at least of graduates would be drawn from the ranks of the elementary schools. There was nothing undemocratic in giving extra representation to the best-educated section of the people. He asserted that the general election had not caused any part of the recommendations made by the Speaker's Conference to lapse.

Mr. PICKTHORN said that if the rule of "who pays the piper calls the tune" was to be exercised excessively by the Government in regard to the universities the effect was bound to be intellectually and scientifically bad. It was more than ever important that universities should have two channels of communication in Whitehall and Westminster. If the University Grants Committee became the only channel of communication the danger to academic independence would be overwhelming. The Government proposal was a blow at the learned professions.

Mr. HERBERT MORRISON denied that there had been any breach of undertaking by the Government. He agreed that a high proportion of university graduates now came from the elementary schools on scholarships, but to argue that this ought to give the House a bias in favour of this form of plural voting and of the separate representation of the universities was very wrong. The Government took the course which it did because it sincerely believed that it was inappropriate to have a Parliamentary representation which was not in accord with properly conceived democracy.

Mr. R. A. BUTLER, speaking for the Conservative Party, said that when that party was returned to power university representation would remain a feature of the House.

Mr. EDE said this was the last fancy franchise which remained and the Government believed it was high time that it was wiped out.

On a division the proposal to abolish the university seats was approved by 323 to 203.

Silicosis

Mr. GAITSKELL announced on March 22 that the number of new cases of silicosis in miners was 5,821 in 1945, 4,426 in 1946, and 3,800 (provisional) in 1947. The main precautions were (a) the suppression of all forms of dust in the mines, (b) medical and x-ray examinations of mineworkers on entry and periodically thereafter, (c) after-care of the men affected, including medical attention, and (d) their placing in suitable alternative employment with pre-employment training where necessary. These matters covered the responsibilities of many Government Departments, and progress in the formulation of comprehensive arrangements was being stimulated and coordinated by the National Joint Pneumoconiosis Committee. Four subcommittees were engaged on these main features of the problem each with a chairman from the Department mainly responsible. The National Coal Board and the National Union of Mineworkers were also represented. Dust prevention measures, already highly developed in South Wales, were being improved and extended in each coal division through the National Coal Board, and the National Union of Mineworkers were represented. A medical rehabilitation centre was also being provided by the Miners' Welfare Commission.

Previously, on March 18, Mr. Gaitskell said that although increased mechanization might produce increased quantities of airborne dust, in the present state of medical knowledge it was not possible to say whether the quantity or the quality of the dust was the most important factor in producing the disease. This was one of the main aspects of the problem on which the

Pneumoconiosis Research Unit was engaged. In these circumstances the National Coal Board were adopting measures to suppress as far as possible all forms of dust in the mines. These measures included wet cutting, water infusion, and spraying. Mr. Gaitskell added that far more work of this kind was done in South Wales than anywhere else.

Atomic Warfare and Civil Defence

Sir JOHN ANDERSON on March 22 opened the discussion on the organization of civil defence. He referred to shelter policies and said account ought to be taken of the possible effects of atomic bombs. The consequences of the explosion of an atomic bomb were first the blast, secondly the risk of what was called flash burn, which was burning by the radiation of heat, thirdly radiation, and lastly the problem of contamination. Except at a very short distance from the centre of an atomic bomb explosion the blast wave presented the characteristics of the wave following an ordinary explosion. It might be more violent but was not different in kind. There seemed no reason why a system of surface shelters should be rejected because of the atomic bomb. Flash burns caused many casualties at Hiroshima and Nagasaki, but the flimsiest protection—a sheet of brown paper—sufficed to prevent injury. But to protect against radiation considerable thicknesses of resistant material which need not be of solid structure would have to be interposed between the explosion and the people to be protected. For protection against radiation research would be required to determine the best kind of material for covering of sandbags would suffice. It would not be easy to decide when it would be safe for persons who had suffered no injury to emerge from a shelter. The first need would be to ensure an ample supply of simple detectors, which he believed could be provided cheaply and for use by shelter warden.

While radioactive material might be widely dispersed after an explosion a great deal of the activity would die away after a matter of hours or probably in less than a matter of days. If the occupants of shelters could be provided with suitable footwear and gloves it would be safe for them to traverse a considerable area which was still contaminated. If the explosion had taken place high above the ground all the radioactive material might be carried into the upper atmosphere, but if the explosion was on the ground or beneath the surface radioactive material might be widely dispersed and extremely difficult if not impossible to remove. An authoritative decision on shelter policy based on adequate knowledge should be made beforehand, and he suggested that a statement on policy should not be long delayed.

Major VERNON said that the Bikini experiments showed that an atomic bomb exploding under water produced about a million tons of radioactive water in the form of rain, spray, and mist. Ships over which that radioactive cloud had passed were still radioactive after eighteen months.

Cmdr. NOBLE said it had been discovered that the effect of the atomic bomb was limited. It would therefore be sensible to have hospitals, factories, and power stations dispersed so that if an atomic bomb fell only one of them would be affected. He asked for a comprehensive plan for dispersal throughout the country.

Squad-Ldr. KINGHORN said the House should realize that bacteriological warfare could take place and that the defence was in the Commonwealth. Something could be done now to give some kind of Empire and Colonial dispersal.

Government Reply

Mr. YOUNGER, replying for the Home Office, said that if the Government perfected and put into skeleton form a complete system of civil defence it would profoundly affect all peacetime commercial, economic, and social activities. They had to strike a balance between being caught entirely unprepared and developing a large defence system too soon. In war there was an immense advantage for the side which went into production last. They must have basic research and a clear idea of the problem before they put any great and costly machinery into operation. There had been an intensive analysis of the shelters in Germany and of the atomic bombing in Japan. Deep protection against atomic warfare. He knew of a number of shelters in various parts of the country seemed to provide good shelter protection continued. He detailed the arrangements made for the organization and planning of civil defence. The Emergency Medical Service and other organizations would have to be included. The Emergency Medical Service would be based largely upon the National Health Service with the co-operation in certain respects of the local authorities. In peacetime all local services would be recruited and administered locally. Training schemes would be devised centrally.

under Sir John Hodsell. He assured the House that the Government and its advisers were fully alive to the problems raised in the debate but some unknown factors still defied assessment and he must ask for further patience. The Government had not underestimated the importance of proper preparation in this sphere of defence.

Voluntary Hospitals Outside the Act

Mr. BEVAN issued on March 25 the following list of voluntary hospitals in the London area which had been disclaimed from the provisions of the National Health Act: the French Hospital and Dispensary; the Italian Hospital; the British Dental Hospital; King Edward VII Hospital for Officers; Royal Masonic Hospital; Star and Garter Home, Richmond; Scio House Hospital for Officers, Putney; Hurlingham Lodge Auxiliary Hospital; Hawthorne Christian Science House, Hampstead; Stanborough's Hydro, Watford; St. Andrew's Hospital, Dollis Hill; Hospital of St. John and St. Elizabeth; St. Vincent's Orthopaedic Hospital, Pinner; St. Saviour's Hospital; St. Joseph's Institute, N.9; St. Joseph's, E.8; St. Anthony's Hospital, Cheam; St. Veronica's, S.W.14; St. Michael's, Worcester Park; Hostel of St. Luke, W.1; St. Raphael's, Brentford; St. Raphael's Colony, Potters Bar; Pield Heath House; St. Teresa's, Wimbledon; Hostel of God, Clapham Common; Home of Compassion, Thames Ditton; Convent of Our Lady Nursing Home, Hillington Court; St. David's Home, Ealing; Etloe House, E.10; London Clinic for Psycho-analysis; Catholic Nursing Institute; Manor House.

The Minister and the B.M.A.

Mr. BEVAN told Sir THOMAS MOORE on March 25 that he had taken note of the decision of the British Medical Association on March 17 not to enter the new Health Service on July 5 unless substantial changes were made in the Act. Asked what further steps he proposed to take in the matter Mr. Bevan referred Sir Thomas to a reply given to Mr. Lipson on Feb. 19. This reply was reported in the *Journal* of Feb. 28 (p. 420).

When asked by Mr. BOSSOM on March 25 what steps he proposed to bring into operation the new Health Service without the co-operation of the medical profession, Mr. BEVAN replied, "I cannot accept the assumption underlying the Question."

N.H.S. Building Priorities

Sir ERNEST GRAHAM-LITTLE asked Mr. Bevan on March 25 to indicate the priorities which could be given in providing the buildings necessary for fulfilment of the National Health Service Act, 1946, including health centres and hospitals. Mr. BEVAN's answer was that only the most urgent needs could be met at the moment, but when conditions permitted provision would be made for the development of all services under the Act.

Universities and Colleges

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH NATIONAL HEALTH SERVICE ACT

At a meeting of the Royal College of Physicians of Edinburgh held on March 15 the following resolutions were adopted and it was determined that they should be communicated to the Prime Minister and to the Press:

Since its incorporation by Royal Charter in 1681, the Royal College of Physicians of Edinburgh has endeavoured to fulfil the purposes for which it was founded, namely, to consolidate the medical profession and to improve its standard of knowledge; to advance medical learning and science; and to promote by all means in its power the good health of the nation.

The Royal College of Physicians of Edinburgh shares the desire of the entire community for a National Health Service which will afford to the people the highest standard of medical service attainable. It views with disappointment and disquiet the failure of the negotiating parties to reach agreement.

The College is of opinion that the overwhelming vote of every section of the medical profession disapproving of the National Health Service Act, 1946, in its present form can only be explained by the fear that professional freedom is gravely endangered. The essential fear centres round the power of the Minister to alter by order or regulation the fundamental terms of service of the medical profession.

The College urges in the national interest that negotiations should be resumed and that the matters in dispute be re-examined and adjusted so that the profession will feel able to co-operate with confidence in the development of the comprehensive service desired by all.

Medical News

Course for Midwife-Teachers

The Royal College of Midwives will hold a four-months course starting on Aug. 4 for the training of midwife-teachers. The Ministry of Health is offering 15 scholarships of £65 each. Applications for scholarships must be returned before April 17. Further information may be obtained from: The Central Midwives Board, 73, Great Peter Street, London, S.W.1; or The Royal College of Midwives, 57, Lower Belgrave Street, London, S.W.1; or The Ministry of Health, Whitehall, London, S.W.1.

Edinburgh Refresher Course

A fortnight's refresher course at Edinburgh University begins on Monday, May 3, at 9 a.m. It is intended primarily for demobilized medical officers (Class II) and for insurance practitioners. Fee for graduates not claiming expenses from Government sources, 10 gns.

Trade Union Pressure

According to the *Daily Express* (March 22) the Surrey Federation of Trades Councils has empowered its executive to ask Surrey doctors if they intend to work in the new Health Service—"Then the federation plans to advise trade unionists to transfer to the panels of doctors who will work the scheme."

Recruitment and Training of Nurses

The "Ten" group has submitted to the Minister of Health its comments on the Working Party's Report on the Recruitment and Training of Nurses. The group consists of 10 State-registered nurses; they are anonymous. In order to define the duties of nurses the group believes that it is primarily necessary to analyse the needs of patients, for, as it points out, in recent years these have changed, and the patient has often come to be in the care of many individuals in contrast to the one or two in former times. These include doctors, nurses, medical auxiliaries, and domestic staff. The group suggests that the services of existing assistant nurses should be retained, but that the Roll of Assistant Nurses should be closed at a given date. It believes that the candidates to the nursing profession should be grounded in basic sciences before being admitted to hospital training, and it agrees with the Working Party that student status is a necessary prerequisite to professional status.

Welsh Tuberculosis Services

The Minister of Health and other officers of the Ministry received to-day representatives of the Welsh Regional Hospital Board (Sir Frederick J. Alban, Prof. R. M. F. Picken, Alderman the Rev. Digwel Thomas, Mr. Thomas MacDonald, Mr. W. J. Canton, Mr. H. T. Edwards, Alderman Tom Evans, and the Assistant Administrative Medical Officer and Secretary) on March 17 to discuss the proposal of the Regional Board to set up a separate hospital management committee to administer the tuberculosis service in Wales and Monmouth. The Minister considered that the proposal of the Regional Board did not entirely conform with the intentions of the Act, and made certain alternative suggestions with a view to entrusting the day-to-day management of the tuberculosis institutions to the respective local management committees while continuing certain central functions under the aegis of the Regional Hospital Board.

Wills

Sir John Fraser, who was Principal of Edinburgh University, left £60,960. Dr. Walter King Hunter, formerly professor of medicine in Glasgow University, left £73,973; Dr. Wilfrid Hugh Roberts, of Buckfastleigh, £14,392; Dr. Joseph Foreman Berry, of Wigan, £12,995; and Dr. Elizabeth Hamilton Brook, formerly assistant county medical officer in Lancashire, £20,924.

COMING EVENTS

International Congress on Mental Health

We are asked to remind those who wish to attend the International Congress on Mental Health, which is to be held in London from Aug. 11 to 21, that applications can only be accepted after April 15 in exceptional cases and provided space permits. It is appreciated that the high total cost of attending the congress may deter some people from applying; a reduction of fees will be considered in such cases if a letter to that effect is forwarded with the form to the Congress Organizer, 19, Manchester Street, London, W.1.

Gastro-enterology

A postgraduate course in gastro-enterology will be held on June 14-18 at the Tenon Hospital, 4, Rue de la Chine, Paris, 20. Those interested should write to Dr. Viguié at that address.

Institute of Hospital Administrators

The annual conference of the Institute of Hospital Administrators will be held at Caxton Hall, London, S.W., on Friday and Saturday, April 9 and 10. On April 9, at 2.15 p.m., the conference will be opened by Sir Hugh Lett, Bt., C.B.E., F.R.C.S., honorary secretary, King Edward's Hospital Fund for London. At 2.30 p.m. a paper on "Hospital Administration in the National Health Service" will be read by Mr. F. Messer, M.P., chairman, North-West Metropolitan Regional Hospital Board, and the subsequent discussion will be opened by Mr. George Watts, secretary, Oxford Regional Hospital Board, and Mr. F. J. Ingram, clerk and steward, Mapperley Hospital, Nottingham. On April 10, at 10 a.m., papers will be read on: "The Hospital Administrator's Conditions of Service": (1) "Superannuation under the National Health Service" by Mr. A. E. Hickinbotham, assistant secretary, Ministry of Health, and (2) "The National Health Service Whitley Machinery" by Mr. S. W. Mayne, assistant secretary, Ministry of Health. Discussions on the two subjects will be opened by Mr. G. Hurford, house-governor, Queen Elizabeth Hospital, Birmingham, and Mr. John Griffith, house-governor, Canadian Red Cross Memorial Hospital, Taplow, Bucks, respectively. At 2.30 p.m. a paper on "The Training and Qualification of the Hospital Administrator" will be read by Mr. C. G. Rolliston, president, the Institute of Hospital Administrators, and the discussion will be opened by Mr. F. A. Lyon, administrator, the Seamen's Hospital Society, Greenwich, and chairman, Examinations Committee of the Institute of Hospital Administrators.

On April 9, at 7.30 p.m. for 8 p.m., at the Savoy Hotel, London, there will be a reception and buffet supper (tickets, £1 ls. each, excluding wine).

Tuberculosis Association

A meeting of the Tuberculosis Association will be held at Brompton Hospital, London, S.W., on Saturday, April 10, at 10 a.m., when there will be demonstrations by Dr. Clegg, pathology of tuberculosis bronchitis, and Miss Reed, physiotherapy in chest disease. Medical and surgical clinical demonstrations and radiological demonstrations will follow. At 2 p.m. communications will be submitted by Dr. A. M. C. MacPherson, on "Late Follow-up of a Group of Children with Primary Tuberculous Lesions"; by Dr. F. H. Young, on "The Successive Use of Artificial Pneumothorax, Phrenic Interruption and Pneumoperitoneum"; and by Dr. A. T. M. Roberts, on "The Late Results of Extrapleural Pneumothorax."

Maudsley Hospital Medical School

Dr. J. G. Greenfield, F.R.C.P., will deliver a special lecture on "The Pathology of Encephalitis" at the Institute of Psychiatry of the British Postgraduate Medical Federation at Maudsley Hospital Medical School, Denmark Hill, London, S.E., on Friday, April 16, at 2 p.m. The lecture is open, without charge, to postgraduate medical students and others interested.

Medical Library Association

The 50th anniversary of the founding of the Medical Library Association, as well as its annual meeting, will be held in Philadelphia on May 28-30. Further information may be obtained from the Secretary, Academy of Medicine, 288, Bloor Street West, Toronto 5, Ontario, Canada.

Legal, Social and Industrial Medicine Congress

The twenty-fourth Congress of Legal, Social and Industrial Medicine will be held at Lausanne, Switzerland, from May 21 to 23, under the presidency of Prof. Reinbold. The secretary-general, Prof. Muller, 14, Avenue Friedland, Lille, France, will give all necessary information to those interested.

SOCIETIES AND LECTURES**Sunday**

LONDON JEWISH HOSPITAL MEDICAL SOCIETY.—At London Jewish Hospital, Stepney Green, E., April 4, 3 p.m. "The Workshop of a Novelist's Brain," by Mr. Louis Golding.

Monday

WESTMINSTER HOSPITAL SCHOOL OF MEDICINE: MEYERSTEIN LECTURE THEATRE, Horseferry Road, S.W.—April 5, 5.30 p.m. Clinicopathological demonstration. Discussion: "Hypertension."

Wednesday

MEDICAL SOCIETY OF THE L.C.C. SERVICE.—At St. Charles' Hospital, St. Charles' Square, Ladbroke Grove, London, W., April 7. Clinical meeting.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE, 28, Portland Place, London, W.—April 7, 3.30 p.m. "Problems of Adolescent Behaviour," by Dr. Doris Odum.

Thursday

FACULTY OF HOMOEOPATHY.—At the London Homoeopathic Hospital, Great Ormond Street, London, W.C., April 8, 5 p.m. "The Treatment of Certain Heart Conditions by Homoeopathy," by Dr. D. M. Borland.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, 17, Bloomsbury Square, London, W.C.—April 8, 7.30 p.m. "Varicose Veins," by Mr. F. Rowden Foote.

Friday

BIOCHEMICAL SOCIETY.—At University College, Dublin, April 130 p.m. 266th Meeting. Papers will be read.

Saturday

ROYAL SANITARY INSTITUTE.—At King Alfred Baths, Hove, April 10, 10.30 a.m. "The Sterilization of Sea-water Baths with Special Reference to the Ozone Treatment." Paper by Dr. N. E. Chadwick.

APPOINTMENTS

William Henry Newton, M.Sc., M.D., D.Sc., has been appointed professor of physiology in the University of Edinburgh.

Prof. Newton was born in 1904 and was educated at Manchester University. He graduated with first-class honours in physiology in 1925, and held the Plac Scholarship in physiology in Prof. Raper's department. He qualified M.B., Ch.B. in 1929 and proceeded M.D. in 1934. From 1930 to 1934 he worked under Prof. Lovatt Evans and took the London D.Sc. in 1930. From 1932 to 1934 he was acting head of the physiology department at University College, which he left to take the George Holt Chair of Physiology at Liverpool University. He has published a number of papers on the physiology of pregnancy, and is on the editorial board of the *Journal of Physiology*.

BIRTHS, MARRIAGES, AND DEATHS**BIRTHS**

Browlee.—On March 9, 1948, at 9, Grosvenor Street, Edinburgh, to Mary, wife of T. J. Browlee, F.R.C.S.Ed., a son.
Wright.—On March 15, 1948, at Liverpool Maternity Hospital to Sue, a daughter. M.B. Ch.B. (née Richardson) wife of Dr. Frank B. Wright, a daughter.

DEATHS

Bromley.—On Jan. 24, 1948, as the result of a fall, Francis Edward Bromley, L.M.S.S.A., of 24, Orchard Street, Canterbury, aged 80.
Burditt.—On March 15, 1948, at Penarth, Myler Bridge, Falkmouth, Cornwall, Ralph Austin Burditt, M.R.C.S., L.R.C.P.
Mazze.—On March 11, 1948, Katie, wife of Dr. H. E. Mazze, 19, York Mansions, London, S.W., R.I.P.
Meeaw.—On March 17, 1948, at Lee Park Lodge, Blackheath, S.E., William Meeaw M.B., B.Ch., B.A.O., aged 64.
Mellor.—On March 16, 1948, at Mill House, Feltham, Robert William Mellor M.R.C.S., L.R.C.P., D.P.H.
Moore.—On March 16, 1948, at South Lodge, Hambury, Bristol, Clifford Arthur Moore M.S., F.R.C.S.
Muirhead.—On March 15, 1948, at Nod's Folly, Mill Lane, Earley, Berks, Ilay Burns Muirhead, M.D., aged 94.
Norman.—On March 13, 1948, at 8, Ayleyn Road, West Dulwich, Herbert James Norman, M.B., Ch.B.Ed. D.P.H., Medical Superintendent of Camberwell House, aged 67.
Potts.—On March 13, 1948, at Bower Cottage, Maidstone, George Potts F.R.C.S., late Major R.A.M.C., T.A., aged 71.
Rowan.—On March 17, 1948, at Whitechapel, Monkton, Ayrshire, John Rowan M.B. C.M.Glas., F.R.F.P.S.Glas.
Smith.—On March 12, 1948, at a Glasgow Hospital, Angus Dalrymple Smith F.R.C.S.Ed., of 3, Millgate, Richmond, Yorks, aged 47.
Todd-White.—On March 12, 1948, at Broomhills, Broomhill Road, Woodford Green, Arthur Thomas Todd-White, M.R.C.S., L.R.C.P., aged 73.
Williams.—On March 8, 1948, David Owen Williams, M.B., Ch.B., of Clwyd Hall, Glandyff, Cards, aged 77.

EPIDEMIOLOGICAL NOTES**Anti-cholera Vaccination Requirements**

An Order which came into force in Italian Somaliland on Oct. 25, 1947, directs that: (1) every person entering the territory of Somalia from Egypt, India, or Pakistan, other than a person in transit by air, shall be in possession of a certificate signed by a recognized medical practitioner stating that he has received a second inoculation against cholera not more than six months and not less than six days prior to the date of entry; (2) every person in transit by air through the territory of Somalia from Egypt, India, or Pakistan when not in possession of a valid certificate shall be subject to medical examination and will be allowed to proceed unless upon such examination he is suspected to be suffering from cholera.

Notification of Measles and Whooping-cough

A fee of 2s. 6d. instead of 1s. will now be paid for notifying the medical officer of health of a case of measles or whooping-cough met with in private practice. Though the compulsory notification of these diseases was regarded as likely to be temporary when it was introduced during the war, the Minister of Health considers that it should be retained, and he has therefore made the notification fee conform to the statutory rate.

Discussion of Table

In *England and Wales* an increase occurred in the incidence of whooping-cough 351, acute pneumonia 139, and dysentery 29, while a decrease was recorded for measles 339, scarlet fever 42, and diphtheria 27.

The notifications of whooping-cough over the past three weeks have been at the highest level since 1941. During the week under review the largest rises were those of Warwickshire 85 and Surrey 71. No large fluctuations occurred in the local returns of acute pneumonia, but a small increase was recorded in most areas.

After rising for seven consecutive weeks a fall was reported in the number of notifications of measles; the largest decreases were those of Northamptonshire 94, Gloucestershire 91, and Lincolnshire 91. Only small variations occurred in the local returns of scarlet fever; the largest was an increase of 40 in Wiltshire. The only feature of note in the returns of diphtheria was a decrease of 17 in Lancashire.

Two new outbreaks of dysentery were notified during the week, one involving 43 persons in Berkshire, Abingdon M.B., and the other 29 persons in Glamorganshire, Cardiff C.B. The other large returns of dysentery were Yorkshire West Riding 37 (Sheffield C.B. 23, Brighouse M.B. 10); Lancashire 28; and London 23.

The only areas with more than one notification of acute poliomyelitis were London 4 (St. Pancras 2); Wiltshire 2; Middlesex 2; and Warwickshire 3 (Birmingham C.B. 3).

In *Scotland* a fall in the number of notifications was recorded for measles 161, scarlet fever 28, cerebrospinal fever 12, and diphtheria 10, while a rise occurred in the incidence of acute primary pneumonia 43 and dysentery 35. The largest returns of dysentery were in the cities of Edinburgh 18, Glasgow 14, Paisley 14, and Aberdeen 10. The rise in the incidence of pneumonia was contributed by the western area.

In *Eire* an increase occurred in the incidence of diarrhoea and enteritis 16 and pneumonia 16, while a decreased incidence was reported for whooping-cough 22. Three-quarters of the cases of diarrhoea and enteritis were notified in Dublin C.B. Whooping-cough was slightly less prevalent in all areas except Dublin C.B., where a rise of 9 occurred.

In *Northern Ireland* a decrease of 14 was recorded in the notifications of scarlet fever.

Quarterly Return for Scotland

During the December quarter the birth rate was 19.5 per 1,000, being 2.6 below the rate for the corresponding quarter of 1946 but 1.3 above the average of the five fourth quarters of 1942-6. The infant mortality was 57 per 1,000 registered live births—1 more than that for the December quarter of 1946 but 6 less than the five years' average. The maternal mortality was 1.4 per 1,000 total births and was the lowest rate recorded for any quarter. The general death rate was 12.3 per 1,000, and was 0.4 below the average of the five preceding fourth quarters. The death rate from all forms of tuberculosis was 77 per 100,000 and that from respiratory tuberculosis was 67. The former was 2 lower than that for the fourth quarter of 1946, and the latter was the same as in that quarter, but they were respectively 6 and 9 above the five years' average. The largest number of deaths from epidemic diseases were 29 from influenza, 21 from cerebrospinal fever, 16 from measles, 10 from whooping-cough, and 9 from diphtheria.

The provisional return for the whole of 1947 shows that the birth rate of 22.0 per 1,000 was the highest recorded since 1923. The infant mortality was 56 per 1,000 live births; this rate was 2 above that for 1946, and with this exception it was the lowest rate ever recorded in Scotland. Maternal mortality was 2.0 per 1,000 total births and was the lowest rate ever recorded. The general death rate was 12.9 per 1,000 and was 0.3 above the average of the five preceding years. The death rate from all forms of tuberculosis was 80 per 100,000, and for respiratory tuberculosis the rate was 66. These rates were 3 and 7 respectively above the average of the five preceding years. Deaths from epidemic diseases included 345 from influenza, 223 from whooping-cough, 130 from acute poliomyelitis and polio-encephalitis, 88 from cerebrospinal fever, 57 from measles. Only 44 deaths were attributed to diphtheria, the smallest number ever recorded in Scotland. In 1940 deaths from diphtheria numbered 676. Deaths from diarrhoea and enteritis at ages under 1 year numbered 1,123.

Week Ending March 20

The notifications of infectious diseases for England and Wales during the week included: scarlet fever 1,847, whooping-cough 3,304, diphtheria 173, measles 10,034, acute pneumonia 963, cerebrospinal fever 49, acute poliomyelitis 20, dysentery 170, paratyphoid 2, and typhoid 6.

No. 11

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended March 13.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) *England and Wales* (London included), (b) *London* (administrative county), (c) *Scotland*, (d) *Northern Ireland*, (e) *Eire*.

Figures of Births and Deaths, and of Infant Mortality, for the week and those for the corresponding week last year, for: (a) The 126 great towns in England and Wales, (b) *London* (administrative county), (c) The 16 principal towns in Scotland, (d) The 13 principal towns in Eire, (e) The 10 principal towns in Northern Ireland. A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	55	5	25	1	1	107	9	34	7	2
Deaths ..	—	—	—	—	—	—	—	—	—	—
Diphtheria ..	173	19	50	13	8	184	9	54	16	3
Deaths ..	2	1	—	—	—	3	1	—	—	—
Dysentery ..	213	23	72	2	—	73	7	16	—	—
Deaths ..	—	—	—	1	—	—	—	—	—	—
Encephalitis lethargica, acute ..	1	—	—	—	—	1	1	—	1	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Erysipelas ..	—	—	40	4	3	—	—	35	5	3
Deaths ..	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years ..	50	6	11	36	2	97	9	15	31	1
Deaths ..	—	—	—	2	—	—	—	—	11	—
Measles* ..	8,449	1257	614	78	39	11,269	499	227	26	104
Deaths† ..	—	—	2	1	—	19	—	—	—	2
Ophthalmia neonatorum ..	42	3	13	—	—	78	9	28	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever ..	3	—	1 (B)	—	—	5	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenza ..	933	49	4	6	8	1,076	81	18	21	7
Deaths (from influenza)‡ ..	31	8	—	—	—	80	10	10	3	2
Pneumonia, primary ..	293	71	320	38	8	102	295	48	—	20
Deaths ..	—	—	6	—	—	—	—	—	—	—
Polio-encephalitis, acute ..	—	—	—	—	—	—	1	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Poliomyelitis, acute ..	20	4	2	4	—	5	1	—	3	—
Deaths§ ..	1	—	—	—	—	—	—	—	—	—
Puerperal fever ..	—	2	10	—	—	—	15	—	1	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia|| ..	120	9	7	—	—	148	7	9	—	1
Deaths ..	—	—	—	—	—	—	—	—	—	—
Relapsing fever ..	—	—	—	—	—	—	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Scarlet fever ..	2,027	123	319	50	46	1,336	114	215	19	40
Deaths† ..	—	—	—	—	—	2	—	—	—	—
Smallpox ..	—	—	—	—	—	2	1	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Typhoid fever ..	4	1	—	3	1	6	—	1	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Typhus fever ..	—	—	—	—	—	—	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Whooping-cough* ..	3,418	236	49	41	15	2,407	252	384	193	17
Deaths ..	15	2	2	—	—	22	1	9	9	3
Deaths (0-1 year) ..	380	55	61	23	12	630	80	85	76	22
Infant mortality rate (per 1,000 live births) ..	—	—	—	—	—	—	—	—	—	—
Deaths (excluding stillbirths) ..	5,581	988	680	205	140	7,456	1276	915	—	194
Annual death rate (per 1,000 persons living) ..	—	—	13.7	12.8	—	—	—	19.0	25.6	—
Live births ..	8,738	1491	986	463	215	10,166	1586	1164	—	315
Annual rate per 1,000 persons living ..	—	—	19.9	29.0	—	—	—	23.4	29.2	—
Stillbirths ..	240	23	36	—	—	317	40	38	—	—
Rate per 1,000 total births (including stillborn) ..	—	—	35	—	—	—	—	32	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

|| Includes puerperal fever for England and Wales and Eire.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Pelvic Osteitis after Prostatectomy

Q.—What is the pathology of the pelvic "osteitis" which occasionally follows prostatectomy? Does the inflammatory tide always stop at the ischial tuberosities? Is there any specific treatment other than penicillin in the febrile phase? What is the average period before, say, office work is (a) safe, and (b) comfortable? Are the radiological appearances distinctive?

A.—Pelvic osteitis following prostatectomy appears to be a subacute infective process starting in the periosteum near the symphysis and spreading to involve the symphysis and a variable length of the pubic and ischial rami. The infecting organism is not known with certainty. It is probable that *Bact. coli* is the most frequent offender; *B. proteus* and staphylococcal infections have also been reported. The area of osteitis is almost invariably limited to the pubic and ischial rami, but very occasionally the process may extend further, and may even reach the acetabulum, when the hip-joint may, exceptionally, become involved. In a proportion of cases an abscess forms in the soft tissues and may discharge for a variable period. The diagnosis can be established by radiological examination, though changes will not usually be observed until the infection has existed for two months or so. The characteristic changes consist of rarefaction of the pubic bone and often of the ischial rami; the symphysis may be widened and often has a moth-eaten appearance. Later there is new bone formation subperiosteally, giving the appearance of short bony spurs. In the stage of healing the symphysis may become ankylosed by bone.

The disease is self-limiting, and full recovery of function is to be expected. Most forms of treatment have no effect on its course. This often applies even to penicillin, which in most cases has given disappointing results, probably because the organisms responsible are insensitive. If the pain and muscle spasms are severe the most satisfactory form of treatment consists in the application of a double plaster hip spica, which is retained for two to six months. Chemotherapy should of course also be tried, though its effects are uncertain. Apart from these measures the only active treatment that may be required is the drainage of local abscesses if they occur. The period before return to work can be advised is so variable that no general rule can be given. In some cases recovery is complete in two to three months; in others the symptoms persist for up to two years. A probable approximate average period of disability would be six months from the development of symptoms. It should be safe to resume sedentary work as soon as short walking distances can be covered without marked discomfort.

Inheritance of Cystinuria

Q.—What type of inheritance is concerned in the hereditary abnormality in metabolism which causes cystinuria?

A.—The inheritance of cystinuria is not very clearly established. One difficulty is that the metabolic anomaly may be present without the formation of calculi and so biochemical investigation is required for its recognition. Nor does it seem to be established whether there is a relation between the frank and very rare disease and the relatively common excretion of small amounts of cystine as found by some workers in otherwise normal people. There is, in fact, little to add to Garrod's account of 1923 (*Inborn Errors of Metabolism*, 2nd ed., Oxford University Press). It seems certain that in some families at least inheritance is dominant, for several instances of direct transmission through three generations have been proved. On the other hand it seems likely that in some families inheritance is recessive. There is a marked preponderance of males among affected persons. Thin's remarkable pedigree (Robson, *Biochem. J.*, 1929, 23, 1938) includes two large sibships of first cousins, with three marriages between them. This pedigree

has the unusual distinction of fitting either dominant inheritance or sex-linked inheritance (with a high rate of expression in heterozygous females), or, with rather less likelihood, recessive inheritance.

Cases for the Coroner

Q.—(a) In many cases "the coroner has the power of holding a court without a jury if, in his discretion, it appears to be unnecessary. In charges of murder, manslaughter, infanticide, deaths of prisoners in prisons, inmates of asylums or inebriates' homes, or of infants in nursing homes, he must summon a jury." Is this a true and proper statement of the law in these cases as it applies to-day?

(b) What operative deaths should be reported to the coroner? At some hospitals all deaths that occur within twenty-four hours of an operation are reported, while elsewhere it is held that unless the death occurs "on the table" the coroner is not notified.

A.—(a) In ancient times every inquest was held with a jury, but the Coroners (Amendment) Act, 1926, Section 13 (1) allows of the jury being dispensed with at the discretion of the coroner except in certain types of case. These exceptions include those mentioned in the question quoted above, and also cases of death due presumably to accident, poisoning, or disease of a kind notifiable to a Government Department—e.g., certain industrial diseases such as lead poisoning—or to a street accident, and of death occurring in circumstances which may be "prejudicial to the health or safety of the public or any section of the public." This last provision enables the coroner to direct attention forcibly to any state of things which constitutes a risk of further injury or death to persons exposed to such conditions.

(b) Under Section 75 of the Registration (Births, Still-births, Deaths, and Marriages) Regulations, 1927, it is the duty of the registrar to report to the coroner any case of a death occurring following an operation for dealing with the results of an injury, or any death occurring at operation or before the effects of the anaesthetic have passed off. A hospital may make a rule that any death occurring within twenty-four hours of operation should be reported to the secretary or house governor, or a coroner may express a desire that any such deaths should be notified to him, but such arrangements have no statutory basis. The important thing to remember, however, is that any death which appears to be unnatural or to suggest circumstances of special danger to health or life should be brought to the notice of the coroner, who should be given an opportunity of making such inquiries as he may think proper.

Intravenous Procaine Analgesia in Obstetrics

Q.—What are the advantages, the dangers, the technique, or the indications for intravenous procaine analgesia in obstetrics?

A.—Only a few comparatively small series of cases in which intravenous procaine has been used to relieve the pains of labour have been recorded, so the method is still in an experimental stage and it is not yet possible to assess its value, dangers, and limitations. The effect of procaine given intravenously is very short-lived, so it is necessary to give the drug by continuous infusion. In one technique 10 g. of procaine are dissolved in 1 litre of 5% glucose in water and the intravenous drip is begun as soon as "pains" become distressing even if the cervix is only two to three fingers dilated. The rate of administration at this stage averages about 1 ml. per minute, but it has to be varied from time to time according to the reactions and sensations of the patient. When full unconsciousness is required as for the birth of the head, the application of forceps, or repair of episiotomy, the "drip" is allowed to run freely. The total dose naturally varies with the speed and duration of the infusion, but one patient is recorded as having had as much as 8 g. in six hours, and another had 9.5 g. in nine hours.

Intravenous procaine seems not to depress uterine contractions to any extent, and the patient recovers consciousness very quickly when its administration is discontinued. The degree of relief of pain depends on the rate of infusion, and it is claimed that the patient can co-operate well in the second stage even when there is considerable dulling of consciousness.

Amnesia is poor, however. Although early reports do not include cases in which either mother or child has shown significant ill effect, it is clear that the method is not without danger. When the dose is sufficient to give maximum relief the patient often has convulsions, but their incidence is reduced by preliminary medication with barbiturates, which is advised as part of the routine. It is also important to exclude a drug idiosyncrasy by skin and eye tests before beginning the intravenous drip. If the risks are to be reduced to a minimum it would seem necessary for a skilled observer to be in constant attendance during the several hours of treatment, ready always to stop the infusion and to administer antidotes (phenobarbitone and adrenaline). For further details reference might be made to papers by F. M. Allen (*Amer. J. Surg.*, 1945, 283, 290; *Cur. Res. Anesth.*, 1946, 25, 1) and by K. Johnson and C. R. A. Gilbert (*Cur. Res. Anesth.*, 1946, 25, 133).

Curare and Smooth Muscle

Q.—What is the effect of curare on smooth muscle, with special reference to uterine muscle?

A.—The general view is that curare has no action on smooth muscle, but there is evidence that this requires modification. Cross and Cullen (*Anaesthesiology*, 1945, 6, 231) found that "intocostrin" (1 mg. per kg.) caused peristalsis to cease for some time and brought about a loss of intestinal tone. These observations were made in unanaesthetized dogs with fistulae. Curare is believed to act on skeletal muscle by blocking the action of acetylcholine on the motor end-plate, and, since the intestine and other forms of smooth muscle such as the uterus also appear to contract by acetylcholine action, it is likely that they will be paralysed to some extent as well. Normally, smooth muscle is unaffected by doses which paralyse skeletal muscle, but it is reasonably certain that occasional subjects will be found in whom the smooth muscle is also affected. Whitacre and Fisher (*Anaesthesiology*, 1945, 6, 124) describe the successful use of curare with cyclopropane anaesthesia in 100 operations for caesarean section. They make no mention of an effect on the uterus.

Profuse Sweating in Acute Rheumatism

Q.—Can you suggest any treatment for profuse sweating in a case of acute rheumatism? A stout and flabby man aged 28 has had recurrent attacks of acute rheumatism lasting three months, with profuse bouts of sweating, tachycardia, and slight pyrexia. There is gross involvement of the endocardium of old standing. The pyrexia has settled and remained normal for over a month, and the heart rate at rest is 72, rising to 90 on effort, but the bouts of profuse sweating continue and cause anxiety.

A.—It is difficult to suggest any line of treatment in this case, but rest in bed or on a couch on a sunny balcony or similar situation for a long period appears to be advisable. No evidence is supplied on the sedimentation rate, which would be a guide to the presence of any active infective process. Endocrine disturbance is possibly responsible, but any specific line of treatment for this is hardly possible, though small doses of thyroid might be useful. General light massage may be helpful, and ultra-violet irradiation given cautiously, and beginning with very small exposure, should be tried. Vitamin C is usually deficient in these rheumatic conditions, and should be supplied. It is not stated whether salicylates are still being given; they might account for excessive sweating and should be stopped.

Lacrimal Hypersecretion

Q.—What is the best treatment for excessive secretion from the lacrimal gland as the result of exposure of the eye to cold or wind, especially when accompanied by high relative humidity? There is no sign of conjunctivitis or blockage of the nasal duct.

A.—Treatment is unsatisfactory. The excessive watering is probably due to hyperactivity of the lacrimal gland induced by the stimuli mentioned. Protective glasses may help. Drops of 1% sulphate 0.25% may likewise be useful where watering is persistent.

NOTES AND COMMENTS

Skin Graft for Leg Ulcer.—Dr. D. REID TWEEDIE (Sungei Siput, N., Perak) writes: In the reply (Jan. 24, p. 183) to the question on this subject there is no mention of penicillin dressings. I have yet to find the tropical ulcer, even of many years' duration, which does not respond to penicillin lotion. The first dressings are strong, 20,000 units per ml., and the later ones weak, 5,000 units per ml. The base soon becomes pink and healthy and in a few weeks granulates to the surface; then a whitish epithelium grows in from the edge and the ulcer is healed.

Aseptic Inoculation Technique.—Dr. R. S. TAYLOR (Paris) writes: With reference to the question and answer under this heading (Feb. 28, p. 425), many years ago, perhaps thirty, I saw in the *Journal* a method of sterilizing syringe and needle at the bedside with primitive materials—viz., a teaspoon, some oil (olive for preference, butter if nothing else), a candle, a bread crumb.

Put the bread crumb in the oil in the teaspoon and hold over the candle till the bread crumb chars. The oil may then be sucked into the syringe as many times as necessary. I have not tried to make a culture from a syringe or needle treated in this way, but do not think that any germ, even one which apparently enjoys being boiled, would consent to function after being charred. The syringe may be cleared of oil with a little ether.

Cataract.—Dr. E. E. D. GRAY (Anerley, London, S.E.) writes: I was interested in the questions and answers about cataract (March 13, p. 531). I have had operations on both eyes for cataracts. One result is unsatisfactory but the other is excellent. I am not able to give an opinion on parts (a) and (b), but about part (c) I can speak from experience. I can see 6/9 and J1 and I do not suffer from eyestrain on reading. As a physician I have no difficulty in using an ophthalmoscope. I am therefore able to do my ordinary work.

Car driving by day is a simple matter. I can judge distance by the size of familiar objects. Driving by night is altogether different. The familiar objects are not visible and I cannot judge the distance in front of me of the tail-light of a car or lorry. The lights also dazzle me. However, in the depth of the night when there is no traffic and the street lights are extinguished I can use my headlights and driving is almost as easy as in daylight. However, I avoid night driving as far as possible.

Nocturnal Frequency in Elderly Men.—Dr. E. GALLOP (London, S.W.) writes: The influence of habit is not mentioned in the answer to this query (March 13, p. 532). In the absence of obvious prostatic enlargement, infection, or loss of elasticity in an ageing bladder wall it is a factor which should not be disregarded. The timing of micturition is an easily conditioned reflex, but a few broken nights will upset it and nocturnal frequency soon becomes established, and then the bladder has to be retrained. This means putting up with discomfort for a few nights, which many will not tolerate when relief is so easy. A dose of n bromide and belladonna mixture on retiring will help as a urinary sedative until the new habit is formed.

Polish Children's Hospital.—The Polish Red Cross Society has decided to build a large modern hospital for children on the heights of Rakba near the Tatra mountains. The deplorable ravages wrought by the war in Poland have particularly affected the children, and such is the poverty of the land that no public or private funds are available for this necessary work. The Polish Red Cross Society is therefore appealing for funds, which may consist of money or of goods such as bedding and clothes. Any donations will be used exclusively for constructing and equipping this hospital, and they will be gratefully received by Mrs. J. Gorska, Polish Red Cross Society, 35, Roland Gardens, London, S.W.7.

Correction.—The remarks attributed to Dr. Irene Yates in the report of a meeting of the Section of Psychiatry of the Royal Society of Medicine (March 20, p. 558) were made by Dr. Sybille L. Yates.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Altholery, Westcent, London*. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY APRIL 3 1948

British Medical Association PROCEEDINGS OF COUNCIL

Wednesday, March 24

A meeting of the Council of the Association was held at B.M.A. House on Wednesday, March 24. Dr. H. Guy Dain presided, supported by the President (Sir Hugh Lett, Bt.), the President-elect (Sir Lionel Whitby), the Chairman of the Representative Body (Dr. J. B. Miller), and the Treasurer (Dr. J. W. Bone).

The deaths of four former members of the Council—Dr. J. B. Anderson, Dr. T. D. C. Barry, Dr. G. Y. Eales, and Dr. E. Lewys-Lloyd—were reported, and the Chairman was authorized to forward letters of condolence to their families.

Resolutions of Special Representative Meeting

The Council considered the resolutions of the recent Special Representative Meeting. Many of these reaffirmed the policy and course of action which the Council were already pursuing; others were referred for action to the Public Relations, the General Practice, and other committees.

On the resolution which condemned as grossly improper the bringing of pressure to bear upon individual doctors for political purposes to induce them to inform outside bodies of their intentions concerning the new service, it was agreed to bring the matter to the notice of the General Council of the Trade Union Congress, with which body the Association has a joint committee.

Reference was made to Sunday newspaper reports that doctors in Surrey were to be asked by the Surrey Federation of Trades Councils whether they intended to operate the Act, and it was added that this information was desired in order that all Surrey trade unions might advise their members to get on the lists of doctors who were taking part in the Service.

The Council unanimously passed a resolution condemning the action of the Surrey Federation of Trades Councils "as an improper attempt by one section of workers to bring economic pressure on another section to influence them in the exercise of a free decision granted by an Act of Parliament."

National Health Service

Dr. Vaughan Jones referred to statements published in newspapers in Yorkshire to the effect that Lord Addison was to be asked to act as arbitrator.

The Chairman of Council said that there had been no approach of any sort or kind from the Government. Such statements were the anticipations, intelligent or otherwise, of correspondents.

It was agreed that the present National Health Service Executive Committee, with the addition of four members of the Public Relations Committee who were not already Executive members, should handle the general conduct of the Council's work between meetings of the Council. It was pointed out that such work in the immediate future would be largely of a public-relations character.

Dr. Dain said that for the development of uniform action and as a temporary measure liaison committees of consultants were being set up. A large committee under the chairmanship

of Lord Horder had already been set up in London at the instigation of the Marylebone Division. That committee had passed a resolution stating that it considered it desirable to investigate the present Act with respect to the privileges and restrictions of the consultant and specialist section of the profession, and that the best possible legal opinion should be obtained to that end. It was agreed to make available to the London Liaison Committee the legal opinions already elicited when the subject was under consideration by the special sub-committee of the Negotiating Committee.

Consultant and Specialist Organization

Dr. J. A. Pridham, chairman of the Organization Committee, brought forward proposals for the formation within the Association of regional consultant and specialist committees and of a central committee which would take the place of the present Consultants and Specialists and Hospital Committees. He said that there would be general agreement with the idea that in the area of each Regional Hospital Board there should be a professional committee to represent the views of the profession on hospital and consultant and specialist services in the region. There was no statutory provision for the setting up of such committees as there was for local medical committees in the field of general practice. The majority of the members of such committees must be elected by practitioners engaged in consultant and specialist practice, and separate representation must be given to those of full medical staff status employed by hospitals within the region. The Organization Committee was proposing that not less than one-quarter of those elected to the committees by staffs of non-teaching hospitals should be part-time consultants and specialists. For the first year at all events the mode of election to these regional committees should be on the principle of representation of hospital staffs. After careful examination the conclusion had been reached that Branch machinery—in England and Wales, at any rate; in Scotland the circumstances were different—could not be effectively used in this work.

As for the central committee, whose function it would be to consider matters specially affecting those engaged in consulting or specialist practice, including matters referred from the regional committees, and all questions concerning hospitals, a majority of the members should be elected by the regional committees (the committee would be to some extent a replica from the consultant and specialist side, of the present Insurance Acts Committee), and there should also be representatives of the present Specialist Groups and of part-time consultants and specialists. (The proposals will be set out in detail in the Annual Report to be published in the Supplement of April 10.) The recommendations were supported by Mr. A. M. A. Moore and Mr. R. L. Newell, chairmen respectively of the present Consultants and Specialists and Hospitals Committees, but Mr. Newell made a plea that the word "hospital" should be incorporated in the name of the new committees. This plea found a good deal of support in the Council, but

Mr. Lawrence Abel, while agreeing that the committees must cover all aspects of hospital policy, suggested that the addition of the word "hospital" would make the name cumbersome.

An amendment to make the name "Regional Consultants and Specialists and Hospitals Committees" instead of "Regional Consultants and Specialists Committees" was defeated by 19 to 20, and a compromise was reached that the formal, though not the everyday, name of the new organization should be "Regional Consultants and Specialists (including Hospitals) Committees."

Speaking on the general question, Mr. Abel paid a tribute to Mr. Moore, Dr. Pridham, and Mr. C. E. Kindersley for the work they had done in connexion with this new set-up. He said that consultants hitherto had had no body at all to represent them democratically. He hoped that the new organization would be truly representative and that every consultant in the country would "look to Tavistock Square."

Dr. J. B. Miller asked whether it was not the fact that the percentage of consultants in the Association was greater than the proportion of general practitioners, and was informed that that was so.

Dr. Vaughan Jones hoped that with the establishment of these committees there would be no attempt to supplant Branch organization, in which both consultants and general practitioners could meet.

On the details of constitution Mr. Newell on behalf of the Hospitals Committee offered some criticisms. One was that medical superintendents should not, as was proposed, be specially represented on the regional committees but should be eligible for election as specialists in administration, and Dr. J. B. W. Rowe suggested representation of industrial medical officers, but this proposal was not accepted. The Council agreed that the proposals for regional committees should not apply to Scotland until the Scottish Committee had had a further opportunity of formulating its views, and that as regards the new Central Committee provision should be made for the appointment of not more than ten representatives of consultants and specialists in Scotland, the number and mode of appointment to be determined by the Scottish Committee and the Council.

The Council, having considered a petition of members of the Association for the formation of a Group of Venereologists, approved the establishment of such a Group composed of members engaged predominantly in practice in that field.

The Size of the Representative Body

Dr. Pridham, on behalf of the Organization Committee, proposed a recommendation for the reduction of members of the Representative Body to approximately 300, the Council to be instructed to submit a plan, with appropriate amendments to the by-laws, to give effect to such decision.

Dr. J. G. Thwaites objected to any diminution of numbers. The original idea was to have one representative for about 100 members, and that was a good basis to go upon. It seemed odd to diminish the representation because of the growth of the electorate. It was a healthy thing that as many representatives as possible should be appointed, for such people when they went back to their constituencies were good disciples of Association policy.

The Chairman pointed out that the House of Commons had had to face the same problem.

Dr. Pridham said that the basis would still be a minimum of one representative for each Division, but it seemed not unreasonable to cut down the representation of the large Divisions. Dr. E. A. Gregg thought that the case for making the optimum figure 300 was overwhelming. The governing considerations were the effectiveness of the Representative Meeting as a working body and also the limitation imposed by the size of the Great Hall of Association House or the halls available in provincial cities where the Annual Meeting might be held.

It was agreed, however, to refer back the proposal to the committee.

General Practice

Dr. S. Wand, chairman of the General Practice Committee, in order to bring the policy of the Association into line with the revised local authority part-time scale, moved a recom-

mendation that, where practitioners were requested to administer anaesthetics to insured persons receiving dental treatment as an additional benefit under the National Health Insurance Acts, a fee of from 30s. for each administration, depending on the length of operation and the anaesthetic used, should be paid. This was agreed to. It was also agreed that the fee for giving elementary lectures to the lay public on first-aid to the injured, home nursing, child care, and hygiene should be 1½ guineas.

Dr. W. E. Dornan, dealing with a reference in the General Practice Committee's report to fees for life insurance examinations, said that he had had complaints from doctors who did a fair amount of this sort of work that, although the Committee had obtained an increase in the fees payable, their income from relatively the same number of life insurance examinations had actually decreased. This was because of the large amount of insurances effected for between £100 and £250, for which the long-term examination fee was 1½ guineas and the short-term half a guinea. The insurance companies were now using the short form, and therefore the medical examiners were receiving less for the same amount of work.

Dr. Wand said that the short form entailed less than on third the amount of work. Dr. I. D. Grant said that the experience related by Dr. Dornan was not the usual one. It was only those dealing largely with industrial insurance who were using the short form, and the time taken over the short form was negligible as compared with the time taken over the long. He thought the General Practice Committee was to be congratulated on what it had achieved.

Insurance Practice

Dr. E. A. Gregg, chairman of the Insurance Acts Committee referred to the Maternity Benefit Regulations, 1948. The committee considered one or two of the provisions in the regulations to be objectionable and had brought them to the notice of the advisory committee, under the chairmanship of Sir Will Spens, which had been set up to consider and report on such representations. In one instance Sir Will Spens's committee had undertaken to consider the regulation in the light of the committee's objection, and in another a somewhat ambiguous wording had been cleared up.

Dr. Gregg reported that the National Insurance Deferment Trust had made an initial contribution of £400,000 to the Independence Fund.

Industrial Medicine

It was agreed to change the name of the Industrial Medicine Committee to the Occupational Health Committee and to widen its terms of reference to include "matters affecting the health of persons at work and the practice of medicine in industry and allied occupations."

Dr. Vaughan Jones brought forward recommendations for a scale of remuneration of part-time industrial medical officers. The scale included schedules for remuneration on an hourly per-week basis and on a sessional or visit basis. It was suggested in one quarter of the Council that the proposed rates were not properly related to the salary scales for whole-time industrial medical officers, but a motion to refer the matter was not seconded. A discussion developed on the advisability of basing remuneration on the size of the factory or on the length of sessions or on a combination of the two. The general feeling was that "timeage" was the only factor that really mattered, although in some factories a doctor might be expected to make himself acquainted with certain processes, for which special remuneration should be paid.

The recommendations were approved.

Public Health

Dr. James Fenton, chairman of the Public Health Committee, said that an agreement concerning salaries of mental hospital and mental deficiency institution medical officers had been negotiated with the local authority associations and the Mental Hospitals Association for such officers as were not covered by the Askwith awards. The increases were as follows: if the datum salary did not exceed £700, by 30% of that salary; if it exceeded £700 but not £1,000, by 20% of that salary; and if it exceeded £1,000, by 10%, provided that no officer should have an automatic entitlement to a total salary greater than

at produced by the addition to the maximum of the scale pay as at Sept. 3, 1939, for the position he occupied, of the appropriate percentage increase on the datum salary. The agreement was approved by the Council.

Dr. Fenton also reported that a further meeting had been held with Ministry of Health representatives to discuss the association's claim for a revision of fees payable to doctors killed in by midwives. The Ministry was unable to concede certain points, but increases in other directions were secured. He placed before the Council the proposals as amended, showing the improvement on the existing fees, and also how what had been conceded compared with the claim put forward. As was a matter of urgency the Chairman of Council, in anticipation of the present meeting, had given approval. The details will be found set out in the Annual Report of Council.

Since the document was issued, Dr. Fenton added, the draft regulations had appeared, and these departed in certain respects from the agreement arrived at with the Ministry. The Ministry as being interviewed on the subject on the following day. The Council endorsed the approval which the Chairman had given, and the negotiators, Dr. Fenton and Dr. Wand, were congratulated on their endeavours.

Association Finance

Dr. J. W. Bone (Treasurer) presented the financial statement for 1947. He said that the Association's buildings, after deductions for depreciation and amortization, were valued at 315,000. The investments stood at 171,000. The total assets were 1604,000. There was a handsome increase of 15,000 in subscriptions. The *Journal* showed a magnificent revenue of 162,000, and the profit on the *Journal*—27,749—was more than double the amount for the previous year. The warty journals and *Medical Abstracts* also showed satisfactory financial results. The income of the Charities Trust had risen from 7,500 to 11,500.

Dr. Bone said that the Finance Committee had considered a reference from the Annual Representative Meeting that the increase had arrived when an increase in subscription rates should be contemplated, but in the view of the Committee the financial position as disclosed by the annual accounts did not justify any immediate action in this respect. It might well be, in view of the greatly increasing expenses of the Association, that the raising of the subscription would have to be considered a little later.

The Council decided that an initial sum of 100,000 from association funds should be placed at the disposal of the Independence Fund.

A report by the Financial Hardship Committee, set up to consider what financial aid might be needed by practitioners should the present dispute be prolonged, was presented by Mr. A. Brown. The Committee had found it impossible at present to predict the extent of possible hardship, but it felt that the problem was not of such magnitude that it could not be dealt with adequately from available funds. The setting up of the Independence Trust had made further work by the committee unnecessary.

Public Relations

The Council discussed certain present and projected public relations activities. The suggestion was put forward that a mass meeting for the general public should be held at the Albert Hall on May 20, and this was welcomed in several quarters of the Council. It was also stated that a 20-page handbook giving chapter and verse, with appropriate quotations, for every point in the Association case was being prepared. Posters and leaflets would also figure in a large publicity campaign, anticipating the expected Government activity. Other methods of publicity were indicated.

Science

Dr. R. G. Gordon presented the report of the Science Committee. A recommendation was agreed to that the Sir Charles Hastings Clinical Prize for 1948 be awarded to Dr. J. G. Nathan, of Stoke-on-Trent, for his essay, "Body Weight as an Index of Toxaemia During Pregnancy."

Discussion took place on a proposal that in future an honorarium, in addition to first-class travelling expenses, be

paid to B.M.A. lecturers. This was opposed by Dr. Pridham, who pointed out how steeply the expenditure of the Association was rising, and said that no difficulty had been found in the past in obtaining first-class lecturers without this inducement.

A motion to refer back the proposal was lost.

The Council agreed that a special committee should be set up, along the lines of the Medical Curriculum Committee, to consider the preparation of a report on postgraduate education, but it did not proceed to appoint the committee at the moment.

The Association in Scotland

Dr. G. MacFeat, for the Scottish Committee, reported that some progress had been made with local authorities in Scotland concerning interim increases in salaries of whole-time members of the Public Health Service recommended by the Association.

He also stated that practitioners in the Highlands and Islands had held a meeting recently concerning their position under the National Health Service (Scotland) Act. Certain difficulties arose concerning the houses in which they lived and which belonged to the local authority. They were holding another meeting, and in the meantime it had been decided that the Scottish Negotiating Committee should be asked in any future discussions with the Department of Health to press for the appointment of a Highlands and Islands Standing Advisory Committee of the Scottish Health Services Council.

Ethical Business

Dr. Waterfield mentioned a communication which had been received from the Engineering and Allied Employers' National Federation concerning pre-employment examinations and disclosure of findings to examinees. The Occupational Health Committee, which had already considered the matter, held that when an industrial medical officer had examined a person with a view to employment there was no objection to the disclosure of his findings to the patient and to the patient's medical attendant when requested. The view of the Central Ethical Committee was that where applicants for employment were rejected on medical grounds by the works medical officer and desired to be informed of the reason for their rejection, provided there was no objection by the employing body, the medical officer should acquaint the patient's own doctor and the patient should be given the reason by his medical attendant.

Dr. Vaughan Jones considered that the disclosure should not be made by the patient's own doctor; the industrial medical officer should be allowed to state to the applicant in non-technical language the reason for his exclusion from employment. On the other hand, Dr. Thwaites and Dr. Grey considered that the information could most satisfactorily be given by the man's own doctor, who could give it with better understanding of the patient's personality and circumstances.

The general view of the Council was that the industrial medical officer should inform the patient only of his unsuitability for employment by reason of the occupation and that there should automatically be a reference to the patient's own doctor, who should be told the reason for the man's rejection.

British Commonwealth Medical Council

It was reported that the Council's invitation to the Branches and Medical Associations in the Dominions to co-operate in the establishment of a British Commonwealth Medical Council to foster a closer liaison between the profession in the United Kingdom and the Dominions had been warmly received, and the following bodies had agreed to appoint delegates to an inaugural meeting to be held in London during the current year: the Canadian Medical Association, the Federal Council of the Association in Australia, the New Zealand Branch, the South African Medical Association, the Medical Association of Eire, and the Newfoundland Medical Association.

The President (Sir Hugh Lett) said that in South Africa the reactions to the proposal for a British Commonwealth Medical Council had been enthusiastic. The Minister of Health in South Africa had shown great interest in the subject. People in the Transvaal as well as in the Cape warmly welcomed the idea; they had hitherto felt isolated; they very seldom saw anyone from Australia and never from Canada. In the

Transvaal the hope was expressed that it would be possible to combine the inaugural meeting with a scientific meeting. Some very good work was going on in South Africa, and there was much to be learned from the people there. It was an extraordinarily fine thing that during the last eighteen months, notwithstanding its great preoccupations, it had been possible for the Council to sponsor two such movements as the Empire Medical Advisory Bureau and the British Commonwealth Medical Council, both of which, he thought, would lead to very valuable results.

Promotions

The Council, on the recommendation of the Staffing Committee, promoted Drs. A. Macrae and D. P. Stevenson to be Deputy Secretaries of the Association as from April 1, 1948. It further resolved that the Scottish Secretary enjoy the status of a Deputy Secretary of the Association.

Other Business

The Council approved a Humble Address to be presented to the King and Queen on the occasion of their Silver Wedding.

Consideration was given to a suggestion by the Office Committee that the payment of a registration fee should be required of members attending Annual Meetings of the Association. Dr. Dain said that the former system of a guarantee by members of the Association in the locality of the Annual Meeting was somewhat outmoded. A great burden of work in any case fell upon the hosts, and it was not reasonable to require them to pay or guarantee the expense of the meeting in addition. After a short discussion the Council agreed that, as an experiment for one year, a registration fee of one guinea should be charged to members attending the Annual Meeting, but that members of the Representative Body should be exempted from this charge.

It was agreed that the title of the Dominions Committee should be altered to "The Colonies and Dependencies Committee." This followed from the proposal to establish a British Commonwealth Medical Council, which will deal more particularly with the development of co-operation with the Dominions.

The Council agreed to recommend to the Colonial Secretary the name of Col. A. H. Proctor as one eminently suitable to serve on the Colonial Advisory Medical Committee. The Secretary of State had asked the Association to submit names for consideration by him when making future appointments to that body.

On the proposal of the Armed Forces Committee it was agreed to recommend to the Representative Body the names of Major-General Sir Percy S. Tomlinson and Air Commodore J. Kyle as R.A.M.C. and R.A.F.M.S. representatives on the Council for a term of three years.

A report was submitted by the Film Committee, and the Council gave authority for the purchase of a sound projector and of suitable films for copying and placing in the Film Library on the understanding that a certain expenditure would not be exceeded.

The Council unanimously and with acclamation agreed to recommend to the Representative Body that Dr. Peter Macdonald, of York, and Prof. R. M. F. Picken, of Cardiff, be elected Vice-Presidents of the Association.

The late Service member returns in the plebiscite were announced. These were received from Service members after the closing date, and showed: Approvals 30, disapprovals 239.

It was intimated that Dr. J. H. Bruce, an Assistant Secretary, was resigning his position in view of his desire to take up general practice. The Council appointed Dr. E. Grey Turner, the son of Prof. G. Grey Turner, as an Assistant Secretary of the Association.

A report by the Committee on Nursing, embodying a memorandum on the recruitment and training of nurses to be submitted to the Ministry of Health by the Association in conjunction with such of the other independent bodies represented on the committee as might be willing to join, was presented to the Council by Dr. Mary Esslemont, and was approved. The Chairman congratulated Dr. Esslemont and her Committee on a constructive contribution to the nursing problem.

Other reports dealing with routine matters were from the Committee on Psychiatry and the Law (Dr. Thwaites), the

Journal Committee (Dr. Carter), the Hospitals Committee (Mr. Newell), and the Consultants and Specialists Committee (Mr. Moore).

Messrs. Hempsons were reappointed solicitors to the Association.

The final business of the Council was to approve the draft Annual Report, subject to adjustment in accordance with the decisions of the meeting, and the Council rose at 6.15 p.m.

THE NORTHERN IRELAND HEALTH SERVICE

BY

N. S. DICKSON, M.B.

AND

H. I. MCCLURE, F.R.C.S.Ed.

The main responsibility for the administration of the Service is vested in two bodies: (1) the General Health Services Board and (2) the Hospitals Authority. These bodies have delegated to them by the Minister the responsibility for the organization and day-to-day administration of the respective sections of the Service. They will perform these functions within regulations to be framed in consultation with the profession and various other interests. In addition provision is made for linking up the county and county borough health authorities with the activities of these two boards and for the performance by these health authorities of certain specific functions in relation to maternity and child welfare, health visiting, etc. Tuberculosis services are administered separately by the Northern Ireland Tuberculosis Authority in co-ordination with the Hospitals Authority.

General Health Services Board

The services covered by this Board include those of the family doctor, dentist, and chemist.

All members are appointed by the Minister of Health after consultation with the interest concerned. The Board will consist of a chairman, vice-chairman, and 16 to 24 other members. Doctors, dentists, and chemists will constitute one-half of the Board, the other half being laymen. The medical members will be general practitioners in active practice, and they will have not less than one-half of the places allocated to professional members. There will in addition be one or more persons representative of the hospitals authority.

The Board has full responsibility for the appointment of its staff—i.e., as to numbers, qualifications, and remuneration—subject to certain prescribed exceptions.

Functions

The functions of the Board are as follows:

- Responsibility for the day-to-day administration, including preparation and maintenance of lists of general practitioners undertaking to provide general medical services and maternity services.
- Establishment, equipment, and maintenance of health centres in such areas they think necessary (subject to approval of the Ministry of Health), at which the following facilities may be provided: (1) general medical services; (2) general dental services; (3) specialists and other out-patient services; (4) services required or authorized to be provided by health authorities, and educational authorities in relation to clinics and dispensaries.
- Provision of courses of instruction for persons providing any services under General Medical Services part of the Act or arrangements with universities, medical and dental schools, etc., for such courses.
- Provision of information and instruction and advice on matters relating to health and disease.

Provisions of Act for General Health Services

1. The right of every doctor resident in Northern Ireland to be included in the Service if he so wishes. It also entitles him to practise privately as well as taking part in the Service or to remain outside the Service and conduct private practice solely.

2. Freedom to practise in the place of his choice.

3. The doctor's contract to provide personal medical services will be with the General Health Services Board.

- The right of every general practitioner to be included on panel of general practitioners providing maternity services of general practitioners undertaking to provide medical assistance for midwives, if so requested by the midwife.
- A separate contract with the Board for the provision of maternity services with payment of a separate fee for each case.
- Remuneration to be entirely by capitation fee for each person on a doctor's list.
- Right of every person to choose his medical practitioner in accordance with the prescribed procedure.
- Special remuneration for doctors in special areas—i.e., densely populated.
- The capitation fee to be the same as in Britain.
- Right of appeal to the High Court from any decision of Tribunal relating to any person included in any list prescribed under the Act.
- Compensation for the loss of goodwill consequent on abolition of the sale of practices. This compensation to be on a parity with that of doctors in Britain, with provision for settlement by arbitration in the case of any dispute.
- Buying and selling of practices in Northern Ireland is provisionally abolished in agreement with the profession in N.I.
- The right of ownership be restored in Great Britain.
- N.I. Act will be amended to bring it into line with Great Britain. Further, no restrictions are included relating to the sale of doctors' houses or to existing partnership agreements.
- Interest at the rate of 2½% per annum will be paid annually from the appointed day until the time when compensation is paid.
- The transfer of dispensary property and compensation for dispensary medical officers for loss of office.
- Freedom of speech and publication.

Health Authority Provisions

- 1. (a) Arrangements for care, including dental, of expectant and nursing mothers and children not of school age. (b) Provision for services of general practitioners and midwives in patients' homes (if so requested) before, during, and after childbirth. (c) Health visitors. (d) Domestic help. (e) Arrangements with general practitioners for vaccination and immunization in area of each health authority.
- 2. In order to secure provision of these services the health authority may make arrangements with the Board, authority, any body or persons whose object is the provision of these services, and in addition a health authority may make provision for giving opportunity to: (a) any general practitioner providing general medical services to provide medical treatment and supervision; (b) any dentist providing general dental service to provide dental treatment and supervision; (c) any chemist to provide drugs, medicines, etc., for the purpose of functions of the health authority, including provision by doctors and dentists of part-time services at clinics or health centres, or, if needed, in the patient's home, or at the doctors' dentists' surgeries.

Dental Services

- The Board has a duty to make arrangements with dental practitioners for the provision of general dental treatment and appliances (subject to regulations). The provisions include:
 - Right of every dental practitioner resident in Northern Ireland to be included in the list of those providing general dental services;
 - (b) right of every person to choose his dental practitioner in accordance with the prescribed procedure.

Pharmaceutical Services

- No arrangement may be made by the Board with doctors or dentists (a) to provide pharmaceutical services to persons whom they are rendering general medical or dental services with certain prescribed exceptions; (b) for dispensing medicines except by chemists.

Hospital and Specialist Services

- The main principle underlying the hospital and specialist services part of the Act is that there will not be State ownership of the hospitals of Northern Ireland, but a unification of hospital service under the guidance and control of a voluntary

tary body, the Northern Ireland Hospitals Authority. While the hospitals and equipment will be vested in this body, the management of each hospital will remain very much as at present—that is to say, there will be at least a majority of the present personnel of the existing Committees of Management on each future Management Committee. The funds and endowments of each hospital will remain with each Management Committee to be used at the discretion of the Committee to supplement the essential maintenance of the hospital, which will be defrayed out of funds voted by Parliament on the recommendation of the Hospitals Authority and with the approval of the Ministries of Health and Local Government and Finance. All funds and endowments at present owned, or in future received, by each Hospital Management Committee will not be interfered with by the Hospitals Authority or the State, but will be used to supply amenities, including non-essential equipment and apparatus.

The Hospitals Authority will consist of those having practical experience in the management of hospitals, and will comprise persons nominated for appointment by the Minister of Health and Local Government, by the Queen's University of Belfast, and by organizations recognized by the Minister of Health as representative of the medical profession, and in particular of those members of that profession who are specialists, the Northern Ireland General Health Services Board, and representatives of the dental, nursing, and pharmaceutical professions, together with a person or persons appointed after consultation with the Northern Ireland Tuberculosis Authority. It will thus be seen that the Minister looks to those already experienced in hospital work, notably the present Management Committees and the medical staff, for the unification of the new hospital service. Not less than one-third of the members of the Authority shall be medical practitioners.

The first duty of the Authority will be to prepare in consultation with the Ministry of Health a scheme for a comprehensive hospital and specialist service, including, in collaboration with the Queen's University, Belfast, schemes for clinical medical and dental teaching and medical and dental research. Each Hospital Management Committee will be appointed by the Hospitals Authority after consultation with the various interests concerned, and will include representatives of the local health authority, the General Health Services Board, the medical and dental staff of the hospital, and the various voluntary organizations associated with the hospital. The chairman and vice-chairman will be elected by the members of the committee. It will be seen that the policy of the Government is being observed by "the maximum assistance with the minimum interference."

Each Management Committee will submit to the Hospitals Authority a scheme for its own administration and development, including provision for paying patients' beds and assisted-payment beds. Authority is contained in the Act for members of the medical staff to treat their own paying patients in hospital. Further provision is made for the retention of existing pay-beds and the addition of the pay-beds in the future. The Hospitals Authority may for the purpose of economy and efficiency extend existing hospitals, build new hospitals where required, and close down redundant or ineffective hospitals. The important keynote of the hospital services is the retention of its voluntary characteristics, for throughout the whole scheme the Minister relies on the continuance of the voluntary effort, particularly in regard to social medicine.

The Consultants and Specialists Group of the B.M.A., Northern Ireland, appreciate the action of the Minister in providing that appointments under the Hospitals Authority should be made through the assistance of an advisory appointments panel.

The great advantage of the comprehensive hospital services scheme as provided for in the Act is that it ensures for the hospital security from financial anxiety and the opportunities of development on sound lines with the assistance of those experienced in hospital administration and with the minimum of State interference. All this has been accomplished, notwithstanding over 400 amendments set down for the Committee stage of the Bill, by common sense, good will, and the mutual desire on the part of the Minister, the Rt. Hon. William Grant, his officials, the medical representatives, and all those other bodies intimately connected with health services in general to

produce for the benefit of the community the best possible comprehensive health service.

The B.M.A. Northern Ireland Branch have acknowledged their appreciation of the courtesy and help in negotiation and discussion extended by the Minister of Health and Local Government and his senior officials and appreciate their continued readiness to work in the closest collaboration for the future success of the Health Services Act (Northern Ireland).

The B.M.A. Northern Ireland Branch must also acknowledge the yeoman service rendered in the Committee stage of the Bill of the following Members of Parliament: Dr. G. Dougan, Mr. Howard Stevenson, Mr. Herbert Quin, and Lieut.-Col. A. R. Gordon.

In conclusion it may be helpful to set out the differences between the English and Northern Ireland Acts.

	England	N. Ireland.
Remuneration by capitation without basic salary	Not conceded	Conceded
Appeal to the courts	" "	"
Right of every registered general practitioner to be included in the Service	" "	"
Freedom to practise in the place of his choice	" "	"
Retention of ownership of practices	" "	Provisionally abolished
Removal of restrictive clause dealing with sale of doctors' houses; partnership, and assistantships	" "	Conceded
Retention by individual Hospital Management Committees of all endowments held by any hospital	" "	"
Permissive power to make regulations concerning remuneration, qualifications, and terms of service of any officer employed by any body under the Act	Conceded	Not conceded

HEARD AT HEADQUARTERS

Unwieldy

Something will have to be done about the size of the Representative Body. It has more than doubled itself in 25 years. At the Special Representative Meeting 384 representatives were present, or were entitled to be present, from home Divisions, and to these must be added on an ordinary occasion some 68 more from overseas. The increase, of course, is due to the remarkable growth of the Association and to the operation of the by-law which provides that every constituency of not less than 150 members is entitled to elect one additional representative for each complete 100 members in excess of 50. This enables some constituencies to bring along almost a cup-tie team to Tavistock Square. The accommodation in the Great Hall was severely taxed on the occasion of the S.R.M., when some representatives had to sit in the gallery. The Organization Committee is contemplating a scheme which would reduce the number of representatives to some 300, at which it stood before the war.

Fearsome Agenda

Also in need of attention is some drastic change in the agenda of the Representative Body. There is an Agenda Committee, but its function is limited to recommending the precedence of certain subjects. As matters stand every resolution coming from a Division is regarded as sacrosanct even though a dozen similar resolutions are on the agenda, and if the resolution is not moved the representative is given the right to speak to the one which is taken in its stead. This not merely prolongs the proceedings, but tends to stereotype them. It is difficult to suggest what can be done about it other than a self-denying ordinance by representatives themselves. Some political and trade union organizations have a committee in almost continuous session during their conferences dissecting the agenda and framing composite resolutions which sometimes short-circuit whole pages of motions.

Big Figures

The financial statement for 1947 which was submitted to the Council last week illustrated again the great strength of the Association. The subscriptions are up by £15,000. The *Journal* shows a handsome balance of nearly £28,000, more

than twice as much as the year before. On the other hand expenses increase steeply. The Association is one of the greatest patrons of the railways in this kingdom, and the £1,500 out of the Association's pocket for central meetings.

Co-operation with Dentists

One resolution before the recent Representative Meeting called for liaison with the British Dental Association, which is conducting its own fight over the National Health Service in its present form. Its Representative Board has recommended members not to accept service unless there are amendments. We believe that fields in which the two Associations could fully co-operate are being explored. One of them is obviously public relations, and another the interchange of information regarding any discussions with the Government. The British Dental Association represents about 60% of the members of the dental profession.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Poplar.
Non-County Borough Councils.—Dartford, Radcliffe (limited to future appointments), Tottenham, Wallsend.

Urban District Councils.—Denton, Droylsden, Houghton-le-Spring, Huyton-with-Roby, Portslade, Redditch (restricted to new appointments), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

RETURN TO PRACTICE

The Central Medical War Committee announces that Mr. Stuart Feggetter, M.S., F.R.C.S., has resumed civilian practice at 1 Brandling Park, Newcastle-upon-Tyne.

Association Notices

Diary of Central Meetings

APRIL

8 Thurs. Publishing Subcommittee, 11 a.m.

15 Thurs. Journal Committee, 2 p.m.

Branch and Division Meetings to be Held

NORTH OF ENGLAND BRANCH.—At Royal Victoria Infirmary, Newcastle-upon-Tyne, Thursday, April 8, 8.15 p.m. "A. Questions?" Question Master: Prof. E. Farquhar Murray. Speakers: Prof. R. V. Bradlaw, Mr. C. Gordon Irwin, Prof. J. Kennedy, Mr. F. McGuckin, Drs. Gavin Muir, J. B. Tilley, and H. F. Wattsford.

STOCKTON DIVISION.—At Stockton and Thornaby Hospital, Bostfield Lane, Stockton-on-Tees, Monday, April 5, 8.30 p.m. Clinical meeting.

Meetings of Branches and Divisions

MORPETH DIVISION

A meeting of the Morpeth Division was held on March 1. The chairman, Dr. Spence, introduced Mr. W. Grant Waugh and invited him to address the meeting.

Mr. Waugh began by showing a talking film in which he demonstrated and described the treatment of arthritis by the acidification of joints. Dr. Cowan, who works with Mr. Waugh at Sunderland Infirmary, described other methods of treatment used either instead of or to supplement the acid injections. Mr. Waugh then showed another film, which had been made at the Royal Free Hospital illustrating various modern aids for cripples.

Dr. Noble proposed a vote of thanks to Mr. Grant Waugh and Dr. Cowan, and this was cordially given.

The following have been appointed chairmen of Hospital Management Committees for certain hospital groups within the S.E. Metropolitan region: Camberwell: Mr. Harold Gibbons; Bermondsey and Southwark: Prof. T. B. Johnston; Greenwich and Deptford: Mr. E. C. Sherwood; Lewisham: Mr. Walter R. Owen; Woolwich: Alderman S. C. C. Harris; Sidcup and Swanley: Dr. Charles F. Brook; Dartford: Mr. W. L. Parry; Gravesend and Medway: Alderman R. W. Rule; North-east Kent: Alderman the Rev. Harcourt Samuel; Tunbridge Wells: Alderman R. H. Burrell; Orpington and Sevenoaks: Mr. Henry J. Lester; Bromley and Farnborough: Mr. Arthur Collins; Hastings: Councillor Mrs. A. Farnfield; Eastbourne: Mr. G. F. Bowes; Brighton and Loughborough: Mr. J. C. Gaukroger; Seamen's: Mr. F. A. Baker.

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CHEMOTHERAPY OF CHOLERA WITH A NEW SULPHONAMIDE COMPOUND ("6257")

LABORATORY INVESTIGATIONS AND FIELD TRIALS

BY

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For a number of years Rogers's hypertonic saline and palliative drug therapy has formed the sheet anchor for the treatment of cholera. Recently sulphaguanidine has been aligned to it, particularly through the efforts of workers in Bengal, and has given encouraging results (Chopra *et al.*, 1941; Carruthers, 1942; Misra, 1944; Huang, 1944; Lahiri, 1945; Seal, 1946, 1947; and others).

An observation by one of us (S.S.B.) since 1939, that hexamethylenetetramine in a 10% solution in normal saline killed cholera vibrio in less than half an hour up to a concentration of 1 in 10^{12} , resulted in the production of a few compounds of hexamine linkage to sulphanilamide experiments with which on animal and human cholera infection, though interrupted by conditions of field service, gave hope of successful chemotherapy against this disease. From a chance discussion with the scientific department of Ciba (Basle) it transpired that their investigators (Meier, 1946; Druey, 1948), after studying a large series of sulpha derivatives of low solubility, had condensed a product—"6257"—of two molecules of sulphathiazole ("cibazol") and three molecules of formaldehyde with the formula $C_{21}H_{22}O_6N_6S_3$, the molecular configuration not having yet been worked out. The present study relates to *in vitro* and *in vivo* experiments with this compound against the cholera vibrio and to field trials on human cholera infection.

Laboratory Investigations

Culture.—The Inaba and Ogawa strains of *Vibrio cholerae*, grown on meat-infusion alkaline "baeto" agar (pH 8) at 37° C. for 18 to 24 hours, provided the test inocula for all the experiments. After suitable dilution with normal saline the initial bacterial concentration was estimated by opacity and controlled by pour-plate counts.

Drug Concentration.—The compound "6257" being only slightly soluble in water, it was suspended by means of 2% gum arabic in distilled water. A 20% drug suspension—the "standard drug suspension" of the text—was initially prepared and sterilized at 100° C. for 10 minutes only, this exposure being sufficient for the purpose. This suspension was suitably diluted as required.

Test Mixtures.—All *in vitro* experiments were carried out in 10 ml. of "disco baeto" peptone water (pH 8) to which was added the requisite amount of the drug and the required

number of bacterial cells, each suspended in 0.1 ml. volume. Peptone water not only is an excellent medium for the growth of the cholera vibrio, but its use also eliminates the possibility of erroneous results due to acid fermentation of the carbohydrate likely to be found in a meat-infusion substrate. The test mixtures and the control tubes were incubated at 37° C. ($\pm 0.5^\circ$ C.). It was not found necessary to raise the temperature of incubation any higher to witness bactericidal and growth-inhibiting activity, as has been the experience with other sulpha derivatives (White, 1939). At various periods after incubation (6, 12, and 24 hours) a measured amount of the fluid was withdrawn and serially diluted to seed alkaline agar plates for the purpose of counting the number of viable organisms.

Animal Experiments.—Adult mice of uniform stock 20–25 g. in weight, were employed in groups of 20 as an experimental unit, the controls being one-half this number. The Inaba strain was mouse-passaged till the cholera vibrio attained a virulence resulting in 100% deaths of untreated mice with a dose of 2,000 million organisms administered intraperitoneally. Twice this number (4,000 millions) was the test dose in the experiments reported here. Higher multiples of M.L.D. were given up after a few preliminary experiments on account of the danger of mortality from toxic action alone. The test dose consisted of organism freshly isolated from the intraperitoneal fluid of dead mice and grown only once on alkaline agar, since the cholera vibrio loses its virulence quickly when subcultured frequently.

In relation to the time of infection, the drug therapy was divided into (i) a pre-infective period of 48 hours and (ii) a post-infective period of 96 hours. The dosage is indicated in Table II. Oral feeding was carried out directly into the stomach of the animal with a special curved bulb-ended needle and syringe. This procedure was found to be simpler and more accurate than the drug-die intake method. No local irritation was observed after subcutaneous therapy.

Determinations of the blood concentration of the drug were carried out on non-infected animals given identical dosage, since frequent handling and bleeding of infected mice produced inconsistent results. The methods employed were those advocated by Bratton and Marshall (1939) and Churg and Lehr (1941).

In vitro Activity of "6257"

Serial dilutions of the sterile "standard drug suspension" were titrated against inocula of different size. The results of one of these experiments are reproduced in Table I.

TABLE I.—In vitro Activity of "6257" on the Inaba Strain of *Vibrio cholerae*: Bactericidal and Bacteriostatic Action

Dilution of 20% Standard Drug Suspension	Total Concentration of Drug (mg.)	Inoculum: Total No. of Bacterial Cells	Growth at 37° C. Colony Counts Hours after Incubation		
			6	12	24
Control	0	1×10^6	C	C	C
1: 50	200.00	"	—	—	—
1: 100	100.00	"	—	—	—
1: 200	50.00	"	4×10^4	4×10^4	—
1: 300	33.33	"	9×10^5	1.5×10^6	—
1: 400	25.00	"	6.5×10^6	18×10^6	9×10^5
1: 500	20.00	"	8×10^6	—	26×10^6
1: 600	16.66	"	C	C	34×10^6
1: 700	14.28	"	C	C	44×10^6
1: 800	12.50	"	C	C	60×10^6
1: 1,000	10.00	"	C	C	C
1: 2,000	5.00	"	C	C	C

C Indicates confluent growth. — Indicates no growth. Columns 4, 5, and 6 show the total number of viable organisms in the test mixture.

The Table shows that a marked bactericidal and inhibitory activity is exercised by "6257" on the Inaba strain of *Vibrio cholerae*. Similar results were obtained with the Ogawa strain.

When an inoculum of one million cholera vibrios was incubated with 200, 100, 50, and 33.3 mg. of the compound for 24 hours, samples plated on alkaline agar remained sterile. Further confirmation of this finding was obtained by subjecting the total volume of 10.2 ml. of the test mixtures to two other viability tests—namely, fractional division over 10 plates by the pour-plate method, when there was complete absence of colonies after 48 hours' incubation, and fractional transfer into 100 tubes of glucose-peptone water, with Andrade's indicator. In the latter test the absence of turbidity and acid fermentation, after similar incubation, was taken as an index of non-viability.

Two other possible pitfalls in these tests were also excluded—namely, (a) there was no adverse effect of increase in hydrogen-ion concentration consequent on bacterial multiplication, since the pH values of the test mixtures were found not to exceed 8.6, and (b) there was no bactericidal activity of gum arabic *per se*.

It would appear that the drug has both bactericidal and bacteriostatic activity.

In vivo Activity of "6257"

The experiment recorded in Table II confirms the result of the *in vitro* tests. When the drug was administered by the

TABLE II.—In vivo Activity of "6257"

Route of Administration	Treatment						Test Dose Inoculated Intraperitoneally 4,000 million Organisms	No. of Mice Infected	Survivors	
	Daily Dosage in mg.								No.	%
	Before Infection No. of Days	After Infection No. of Days								
		1	2	3	4					
Intraperitoneal	50	40	40	40	40	40	2 M.L.D.	20	20	100
Subcutaneous	50	40	40	40	40	40	2 "	20	20	100
Oral	50	40	40	40	40	40	2 "	20	4	20
Controls	..	..	..	..	..	..	2 "	10	0	0
							2 " tive boiled culture	10	10	100

intraperitoneal and subcutaneous routes it exercised a powerful protective action on cholera-infected mice. With the oral method, however, it was not possible to save more than 20% of the animals.

Post-mortem examination revealed that intraperitoneal cholera infection was followed by invasion of the tissues

within a few hours, the infecting organism being isolated from heart-blood, liver, and spleen. Biochemical examination of the blood showed that the absorption of "6257" by the parenteral routes was slow, and still more so when given by mouth. The excretion of the drug being equally slow, a much flatter concentration curve in comparison with other sulphur derivatives was the result. Prior to infection, therefore, an effective blood level was initiated with 80–90 mg of the drug, and was maintained with a daily dosage of 40 mg. in the post-infective period for four days, in the belief that, *vis-à-vis* rapid mouse septicaemia, the therapeutic results could be conditioned only by the concentration of the drug in the blood and the tissues. That this assumption was correct was borne out by the results obtained—i.e., 100% protection by the intraperitoneal and subcutaneous routes and only 20% survival through oral therapy.

Field Trials

In all, 85 cases of cholera were treated in 27 villages in the "talukas" of Kumbhakonam, Tiruvarur, and Nega-patam of the Tanjore district, in the south-east of Madras Presidency, during November and December. Records for the past seven years show that the disease could be considered to be endemic in that area, and its highest incidence was from September to February, with a case mortality in the region of 60%. The patients were treated in their homes without the benefit of nursing and general medical care, and no complementary treatment in the form of saline and palliative drug therapy was resorted to.

Bacteriological Diagnosis.—In all the cases the diagnosis was established by the following procedure, minor details being omitted.

A capillary-pipette drop of a saline suspension of the stool, standardized by opacity, was transferred to Dunham's peptone water (pH 8) and incubated at 37° C. The pellicle from the growth developing in 8 to 24 hours was plated on to MacConkey's agar. This medium offered the advantage that the non-lactose-fermenting cholera vibrio could be easily differentiated from lactose fermenters for the purpose of quantitative studies, referred to later. After morphological examination five to six suspected colonies were transferred on to an alkaline agar slope and the growth tested against a mixed Inaba-Ogawa agglutinating rabbit serum (titre 1 in 5,000).

Classification of Cases.—The typical symptoms of cholera—purgation, rice-water stools, vomiting, dehydration, anuria, algidity, cramps, imperceptible pulse, and an apathetic-to-comatose mental state—were encountered in different combinations. The clinical picture could be differentiated into three stages of infection according to severity and, what was important from our point of view, to the period at which the treatment was started: (1) The primary

stage, in which purgation was the main feature with little or no vomiting and no prostration—the "moderately severe" cases. It was difficult to contact these patients because the difficulties of transport caused delay in notification. (2) The secondary stage, characterized by passage of rice-water stools, frequent vomiting, and

prostration but no anuria—referred to as "severe" cases.

3) The critical stage, of which anuria and dehydration were the marked features, with a semi-comatose condition, rigidity, imperceptible pulse, and body cramps. The term "serious" is here applied to these cases.

Table III summarizes some of the salient features of the cases treated during the course of a cholera outbreak in an endemic area. The great majority of the patients belonged to the "untouchable" labouring class, many of

in the course of two to three hours. In six cases where this practice did not succeed, on account of hyperemesis and a comatose condition, the drug was given per rectum in a 6-g. dose suspended in gum arabic in 50 ml. volume, high up the colon, by the employment of a long piece of rubber tubing. The beneficial effect of this measure made it possible to proceed with the second dose orally.

The earlier cases were given the drug more frequently, in smaller doses. Experience, however, showed that to get

TABLE III.—Analysis of Treated Cholera Cases

Clinical Course	No. Treated	No. Surviving	Sex		Age Groups (Years)								Inoculated		Uninoculated
			Male	Female	5-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	No. Attacked	No. Attacked in Negative Phase	
Moderately severe cases (primary stage)	12	12	4	8	2	7	2	1	—	—	—	—	2	—	10
Severe cases (secondary stage)	16	16	7	9	3	2	5	4	1	1	—	—	3	—	13
Critical cases (critical stage)	57	54	24	33	10	8	15	9	11	2	1	1	11	11	46
Total	85	82	35	50	15	17	22	14	12	3	1	1	16	11	69

them women and children, with one feature common to all—malnutrition. The outbreak was characterized as severe by the local health authorities. This was borne out by the galloping march of symptoms, the patient being dangerously ill six to eight hours after the initial clinical manifestations, with dehydration and all its sequelae.

The scarcity of the drug precluded us from treating more than 85 cases: the total quantity available for the trial was 3,800 g. in the form of powder and in tablets of 0.5 g.

Treatment and Results

The average amount given was 16 g. for a child, 3 g. for an adult female, and 25–30 g. for an adult male, according to the scheme shown in Table IV.

TABLE IV.—Dosage of "6257" for Oral Treatment of Cholera Patients

Day of Treatment	Daily Dosage (Grammes)		
	Children	Women	Men
1st	6	10	10
2nd	4	4	4
3rd	2	4	4
4th	1	2	2
5th	1	1	1
6th	1	1	1
7th	1	1	1

The subcutaneous route was first tried in view of the results of the experiments in mice. It soon became clear, however, that parenteral therapy did not bring about any clinical amelioration. Obviously the treatment of cholera septicaemia in the mouse could not serve as a guide to the treatment of human disease, which in the bacteriological sense is confined to the intestinal tract alone.

Oral therapy was therefore practised and it immediately gave gratifying results. The pleasant observation also was made that "6257," in sharp contrast to other sulphamide derivatives, including sulphaguanidine, had no appreciable toxic effects. As much as 50 g. was administered to some of the cases without causing or accentuating nausea or vomiting. On a few occasions when blood was examined for agranulocytosis the findings were negative. Four women in advanced stages of pregnancy were treated successfully without any ill effects.

The retention of the drug in the presence of frequent vomiting was achieved by substituting 0.5-g. tablets in place of the powder, two tablets being given fractionally every 10 to 15 minutes until the full dose of 6 g. was ingested

the best and quickest results it was essential to start with a large dose of 6 g. and to follow it with another large dose of 4 g. four hours later, and then to watch carefully the progress of the case. Six to eight hours after starting treatment purgation diminished and vomiting stopped. By the ninth hour, as a rule, the patient had passed water, although in three seriously ill cases it took as long as 20 to 24 hours. Nourishment in the form of barley or rice "kunji" (decoction) greatly helped to restore the kidney function.

There was distinct improvement by the end of 24 hours. Purgation was much reduced and nausea, vomiting, and cramps were absent. Although the patient was weak and dehydrated, the pulse was perceptible and interest was taken in the surroundings. By the 48th hour the body was warm and dehydration reduced in proportion to fluid intake, which was insisted upon. By the morning of the fourth day the patient was convalescent and well on the way to recovery. As an illustration, the case histories of two patients—one treated orally and the other per rectum, with subsequent oral therapy—are here given.

Illustrative Cases

Case 27.—A man aged 40, uninoculated. Symptoms started at 3 a.m.; visited 12.45 p.m.; patient in critical stage: 5 motions; 7 vomits; dehydrated; comatose; anuria; cramps; pulse imperceptible, body cold. Treatment was as follows:—Dec. 3: 1 p.m., 6 g. powder, all vomited; 1.40 p.m., 6 g. tablets retained; 8 p.m., 4 g. tablets retained. Dec. 4: 8 a.m., 2 liquid motions during night; anuria persisted; 4 g. tablets retained; 1 p.m., urine passed; no vomit; one liquid motion; dehydrated; apathetic. Dec. 5: 9.30 a.m., sitting up; pulse perceptible; one motion during night; still dehydrated and weak; 2 g. powder retained; 5 p.m., cheerful; answers questions; fluids taken; dehydration less; 2 g. powder retained. Dec. 6: 8 a.m., solid motion; free urine; body warm; rapid low-volume pulse; 1 g. powder; 6 p.m., 1 g. tablets. Dec. 7, 8, 9, 10: 0.5 g. tablets morning and evening; patient recovered.

Case 11.—A man aged 29, inoculated Nov. 23; symptoms Nov. 25, 10 a.m.; visited 6 p.m.; 10 motions; vomiting started 2 p.m.; no urine since 4 p.m.; body cold; pulse imperceptible; semi-comatose. Treatment was as follows:—Nov. 25: 6 p.m., powder by mouth not retained; tablets also brought up as vomit every 10 minutes. 9 p.m., 6 g. drug per rectum, most of it retained. 12 p.m., 4 g. tablets fractionally; about 2 g. retained. Nov. 26: 8 a.m., 4 rice-water motions during the night; nausea but no vomiting; body cold; pulse imperceptible; 6 g. tablets fractionally retained; 4 p.m., 2 motions; free flow of urine; dehydrated; semi-comatose; 4 g. powder retained. Nov. 27: 9 a.m., 2 motions; free urine; dehydrated; free

pulse; cold; 4 g. powder; 5 p.m., no motion; no vomiting; cheerful but weak; 2 g. powder. Nov. 28: 8 a.m., much better; semi-solid motion; body warm; pulse perceptible; dehydration much less; 2 g. powder. Nov. 28, 29, 30: 0.5 g. tablet morning and evening; patient recovered.

Mortality

Table III shows that all the cases in the primary and secondary stages of infection recovered, but three out of 57 cases in the critical stage could not be saved. In two of them the symptoms developed during the negative phase, within 12 hours after the inoculation of cholera vaccine, and were serious in character.

The first fatal case was that of a female, 25 years of age, who was visited 8 hours after the onset and responded well to 14 g. of the drug. Next morning, however, she was found by her neighbours in a state of collapse on the river bank, where she had gone to fetch water. She survived only two hours thereafter.

The second case was that of a man aged 63 with a long history of chronic diarrhoea who passed blood-stained stools in spite of treatment. He died within 10 hours as a result of anuria.

The third patient, a man aged 35, was visited within six hours of onset and given 11 g. of the drug in the next eight hours, the evening report being no motion and no vomit, but anuria persisting. The sanitary inspector, however, reported next morning that the patient had died in the middle of the night. A necropsy not being possible, it was presumed that he had succumbed to uraemia.

Epidemiological Significance of 7-day Therapy

As a rule, patients could be said to have recovered by the end of 72 hours; nevertheless, a schedule of treatment extending over seven days is advised. This recommendation is based on observations regarding the persistence of cholera vibrios in the stools of cases under treatment (for details see Fernandes, 1948). In the present series of cases the excreta could be said to be free from vibrios on the sixth day.

Another observation of epidemiological significance was the freedom of contacts from subsequent attacks of the disease though living in the restricted areas of cholera-infected hamlets. The seven-day drug therapy outlined in Table IV cannot therefore be too strongly recommended in the interest of the patient as well as that of the community.

Prophylactic Treatment in the Negative Phase following Cholera Vaccination

A matter that has not received sufficient consideration is the danger of possible precipitation of a serious attack of cholera from the common practice of protective inoculation of contacts, amongst whom may be persons who are harbouring the cholera vibrio or who may actually be in the incubation period of the disease. Similar experiences are known in the case of typhoid fever (Bhatnagar, Freeman, and Dhilon, 1937). Table III shows that of the 16 cases of cholera amongst the inoculated population as many as 11 were attacked in the negative phase, the infection being severe in all of them and responsible for two out of three deaths in this series.

In co-operation with the local health authorities, 4 g. of the drug, in two equal doses, was given morning and evening for two days immediately after inoculation to the contacts of treated cases in one of the villages. Although the figures are not sufficient for any conclusions to be drawn, the health authorities were struck by the freedom from infection of persons subjected to this simple therapy in comparison with those not so treated.

Discussion

The evidence presented here, in spite of its limitation in scope, clearly indicates the role of the compound "6257" in the treatment of cholera as well as in its prophylaxis. To deal with an epidemic effectively, the form of treatment at present practised necessitates the mobilization of a considerable amount of hospital accommodation, medical equipment, and personnel, all of which are limited in countries where the disease is endemic. In the absence of these amenities the results of our field trials emphasized the economic advantage of the method advocated. Consider-

ing the survival rate alone, our experiences compare very favourably with those of others obtained from the application of combined sulphaguanidine, saline, and palliative drug therapy.

Without minimizing the curative aspect of this treatment we attach very great importance to the complete freedom from cholera vibrios of the stools of treated cases—accomplished, as we have shown, by seven-day drug therapy. It was our experience that this simple measure brought about a very material reduction in the number of carriers, who, along with the prevailing insanitary conditions, are the backbone of any cholera epidemic, be it in an endemic area or following in the wake of big religious gatherings. If in addition the contacts of a case of cholera were protected by prophylactic treatment with the drug as indicated, particularly in the short negative phase after concomitant cholera inoculation, there is a possibility that this disease would cease to be a major problem of preventive medicine. Future trials on a more extensive scale will prove if the thesis advanced here is correct.

The preparation of "6257" by the molecular combination of two different chemical components is a departure from the common practice of obtaining sulpha derivatives by additions to, and the substitution of, the radicals of sulphanilamide. There are two references in the literature to attempts in the same direction—namely, the preparation of "septurit," a compound manufactured in the early days of sulphanilamide chemistry, and "strepturin" (Astra khantsev and Vasil'ev, 1940), found by Russian scientists to be effective against streptococcal infection.

The two outstanding properties of "6257" that are in sharp contrast to those of other sulpha derivatives are: (a) the absence of toxicity within the zone of therapeutic action, tested both in laboratory animals and in human beings; and (b) its slow absorption from a subcutaneous "depot" and equally slow excretion from the system, so that blood concentration can be maintained at a higher level for a longer period of time. The first of these properties would presumably be attributable to the formaldehyde radical, a well-known detoxicant of bacterial toxins, whereas the second would appear to be related to the high molecular weight of the compound.

The absence of both these attributes, particularly the former, was responsible for relegating the sulpha compounds to a position in clinical therapy secondary to that of the antibiotics. If future experience showed that the therapeutic value of "6257," and that of other similarly prepared compounds possessing these two qualities, extended over a wider field of pathogenetically important bacterial species, it might be that sulpha derivatives would through these new compounds regain their place of priority in clinical therapy—a welcome reversion from the point of view of production as well as of economy.

Summary

The new compound "6257"—a condensation product of sulphathiazole ("cibazol") and formaldehyde—shows *in vitro* a marked bactericidal and growth-inhibiting action against *Vibrio cholerae*.

When administered parenterally to mice, it offers 100% protection against septicaemia resulting from intraperitoneal cholera infection. When given by mouth it is, however, not so successful. The discrepancy is due to low blood-concentration value of the drug.

When patients suffering from cholera in an endemic area during the course of an epidemic were treated in their homes in villages with this drug alone, in the absence of nursing, general medical care, and any form of adjuvant treatment, the survival rate compared very favourably with that obtained by present-day recognized therapy.

In the control of an epidemic of cholera the importance of complete freedom from cholera vibrio of the stools of cases treated by seven-day drug therapy, and the prophylactic treatment of contacts with the drug, is emphasized.

The role of two properties of this drug—namely, the absence of toxic action and slow absorption and slow excretion—is discussed in its bearing on future sulpha therapy as opposed to antibiotics.

Our grateful thanks are due to Major-General S. L. Bhatia, Surgeon General to the Government of Madras, Drs. Mathews and Lal, Director and Assistant Director of Public Health, for their co-operation, and to Dr. R. Ramaswamy, District Health Officer, Madras, and his staff for their excellent help, which made this investigation possible.

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TREATMENT OF RINGWORM OF THE SCALP

BY

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Until recent years there was no reliable treatment of ringworm of the scalp which did not involve removal of infected hairs from their follicles by the use of x rays or thallium acetate or by producing a purulent folliculitis. The removal of infected hairs with masses of spores was in itself inadequate to effect a cure, but it so enhanced the effect of local treatment with fungicides that x-ray epilation became the accepted practice of dermatologists and reduced the duration of treatment from an indefinite number of years to one or two months. For example, a series of 30 cases of ringworm of the scalp were treated from Feb. 13 to Sept. 29, 1947, by Dr. McKenny, at St. John's Hospital for Diseases of the Skin, by x-ray epilation followed by the application of Whitfield's ointment and bi-weekly paintings with tincture of iodine. The x-ray technique was the irradiation of the usual five areas (Kienböck-damson) with a dose of approximately 400 r to each area at 90 kV, the half-value layer equivalent to 1.4 mm. of aluminium, and focal skin distance 9½ in. (24 cm.). The diameter of the active field being 5 in. (12.5 cm.). All the patients were examined by Wood's filtered ultra-violet light or microscopically, or both, to confirm the diagnosis and again about one month later, and then at intervals of two weeks until three examinations had been negative.

The average number of days for a cure was 38.4, but four cases required treatment for 85, 85, 151, and 160 days; thus the average period for cure in the other 96 was 35 days. These results are considered to be highly satisfactory, but they were obtained in a very well equipped and specialized clinic. Moreover, the x-ray technique is tedious and exacting and occupies at least an hour. Under such conditions the risk of any permanent alopecia is negligible and certainly much less than that of toxic reactions to thallium acetate, but the risks have to be borne in mind, and they have always brought anxiety to the doctor and to the parents of children under treatment.

It was therefore disappointing to find in our own experience and in that of Carrick (1946) and others that new and potent fungicides were no more effective in the treatment of scalp ringworm than the older remedies, and it was obvious that this must be due to their failure to penetrate the infected follicles. At first it was hoped to overcome this difficulty by using fat solvents such as acetone, benzene, carbon tetrachloride, chloroform, and alcohol containing iodine or benzoic and salicylic acids, but these met with little success.

The interesting fact that while microsporon infections of the scalp are common in children they are very rare in adults led to the discovery by Stephen Rothman and his co-workers (1946, 1947) that a certain fraction of the free fatty acids extracted from adult human hair was capable of inhibiting the growth of *Microsporon audouinii* in concentrations of 0.0002–0.0005%. Pelargonic acid was the main constituent of this fraction, but no success followed its therapeutic use, probably because of its lack of penetrating power.

Penetrating Vehicles

Attention was therefore directed to the use of penetrating vehicles which might carry an effective fungicide to the base of the hair follicle and make possible the cure of scalp ringworm by simple inunction or even by painting the scalp without preliminary epilation. In recent years this problem has received considerable attention in America. Herrmann, Sulzberger and Baer (1944) and MacKee, Sulzberger, Herrmann, and Baer (1945) have reported on the use of vehicles containing wetting agents to promote skin penetration. MacKee, Herrmann, and Karp (1946) found that the most promising results in the treatment of tinea capitis were obtained with a preparation containing cetyltrimethylammonium pentachlorophenate 3.5% in "intraderm." The latter consists of a combination of sodium alkylbenzene sulphonate 5%, phenazone 12.5%, propylene glycol 10%, sulphonated castor oil 10%, and distilled water. The pH was adjusted to 4 by the addition of citric and propionic acids. In addition to the application of the solution the treatment included the use of an acid shampoo containing sodium alkylbenzene sulphonate and sulphonated castor oil. In a series of 59 cases of infection with *M. audouinii*, 54% of the children were cured, the average duration of treatment being approximately 14 weeks. More recently Foley and Lee (1947) have reported on the fungicidal action of combinations of cetyltrimethylammonium pentachlorophenate with fatty acids. The combination found to be most active against pathogenic fungi was cetyltrimethylammonium pentachlorophenate and undecylenic acid.

Fungicidal Agents

In the preliminary experiments of our series phenylmercuric nitrate and salicylanilide have been used as the fungicidal agents. Phenylmercuric nitrate was investigated clinically in 1933 by Levine, who reported favourably on its use in aqueous ointment bases for the treatment of epidermophytosis and tinea. It possesses low toxicity, and

in addition to its fungicidal properties has marked bacteriostatic and bactericidal actions. Byrne (1947) reviewed its application to diseases of the skin.

An attempt was made to incorporate phenylmercuric nitrate into the intraderm vehicle of Herrmann *et al.*, using alkyl-naphthalene sulphonate in place of alkylbenzene sulphonate, since the latter substance was not available in this country. Phenylmercuric nitrate, however, was found to be incompatible with alkyl-naphthalene sulphonate and with other wetting agents containing the sulphonic group.

A search was made for alternative wetting agents compatible with phenylmercuric nitrate. The Crill series of wetting agents* are non-ionic in character and consist of long-chain fatty-acid derivatives of various carbohydrates, such as sorbitan and mannitan. The series comprises 30 members in all, and Crill No. 6 was chosen for the present purpose as it produces the greatest reduction of surface tension in the range. Crill No. 6 is an ethylene oxide derivative of sorbitan monolaurate and is a pale-straw-coloured viscous liquid having a faint odour reminiscent of linseed oil. It is miscible with water and with vegetable and mineral oils. The solubility of phenylmercuric nitrate in water is increased by the presence of Crill No. 6, with which it is compatible.

Various combinations of Crill No. 6, propylene glycol, and water were prepared, the pH being adjusted to between 4 and 5 by the addition of a solution of citric acid (2%) and sodium propionate (1%).

Solution No. 1

Phenylmercuric nitrate	..	..	..	1 g.
Crill No. 6	..	..	..	100 ml.
Propylene glycol	..	..	..	100 ml.
Solution of citric acid and sodium propionate	..	..	..	20 ml.
Distilled water	..	..	..	to 1,000 ml.

Dissolve the phenylmercuric nitrate in a mixture of Crill No. 6, propylene glycol, and 100 ml. of distilled water. Add the solution of citric acid and sodium propionate and adjust the volume by the addition of distilled water.

This solution deposited slightly on standing for 14 days, owing to the presence of propylene glycol. It was therefore decided to replace the propylene glycol by phenoxetol, the antibacterial properties of which have been reported by Berry *et al.* (1944) and which also has a powerful fungicidal action. Phenoxetol is only sparingly soluble in water, and therefore it was necessary to increase the concentration of Crill No. 6 in order to obtain complete miscibility. The concentration of phenylmercuric nitrate was also increased.

Solution No. 2

Phenylmercuric nitrate	..	..	..	2 g.
Phenoxetol	..	..	..	200 ml.
Crill No. 6	..	..	..	400 ml.
Solution of citric acid and sodium propionate	..	..	..	20 ml.
Distilled water	..	..	..	to 1,000 ml.

In order to obtain a preparation easier to apply, a cream was made according to the following formula:

Cream No. 1

Phenylmercuric nitrate	..	..	..	2 g.
Phenoxetol	..	..	..	200 ml.
Crill No. 6	..	..	..	200 ml.
Solution of citric acid and sodium propionate	..	..	..	20 ml.
Lanette wax SX	..	..	..	100 g.
Distilled water	..	..	..	to 1,000 ml.

Heat together, over a water-bath, the phenoxetol, Crill No. 6, and lanette wax SX until the latter is melted. Dissolve the phenylmercuric nitrate in the mixture. Add the solution of citric acid and sodium propionate to the distilled water, heat over a water-bath and add gradually with constant stirring to the mixture of lanette wax SX and other ingredients. Stir until cool.

*Marketed by Croda, Ltd., London.

The concentration of phenylmercuric nitrate was subsequently increased to 0.5%:

Cream No. 2

Phenylmercuric nitrate	..	..	..	5 g.
Phenoxetol	..	..	..	200 ml.
Crill No. 6	..	..	..	200 ml.
Solution of citric acid and sodium propionate	..	..	..	20 ml.
Lanette wax SX	..	..	..	100 g.
Distilled water	..	..	..	to 1,000 ml.

Another type of ointment base used in America consists of polyethylene glycol, the dermatological applications of which have been described by Hopkins (1946). This substance* is available in various grades, the lower members being liquids and the higher members having consistencies varying from that of soft paraffin to hard waxes. "Carbowax '1500'" is a member of the polyethylene glycol series and is similar in consistency and appearance to white soft paraffin. It is soluble in water but immiscible with mineral and vegetable oils and fats. Carbowax "1500" will itself dissolve many organic compounds, and by the addition of Crill No. 6 its solvent powers may be increased.

Phenylmercuric Nitrate

In these experiments the preparation giving the best results consists of phenylmercuric nitrate 0.5% in a base composed of carbowax "1500" and Crill No. 6, the pH being adjusted to between 4 and 5 by the addition of a solution of citric acid and sodium propionate. Unfortunately we have no experimental evidence of the penetrating properties of the carbowax compounds or of the effect of adding wetting agents to ointment bases of this type, but this is a matter which we have under investigation.

Ointment No. 1

Phenylmercuric nitrate	..	..	..	5 g.
Crill No. 6	..	..	..	100 ml.
Solution of citric acid and sodium propionate	..	..	..	20 ml.
Carbowax "1500"	..	..	..	to 1,000 g.

Melt together the carbowax "1500" and Crill No. 6 over a water-bath; add the phenylmercuric nitrate, previously triturated with the solution of citric acid and sodium propionate, and continue heating until the phenylmercuric nitrate is completely dissolved. Allow to cool.

Salicylanilide

Salicylanilide is another fungicide which has received attention in America; in this series it has been used in order to assess its value against that of phenylmercuric nitrate. Of 17 preparations tested by Schwartz (1946) the most efficacious was an ointment containing 5% salicylanilide and 5% hyamine in carbowax "1500." In the present series an ointment containing 5% salicylanilide in the carbowax "1500"-Crill No. 6 base is under investigation.

J. L. Miller *et al.* (1946) reviewed the use of various fungicides in special vehicles, including carbowax, using sodium tetradecyl sulphate as a wetting agent. Daily manual epilation of the diseased hairs was part of the technique.

Ointment No. 2

Salicylanilide	..	..	..	50 g.
Crill No. 6	..	..	..	100 ml.
Solution of citric acid and sodium propionate	..	..	..	20 ml.
Carbowax "1500"	..	..	..	to 1,000 g.

Heat together the carbowax "1500" and the Crill No. 6 over a water-bath, dissolve the salicylanilide in the mixture, and add the solution of citric acid and sodium propionate. Stir and allow to cool.

These preparations, as made and described by Mr Hadgraft, chief pharmacist to the Royal Free Hospital

*The "carbowax" compounds are marketed in this country by General Metallurgical and Chemical, Ltd.

be submitted to clinical trial, and the modifications were introduced in attempts to achieve more rapid progress. We far from being satisfied that the present ointments represent the goal we are seeking, for we think that too much depends upon an exacting technique of application. However, in spite of the observations of others to the contrary (MacKee, Herrmann, and Karp, 1946), we find that inflammatory reactions in the follicles, if not essential, are of value in accelerating cure. This has been generally accepted in the past with older methods, but it is hoped that with more powerful fungicides and bases of greater penetrative power it may soon be possible to treat non-inflammatory ringworm of the scalp without provoking reactions in the skin and its follicles.

Clinical Results

The following is the preliminary report on 22 cases of ringworm of the scalp treated with Ointment No. 1 at John's Hospital for Diseases of the Skin. There were boys, 8 girls, and 1 woman. All were treated as outpatients. Every patient was examined microscopically and tested under Wood's light, and the fungus was identified by culture. There were 8 cases of *M. audouinii*, 9 cases of *M. felineum*, 4 cases of microsporia, and 1 case of *Trichophyton endothrix* which could not be identified. The patients were given written and verbal instructions. The following routine was carried out:

The hair was cut short and kept short throughout the treatment; a linen cap was worn for 24 hours continuously; every morning the scalp was washed with soap and hot water and scrubbed with a nailbrush, particular attention being paid to the infected patches. The ointment was applied three times a day with a toothbrush for five minutes. It was thought that by using a fungicide of high potency and a penetrating base, combined with mechanical irritation caused at producing active hyperaemia and mechanical action, favourable results might be obtained. Phenylmercuric nitrate is a fungicide of high potency. Carbowaxes combine penetrating properties with pleasantness of application, thanks to its quality of mixing easily with water. The nailbrush, applied with gentle vigour to the affected areas, should help to dislodge the infected hair, which when caught by the coarse bristles should be easily removed from the follicles. This has proved to be correct. The toothbrush is a comfortable applicator, and the friction is its factor in producing irritation. We still consider it to be a useful preliminary measure in facilitating eradication within the follicles. X-ray epilation itself does

not cure ringworm of the scalp: treatment with fungicides must follow to complete the cure. Pustulation and kerion formation cause natural epilation. That is one reason why many cases of animal ringworm are easily cured by local applications alone. The inflammatory response, which occurs much more often in the animal than in the human type of ringworm, also plays an important part in natural cure. It is that entire lack of any local reaction which accounts for the difficulty of eradicating *M. audouinii* infection by local means only.

The clinical appearance of all cases at the beginning of treatment varied between slight scaliness and severe pustulation of the patches. Co-operation of the parents was the first condition of successful treatment. Some mothers refused to cut their children's hair and some were unwilling from the very start to treat their children, and preferred the established x-ray technique. The children reacted very well to treatment, the range of reaction being that of slight erythema and scaling to more or less severe pustulation. Details are given in the Table. Some cases did not show reaction at all and it was thought that painting with pure phenol once or twice would induce pustulation, but after attempting it in three or four cases it was abandoned as unnecessary. One case reacted too violently and the mother refused further treatment; incidentally, that case when seen several weeks later was negative to Wood's light. In one case the Kromayer lamp was employed several times, but without appreciable benefit.

Summarizing, the inflammatory action when already present was welcomed, and in cases where it was absent it was intentionally provoked. Patients were at first seen every week; but later, with mounting experience, they were asked to visit the clinic every three weeks. Improvement could usually be seen between the first and seventh weeks of treatment, this showing itself by thinning of the fluorescent patches and a change in the colour of the infected hair from bright green to white. In our experience when a case became negative it remained so, therefore after the first negative reaction to Wood's light the treatment was continued for only one week and was then stopped. After three negative fluorescent tests the patient was discharged.

It was not always possible to get every patient for three-monthly tests, so that a few cases were followed up for one month only. The Table gives a detailed account of the course of treatment of the 22 cases.

(a) Cases of *M. audouinii*.—There were 6 boys and 2 girls in this group. Six cases were cured and two failed. The

Analysis of Cases

Sex	Age (Years)	Mic.	Wood's Light	Culture	Improved in Weeks	First Negative W.L. Weeks	Total Time of Treatment Days	Reaction	Cured	Follow-up (Mths.)	Remarks
M	6	+	+	A	3	2	42	+	+	2	
M	3	+	+	A	4	4	64	+	+	3	
M	9	+	+	A	8	4	92	++	+	1	
F	4½	+	+	A	3	2	34	++	+	2	
F	3	+	+	A	5	2	49	++	+	2	
M	4½	+	+	A	5	2	49	++	+	2	} Brother and sister Cured by x rays in 1 month Cured by x rays in 4 months
M	7	+	+	A	—	—	78	—	—	—	
M	14½	+	+	A	—	—	120	—	—	—	
M	1	+	+	B	4	4	90	++	+	3	
M	1	+	+	B	Became negative suddenly		99	++	+	4	
M	8	+	+	B	3	3	84	++	+	—	Refused further treatment owing to irritation Not followed up Kromayer; phenol
F	3	+	+	B	4	2	63	++	+	—	
F	5	+	+	B	6	4	120	—	—	4	
M	2	+	+	B	4	3	57	—	—	3	
M	4	+	+	B	1	1	14	—	—	1	
M	7	+	+	B	—	—	63	—	—	—	Neglected case, cured by x rays in 4 weeks
F	35	+	+	B	—	—	300	—	—	—	
F	6½	+	+	O	2	2	41	++	+	3	
M	9	+	+	O	1	—	23	—	—	10	
F	6½	+	+	O	—	—	120	—	—	—	Cured by x rays in 5 weeks Cured by x rays in 4 weeks
F	1½	+	+	O	—	—	89	—	—	—	
F	9	+	—	O	7	2	53	+	+	2	

(T. end.)

A = *M. audouinii*. B = *M. felineum*

number of days of treatment of the cured cases was 330, the average time for each case being 55 days. Improvement began between the third and eighth weeks of treatment, and once the improvement started it took from two to four weeks for the cases to become negative. There was no relapse. The time of observation was from one to four months. Pustulation occurred in three cases, slight reaction in two, and no reaction in one. In Case 7 the nailbrush was not used. Cases 7 and 8, which failed, were cured by x rays in one and four months respectively. It is interesting to note that Case 8, which was treated locally for 120 days, took exactly the same time for cure after x-ray epilation. It was necessary to carry out several local manual epilations combined with antiseptics to effect a cure.

(b) *Cases of M. felinum*.—There were 6 boys, 2 girls, and 1 woman. Eight cases were cured and one failed. The average time of cure was 75 days, excluding Case 17. Improvement began between the first and sixth weeks of treatment. It took one to six weeks for the cases to become negative once the improvement started. The time of observation varied from one to four months. Case 11 showed severe pustulation and refused further treatment. When examined several weeks later this patient was found to be negative to Wood's light; we considered, therefore, that he was cured.

It is interesting to note that there was a difference of about three weeks in the time of cure between the human and the animal types of ringworm. Variation in the resistance of the individual fungus, and last, but not least, the co-operation of the mother, might be responsible for variations in therapeutic response. Case 17 (*M. felinum*) started treatment in November, 1946, and was discharged cured in September, 1947. It was impossible to persuade this patient to cut her hair, and the treatment, therefore, was technically very difficult. It was confined to the inunction of ointments into the affected area. Different kinds of ointments were used for a considerable time, but when Ointment No. 1, combined with mechanical epilation, was employed she was cured in six weeks.

(c) *Cases 18-21* could not be identified by culture. We cannot therefore make any further comment upon them, except that Cases 20 and 21 were cured by x-ray epilation in five and four weeks respectively.

(d) *Case 22*.—A 9-year-old girl had suffered from *T. endothrix* infection for seven months. Clinically she presented widespread inflamed patches over the scalp. The Wood's light test was negative. No identification was possible by culture. *Endothrix* is notoriously resistant to treatment unless epilated by x rays. Another patient, who refused x-ray epilation, was treated for nine months with local applications unsuccessfully and had to be x-rayed eventually. Case 22 is all the more remarkable as it became clinically and microscopically negative after 53 days' treatment, and has remained so for the last two months.

A new series of cases has been started on 5% salicylanilide in carbowax and Crill No. 6, and of 23 under treatment 10 cases of *M. felinum* have been cured after two to nine weeks and are still under observation.

Summary

A preliminary report is given on new advances in the local treatment of ringworm of the scalp, demonstrating that infections due to *M. audouinii* can be cured in a reasonable time without previous epilation.

With 0.5% phenylmercuric nitrate in carbowax and Crill No. 6, 22 cases were treated, including 8 of *M. audouinii* infection, 9 due to *M. felinum*, 4 due to unidentified microspora, and 1 due to *T. endothrix*.

Seventeen cases were cured in an average time of 2½ months.

In this small series of cases we found no significant differences between the responses to treatment of the human and that of the animal type of ringworm.

Preliminary epilation, even when followed by old-time remedies, still affords the quickest prospect of cure.

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PREVENTION OF RINGWORM IN THE TROPICS

BY

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Ringworm is a far greater problem in the Tropics than in temperate climates, and for the British Army in the Netherlands East Indies (N.E.I.) in 1946 it was at one stage the commonest cause, apart from venereal disease, for admission to hospital. In February and March, 1946, ringworm accounted for 19.2% and 21.2%, respectively, of all admissions to a military hospital in Batavia receiving all types of cases except venereal disease. To these must be added the far greater number of cases treated by unit M.O.s, some having up to 50% of their men affected. These figures give a fair picture of the epidemic proportions which ringworm reached in this area. Furthermore, from discussions with colleagues in other parts of the East, I realized that these numbers were typical rather than exceptional for the Tropics.

To reduce this incidence was a military necessity of considerable urgency, in view of the fact that the N.E.I. was an active theatre of operations at the time. This paper describes a successful experiment carried out with 400 British other ranks (B.O.R.s) to test the efficacy of certain preventive measures which were later adopted on a much larger scale, and which may have a wider application to civil life as described later.

In temperate climates ringworm is largely confined to the feet, and from these it spreads to certain selective areas, notably the groins, axillae, and, in women, the sub-mammary regions. In the Tropics, however, it is much more widespread because of the profuse sweating, and although these selective areas are usually the first and more severely affected the whole of the skin may rapidly become involved. In this way a man might have two or three lesions one morning and within a few hours his body, including the face, might be covered with confluent ring-like figures consisting of vesicles and pustules round the edge of an erythematous area, which in the more severe cases would be moist or even weeping. The effect of this was to produce intense irritation; the body became covered with scratch marks, and the man no longer efficient as a front-line soldier. An associated and usually severe tinea interdigitalis, consisting of the typical white sodden skin between the toes, sometimes fissured and sometimes partially detached, occurred in 98% of the cases.

Mode of Spread

Most writers on ringworm emphasize the frequency of spread to the body from lesions between the toes; for example, Brain (1941) writes: "Tinea pedis is usually due the same organism as *trinea cruris* and, indeed, is often source of the groin infection, so that examination of feet in all cases of ringworm is important." Experience N.E.I. bears out this frequent mode of spread in tropical mates. Further, although some of the patients had failed notice their interdigital lesions, the majority stated that they had had them for some time before the ringworm on their body.

It must be pointed out, however, that the diagnosis of these cases was essentially on clinical grounds only, since conditions of active service at that time precluded any formal or large-scale microscopical surveys. Only four cases, picked at random, were examined microscopically, and in all of these the characteristic mycelium of ringworm was observed.

Some writers, notably Linn and Magarey (1941) working in Australia, have commented on the relative infrequency with which the fungus from lesions between the toes obtained, and obviously no direct answer can be given to this from the present experiment owing to the impossibility of carrying out the necessary investigations. However, the experimental method described here was based on the assumption that the lesions between the toes were due to a fungus infection, and the success of the experiment would appear to bear this out, at any rate in the Tropics.

The commonest method of spread between patients is undoubtedly via the feet, and in particular from bathroom floors. This is emphasized by Gray (1934), who quotes: "Legge *et al.* (1929), examining the feet of 3,100 transients to the University of California in one session, found 53.3% of the men and 15.3% of the women had ringworm. At the end of a year they again examined 100 of these men and 997 of the women who had access to the showers, swimming-pools, and gymnasiums. Of these, 78.6% of the men and 17.3% of the women were found infected. The increase in the case of the men is striking. The authors point out that the women students occupied a gymnasium with every known sanitary device. The women students and attendants were obliged to wear rubber shoes, and in no circumstances were they permitted to walk with bare feet on the floors or runways leading to the swimming-pools or gymnasiums. On the other hand, the men occupied an antiquated gymnasium where, on account of the lack or non-use of bathing shoes and inferior sanitary facilities, the students constantly walked on their bare feet and became infected." Fraser (1940) emphasized the importance of spread from bathroom floors and the need for careful foot hygiene to prevent it.

In view of these facts I believed that the main feature of a drive against ringworm must be the prevention of the spread of infection from the feet of one soldier to those of another. Consequently it was decided to carry out a large-scale field experiment on an air dispatch company consisting of 400 B.O.R.s. These men were employed on the loading and unloading of aircraft, which in tropical climates, with heavy loads, caused intense sweating: in fact, this unit was chosen because it was one in which working conditions were ideal for the development of severe ringworm, and one in which there was already a high incidence of the disease.

The Experiment

The success of the experiment would largely depend on the men, and therefore at the onset a brief talk was given to them by the unit M.O. and myself: here the rationale

of the experiment was explained, and in particular we pointed out that what the men called "foot-rot" was due to ringworm, and this could largely be prevented by frequent and thorough washing and drying between the toes. During the three months of the experiment each soldier was inspected once a week.

Equipment

Underpants.—Two pairs of cotton underpants were issued to each man, and these were washed on alternate days so that a clean one was available for wear each morning.

Foot-towels.—Each man was given two foot-towels, which were washed and changed daily. These were only used for drying the feet in order to prevent the spread of ringworm to the body from lesions between the toes.

Clogs.—Each man was provided with one pair of roughly made wooden clogs consisting of a shaped board with a single canvas strap. As showers were provided and not baths this made it possible to wash the toes without having to take off the clog, thus keeping the feet off the ground. Consequently the feet were never brought into contact with the bathroom floor, and this most important method of transference of infection was eradicated. As a corollary to this the men were instructed not to walk barefooted around the buildings.

Foot Powder.—This was kept in the bathroom, and the men were instructed to apply a little between the toes after drying.

Treatment

No attempt was made to segregate infected from non-infected men, and in fact this would have been almost impossible in the circumstances under which the men were living and working. It was also felt that the success achieved without this measure would add weight to the argument that the spread of infection was largely via the feet, since this was the one mode of spread which was being controlled. The routine treatment was of necessity modified in some cases, but the majority responded to the following measures.

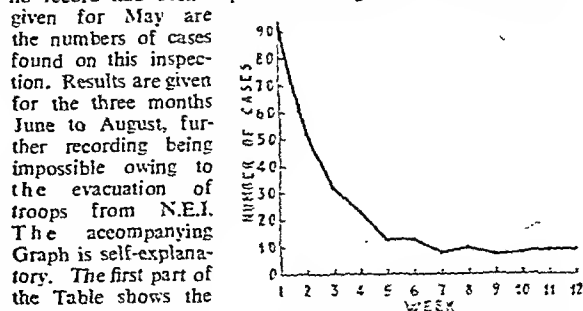
Lesions on the Body.—1% chrysarobin in Lassar's paste was applied. It was never found necessary to increase the percentage of chrysarobin, so severe reactions to it seldom occurred.

Lesions on the Face.—Whitfield's ointment was used in place of chrysarobin, owing to the danger of conjunctivitis with the latter.

Lesions Between the Toes.—Brilliant green 1 in 500 in spirit, with 3% salicylic acid, was applied.

Results

June 1, 1946, was the starting date for the experiment, and on the previous day all the men were examined. Since up till then no record had been kept of the ringworm cases the figures



Graph showing total number of cases under treatment for each week of the experiment.

that cases occurring at the end of the three months were much less severe and less extensive than the early ones. The second part of the Table gives an analysis of the site of the lesions, and shows the rarity of ringworm of the body without an associated *trinea interdigitalis*, since only two cases occurred and both were present on the original inspection. The fall in the numbers of cases affecting body and toes will be seen

to be much more dramatic than the more steady fall in the number of cases affecting the toes only. This is explained on the theory, already outlined, that the earliest lesions are almost always between the toes, and that during the experiment the spread from toes to body was largely prevented by early treatment and the use of foot-towels.

Month	Average Time Taken for Cure	Distribution of Lesions in New Cases			
		Feet and Body	Feet Only	Body Only	Total
May ..	—	41	48	2	91
June ..	14.75 days	2	21	0	23
July ..	8.5 "	2	18	0	20
August ..	7.75 "	3	10	0	13

Relapse Rate.—There were no relapses in June, but five occurred in July and five in August—eight of these were cases of *tinea interdigitalis* only. However, in order to give a fair picture of the total ringworm state of the unit these have been included under new cases.

Discussion

It is emphasized that this experiment was carried out without alteration in the normal working routine of a very active unit, and in fact, because of the essential operative work on which the men were employed, it was very often necessary for a man with ringworm to miss one of his daily treatments. Therefore it is practicable not only for an active unit but also for immediate application in the wider field of civil life. Outbreaks of ringworm, particularly *tinea interdigitalis* and *tinea cruris*, are liable to occur in any civil community where communal washing facilities are provided, and especially in schools, factories, and mines.

Summary

A description is given of a successful experiment designed to reduce the high incidence of ringworm among troops in the Tropics. The importance of the spread of the disease via floors, from lesions between the toes (*tinea interdigitalis*), is emphasized, and this is made the basis of the preventive measures adopted. The application of these findings to civil life is noted.

The success of the experiment was largely due to Captain John Middleton, R.A.M.C., regimental medical officer to the unit concerned, to whom I am most indebted. I would like to thank the Director-General, Army Medical Services, for permission to publish, and Lieutenant-Colonel C. F. Mitchell, R.A.M.C., adviser in dermatology to the War Office, for his encouragement and assistance.

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"The School Dental Service has substantially recovered from the wartime relapse due to the calling up of dental officers, but we still have a long way to go to make it truly comprehensive and efficient," said Mr. George Tomlinson, Minister of Education, speaking in London on April 3 at the annual dinner of the Dental Officers Group of the Society of Medical Officers of Health. Stating that the average interval between periodic inspections was still a good deal more than twelve months and needed to be reduced, Mr. Tomlinson said that nearly 70% of the children in schools had dental inspections in 1946 and that 72% of those found to need treatment were willing to accept it. Almost every local education authority had now appointed a senior dental officer, and it was expected that the few stragglers would soon come into line, but the expansion of the service was hindered, as with other parts of the educational system, by shortage of labour and materials. Much could be done by improvisation, however, and local education authorities were encouraged to provide additional clinics by taking over existing buildings and adapting them cheaply. Emphasis on preventive rather than curative aspects of dentistry was becoming more common. Nutrition was a vital element in this, and the school dental service together with the school milk and meals service and the school medical service formed a great co-operative enterprise designed to foster the physical welfare of the children.

EFFECTS OF SEX AND THYROID HORMONES ON THE PROCESS OF AGEING IN FEMALE RATS

BY

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This paper is a summary of the results of experiments published in detail in four previous papers (Jones and Korenchevsky, 1946; Korenchevsky and Jones, 1946, 1947, 1948), and contains the general conclusions to be drawn from them. The effects of ovariectomy and of androsterone, oestradiol benzoate-butyrate, progesterone, and thyroid hormone, given alone or in various combinations, were investigated on the process of ageing in ovariectomized rats. All these hormones, including the androgenic hormone androsterone, are naturally present in the female organism. The literature relating to some parts of this subject is extensive and it was reviewed in detail in the previous articles. Therefore, for economy of space, the papers of only a few workers are here referred to. For the same reason our previously published detailed tables are summarized in three abbreviated tables and the illustrations are omitted.

Main Lines and Methods of Gerontological Research

The best definition of old age was given by Prof. Warthin (1930): essentially old age is a major involution of the organism, of all its vital organs and tissues and of all their functions. Surprisingly, this ageing involution starts in most organs very early, at childhood. Therefore gerontological research can be carried out on individuals of any age. Hence there are two chief approaches to gerontology: *research on ageing in young or adult individuals* (as in the present experiments) and *research on actual old age or senility in old animals or old human beings*. It is obvious that both these ways are equally important. For therapeutic purposes of geriatrics the investigation of ageing in the earlier years of life is of great importance, since it might contribute to the problem of prevention of the present premature and abnormal senility.

The ageing involution of at least some organs should first show itself in the decrease in their relative weight, i.e., in the relative hypoplasia of organs (Korenchevsky, 1942). On the other hand, if any factor has some anti-ageing effect on a certain organ, it should increase its weight and produce hypertrophy of that organ. Obviously the changes in weight of organs alone cannot be sufficient for conclusions on hypertrophic, atrophic, or especially on any degenerative changes. For this purpose at least histological examination is necessary in order to eliminate errors in cases of enlargement of the organs due to oedema or hyperaemia, and to discover degenerative changes, etc. However, a complete understanding and an accurate definition of the processes of ageing and of the anti-ageing properties of any factor examined could be obtained only after the performance of several morphological, physiological, and biochemical investigations, both experimental and clinical.

Technique of the Present Experiments

Five experiments were performed on 197 female rats, of which 11 were normal controls, 29 ovariectomized controls, and 157 ovariectomized rats treated with hormones. The

¹ I should like to express my gratitude to Lord Nuffield for the grants which have made possible the establishment and work of the Gerontological Research Unit, and to Prof. A. C. Hardy and Prof. E. G. T. Liddell for the kind hospitality extended to the Unit in the Departments of Zoology and Physiology of Oxford University.

duration of Experiments I and II was 56 to 76 days, and of Experiments III-V, 43 to 52 days.

Besides these five experiments a re-examination and a recalculation were made from some other earlier experiments in which a total of 54 normal and 325 ovariectomized rats were used in order to study the effects of ovariectomy and oestradiol administration. In different experiments the weights of organs might vary, and those of the experimental groups have to be compared with the weights of the respective control groups of each experiment. All sex hormones in experiments I-IV, and oestradiol benzoate-butyrate in Experiment V, were injected in oily solution. Progesterone and androsterone in Experiment V were injected as a crystalline emulsion suspended in 5% gum acacia. Desiccated thyroid was administered by mouth with a pipette in the form of a sweetened emulsion. Thyroxine was injected subcutaneously.

Each of the hormones investigated, except progesterone, was administered separately or in various combinations with other hormones. Progesterone was always injected with oestradiol B-B. The following weekly doses were used.

Experiment I.—Desiccated thyroid, 105 mg. ("small dose"); oestradiol B-B, 0.015 mg. ("small dose"), injected for three weeks only, or 0.09 mg. ("large dose"), injected every week; androsterone 4.5 mg.

Experiment II.—Desiccated thyroid, 250 mg., + thyroxine, 8 mg. ("large dose"); oestradiol B-B, 0.015 mg., injected for the first three weeks and two last weeks ("medium dose"). The doses of oestradiol B-B. ("large dose") and androsterone were the same as in Experiment I.

Experiments III and IV.—Desiccated thyroid, 65 mg., three times a week; oestradiol B-B, 0.028 mg., during first week only; progesterone, 2 mg., daily during last 19 days.

Experiment V.—Desiccated thyroid, 60 mg., three times a week; oestradiol B-B, 0.015 mg., injected three times during first week only; crystalline suspensions of androsterone, 10 mg., and progesterone, 10 mg., injected every 8th or 10th day.

The following methods of investigation were used: weighing of the organs and body fat (as indicated by weight of the abdominal fat); examination of the size of the cells by outlining them on paper and weighing the paper replicas obtained; measurement of the nuclei; count of mitoses; usual histological examination of the sections stained with haematoxylin and eosin, and, for lipoids, with Sudan black. All organs were weighed after fixation in Bouin's solution, except brain and hypophysis, which were fixed in 4% formol-saline. The relative weights have been calculated per unit of "fat-free" body weights for reasons explained below.

All details of the methods used were given in the previous papers (Jones and Korenchevsky, 1946; Korenchevsky and Jones, 1946, 1947, 1948). All results obtained were statistically analysed by means of Fisher's t-test for small samples. For the greater part of the statistical analyses I am indebted to Mr. B. Benjamin, the head of the L.C.C. Statistical Bureau, and for the other part to my co-worker, Miss V. E. Jones.

Ageing Hypoplasia of Organs

When the relative weights of organs in our normal intact female rats were calculated in the usual way—i.e., without subtraction of body fat—a progressive decrease of these weights was shown with ageing. A confirmation of these results was found in Donaldson's (1924) data and, after their recalculation, in those of Prof. Freudenberger and his co-workers (1935-1939). Neither Donaldson nor Freudenberger *et al.* investigated the amounts of body fat. Such an omission might lead to serious mistakes for two reasons:

1) The size and weight of an organ are determined to a

greater or lesser extent by the amount of work which that organ has to perform independently of, or for the maintenance and functioning of, correlated organs and tissues; from this point of view the inert fat tissues cannot be compared with any active tissue—e.g., muscular, glandular, nervous, etc. (2) When compared with a thin animal, the large fat deposition in the body of a fat animal will, when the organs are calculated per unit of body weight, give a fictitious decrease in the organs.

Since we always weighed abdominal fat, using this value we could roughly calculate the total body fat in our experiments. From the age of about 30 to 50 days to that of about 800 days these "fat-free" weights show a decrease (relative hypoplasia of organs) in thyroid, thymus, liver, kidneys, spleen, and brain. This decrease, however, was less pronounced than in the Donaldson-Freudenberger data. and in some organs (ovaries, adrenals, hypophysis) was developing from the age of sexual maturity only, or sometimes (heart) even later.

Effects of Ovariectomy (Artificial Climacteric).—Ovarian hypoplasia and hypofunction are the foremost factors in producing the climacteric in the senescent female organism. Therefore from an experimental point of view the condition produced in the young or adult female organism by ovariectomy might be considered as an artificial, premature, and extreme "climacteric" of purely gonadal origin. Thus the investigations of the changes produced by ovariectomy might explain several features in the climacterical symptom-complex. Comparing the age at which it appears and the rate of its development, the relative decrease of organs in our experiments was more pronounced in ovariectomized rats than in the normal controls. So far this has been confirmed histologically in the case of sex organs, liver, kidneys, and thyroid. The interpretation of the changes in adrenals is more difficult. Thus, as judged by the rate of involution of organs, ovariectomy accelerates the process of ageing.

Effects of Hormones on Ovariectomized ("Climacterical") Rats.—Tabulated detailed data and photomicrographs were given in the previous papers. The chief aim here is to demonstrate those non-sex organs in which the changes obtained were definite and statistically significant. Some new unpublished data are included in the tables. In order to show that the effects of hormones are evident both in actual and in relative weights, Table I contains the actual weight of organs, while Tables II and III contain the relative weights per 200 g. of "fat-free" body weight. So far histological examination has been made of uterus, vagina, adrenals, thyroid, liver, and kidneys.

TABLE I.—Effect of Androgenic, Oestrogenic, and Thyroid Hormones, Administered Separately or Simultaneously, on Actual Weight of Organs in Experiment II

Organs	Ovariectomized Controls	Thyroid Hormone (Large Dose)	Oestradiol B-B. (Medium Dose)		Androsterone		
			Alone	+ Thyroid Hormone (Large Dose)	Alone	+ Thyroid Hormone	+ Thyroid Hormone + Oestradiol B-B.
Adrenals (mg.)	55	86	84	135	42	70	123
Hypophysis (mg.)	15.4	14.2	19.8	19.8	15.2	14.7	15.7
Liver (g.)	6.79	9.17	5.01	11.55	8.78	9.99	10.37
Kidneys (g.)	1.44	2.12	1.60	2.54	1.65	2.18	2.60
Heart (mg.)	768	1,123	813	1,200	893	1,162	1,110

Effects of Thyroid Hormone.—This hormone has both stimulating and depressing properties. The stimulation was definitely demonstrated with a suitable dose in hypertrophy of adrenals, liver, kidneys, heart, and spleen (Table I), and in the histological changes obtained. These results are in close agreement with those of previous workers, as was shown in our review of the literature on the subject (Korenchevsky and Jones, 1946, p. 327). Depressing effects have been observed in a decreased function of thyroid gland, a smaller gain in body

weight, and decreased fat deposition. These changes obtained in ovariectomized rats are in complete agreement with those found in the previous experiments on normal rats (Korenchevsky, Hall, and Clapham, 1943; Korenchevsky and Hall, 1944). Uterus and vagina remained atrophic, but their epithelium and the muscular cells were slightly better developed than those in control ovariectomized animals.

Effects of Androsterone.—The stimulating effects of androsterone are shown (Tables I and II) in increased weight of vagina, liver, kidneys, heart, and in slightly better gain in body weight and fat deposition. Histologically the following changes

TABLE II.—Return of "Fat-free" Relative Weights of Organs Towards or Up To the Level Present at Earlier Age After Simultaneous Administration of Oestradiol B.B., Androsterone, and a Large Dose of Thyroid Hormone in Experiment II

Organs	Normal Intact Control Rats		Ovariectomized Rats Aged 152 Days	
	Aged 65 Days	Aged 152 Days	Controls	Treated with Three Hormones
Adrenals (mg.) ..	79	68	51	111
Thyroid (mg.) ..	20.9	16.7	13.0	15.3
Liver (g.) ..	9.8	7.7	6.3	9.5
Kidneys (g.) ..	1.8	1.7	1.3	2.3
Heart (mg.) ..	786	871	714	1,000

were found: slightly better development of still atrophic uterine epithelium, and better development of all vaginal layers; larger liver cells and a greater number of large nuclei; larger renal tubules with enlarged lumens; in thyroid—a definitely more active columnar epithelium, with less colloid in follicles (i.e., a stimulation of the gland). Androsterone, however, had a definitely depressing effect on adrenals, as shown by their small weight and the smaller size of their cells and nuclei; their lipid content was also decreased. The involution of thymus was accelerated, as is the case with all male sex hormones.

Effects of Oestradiol Benzoate-Butyrate.—Oestradiol B.B. (Table I) exerts varying effects, depending on the dose administered. Since it usually depresses growth and gain in body weight, the examination of the relative weights of organs be-

TABLE III.—Return of "Fat-free" Relative Weights of Organs Towards or Up To the Level Present at an Earlier Age after Administration of Progesterone, Oestradiol B.B., Androsterone, and a Small Dose of Thyroid Hormone in Experiment V

	Ovariectomized Rats, aged 175 Days					Normal Intact Controls aged 52 Days
	Controls	Androsterone	Thyroid Desicc. (Small Dose)	Progesterone		
				+ Oest-radiol B.-B.	+ Oest-radiol B.-B. + Androsterone + Thyroid Desicc.	
Abdominal fat (g.) ..	11.0	13.6	7.1	12.6	10.2	1.7
Adrenals (mg.) ..	44	34	59	59	62	57
Liver (g.) ..	6.08	7.50	6.80	8.21	7.79	10.43
Kidneys (g.) ..	1.15	1.44	1.56	1.42	1.69	1.96
Spleen (mg.) ..	842	768	984	809	1,000	1,634
Heart (mg.) ..	670	730	905	777	831	1,009

comes especially important. The best results were produced by medium doses, which, besides the well-known hypertrophic effect on the uterus and vagina, increased the relative weights of the adrenals, hypophysis, liver, kidneys, and, in some experiments, of the heart. Small doses might have no effect, while comparatively large doses produce a less stimulating and more toxic action. Among the toxic effects, the metaplastic changes of the uterine epithelium and glands, the development of adenoma-like structure in thymus (Ross and Korenchevsky, 1941; Plagge, 1946), and the tumour-like enlargement of the hypophysis are very important. Histologically, non-toxic doses produced in adrenals enlargement of the cortex, enlargement of the fasciculate cells, and an increase in number of large nuclei. While small and medium doses usually do not change the structure of adrenals, except for the above-mentioned hypertrophic features, the larger doses produced atrophy and

degenerative changes in the reticularis cells, with a considerable hyperaemia of this zone and a lipid depletion in the glomerulosa. With non-toxic doses the cells became enlarged in liver and kidneys, in some experiments significantly; likewise their nuclei. With the doses of oestradiol used no definite changes were found in thyroid structure.

Simultaneous Administration of Thyroid Hormone and Oestradiol B.B.—This association of hormones produced a stimulating hypertrophic action on some organs which was more pronounced than with either hormone alone. This was shown in the weight of the adrenals, liver, and kidneys (Table I), and histologically in the cortex of the adrenals and, in some cases, in the liver and kidney cells.

Simultaneous Administration of Androsterone with Oestradiol or with Thyroid Hormone.—With both these combinations the two latter hormones had an important neutralizing effect on the depressing, harmful action of androsterone on the adrenals. This was shown both in weight of adrenals (Table I) and in the return of their histological structure towards or up to normal. On the other hand, a neutralizing effect of androsterone was evidenced histologically by some decrease of the thyroid depression produced by small doses of thyroid hormone. The changes brought about in the thyroid by large doses of thyroid hormone were resistant to this action of androsterone. Other organs showed chiefly the effects of thyroid hormone, the latter overcoming the effects of androsterone.

Simultaneous Administration of Three Hormones—Androsterone, Oestradiol B.B., and Thyroid Hormone.—This combination produced (Tables I and II) effects similar to those of thyroid hormone + oestradiol, and androsterone + thyroid hormone. The neutralizing action on pathological changes in the adrenals and thyroid gland was also present. Histologically the adrenals had a structure similar to that in normal rats (except for the large size of the gland and their cells). Metaplasia of the uterine epithelium and glands was still present, but otherwise, with this combination of hormones, the structure of both uterus and vagina was closest to that in normal rats.

Insufficiency of the Three Hormones Used in Obtaining Normal Anti-involuntary Effects.—Some of the toxic or pathological effects observed with the combinations of the hormones used could not be prevented by any one of them. It is known, however, that the metaplasia of uterine epithelium produced by oestrogens, or the adenoma-like transformation of uterine glands produced by a combination of oestrogens with androgens (Korenchevsky and Hall, 1938, 1940), or the development of abdominal fibroid tumours after treatment with oestrogens (Lipschütz and Schwarz, 1944; Lipschütz *et al.*, 1944) could be prevented by progesterone. Therefore it was decided to administer progesterone in various combinations with the three hormones already investigated.

Progesterone in Combination with Oestradiol B.B.—This combination had a definite stimulating action on the thyroid, adrenal cortex, kidneys, and liver (Table III), producing hypertrophy of their cells. Liver and adrenals and, in the experiment, kidneys and heart had significantly greater weight. Involution of thymus was accelerated, and all pathological changes in the uterine epithelium and glands were prevented. **When three or four hormones**—progesterone, oestradiol B.B., and thyroid hormone, with or without androsterone (Table III)—were administered simultaneously the pathological changes in uterine epithelium were also prevented; the depressing action of androsterone on adrenals was neutralized, as was to a certain extent the depressing effect of thyroid hormone on the thyroid gland; the cells and their nuclei in the fasciculate zone of adrenals, in liver, and in kidneys were hypertrophied. Histologically, the progestational changes were found in uterus and vagina, being intensified in uterus with an androsterone-containing combination.

Discussion

It was well established by previous workers that in an ageing organism it is possible to return the secondary sex organs towards or up to normal size and weight by administration of sex hormones. In the present experiments the combined administration of sex and thyroid hormones produced a similar return towards or to normal weight in such

organs as adrenals, thyroid, liver, kidneys, spleen, and heart. Moreover, as the data in Tables II and III demonstrate, by such treatment it is possible to bring back atrophied adrenals, liver, kidneys, and heart towards or to their relative weight present at the earlier age. It is necessary, however, to mention that these results were obtained in ovariectomized animals. The results of similar experiments on intact normal animals are under examination, and doubtably will reveal some important differences.

As shown in the present experiments, when examining the beneficial action of any factor on the process of ageing it is dangerous not to take into consideration the harmful effects which are present simultaneously with the useful ones. The harmful effects might become especially dangerous in prolonged treatment or with larger doses, although the favourable effect might be much more striking with larger doses (Tables I and II) than with weaker ones (Table III).

Summary

Experiments were performed in order to study the effects of ovariectomy and of oestradiol benzoate-butyrate, progesterone, testosterone, and thyroid hormone, administered separately or various combinations, on the process of ageing in ovariectomized rats. Involution of some organs, as shown by changes in their relative weights, was taken as an indication of ageing. Ovariectomy—i.e., artificial "climacteric"—as judged by relative involution of organs, accelerates the process of ageing in rats.

All the hormones investigated possess two more or less pronounced properties: a stimulating, in most cases hypertrophic, ion, and simultaneously in some cases a pathological or depressing effect, on uterus, vagina, preputial glands, thymus, spleen, and such vital organs as adrenals, thyroid, hypophysis, heart, kidneys, and heart, also on fat deposition and body weight. These effects were exerted on all of these organs and actions, or on some of them only.

The stimulation and hypertrophy of the organs and tissues during their structure nearest to normal was obtained when four hormones were administered simultaneously in suitable, excessive, doses. In this way a co-operation of useful properties and more or less complete neutralization of pathological effects occurred.

Thus simultaneous administration of the hormones may prevent some damaging effects due to hyperhormonization produced by a single hormone. Such hypersecretion of a single hormone is unnatural in the normal organism, in which all hormones are secreted simultaneously in a certain balanced way.

The plurihormonal treatment used stopped the ageing involution of some organs in ovariectomized rats, and, moreover, brought the relative weights of these organs towards or up to the level observed at a younger age.

The above-mentioned results, however, do not warrant a definite conclusion whether the hypertrophy developed in some organs by the hormonal treatment should be considered as a kind of artificially produced deformity or else, it appears to be, as some favourable check to the process of ageing. These results prove only that some processes of ageing can be influenced arbitrarily.

It is necessary to emphasize strongly that before we can use any agent as an anti-ageing factor, especially for therapeutic purposes, more manifold investigation than that of the changes in weight and histological structure of some organs in the present experiments must be made. For this purpose, both experimental and clinical, many-sided and prolonged pathological, biochemical, and physiological experiments are necessary.

It is obvious that a complete picture of the effect of plurihormonal treatment on the process of ageing will be obtained only with the use of a combination of all the main hormones, especially those of the adrenal cortex and hypophysis.

I am indebted to Messrs. Ciba Ltd., in particular to Dr. K. Scher, for a generous supply of sex hormones, and to Messrs. Roux Wellcome and Co. for desiccated thyroid.

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SERUM IRON IN NORMAL WOMEN

BY

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It was Fontes and Thivolle who first demonstrated that minute amounts of iron circulate in the serum. Since then much work has been done on serum-iron analyses, but not until recent years have the methods in use been sufficiently reliable.

The normal values for serum iron have not yet been fully established. Some authors have reported sex differences in the serum-iron concentration, while others deny their existence. So far, the normal amounts observed vary between 0.035 and 0.22 mg. per 100 ml. Most authors estimate the serum iron to be about 20 γ per 100 ml. lower in women than in men. Altogether about 1,000 determinations have been carried out on 21 "normal" subjects. These cannot be said, however, to be sufficient to elucidate this problem, particularly as the technique employed by the various authors has varied. It is possible, too, that the serum-iron concentration may have changed somewhat (i.e., given slightly pathological values) in individuals who have been looked upon as healthy. For determination of serum-iron values it is essential to be careful in the choice of the "normal" individual, because serum iron is a very labile plasma element, the concentration of which is dependent on many factors—e.g., absorption and excretion of iron, size of the depots, haemoglobin production, breakdown of haemoglobin, etc. In order to be quite sure that "normal" individuals are used it is necessary to ascertain whether the diet of the person concerned has contained a sufficiency of vitamins and minerals with a suitable amount of vegetables and meat. Then all the states of deficiency that influence iron metabolism will have been excluded. In addition, it is necessary to make sure that he has not recently been suffering from an infection or, if so, that recovery is complete; for infections interfere with iron metabolism, as is evident occasionally from the occurrence of infection anaemia.

It seems probable that the greatest variations in serum-iron concentration will be found in women, for the blood lost during menstruation may reasonably be expected to reduce the amount of serum iron. Besides, most women go

through one or more pregnancies, which may be assumed to influence iron metabolism and therefore the serum-iron concentration. Finally, the life of a woman may be divided into three periods, the menarche and the menopause forming the borderlines. All these conditions suggest that the iron metabolism must be far more active in women than in men, as in the latter only pathological conditions may conceivably affect it.

While the normal values for serum iron obtained by individual authors vary to some extent, collectively they give a fairly good idea of where the limits are to be set. Heilmeyer and Plötnner (1937), Skouge (1939), Albers (1941), and Dahl (1945) give somewhat lower values than do other authors.

Present Investigation

Among the subjects in the present series in whom the above-mentioned requirements have been met, three showed a serum-iron concentration of only 68 γ per 100 ml. and one of 69 γ . The highest values measured were 194, 166, 154, 146, and 143 γ per 100 ml., while all the others were under 140 γ .

According to these findings it seems not improbable that in women the normal serum iron varies between 70 and 140 γ per 100 ml. If in a woman we meet with a value under 70 γ we are probably dealing with a case of sideropenia; and if the value exceeds 140 γ it is not unreasonable to assume that the case is one of sideraemia (perhaps physiological sideraemia). It is difficult to decide when increased values are pathological, but values over 200 γ per 100 ml. must be regarded as decidedly so.

Technique.—First Poul Wehmeyer and I tried the technique of Bröckner-Mortensen and Carsten Olsten (1940); but later I employed the method of Balle (1942) and Höyer (1943), which has proved to be rapid and very accurate. Briefly, the method is as follows:

Sufficient blood is withdrawn to give 3 ml. of serum. One can manage with 1.5 ml., but then the duplicate analyses can be carried out only on diluted serum, and this makes the error 2 to 4% greater. To 3 ml. of serum, 1.5 ml. of 6N HCl is added, and the whole shaken; this liberates the serum iron. When the mixture has been standing for 15 minutes, 3 ml. of 20 vol. % trichloroacetic acid is added, again shaking; this precipitates the proteins. After standing for a few minutes the mixture is centrifuged at 5,000 revolutions a minute for 30 minutes. To 3 ml. of the clear supernatant fluid 80 c.mm. of concentrated nitric acid is added, and also 0.8 ml. of 5N potassium thiocyanate solution. The result is read within 10 minutes in a Pulfrich photometer with a 50-mm. microcuvette and filter 553. The control solution consists of iron-free water with the addition of the above-mentioned reagents.

The haemoglobin determination and the red blood count were performed on venous blood immediately after its withdrawal; the blood was obtained from a median vein.

Results

Altogether 112 analyses were performed on blood from healthy women, and the results are recorded in Tables I, II, III, and IV.

TABLE I.—Serum-iron Determination on 9 Girls before the Menarche. The Average Value is 111 γ per 100 ml.

Age	Height (cm.)	Weight (kg.)	Hb%	Erythrocytes in Millions	Serum Iron in γ /100 ml.
9	121	22	90	4.72	100
11	146	39	102	5.02	136
12	130	28	99	4.69	102
13	147	36	102	5.11	116
13	148	36	91	4.89	126
14	158	49	86	4.94	97
14	164	51	98	4.33	100
14	151	44	97	4.98	83
14	160	52	88	4.18	136

In nine girls in whom menstruation had not yet started the serum-iron values were between 83 and 136 γ per 100 ml. (Table I). One girl whose first menstruation appeared 19 days before the examination (the first subject in Table II) showed a serum-iron value of 84 γ . In 63 women with normal menstruation the serum-iron concentration varied between 68 and 154 γ per 100 ml. In 16 women in whom the menopause had appeared it varied between 76 and 194

TABLE II.—Serum-iron Concentration in 63 Normal Women between the Menarche and the Climacteric

Age	Height (cm.)	Weight (kg.)	No. of Days After Last Menses	Hb%	Erythrocytes in Millions	Serum Iron in γ /100 ml.
14	168	70	19	100	4.72	84
15	167	68	6	92	4.61	126
15	158	61	3	91	4.42	85
16	163	57	During	92	4.28	113
16	158	54	14	94	4.76	121
17	170	62	26	88	4.43	146
17	166	70	2	93	4.87	94
17	174	70	18	88	4.43	136
17	164	60	10	86	4.39	84
18	164	60	24	92	4.88	98
19	169	65	24	86	4.18	91
19	166	65	8	89	4.48	106
19	180	72	19	92	4.60	106
20	160	56	9	84	4.00	117
20	166	72	8	88	4.70	130
20	178	72	23	86	4.14	128
20	161	60	12	108	4.90	154
21	166	62	31	106	5.06	139
21	152	52	4	101	4.63	72
21	163	50	15	92	3.98	68
21	160	61	11	98	4.71	94
21	168	68	20	92	4.58	113
21	162	54	23	100	4.68	115
22	177	73	20	100	4.99	89
22	169	63	2	92	4.80	124
22	166	60	2	91	4.61	75
22	165	53	During	90	4.59	75
22	171	65	13	95	4.58	95
22	161	58	1	106	5.03	91
22	164	50	8	88	4.24	94
23	176	76	8	99	4.77	83
23	169	66	3	92	4.10	95
23	168	65	3	94	4.87	82
24	174	68	28	97	4.93	139
24	158	64	14	91	4.75	82
25	175	65	19	94	4.17	100
25	175	63	During	84	4.61	93
26	160	61	30	98	4.86	106
26	173	81	22	89	4.46	141
26	171	69	13	88	4.82	134
28	162	69	23	102	5.00	114
28	169	72	3	101	5.04	95
29	173	69	3	85	4.62	88
29	178	72	25	90	5.04	115
30	170	59	14	88	4.56	118
31	173	81	6	90	4.50	102
31	171	88	9	88	4.66	114
32	165	69	12	92	4.55	120
32	153	54	18	88	4.20	83
32	162	82	18	89	4.56	118
33	170	80	14	98	4.58	68
35	167	68	12	92	4.52	69
35	164	59	2	86	4.33	63
35	166	67	6	86	4.01	63
36	159	64	8	101	4.69	134
36	163	69	10	98	5.40	140
37	159	61	9	90	4.30	138
38	183	89	11	97	4.86	56
39	174	72	20	99	4.60	124
41	169	76	11	89	4.29	113
43	172	78	9	87	4.46	78
44	168	59	16	87	4.28	75
45	168	78	20	103	5.06	97

TABLE III.—Serum Iron in 16 Normal Women after the Menopause (Average 113 γ per 100 ml.)

Age	Height (cm.)	Weight (kg.)	No. of Years After Climacteric	Hb%	Erythrocytes in Millions	Serum Iron in γ /100 ml.
48	158	58	11	99	4.46	128
48	167	60	2	83	4.09	103
48	166	67	3	94	4.63	194
49	170	78	3	96	4.62	132
50	169	81	1	100	4.82	91
51	157	68	3	92	4.78	107
53	162	68	5	98	4.26	76
57	164	74	10	97	4.70	52
58	166	70	3	102	5.04	81
58	162	69	10	102	5.16	103
59	154	59	7	90	4.29	116
60	162	73	8	100	4.98	65
62	167	89	19	100	4.76	133
63	161	59	18	92	4.01	83
64	162	91	20	104	4.86	107
77	156	62	28	87	4.28	156

TABLE IV.—Parallel Changes in the Haemoglobin Percentage, Erythrocyte Count, and Serum Iron During the Menstrual Cycle of Four Hundred Women

Days of Cycle After Menstruation	No. 1			No. 2			No. 3			No. 4		
	Hb%	Erythrocytes in Millions	Serum Iron in $\gamma/100$ ml.	Hb%	Erythrocytes in Millions	Serum Iron in $\gamma/100$ ml.	Hb%	Erythrocytes in Millions	Serum Iron in $\gamma/100$ ml.	Hb%	Erythrocytes in Millions	Serum Iron in $\gamma/100$ ml.
During	84	4.61	98	85	4.41	88	82	4.02	80	79	4.00	78
6	85	4.45	78	90	4.50	102	84	4.16	83	82	4.04	85
13	89	4.34	93	87	5.32	93	96	4.46	88	89	4.20	83
20	94	4.28	126	92	4.43	105	94	4.74	102	90	4.33	87
27	89	4.04	155	95	4.51	112	100	4.96	106	93	4.41	94
During	80	3.89	69	92	4.39	96	90	4.29	87	85	4.12	83

TABLE V.—Serum-iron Values in Relation to the Menstrual Cycle

Days of Cycle	Serum Iron in $\gamma/100$ ml.	Days of Cycle	Serum Iron in $\gamma/100$ ml.
During	95.3	16-18	112.3
1-3	88.3	19-21	100.6
4-6	98.6	22-24	114.8
7-9	112.3	25-27	130.5
10-12	108.7	28-30	125.5
13-15	99.2	31-33	139.0

Table III). The average values for girls and elderly women are 111 and 113 γ per 100 ml. respectively, while the average for menstruating women was 105 γ . This indicates that the serum-iron concentration is somewhat lower in menstruating women than in the non-menstruating.

It has been asserted that this lower value in menstruating women is due to the loss of iron month after month. The

work here reported indicates that this theory is correct. In order to obtain further corroboration four perfectly normal women were examined throughout a menstrual cycle (Table IV). The examination showed that the serum iron reached its highest value immediately before the menstruation, while the lowest values were found during and immediately after.

In Table V the 63 serum-iron values obtained in menstruating women (from Table II) are grouped after the menstrual cycle.

Here, too, we find the same values shortly before the expected menstruation. The Chart illustrates the distribution of the serum-iron values obtained in the present series. It shows how the normal limits—70 and 140 γ per 100 ml.—are arrived at.

Summary

Determination of the serum iron has been carried out on 92 healthy females receiving an adequate diet. The five highest values were 194, 166, 154, 146, and 143 γ per 100 ml.; while the three lowest values were 68 γ .

The serum-iron concentration was found to be lower in menstruating women than in those not menstruating.

The theory that the lower serum-iron value in menstruating women was due to loss of iron month after month is confirmed to be proved by the results obtained.

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REFRACTORY IRON-DEFICIENCY ANAEMIA TREATED WITH INTRAVENOUS SACCHARATED OXIDE OF IRON

BY

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In a recent article by Nissim (1947) the use of saccharated oxide of iron for intravenous injection is described. The following case is reported because the patient responded dramatically to parenteral iron therapy subsequent to the failure of the oral administration of iron in large amounts for long periods, supplemented at various times with ascorbic acid, thyroid extract, molybdenized ferrous sulphate, parenteral liver extract, and folic acid.

Case History

The patient, a woman aged 29, was first admitted to hospital on June 13, 1945, with a three-months history of breathlessness and fatigue. Her appetite and diet had always been satisfactory, she had never suffered from dyspepsia or diarrhoea, her periods were not excessive, and there was no evidence of any other source of blood loss. On examination there was no oedema. The nails, although brittle, were not flattened. Some atrophy of the papillae of the tongue was present. The liver, spleen, and lymphatic glands were not enlarged. Physical examination of the cardiovascular, respiratory, renal, alimentary, and central nervous systems revealed no pathological features. The patient's intelligence was below average.

A test meal showed that free hydrochloric acid was present in the gastric juice. There was no excess of urobilinogen in the urine, and the stool benzidine test was negative. Radiological examination of the alimentary tract revealed no abnormality. The haemoglobin was 30%; erythrocytes, 2,850,000 per c.mm.; colour index, 0.53; white cells, 2,800 per c.mm.; reticulocytes <1%. The sternal marrow contained numerous late normoblasts of the type seen in iron-deficiency anaemia.

There was no response to ferrous sulphate, 3 gr. (0.2 g.) thrice daily for 24 days, followed by 6 gr. (0.4 g.) thrice daily for 20 days. Supplements of ascorbic acid, thyroid extract, and liver extract were given in turn, with no beneficial results. Accord-

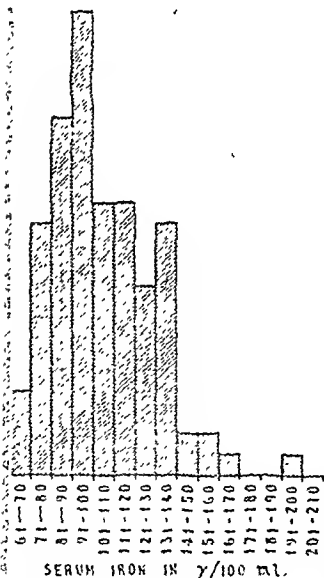


Fig. 1 showing amount of serum iron in normal non-pregnant women

Fig. 1 showing amount of serum iron in normal non-pregnant women. The Chart illustrates the distribution of the serum-iron values obtained in the present series. It shows how the normal limits—70 and 140 γ per 100 ml.—are arrived at.

ingly she was given a transfusion of 3 pints (1.7 litres) of blood, which raised the haemoglobin level to 68%. She was discharged on Aug. 7, and continued to take ferrous sulphate, 3 gr. three times a day, as an out-patient.

She was readmitted on May 1, 1946, with a haemoglobin level of 51%. Physical examination again revealed no explanation for the anaemia. The possibility existed that the anaemia was dependent on some failure of absorption, although neither clinical nor radiological examination of the alimentary tract had revealed any abnormality. Accordingly a fat-balance test was done, and absorption of fat was found to be normal. A liver biopsy showed no pathological change. Sternal puncture was repeated and a normoblastic marrow again demonstrated, although this time it was somewhat hypoplastic. As no response occurred to continued iron therapy, a further 2 pints (1.14 litres) of blood was given, and this raised the haemoglobin level to 68%. The patient was discharged from hospital on May 14 with instructions to continue taking ferrous sulphate, 6 gr. (0.4 g.) thrice daily.

She was admitted to hospital for the third time on May 5, 1947, with a haemoglobin reading of 38%; erythrocytes, 3,180,000 per c.mm.; colour index, 0.6; white cells, 2,000 per c.mm.; P.C.V., 23%; M.C.V., 72.3 c. μ ; M.C.H.C., 22.8%. A histamine-fast achlorhydria was found. Radiological examination of the skeleton showed no abnormalities. The stool benzidine test was repeatedly negative. A third sternal puncture showed numerous late normoblasts. Folic acid and molybdenized ferrous sulphate were in turn given a trial, but produced no haematological or clinical benefit.

It was now decided to try saccharated oxide of iron intravenously. The preparation was made up according to the method described by Nissim (1947). She was first given 10 mg. of elemental iron as saccharated iron oxide in 1 ml. of solution, the dose being increased to 20 mg., 25 mg., and 50 mg. on successive days. Thereafter she received 14 injections of 100 mg. in 10 ml. of solution over a period of approximately 50 days. During this period the haemoglobin rose from 36% to 90% and the red cells from 2,860,000 to 4,650,000 per c.mm.

Her general clinical state was now excellent. All therapy was stopped, and when the patient was seen again a month later her haemoglobin was 94%; erythrocytes, 4,690,000 per c.mm.; colour index, 1.

The maximal reticulocyte count of 3.2% was on the tenth day after the first intravenous injection of iron. The patient had marked reactions (sickness and rigors) with the last three injections, all of which were given very slowly.

Severe reactions have also occurred in several other cases of iron-deficiency anaemia which we have treated with a solution of saccharated iron oxide given intravenously. We would therefore suggest that further work is required on the preparation of solutions of iron for intravenous injection before parenteral iron treatment is used by general practitioners.

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Medical Memoranda

Bilateral Tubal Gestation

The following case of bilateral tubal pregnancy encountered in Iraq is of particular interest as it occurred in a patient known to have salpingitis.

CASE REPORT

The patient, an Arab married woman aged 30, had had two children, aged 10 and 4. Following the birth of the second child she developed a discharge and was found to have a gonococcal cervicitis and salpingitis. Until her admission she did not conceive again. Her periods had been moderately regular, but the accuracy of this statement is open to doubt. She had been in hospital on several occasions during this time with lower abdominal pain and vaginal discharge, diagnosed as salpingitis, the last admission having been eight weeks before her present illness. Again gonococci were found in the cervical smear. She returned complaining of an attack

of left-sided abdominal pain and discharge, but in addition stated she had missed two periods.

On admission she was in no distress. The pulse was 90 and the temperature normal. There was tenderness in the left iliac fossa, and vaginal examination showed a little bloody discharge, normal uterus and cervix, and a tender, rather indefinite swelling connected with the left tube. A diagnosis of salpingitis, but with the reservation that an ectopic gestation might be present, was made, and she was kept in bed in Fowler's position and given sulphathiazole. The pain subsided, but four days later she had a sudden attack of severe right lower abdominal pain, with a rise in pulse rate and abdominal distension, associated with tenderness and fullness in the right fornix. A blood count showed: red cells, 4,000,000; white cells, 11,000 (75% polymorphs). She was not severely ill or distressed in spite of this, and laparotomy was not performed. The distension and pain decreased steadily, and it was not until fourteen days after this attack that laparotomy was undertaken. Then the physical signs had altered radically. The swelling on the left was more definite, and was a mobile mass in the left iliac fossa, not felt from the pelvis at all. The uterus was raised and displaced to the left, and there was a semi-cystic swelling in the right fornix extending up into the right iliac fossa.

Operation.—A lower midline incision was made under general anaesthesia. There was a typical left tubal pregnancy occupying the distal half of the tube, with no sign of leaking of blood into the peritoneum. This was removed. On the right there was a haematoma walled off by adhesions extending into the pouch of Douglas and up into the right iliac fossa. The blood clot was removed. There was no sign of a bleeding point, but the uterine end of the right tube was eroded completely through for about an inch (2.5 cm.), the ends being friable. There did not seem to be any doubt that the haematoma had originated from here and could only have been from a tubal gestation. The ends of the tube were ligated and the abdomen closed. Search for embryonic remnants in the clot was not successful, but considering the probable original size of the gestation this was not surprising. Section confirmed that the tumour removed was a tubal gestation, chorionic tissue being seen in the sections. Recovery was entirely uneventful.

COMMENT

Bilateral tubal pregnancy is rare, the last report of a case in the *British Medical Journal* being in 1937 by McIlrath. Cox and Steinberg (1942), in reporting a case, state that 80 cases are on record in readily available literature, but I cannot be certain whether McIlrath's case is included among these. A further case was reported by Tractenberg (1944).

The question whether the foetuses would have been simultaneously viable or not is a point of great interest in these cases, and is raised by Fishback (1939) in a general review of this subject; but, there being no visible remnants of the products of conception on the right side in the present case, no good comparison can be made. However, it is probable that the right foetus was younger than the left, as the latter gave symptoms only while the patient was in hospital, and it was not palpable on admission.

It will be noted that laparotomy was delayed in this patient, and a word of explanation might be of interest. In this part of Iraq non-urgent abdominal operations can be undertaken with complete safety, but operations for acute abdominal conditions carry an abnormally high liability to complications, most commonly an intractable ilcus. I can offer no explanation of this, but it has been the experience of several surgeons serving in this area.

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The Royal College of Nursing has arranged, with the approval of the Ministry of Health, a course for nurses on venereal diseases to be held on May 31 to June 26. It will be open to trained nurses who have been employed for at least six months in a venereal-diseases department. An examination will be held at the end of the course and a certificate awarded to successful candidates. Information may be obtained from: Director in the Education Department, Royal College of Nursing, Henrietta Place, Cavendish Square, London, W.1.

Reviews

CUSHING

Harvey Cushing. A Biography. By John F. Fulton. Publication No. 13 Historical Library, Yale Medical Library. (Pp. 754; 150 illustrations. 30s.) Oxford: Blackwell Scientific Publications.

Many will have had the pleasure of reading this book already, but its virtues are so great that it is only just that it should be referred to in these columns. Harvey Cushing added to his great scientific reputation by his excursions into the field of medical history and biography, notably by his well-known *Life of Osler*, and it is only natural that Prof. Fulton's biography should invite comparison. The differences between the two biographies lie chiefly in the disparity between the two subjects. Both have used similar methods: there are long extracts from journals and letters linked by a narrative commentary.

Official biographies may be deadly dull when they are written during the lifetime of close members of the hero's family. Osler emerged perhaps a trifle over-sanctified. The "Life" is enlivened by many flashes of criticism, directed of course at personal traits rather than total achievement, and it is all the better for it. Prof. Fulton has performed his task with great discretion and with the warm sympathy and insight which would be expected from one closely associated with his subject for so many years.

Cushing and Fulton shared a devotion in different ways to the nervous system, but the lasting bond between them, besides a very great mutual liking, was their passion for the history of medicine. This love of old books had been the original link between Cushing and Osler during the former's formative years in Baltimore, and it was this pursuit that made Oxford a home in Europe for Cushing after Osler had gone there. It brought Cushing many warm friendships, notably with A. C. Klebs, who, though not so intelligent as Cushing, was a better scholar than he.

Prof. Fulton has traced all these interesting threads in a way that is at once clear and interesting. Cushing's contribution to his own subject of neurosurgery shines from these pages, though Prof. Fulton does not venture on an analytical appraisal of Cushing's work on brain tumours. He touches on Cushing's inability to give as much credit as he should have done to others, especially to Horsley. In his middle period Cushing came to look on himself almost as the owner of the surgery of the nervous system. But despite those blemishes the guiding principles in all his work were admirable, notably his belief in the unity of medicine, his desire that no specialty should become isolated, and his lack of interest in the money motive of personal advancement.

Cushing's life history is that of a man dedicated to a particular service. He streamlined himself by refusing the distractions that pull the average man now this way now that to the ultimate diminution of his achievement. No one has devoted himself more passionately to an ideal by giving himself up wholly to the study of a special field of medicine. It meant for Cushing, first, improvements in method; secondly, a better understanding of the nature of different intracranial tumours and their effects; thirdly, a further improvement in methods based on the second, and so forth endlessly.

We turn the pages of this book with wistful eyes as we read of the Continental congresses and scientific meetings freely attended by famous men of all nations and realize sadly how much we miss by our present-day immobilization. Perhaps the biographer has given too much prominence to these public occasions, though an official "life" must necessarily record them all. On the whole Prof. Fulton has written a well-balanced book about one of the most remarkable and dynamic men of our time.

GEOFFREY JEFFERSON.

JOINT DISEASES

Arthritis and Related Conditions. Edited by Theodore Franklin Bach, M.D., F.A.C.P. (Pp. 472; 139 illustrations. \$6.50 or 36s.) Philadelphia: F. A. Davis Company. London: H. K. Lewis and Co. 1947.

The late Dr. Garfield Snyder originally planned this book, but owing to his untimely death Dr. T. F. Bach and his collaborators took over the task. The result is a somewhat uneven and often diffuse work on many aspects of joint disease and associated conditions. It is intended for the general practitioner, but it is more suited to the student. Those who wish to extend their knowledge of a group of diseases difficult to understand will find it interesting; the opening historical chapters will particularly please them. The elaborate classification and the form recommended for recording the history and physical examination, excellent though they may be for the intern, may put the busy doctor off at the outset.

The authors give much attention to the problem of focal infection and emphasize its importance, but the absence of controls weakens the conclusions. In the account of the gall-bladder and intestinal tract the figures convey the impression that the incidence, especially of gall-bladder infection, might be nearly as great as in patients with no evidence of arthritis. The dietary recommended for the arthritic, excellent though it may be, is quite impossible for most patients in Britain to obtain, and the food advised for one day's consumption would be found difficult to provide for three days under the present rationing conditions. The authors pay scanty attention to fibrositis and overlook much of the important work done in England during the last few years. Possibly this form of rheumatism is not so frequently met with in the U.S.A. Some of the suggestions for treatment provoke criticism: the use of paraffin wax for packs with a melting point of 167-176° F. (75-80° C.) is rather startling; the wax used in Britain has a melting point of 122° F. (50° C.) and the maximum temperature to be reached in its application is 140° F. (60° C.). The chapter on functional disorders of the foot is one of the best and contains much original observation and practical advice on treatment within the province of the general practitioner. The section on manipulation, with the directions given for splinting and supports of various types, is likely to be very useful.

An excellent chapter is that on x-ray treatment, for it is comprehensive and contains detailed information, based on wide practical experience, not readily accessible in so compact a form. That on x-ray diagnosis, from a different pen, is by no means as satisfactory.

C. W. BUCKLEY.

SURGERY FOR STUDENTS

Surgery. A Textbook for Students. By Charles Aubrey Pannett, B.Sc., M.D., F.R.C.S. Second edition. (Pp. 769; illustrated. 27s. 6d.) London: Hodder and Stoughton. 1947.

Of late years the general surgeon has had to give ground to the specialist on every side, and most recently published textbooks have been written by groups of specialists. This method has both advantages and disadvantages. It is true that there are nowadays fewer surgeons who can claim the encyclopaedic knowledge which the modern textbook seems to require, but on the other hand we feel some sympathy with the remark of the author in the preface to this book: "It does not seem fair to expect the student to have more exact knowledge than his examiner possesses, or to have read a series of monographs by experts." Anyway, the author has practised what he preaches and has written the whole of this book—indeed, he has done more, for all the (nearly 400) illustrations are from his clever and artistic hand. The book contains the wisdom gained in the long and varied surgical experience of one of our most versatile general surgeons, who has himself contributed notably to the advance of three or four specialties.

When the first edition appeared during the war the reviewer found it a most readable and informative manual, but the production was very austere; in this edition it is much improved, and several additions have been made to the text. The book is in several respects unusual. The author considers anatomy,

pathology, bacteriology, and operative surgery only briefly and as occasion demands. He does not discuss differential diagnosis, for if the symptoms are well known that should be sufficient. Bold and obvious printer's types appear less than in most textbooks, and there are few lists to make their orderly appeal to the student. But a philosophic outlook pervades the book. The first sentence is arresting: "A knowledge of physiology is essential for the practice of surgery." That dictum ought to be in a prominent position on every surgeon's desk. Moreover, the author has a good style. His sentences are short and crisp and well adapted for descriptive purposes. For example, we have seldom anywhere seen such a mass of facts presented in such a clear, vivid, and readable manner as in the description of concussion on p. 118 and in the account of intestinal obstruction on pp. 363-5.

At present there is much talk of reforming the surgical curriculum, of the necessity to teach only essential facts with emphasis on principles, and of the need for a new type of textbook in conformity with these changes. This book is the nearest approach yet to such a textbook. It should gain in popularity.

V. ZACHARY COPE.

E.N.T. MANUAL

A Manual of Otolaryngology, Rhinology and Laryngology. By Howard Charles Ballenger, M.D., F.A.C.S. Third edition, enlarged and thoroughly revised. (Pp. 352; 135 illustrations and 3 coloured plates. 22s. 6d.) London: Henry Kimpton. 1947.

The author sets out to write a concise textbook for undergraduates avoiding the descriptions of operations, save for two or three minor ones and tracheotomy. He bases the *Manual* on the well-known *Diseases of Nose, Throat, and Ear*, by W. L. and H. C. Ballenger, but the task of compression is difficult and the result is not altogether happy. Most of the knowledge is there, but its arrangement is not satisfactory. The accounts of common conditions and diseases receive no more prominence than rarities—for example, in the section on diseases of the external auditory meatus he discusses herpes oticus first and wax last.

There are four parts. The first, on the nose and sinuses, begins with an excellent description of the common cold. The author then discusses acute inflammations of the sinuses and advises irrigation through the normal openings, which is a treatment scarcely suitable for a student to carry out. Some statements call for criticism: "redness and swelling over an acutely inflamed sinus" a condition very rarely seen; "transillumination is a satisfactory means of diagnosis of frontal sinusitis . . . x-rays are not so good"; and he regards retrobulbar neuritis as the most important among the complications of sinusitis. The chapter on headaches and neuralgias of the face and head, a new one in this edition, is good, and he mentions all the causes and includes references to the original papers.

Part II is on the pharynx and fauces. Besides the usual accounts of diseases of tonsils there is an excellent list of indications for their removal, and a chapter on deep neck infections with helpful diagrams.

In Part III, on the larynx, the illustrations of anatomy and pathology are good. The chapter on paralysis of the larynx is written by J. J. Ballenger; he has designed an ingenious diagram to show the nerves to the larynx and how the paralyses are produced. There is no mention of fixation at the cricoarytenoid joint, but "syphilis of the larynx may produce paralysis of one or both cords"—a somewhat loose statement.

Part IV is on the ear and is perhaps the best part of the book. The illustrations showing how to carry out tuning-fork tests are new and will certainly help the student. As in other sections emissions are curious—there is no mention of masked mastoiditis, nor is facial paralysis recorded as an indication for operation. On the other hand the account of petrositis is excellent. The illustrations (135 in number) are all clear; there are also three colour plates.

W. M. MOLLISON.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

La Maladie Hémolytique du Nouveau-né By M. Bessis. (Pp. 260. 600 francs.) Paris: Masson. 1947.

An account for the clinician and laboratory worker, with reference to the author's own researches.

Éléments de Physiologie Psychologique. By P. Rijlant. (Pp. 216. 360 francs.) Liège: Masson. 1948.

Discusses the anatomy and physiology of the nervous system and their relation to mind.

Le Développement Psychique de l'Enfant et de l'Adolescent. By E. Pichon. (Pp. 240. 420 francs.) Paris: Masson. 1947.

The author discusses abnormal as well as normal development.

La Penicillina in Chirurgia. By S. Ciancarelli. (Pp. 46. No price.) Rome: Luigi Pozzi. 1948.

The author describes his technique of local injection of penicillin.

La Chirurgie Biliaire. By P. Mallet-Guy et al. (Pp. 138. 1,200 francs.) Paris: Masson. 1947.

An account of the surgery of the biliary apparatus with manometric and radiological control.

Confrontations Radio-Anatomo-Cliniques. Vol. II. Edited by M. Chiray et al. (Pp. 67. 1,200 francs.) Paris: G. Doin and Masson. 1947.

Notes on a variety of cases, with skiagraphs.

Les Tuberculines. By Dr. L. Vannier. (Pp. 460. 495 francs.) Paris: G. Doin. 1947.

The author describes his method of immunizing people predisposed to tuberculous infection.

Journées Thérapeutiques de Paris, 1946. Edited by Prof. M. Loeper and Dr. L. Bory. (Pp. 475. 980 francs.) Paris: G. Doin. 1948.

Includes papers on iron as a therapeutic agent and on the use of aerosols.

Nouvelle Pratique Chirurgicale Illustrée. Part I. Edited by J. Quénu. (Pp. 273. 550 francs.) Paris: G. Doin. 1948.

An illustrated practical manual.

Lehrbuch der Geburtshilfe. Vols. I and II. By T. Koller. (Pp. 613 Vol I and 1,323 Vol. II. 110 Swiss francs.) Basle: Verlag von S. Karger. 1948.

A textbook of obstetrics, including an account of foetal malformations.

Plutisologie Infantile. By P. Lowys. (Pp. 716. No price.) Paris: Editions Médicales Flammarion. 1947.

A general account of tuberculosis in childhood.

The Foundations of Health in Childhood. By Prof. N. B. Capon, M.D., F.R.C.P. (Pp. 76. 2s. 6d.) London: The Convocation Lecture, 1947, of the National Children's Home.

The main factors determining the health of the child in infancy are discussed.

Factors Regulating Blood Pressure. Edited by B. W. Zeitach and E. Shorr. (Pp. 175. \$1.90.) New York: Josiah Macy, Jr. Foundation. 1947.

Collection of papers read at a conference in 1947.

Textbook for Almoners. By D. Manchée. (Pp. 466. 27s. 6d.) London: Baillière, Tindall and Cox. 1947.

A general account of the almoner's functions and duties.

Children by Choice. By Dr. E. Chesser. (Pp. 127. 5s.) London: Torchstream Books. 1947.

A practical manual of birth control for the layman.

1947 Year Book of Obstetrics and Gynecology. Edited by J. P. Greenhill, M.D. (Pp. 590. 21s.) London: H. K. Lewis. 1948.

A synopsis of recent advances.

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MR. BEVAN'S GESTURE

Since the publication of the plebiscite results the medical profession and the Minister of Health have avoided direct contact with each other, but have also avoided making statements that would make renewed discussions impossible. At the Special Representative Meeting on March 17 he Chairman of Council, Dr. Dain, made this highly significant statement: "We are ready to enter into any discussions directed to making it possible for the medical profession to co-operate with the Government. If the Government can show us other ways, new ways, of preserving our independence we are willing to listen." In the same week the Royal College of Physicians of Edinburgh submitted a number of resolutions to the Prime Minister urging the resumption of negotiations and drawing attention to the fact that the fears of the profession centred round the power of the Minister to alter by Order or by Regulation the fundamental terms of service of the profession. On April 4 the Royal College of Physicians of London made public the resolutions passed by the Comitia on March 22 and forwarded them to Mr. Aneurin Bevan. These resolutions reaffirmed the opposition of the College to a whole-time medical service, requested an amending Act to prevent the introduction of such a service by Regulation, and suggested that Regulations affecting the National Health Service should be subject to special procedure. In the House of Commons on April 7 Mr. Aneurin Bevan made a statement to the House in which he undertook to make statutorily clear that a whole-time service would not be brought in by Regulation. Mr. Bevan also suggested important modifications of his previous proposal for a universal basic salary. He suggested that all new entrants to practice should have "this assured element of £300 or a period of, say, three years." After that the practitioner could decide whether to continue with the fixed element of £300 plus capitation fees, or to be remunerated by "plain capitation fees"—at a higher proportionate rate than when he was receiving the fixed element of £300. Mr. Bevan said:

"So now it can rest with the individual doctor himself to decide the extent to which he prefers the combined system of £300 plus lower capitation, or all capitation—with the exception that beginners will start with three years on the former system."

In reply to questions put by Mr. Clement Davies, Mr. Wilson Harris, and Dr. Segal, he reiterated his wish

to discuss these matters with representatives of the medical profession. On the day following his statement—April 8—he announced the composition of the Legal Committee set up to inquire into the meaning of Section 35 of the Act, two of the members of this Committee being Sir Cyril Radcliffe and Mr. J. H. Stamp, whose opinion on this Section was sought by the B.M.A. last year and published in the *Supplement* of Dec. 20, 1947. On April 8 the National Health Service Executive Committee of the B.M.A. Council met to consider the new situation and issued a statement welcoming the observations made by the Minister, and inviting him to receive a deputation to consider a series of written questions put to him in advance of the meeting. The B.M.A.'s questions and the Minister's answers are published elsewhere in this issue, and were considered by the Council on Wednesday.

Mr. Oliver Stanley, Conservative M.P. for Bristol West, made this comment on Mr. Bevan's statement: "I am sure that, speaking for everyone on this side of the House, we welcome anything which tends to break the deadlock which has occurred, and above all we welcome the tone in which the right hon. Gentleman has spoken to-day." We believe that the medical profession will be equally generous in echoing Mr. Stanley's comment. Mr. Bevan has made a gesture of conciliation, and has taken steps to meet two of the principal objections of the medical profession to the present Act. The B.M.A. deputation has now put for his consideration other points of dispute. While we await the outcome of these discussions we should recognize that Mr. Bevan has taken the result of the plebiscite into serious consideration by making proposals with which many in his own party will not be in sympathy.

The Presidents of the three Royal Colleges have come in for much criticism as a result of the letter addressed by them to the Minister of Health in January of last year. The recent action of the Royal College of Physicians of London is coming in for renewed criticism of a similar kind. Those who so criticize should bear in mind that consultants have been pressing their Colleges to make a statement on the present position, and we expressed the hope in a recent leading article¹ "that the Colleges will discover what are the views of their Fellows and take steps to make them public." It is therefore unreasonable and unfair to belabour the Royal Colleges for making a corporate expression of opinion. In a leading article in the *Journal* of March 20 we stated: "We believe Mr. Bevan when he says that it is not his intention to introduce such a service [i.e., a whole-time salaried State medical service], and it is no reflection on him to say that this expressed intention is no safeguard to the medical profession. . . ." And we continued thus: "There is nothing in the present Act which offers the safeguard required, and the logical conclusion is that nothing short of an amending Act would provide this safeguard." The Comitia of the Royal College of Physicians on March 22 passed its resolution requesting such an amending Act, and on April 7 Mr. Bevan agreed to introduce one. It would be undignified to indulge in a squabble for priority for a suggestion that has been fairly widely mooted, and in a country where freedom of

¹ *British Medical Journal*, 1948, 1, 550.

² *The Times*, Jan. 16, 1948.

³ *British Medical Journal*, 1948, 1, 53.

opinion is held dearly it would be, to say the least of it, paradoxical to challenge the right of any organization to state its opinion on a matter that is the concern of everyone. One of the principal arguments against the National Health Service Act has been that it leads to a whole-time State medical service. Mr. Bevan's proposal means that no such service can be introduced through the issue of Regulations. If any future Government were to attempt to introduce a whole-time State medical service it would have to introduce a new Bill which would be submitted to public debate in Parliament and on which the medical profession would have full opportunity to make its views heard; and we may note here that the plebiscite conducted by the B.M.A. has had its effect in persuading the present Government to introduce a safeguard that has been demanded by the medical profession.

The second resolution of the Royal College of Physicians has received less attention than the first, and was not referred to in the House of Commons by Mr. Bevan. It was on the same lines as the resolution passed by the Royal College of Physicians of Edinburgh. Both these Colleges drew attention to the power possessed by the Minister to change by Regulation the character of the National Health Service, and the London College suggested "that an amending Bill should be introduced to make Regulations affecting the National Health Service subject to special procedure." But in his reply (No. 7) Mr. Bevan is not impressed by this proposal. The powers of the Minister under the Act are considerable and, indeed, alarming. We understand that the special procedure suggested in the College resolution is neither impracticable nor unconstitutional. Under such a procedure proposed Regulations published in draft are submitted to a commission given power to reject or amend if it can be shown that the Regulations would change the character of the Service. Such a commission would have on it members of the two Houses of Parliament and medical and legal representatives. At a time when so many activities of the people of this country are governed by Regulations that pour out in a steady stream from departments of State, some such procedure as this would seem highly desirable, and in the case of the medical profession would offer a much needed and additional safeguard against meddlesome bureaucracy.

Of the much publicized four points, the one that has received most emphasis and most opposition is the universal basic salary. As there seemed to be no logical reason for forcing men in established practice to receive part of their remuneration in this way, general practitioners not illogically saw this as the first possible step to a full salaried medical service, and in any case linked to the control of certification. In a recent letter to *The Times*² Dr. Dain said: "We would support Mr. Bevan if he used the basic salary to induce men to serve in difficult areas, or to help the young man entering practice." In a leading article in this *Journal* about the same time³ we observed: "It should be clear that no objection has been raised to the use of the salary to attract men into difficult or undesirable areas or even to help the young man entering practice for the first time." Mr. Bevan by his statement

has removed the objection to the universal basic salary. While we recognize that this is a big concession on his part, his suggestions in the Commons introduce anomalies that are not entirely satisfactory. We would stress the questions of need and equity. For example a man may enter general practice as a partner and would therefore not need a guaranteed minimum salary. Again a proportion of men in practice exercising the option for a basic salary would be better remunerated for the same work than those who did not exercise the option. Mr. Bevan (Reply No. 8) now expresses his willingness to discuss with the profession the conditions and methods by which opting will be conducted.

Mr. Bevan's answers came too late for full comment in this issue. We note in particular his observations on the preservation of professional freedom with the abolition of buying and selling practices: doctors, for example, will be free to choose their partners and assistants. The medical profession has committed itself to a comprehensive medical service for the whole community, and such a service has the support of all political parties, Mr. Bevan's Act being the final outcome of plans laid down by a Coalition Government. The medical profession must also recognize that Mr. Bevan, after violently attacking the medical profession in a debate earlier this year, has sought to resolve the deadlock by using temperate and conciliatory words in putting forward his new proposals. There is, therefore, everything to be gained in responding to this gesture in a similar manner.

THE CHEMOTHERAPY OF CHOLERA

The cholera vibrio is one of the few organisms which seemed completely to have escaped the chemotherapeutic net. The treatment of cholera remained symptomatic, and consisted largely in combating the intense dehydration of the tissues by hypertonic saline rather than in destroying the vibrios. Attempts had indeed been made to combine sulphaguanidine with hypertonic saline, but without any conspicuous success. In view of the impotence of chemotherapy it is therefore not surprising that in many outbreaks, especially where skilled nursing was unavailable, the mortality rates remained high. In our issue of April 3 (p. 650) we drew attention to a preliminary communication by Bhatnagar and his colleagues¹ in which they described a new chemotherapeutic approach to cholera. In our present issue (p. 719) we publish in full the data at present available on the treatment of cholera by a new sulphamide compound, provisionally termed "6257."

The starting-point for this investigation was an observation made by Bhatnagar in 1939 that hexamethylenetetramine in a 10% solution in normal saline killed the cholera vibrio in less than half an hour, even when the organisms were in high concentration. Attempts to link hexamine and sulphanilamide produced compounds which gave promising results in the treatment of animals experimentally infected and in human cases of cholera, but a

¹ Bhatnagar, S. S., Fernandes, F., De Sa, H., and Divekar, P. V., *Nature* 1948, 161, 395.

² Meier, R., *Schweiz. med. Wschr.*, 1946, 76, 695.

³ Druey, J., *Helv. chim. Acta*, in press.

hance discussion revealed that Meier² and Druey³ had evolved a new product, 6257, by the condensation of two molecules of sulphathiazole and three molecules of formaldehyde. The exact constitution of the new compound is at present uncertain, though its formula is given as $C_{12}H_{12}O_4N_4S_3$. If it is really a condensation product and not, as are most sulphonamide derivatives, a substitution product, or an addition to the radicals of sulphanilamide, it represents a type of compound the chemotherapeutic possibilities of which have not yet been fully explored.

Preliminary *in vitro* experiments showed that 6257 was bacteriostatic or bactericidal against the Inaba and Ogawa strains of *Vibrio cholerae*. Owing to the relative insolubility of the drug in water it had to be tested as a 20% suspension in 2% gum arabic in distilled water. In mice the therapeutic activity was tested against the Inaba strain, twice the minimal lethal dose of organisms being given intraperitoneally. The effectiveness of the drug was considerably greater when it was administered intraperitoneally or subcutaneously than when it was given by mouth. This is apparently due to the fact that it is very slowly absorbed after oral administration. Even when injected absorption into the blood stream is slow, but as excretion also is slow it is possible to maintain in the blood of mice an effective therapeutic level by an initial dose of 80 to 90 mg. of the drug, followed by 40 mg. a day for four days. Subcutaneous or intraperitoneal injection does not cause any irritation despite the formation of a local depot.

Field trials were undertaken in the south-eastern part of the Madras Presidency during November and December, 1947. Records for the past seven years show that the infection is endemic in this area—the maximum incidence, with a case mortality of about 60%, being from September to February. The patients, who were mostly of the "untouchable" labouring classes, were all suffering from malnutrition, and were treated in their homes without any nursing or general medical care. No additional treatment in the form of salines or other palliatives was given. All cases were diagnosed bacteriologically before beginning treatment and were then classified into three groups according to the severity of the disease and the length of time during which the patients had been ill. In all, 85 patients were treated, and of these 82 survived. The average amounts given were 16 g. for a child, 23 g. for an adult female, and 25 to 30 g. for an adult male. The subcutaneous route was first tried, but, contrary to what had been found in the mouse suffering from a cholera septicaemia, in man there was little or no therapeutic action. The drug was therefore given by mouth, with good results. To overcome the tendency to vomit, 0.5 g. tablets were broken up and given in small amounts, till the full dose of 6 g. had been ingested in the course of two to three hours. If this practice did not succeed, the drug, suspended in gum arabic, was given per rectum. The improvement, even in 24 hours, appears to have been remarkable, as purgation was reduced and nausea, vomiting, and cramps disappeared. Within forty-eight hours the temperature had risen to normal and dehydration was much less marked. As a rule patients could be said to have recovered at the

end of seventy-two hours. Nevertheless, to ensure destruction of vibrios in the stools, a seven-day course of treatment was considered advisable. For adults the first day's dose was 10 g., the second day's 4 to 6 g., and thereafter 4, 2, and 1 g. per day. No toxic results were noted even in the most severely ill patients, a result which Bhatnagar and his colleagues suggest is due to the presence of the formaldehyde radical. It is remarkable that out of the whole series only three patients died, and they were in the group of those most seriously ill.

Though since the pathogenicity of cholera vibrios is known to vary greatly in different epidemics it would be rash to assert that a panacea for cholera has been obtained, nevertheless the results achieved in Madras and described in the opening pages of this issue are so striking that they merit further investigation on the widest possible scale.

REFRACTORY IRON-DEFICIENCY ANAEMIA

When Sydenham, in 1681, first advocated the use of iron he wrote that "to the worn out or languid blood it gives a spur or fillip whereby the animal spirits, which before lay prostrate and sunken under their own weight, are raised and excited." In most patients with hypochromic anaemia its beneficent action has justified his description, and the satisfactory results constantly obtained since the re-introduction some twenty-five years ago of adequate oral dosage have thrown into sharp relief the occasional instance in which iron cannot be tolerated or is ineffective. A small number of persons are genuinely intolerant of all preparations of iron given by mouth; in them even small doses cause abdominal pain, vomiting, and purging. In a somewhat larger number full doses may be ineffective even when the anaemia is undoubtedly due to iron deficiency.

A defect of absorption has long been considered as the cause of these refractory cases. The exact mechanism of the process is still uncertain, but Hahn and his colleagues^{1, 2} have shown that the quantity absorbed depends on the depletion of the body's reserves of available iron, and Granick's observations suggest that the iron-protein-phosphorus complex ferritin is concerned in its absorption from the alimentary tract. Studies of the serum iron have also thrown some light on the subject. The normal levels are accepted as 94–174 γ per 100 ml. for males and 58–142 γ per 100 ml. for females.³ Dr. Sven Dahl's paper in this issue confirms these figures for women, and again demonstrates the fall with menstruation. In iron-deficiency anaemia the level of the serum iron is decreased, commonly to 15–40 γ per 100 ml. Five hours after a single dose of iron by mouth it rises to a peak, which may exceed 500 γ per 100 ml.⁴ Powell⁵ was able to show that there was no such rise in refractory cases, though in some of these a peak did occur when iron was administered concurrently with large doses of ascorbic acid, an effect attributable to the preservation of the ferrous state by the reducing action of the vitamin. A group resistant to treatment with iron by mouth remained in which no rise in the serum iron level took place.

¹ *J. exp. Med.*, 1942, 76, 15.

² *Ibid.*, 78, 169.

³ Moore, C. V., Arrowsmith, W. R., Quilligan, J. J., and Read, J. T., *J. clin. Invest.*, 1937, 16, 613.

⁴ Moore, C. V., Doan, C. A., and Arrowsmith, W. R., *ibid.*, 1937, 16, 627.

⁵ Quart, *J. Med.*, 1944, 13, 19.

⁶ Heath, C. W., Strauss, M. B., and Castle, W. B., *J. clin. Invest.*, 1932, 11, 1293.

⁷ Willis, L. J., *Proc. R. Soc. Med.*, 1933, 26, 607.

⁸ *British Medical Journal*, 1893, 1, 891, 942.

⁹ Goetsch, A. T., Moore, C. V., and Minnich, V., *Blood*, 1946, 1, 129.

¹⁰ *Lancet*, 1947, 2, 49.

Obviously it is in this group that parenteral administration might be thought desirable, but some eminent authorities have objected to injections of iron as "impractical, dangerous, and unnecessary."^{6,7} The occasional necessity for parenteral treatment can no longer be denied, for there is abundant proof that hypochromic anaemia responds satisfactorily to iron administered in this way. It was thus used as long ago as 1872 by Rosenthal, and in the pages of this *Journal* for 1893 Stockman⁸ recorded a rise in the erythrocyte count and the haemoglobin level in chlorotic patients after subcutaneous injections of iron sodium citrate. Recent work has shown that the injected iron is used almost quantitatively for the formation of haemoglobin.^{6,9} It has been estimated that an adult with hypochromic anaemia requires 24.5 mg. of elemental iron if the haemoglobin reading on the Haldane scale is to improve by 1% per day. There is no doubt, therefore, that iron is effective when injected, but there remain the dangers. Many authors have reported alarming sequelae to even moderate doses: sneezing, lacrimation, paraesthesiae, flushing, headache, tachycardia, vomiting, diarrhoea, pleuritic pain, and circulatory collapse are all recorded.⁹

Descriptions of reactions have been sufficient to deter most physicians, but a paper published last year by Nissim¹⁰ has revived interest in this important topic. He found that a solution of saccharated iron oxide could be prepared which caused no serious reaction when injected intravenously in quantities containing as much as 1,000 mg. of elemental iron. In this number of the *Journal* Prof. L. S. P. Davidson and Dr. R. H. Girdwood report an example of refractory iron-deficiency anaemia successfully treated by this method. Reactions occurred with the last three injections of 100 mg. of iron, and the authors do not feel that Nissim's solution is yet to be recommended for general use. In a letter to the Editor, also in this issue, Drs. H. G. B. Slack and J. F. Wilkinson mention their use of a similar preparation and promise a detailed description of the satisfactory results, with absence of reactions, in 55 cases treated by this method.

LOCAL GOVERNMENT BOUNDARIES AND FUNCTIONS

The Local Government Boundary Commission have issued their report¹ for the year 1947, and if their recommendations are accepted by Parliament and the necessary legislation enacted there will be many changes not only in the boundaries between local authorities but also in their functions. It is stated in the report that after standing up successfully to the strain of total war and enemy attack the local government machine now has "the less spectacular but not less arduous work of dealing simultaneously and in circumstances of great difficulty with the immediate tasks of housing and of looking after the local welfare of a population which is re-sorting itself and turning over from war to peace, as well as all the problems involved in organizing and managing new systems of education, health, planning, fire services, the care of the young and the old, and many other services."

Since 1888 there has been no general review of the areas of counties, and of course the changes in the functions of local authorities since that date have been vast. There has been a constant struggle between the county boroughs and the counties, largely owing to the needs of the former for

Lebensraum at the expense of the latter. The counties have accused the county boroughs of going their own independent way without considering the wishes of the people who live outside the boundaries of the towns, and the county boroughs have reacted by making it plain that they consider the county councils interfering busybodies. Meanwhile the district councils—urban, rural, and non-county boroughs—have sadly watched their powers disappearing either to the central government or to the county and county borough councils. In fact, as the Boundary Commission imply, the inhabitants of some areas have been denied the use of public services such as main water and drainage because of the iron curtains which have been drawn along existing boundaries.

The recommendations of the Commission include some realistic compromises and appear to be both sensible and workable. It is proposed that there should be three units of local government—counties, county boroughs, and county districts. Excluding Greater London, the special problems of which still remain to be settled, there would be seventeen "one-tier" counties—large towns, or amalgamations of several towns such as the Potteries—which would be autonomous. The rest of England would be divided into forty-seven "two-tier" counties in which local government functions would be carried out partly by the county councils and partly by the county borough and district councils within the county. The new county boroughs, which would have populations of between 60,000 and 200,000, would be "most-purpose" authorities but not completely independent of the county councils. The distinctions between the present county district councils—namely, the non-county boroughs and the urban and rural districts—would be abolished.

If the Boundary Commission's proposals could have been carried through before the passing of the National Health Service Act the regionalization of the hospitals might have been planned differently, but in other respects the Commission's recommendations would not have a great effect on the pattern of the new health services. The main difference would be that the medical officers of health of some towns which are not now county boroughs and are under the yoke of a county council would be able to assume independence and plan local health and school medical services with responsibility only to their own councils.

It remains to be seen whether the central government will take the risk of bringing in a Bill to put the Boundary Commission's recommendations into effect. While there may be comparatively few people who feel strongly about the functions of local authorities, a great many will hotly contest the revision of town and county boundaries. Already M.P.s have been declaiming, "We do not want our town to become part of —shire," and doubtless the inhabitants of Rutland and other counties which may appear to be becoming uneasy. Worst of all, there is a hint in the Commission's report that a small part of Yorkshire might be transferred to one of the proposed new Lancashire counties. Civil wars have broken out for less.

YOU KNOW MY METHODS

The methods of medical diagnosis are akin to those employed by detectives on the scent of crime—at least by detectives in fiction, whose methods alone we have had the opportunity of studying. Our leading clinicians would surely approve of Sherlock Holmes's unflinching examination of minute detail—"It has long been an axiom of mine that the little things are infinitely the most

¹ Report of the Local Government Boundary Commission for the Year 1947. London: HMSO, 1947.

important¹¹—and his insistence upon the need for hard facts—"It is a capital mistake to theorize before one has facts."¹² That the medical man can learn much from Holmes's methods is only to be expected, for in relating to Conan Doyle was describing those of the famous Edinburgh surgeon, Joseph Bell, whose character inspired him to create Sherlock Holmes. Dr. Douglas Guthrie defended in these terms—if any defence before the medicalists were necessary—a delightful afternoon spent by the History of Medicine Section of the Royal Society of Medicine on April 7, when it held a symposium on "Conan Doyle and the Doctor and Detective Fiction."

Sir Arthur MacNalty opened the discussion with a biographical sketch of Conan Doyle, mentioning incidentally that his first medical publication was a letter to this journal,¹³ written two years before he graduated, on over-riding himself with gelsemium in order to determine the maximum safe dose. He drew attention to his curiously ambiguous attitude towards the Sherlock Holmes stories. Conan Doyle regarded them as being distinctly inferior to his historical works, and, becoming tired of his hero, tried to consign him to an honourable death in the last fight with Moriarty, but so great was the public clamour that he had to resuscitate him for a new series of stories. Two of the later speakers mentioned that friends of theirs had burst into tears on learning of Holmes's death. Unfortunately the reason for this deep attachment was not elaborated upon. No doubt our pleasure derives in the first place from the skill with which Holmes's character is delineated; and indeed his was a character that is peculiarly attractive to Englishmen, for he was the inspired amateur, the intellectual who played the violin quixotically, practised revolver-shooting in his flat, took cocaine, walked about in a dressing-gown, and above all adored men and society rather than books. Moreover, since the rise of Puritanism we have been rather a self-righteous people, and the pursuit and bringing to justice of the wayward and criminal in our society and in ourselves is an appealing prospect. Perhaps too our industrialized readers of detective fiction, reading of the doom that inevitably and with such ingenuity overtakes the criminal, obtain that catharsis that the Greeks experienced when watching their tragedy.

Mr. Zachary Cope, who eulogized Dr. Watson in a lightful Petrarchian sonnet, rightly pointed out what a loss it had been to medicine that Watson never described how he succeeded in weaning Holmes from his addiction to cocaine; nor indeed did he ever persuade Holmes to adopt tidier habits. In view of Holmes's distinctly Bohemian character it is not surprising that, as Dr. Guthrie said, Joseph Bell did not feel flattered by his close relation to this fictitious idol of the British public. The connexion was readily discernible, for the well-known sayings of Holmes were often originally the words of Bell. The surgeon, like many other great clinical teachers, would instantly impress on his students, of whom Conan Doyle is one, that they must never trust general impressions, and he would then stress the importance of trifles. Sir Robert Young in the discussion advocated the same view. "Every doctor is a detective." He taught his students, he said, by making them examine the patient and relate everything that they noticed.

Holmes's education was then discussed at some length, Dr. S. C. Roberts, an authority who has written a book on Dr. Watson, pointing out that so far as is known Holmes never went to school. Perhaps he had tutors; undoubtedly

he went to a university, probably Oxford or Cambridge, Oxford being the more likely. There is no evidence that he obtained a degree, nor even that he worked for one. He had read deeply on certain subjects—chemistry is mentioned—but he regarded detection as an art rather than as a science, and deduction as a form of artistic feeling. Clinicians might cautiously agree that that is true also of diagnosis. Nowadays, when the first thought of the newly qualified houseman is often to consider what laboratory tests he should order for his patient and in what order, he could do worse than learn the value of unaided intelligent observation, the patient collection of data, and deduction from sufficient evidence that Sherlock Holmes displayed to perfection.

GOLDEN JUBILEE OF THE R.A.M.C.

Just over fifty years ago a deputation from the British Medical Association¹ waited upon the Marquis of Lansdowne, the Secretary of State for War, to lay before him the views of the medical profession on the condition of the Army Medical Services and the need for certain reforms. It appears that the deputation was welcomed² and assured that the Secretary of State was entirely with them in regarding with very serious concern the problems raised. Lord Lansdowne said that the most important suggestion³ that had been put forward by the deputation was the one proposing the formation of a medical corps, which it was thought should be created by the consolidation of the Army Medical Staff and the Medical Staff Corps. Only a few months later it was announced that this change had been brought about and that Her Majesty had been pleased to signify her intention of bestowing the title "Royal" upon the new Army Medical Corps.⁴

The Royal Warrant of Queen Victoria was dated June 23, 1898, and at the same time the familiar badge with the motto *In arduis fidelis* was designed and dull-cherry facings appeared on the uniforms of all ranks, the same colour replacing scarlet for the piping on tunics and for trouser welts. Later in the same year the Corps made its first formal appearance in the field as part of the Nile Expeditionary Force of 1898. The history of the Corps in the 1914-18 war is well known, and its achievements in recent years evoked world-wide admiration.

The Golden Jubilee of the Corps will be fittingly celebrated on June 23. Her Majesty the Queen, who is Colonel-in-Chief, has graciously expressed her intention of visiting the depot and training establishment at Crookham on that date. There will also be celebrations of a different kind in other parts of the country. In London a Jubilee Rally will be held in the Central Hall, Westminster, when short addresses will be given by Sir Alfred Webb-Johnson, P.R.C.S., General Sir James Steele, the Adjutant General, and General Sir William Slim. On this occasion the Corps Band and Bugles will introduce a new regimental march to the public.

General Sir Alexander Hood, whose retirement as Director General of Army Medical Services was announced only recently,⁵ informs us that a most cordial welcome will be extended at the celebrations to all who have served with the Corps during the last fifty years, and also to the sister medical services in the Royal Navy and Royal Air Force. Further particulars may be obtained from the Hon. Secretary, R.A.M.C. Association, at 84, Eccleston Square, London, S.W.1.

¹ *A Case of Identity*.

² *Scandal in Bohemia*.

³ *British Medical Journal*, 1879, 2, 483.

⁴ *British Medical Journal*, 1898, 1, 39.

⁵ *Ibid.*, 1898, 1, 236.

⁶ *Ibid.*, 1898, 1, 329.

⁷ *Ibid.*, 1898, 1, 1215.

⁸ *Lancet*, 1948, 1, 524.

B.M.A. QUESTIONARY TO MINISTER

1. The Minister stated in the House of Commons that the Government proposed to make it impossible to institute a full-time salaried service by regulation alone. The profession welcomed that statement. Would the Minister indicate how it is proposed to do this; first, in relation to general practitioners, and, secondly, in relation to hospital staffs?

2. As this proposed step in its relation to hospital staffs would appear to involve a policy of keeping whole-time consultant and specialist appointments to a minimum would the Minister agree to preserve, to the extent to which the public desires it, existing private accommodation as such so as to make possible the continuance of the part-time system of consultant and specialist staffing of hospitals?

3. Would the Minister state what assurances exist or can be given that hospitals or similar establishments not taken over on the appointed day or later established privately will not subsequently be the subject of compulsory purchase under the Act?

4. Does the Minister agree that it should be required that in relation to every hospital there should be a medical committee; that such medical committees should be represented by their own nominees on Boards of Governors or Hospital Management Committees, enjoying the full status of membership of such bodies; that in the case of teaching hospitals the medical committee should be representative of all consultants and specialists on the staff, teachers and non-teachers?

5. Will the Minister extend his assurance on the subject of freedom of speech and publication within the new Service to include not only such freedom on professional and scientific matters but also the right of criticism on matters of administration?

6. Would the Minister state what security in relation to their hospital appointments will be enjoyed by existing members of hospital staffs at the time of taking over and by hospital staffs subsequently? Does the Minister contemplate the establishment of machinery for the investigation of complaints, including the right of appeal against any decision of the Board of Governors or Regional Hospitals Board?

7. Will the Minister indicate his view on the second resolution of the Royal College of Physicians, viz.:

"A principal cause of the present discontent with the National Health Service is the power possessed by the Minister of Health to change its character by regulations. The College therefore suggests that an amending Bill should be introduced, to make regulations affecting the National Health Service subject to special procedure."

8. The Committee, while welcoming the abandonment of the universal basic salary, submits to the Minister the following points for consideration:

It is accepted that there are circumstances in which some practitioners need regular annual payments of the kind suggested; the amount of such payments will vary with different practitioners according to the circumstances under which they work. In some cases such annual payments should be for a period, in others permanent. The Committee suggests that the object the Minister has in mind of enabling practitioners needed in an area to practise there will be served more efficiently and economically if such payments are made on the recommendation of the Local Executive Council according to the circumstances of each case. In this way such payments will not be made to practitioners who do not need them, and where they are made they will be related to the actual needs revealed by the individual case. Will the Minister accept this modification of his own proposal?

9. The profession is anxious to co-operate with the Minister in remedying any defects which may exist in the distribution of general practitioners in relation to the needs of the population. Their representatives have argued that the introduction of a service available to all will of itself go a long way towards the solution of any problems which may exist, any residual problem being met by the Minister's power to appoint practitioners to under-doctored areas. The Minister has agreed that there are likely to be few areas where the question of consent to new participants in the Service will arise. Bearing in mind the profession's dislike of the proposed limitation of movement, coupled with its desire to solve any existing problem of distribution, it is suggested that the introduction of the scheme

laid down in the Act should be postponed for an agreed period in order that it may be determined by experience whether the problem does in fact largely solve itself or whether the operation of the provisions of the Act in this respect is necessary. During such period the profession will gladly establish an advisory machinery to keep practitioners informed of available appointments and opportunities. Will the Minister agree to such a deferment?

10. Would the Minister agree to request the Lord Chancellor to appoint a High Court Judge to the Chairmanship of the Tribunal?

11. The profession urges the preservation of the ownership of goodwill in general practice because of the essential professional freedoms which it safeguards. Will the Minister indicate how, with the abolition of that ownership, these freedoms will be preserved and in particular

(a) freedom to choose the area of practice and one's medical colleagues, partners, and assistants;

(b) freedom to allocate duties and responsibilities within a partnership or group;

(c) freedom to decide when an additional partner or assistant is necessary;

(d) a say in the choice of a successor?

12. Will the Minister explain why it is necessary to limit the practice of midwifery to practitioners with special qualifications under the English Act, whereas no such limitation is thought necessary in the Acts for Scotland and Northern Ireland?

13. Will the Minister give an assurance that practitioners not in the new Service will be able to obtain for their patients, as benefits under the Service, such consultant and specialist including diagnostic, help as they may deem to be necessary?

14. Does the Minister agree that the appointment of members of the medical profession to administrative and other bodies should be in consultation and agreement with the representative bodies of the profession?

[For convenience "the Minister" is used to include the Minister of Health and the Secretary of State for Scotland.]

MR. BEVAN REPLIES

The Minister and the Secretary of State for Scotland have considered the fourteen questions which the British Medical Association sent to them on April 8 and which were discussed with representatives of the Association on April 12. A summary of their replies is set out below.

1. There has not yet been time to work out the actual wording of the new measure, and when he does so the Minister will welcome the help of the profession.

For general practitioners the proposed effect of the new provision will be that they are paid entirely by capitation fee, except for the new practitioner in his opening three years and any other practitioner who himself opts to have a fixed annual element in his salary with the rest on a capitation basis. The question of conditions under which that option should be exercisable is mentioned under question 8 below.

As to hospital staffs, there seems to be some misunderstanding. The "regulation versus statute" issue does not arise in the same way in their case; nor does that of "capitation versus salary or sessional fee." Hospital appointments (usually part-time for specialist staff) will be offered, by advertisement or otherwise, in the ordinary way, and people will accept them or not as they choose; there is no kind of compulsion nor any power of compulsory transfer to other areas or hospitals. If any regulations are made under Section 66 of the Act the Minister will exclude from them any provision for universal whole-time specialist services. Appointments of specialist staff will rest with Regional Boards and the Boards of Governors of Teaching Hospitals, and there will be special professional advisory machinery for advising on the suitability of applicants—in the manner often previously explained. (As to existing staff, see 6 below.)

2. It has always been anticipated that consultant and specialist appointments should in most cases be part-time, and—where appropriate—at more than one hospital. They are essentially

regional and not a local Management Committee affair. As private pay-bed accommodation, this has been promised for the scheme and is expressly provided for in the Act. It is to be assumed that at the outset of the scheme it will lie where it is at present, but obviously the Minister cannot tie himself or the future hospital bodies to an exact future distribution now. The main point is that the continuance of private specialists at hospitals accords with the intention of the scheme, and there will therefore be facilities for them.

1. For obvious reasons the Minister could not give such an assurance. A particular building might become essential to a new Service, and that applies to any building (whether at present used for medical purposes or not). But the acquisition by purchase of, say, nursing homes or excluded hospitals is in prospect. The exclusion by the Minister of 200 hospitals entirely, indeed, is direct evidence to the contrary, and he would rarely exclude a hospital first and then acquire it by purchase afterwards (and, once excluded, it could only be acquired by purchase).

if any private concern were later to contemplate spending money on a private hospital or home run for profit, and feared that the Minister would wait for it to be there and then use compulsory purchase powers on it, obviously the sensible course would be first to discuss the project with the Minister at the time, and the Department ought certainly to be ready to indicate its likely attitude straight away. The private concern would then know where it was.

4. The Minister entirely agrees with the system of medical committees in hospitals. But he could not compel medical staffs to set them up (nor would the Association presumably wish him to try!). He has already included in his guidance Regional Boards and Hospital Management Committees a declaration of the importance which he attaches to the system and asked that every encouragement and facility should be given to it. He also agrees that in teaching hospitals such committees should be representative of all consultants and specialists on the staff, whether they are teachers or not.

As to the representation of medical committees on Boards of Governors or Hospital Management Committees, the Minister follows the Act, which requires the latter bodies to include persons appointed after consultation with the senior medical staff of the hospital or hospitals, and the former bodies to include up to one-fifth of their members nominated by the medical and dental teaching staff. In practice, of course, this means that both bodies will include members of the medical committees, with full membership. Moreover, the Minister plainly thinks that consultation should include consultation with the medical committee, where there is one.

5. The assurances already given cover complete freedom to publish views on the organization and administration of the Service, as well as on clinical matters, without obtaining any prior consent to do so.

6. In practice on the appointed day the existing staffs of hospitals will be taken over by the Regional Hospital Boards. Hereafter it will be the duty of the Boards to review the specialist services of their regions, and they will offer new appointments to their staffs either in their existing or other hospitals, which they will be free to accept or refuse as they like (see also question 1).

As to the latter part of the question, medical staffs of hospitals will be in the same general position in these respects as they are now. They will have all normal remedies for unlawful termination of any engagement, and in addition their medical committees and a Whitley machinery to help protect their interests. It will be a proper function of the Whitley organization to devise machinery for the ventilation of complaints and grievances.

7. It is not clear what is meant by this resolution, which does not explain—for instance—what "special procedure" it has in mind. Already all regulations have to be examined by a special committee in Parliament to decide whether they go beyond the scope of the Act under which they are made or whether there is any feature of them so unusual or important that the special attention of Members should be drawn to it. Any main cause of apprehension about regulations under the Act has been removed by the undertaking to remove a full-

time salaried general practitioner service from their scope. For the rest of their purposes under the Act, it seems to the Minister that regulations have advantages which the Association is overlooking. For example, it could only be detrimental to the doctors' interests if, every time some increase in capitation fee (as recently under the old Act) became desirable owing to changing conditions, it depended on finding Parliamentary time for a new Act to give effect to it. The use of regulations for things which require frequent flexibility has been familiar under the old National Health Insurance Acts for about 36 years, and has not—the Minister believes—been found anything but advantageous to the doctor.

8. The local Executive Council will certainly be consulted on the need for any variations of additional fixed annual payments to meet the needs of doctors practising in different areas.

The Minister understands, from the discussion on April 12, that what is in mind is that there will be various kinds of case where a doctor could—by taking the £300 system—profit financially himself from the equivalent of a higher rate of remuneration per patient at the expense of other doctors. The Association feel that while this is justified wherever there is need in the individual case, there will be other cases where there is no such need and where the results might be unfair—and that therefore there should be some other check on the decision than the unrestricted opting of the doctor. Within the scope of his recent declaration in the House of Commons the Minister is perfectly willing to discuss with the profession all the details of the conditions and methods through which opting will be conducted.

9. The Minister cannot agree to this further alteration of the Act, which would in any case be administratively difficult at a time when the settlement of succession to practices by sale and purchase is ceasing. The more reasonable course seems to be a review of the working of the system after an agreed period, during which it can be seen if it is as irksome as the Association seem to anticipate. The Minister is quite prepared to agree that there shall be a special review of the usefulness of this feature of the Act in, say, two years' time.

10. The Minister has already given an assurance that the chairman of the Tribunal shall be a lawyer of high standing, appointed by the Lord Chancellor. He cannot agree to stipulate that he shall be a High Court Judge. For one thing, it is too restrictive: it might well be very difficult to be sure of being able to secure the services of a Judge at any particular time. For another, a Judge, so appointed, would not be acting as a Judge when conducting the Tribunal—but simply as a lawyer of high standing, which the Minister has already promised.

11. The answers, point by point, are as follows:

(a) Every doctor will be free to practise where he chooses, unless it is one of the areas where the Medical Practices Committee decide no more doctors are needed in the Service. In all cases except the latter, "consent" will be automatic. Similarly, all will be free to choose colleagues, partners, and assistants unless the area requires no more (as above) or the regulations on the employment of assistants* are contravened. Where more than one doctor wishes to be the partner or assistant in question the Medical Practices Committee will be asked to observe the wishes of the doctors concerned.

(b) Partnerships and groups will be entirely free to allocate duties and responsibilities, as now.

(c) Doctors will be free to decide when an additional partner or assistant is necessary, subject to the cases where the Medical Practices Committee decide that no additional doctor at all is needed in the area and subject to the conditions about assistants.*

(d) A retiring doctor's views as to his successor would be taken into account by the local Executive Council, but that Council must ultimately decide what to advise the Medical Practices Committee about the new practitioner to come to the area.

12. The term "special qualifications" does not mean any special degree or diploma but simply inclusion in a list of general practitioner obstetricians compiled locally by a professional body, in accordance with the recommendation of a committee on maternal care established by agreement with the Negotiating Committee.

* The regulations about assistants require the agreement of the Executive Council to the employment of an assistant for more than 3 months. This is on the lines already familiar for the last 36 years.

General practitioner obstetricians will undertake, among other duties, to answer midwives' calls for medical aid and will be entitled to special fees.

Circumstances and practice are entirely different in Scotland.

13. Yes, within the available resources of the scheme.

14. This was settled when the Act was a Bill in Parliament in 1946. The Minister has to consult, but constitutionally the decision has then to be his. But naturally he would want to take those whose names are agreeable to the bodies consulted.

In conclusion the Minister said that the statement which he made in the House of Commons on April 7, together with the assurances which he had given to-day, represented in the Government's view the most reasonable modification of the scheme which was practicable to enable the Service to start, with the other social legislation of the Government, on July 5 next. It was, of course, their wish—as and when shortcomings were found in the scheme's working—to correct these as soon as possible, and they would do so. The Minister would always want to hear the views of the profession on any aspect of the working of the scheme. But the principal thing now was for a start to be made and experience gained.

The Minister hoped that, in view of the short period remaining, he would now have the immediate help of the profession in any consultations which he had initiated, or might initiate, with them.

AMERICAN CONGRESS OF INDUSTRIAL HEALTH VIEWS ON STATE MEDICINE

thousand delegates attended a four-day conference on industrial health sponsored by the American Medical Association. The conference, which was held at Cleveland, ended on Jan. 8.

A certain amount of publicity has been given in the American press to the widely differing views of some of the guest speakers at this conference. Speaking on the opening day Mr. Max Meyer, of New York, chairman of the Board of the Fashion Institute of Technology and Design, painted a glowing picture of the improved health and welfare conditions of workers in the garment trade. He attributed this solely to the efforts of men in industry, and added: "None of the responsible groups now advocating compulsory health insurance are advocates of State medicine."

Two days later Clinton P. Anderson, Secretary of Agriculture, produced a series of depressing facts and figures to demonstrate how poor the medical care of the rural American still is. He said that at the present rate of development of local public health units it was estimated that it would take more than one hundred years to cover the whole country, and went on to say: "Typhoid claims three times as many rural as urban victims and diphtheria twice as many. The infant mortality rate is one-fourth higher and the maternal rate a third higher. During the second world war farmers as an occupational group had a rejection rate of 53.4%, as compared with an overall rate of only 43%." He also said that prepayment plans for surgical and medical services offered by State and county medical societies had reached less than 1% of rural people.

Town and Country

There exists in America to an extent undreamed of in a country of Britain's size a basic split between towns and rural areas—between the country hick and the city slicker. Mr. Anderson's report is one of many that show that, at present, the hick is having a very rough deal in the matter of medical attention. American practitioners are reluctant to leave the cities for a country practice where therapeutic facilities are poor and payment is small, or in kind, or even non-existent. The first factor is probably more responsible than the second for this disinclination. American clinical teachers stress the value of laboratory tests in diagnosis to such a degree that their pupils feel it impossible to make a diagnosis based purely on a history and physical examination.

Mr. Meyer's description of health conditions in the clothing trade is perfectly correct and, in fact, might be that of any American industry. His dislike of State medicine is also shared by the larger proportion of the country's industrialists who rather than see the institution of a socialist measure, are prepared to pay all or part of their employees' subscriptions to private health insurance schemes. On the other hand, Mr. Meyer's statement on the reaction of "responsible" groups to State medicine must be taken with a grain of salt. Many Americans feel that voluntary health insurance can only operate in industrial areas, and then only in times of industrial prosperity and full employment. In fact only two days after Mr. Meyer's pronouncement President Truman, in his "State of the Union" address to Congress, said: "The fact is, however, that most of our people cannot afford to pay for the care that they need. I have often and strongly urged that this condition demands a national health programme. The heart of the programme must be a national system of payment for medical care based on well-tried insurance principles."

President Truman's views may not coincide with those of all Democrats, and they certainly coincide with those of very few Republicans. Nevertheless, there may come a time in the next decade or so when a Democratic President will be backed by a Democratic Congress. If by that time the advocates of voluntary insurance have not produced an efficient overall scheme it seems possible that America will join the ranks of those nations which possess a National Health Service.

Reports of Societies

PRIMARY TREATMENT OF VARICOSE VEINS

At a meeting of the Section of Surgery of the Royal Society of Medicine on April 7, with Mr. E. F. FINCH in the chair, the subject for discussion was the primary treatment of varicose veins.

Mr. DICKSON WRIGHT repeated Charles Mayo's remark that varicose veins, along with pruritus ani and some other intractable complaints, made up the "dust-heap of surgery." They had long been the despair of surgeons. With the loss of "face" which came about owing to recurrences as the years went by the operations proposed seemed to grow in ferocity. One German surgeon even went to the extent of cutting the skin spiral-wise from the knee to the ankle, leaving the resulting wound to heal by granulation. The healed legs resembled those of a Chippendale table. Another vicious method was to circumscribe the skin of the leg just below the knee down to the deep fascia, so that every superficial vein was divided. This did not help the varicose veins and sometimes ended in amputation from contraction of the scar. Others carried out laborious and extensive dissection of the veins, but the results were poor. Mayo invented a ring stripper to strip out lengths of vein, and Babcock a long probe to pass down and avulse the vein.

The injection treatment, first thought of by Pravaz and elaborated by Sicard and Forrester, provided an escape from the disappointing surgery of the day, and seemed to be a way out of the difficulty, but after an enthusiastic start the results proved disappointing on account of recurrences. An attempt was made to diminish recanalization by using different sclerosing agents, but although some were better than others the treatment proved inadequate except for the lesser cases. The cases which occurred most persistently were those in which a free communication could be demonstrated between the superficial and the deep veins. Once these valves became incompetent the veins were subject to greatly increased intravenous pressure, which would be greatly helped.

Mr. Dickson Wright proceeded to show a cinematograph film to illustrate the ligaturing of the sapheno-femoral junction—a simple operation, but one in which care was necessary because accidents such as tearing of the vein might occur. Accurate diagnosis should be made of the degree of involvement of the three venous systems—the internal and external saphenous and the gluteal. Mr. Wright stressed the need for adapting the procedure to the individual case, and the three-

cel film showed various modifications and adaptations. A case as shown which had been treated by bandaging only, and the treatment of which could have been shortened if the obviously incompetent vein had been ligated. Trendelenburg's operation was ineffective because the ligature was not made at the sapheno-femoral junction and important tributaries were left above the ligature.

After describing the details of the technique Mr. Dickson Wright added one or two points about the dangers of the ligation operation. The femoral vein might be tied in error; in such a case not much good was done, but not as much harm as might be imagined. Again, infection might occur after these wounds, but as chemotherapy was available this was not as serious a sequel as in the past. If pulmonary embolism should occur the femoral vein should be tied and the patient put on anti-coagulants. Rest in bed should be avoided as much as possible on account of the possibility of femoral thrombosis and embolism. Extensive cases were now given a general anaesthetic—thiopentone—and a large quantity (100 ml.) of a 30% saline solution was distributed in various parts of the venous system; it was hoped thereby to knock out all the affected veins in one assault. The danger of recurrence must be greatly diminished if no varicose veins at all were left as a starting-point. Contraindications to the operation were old age, obesity, and diabetes, and if the patient had a history, family or personal, of easily provoked phlebitis it was wise to abstain.

Venogram Studies

Mr. J. B. KINMONTH described the treatment of varicose veins in the light of information derived from about 100 venograms and histological studies. He referred particularly to retrograde injections at operation, which were intended to obliterate the great saphenous vein. This appeared to be an inefficient method because much of the dye was shown to go into the deep veins; very little of the injected fluid stayed in the great saphenous veins and very little went below the knee. It tended to pass into the communicating veins or the normal veins. Serial venograms after injections made into the leg showed that the optimum amount in a single injection was 1 to 1.5 ml.; larger amounts tended to spill over into the deep veins. Serial pictures also showed that fluid passing into the deep veins stayed there longer than might be expected, stayed for a longer time still in the communicating veins, and could be seen to linger in the neighbourhood of the valves—a very significant observation.

More severe cases with incompetent great saphenous valves required operation. He recommended high sapheno-femoral ligation, probably combined with ligation at knee level or at the thigh, no retrograde injection, but local injection of the calf varicosities if necessary at a later date. In a mild case injection should be practised, using the empty vein technique, with the knee horizontal. Not more than 1 to 1.5 ml. should be given at each injection, and the leg should be kept still for five minutes, after which the patient should be instructed to walk about briskly.

Prof. A. M. BOYD said that the treatment of varicose veins had been the subject of acrimonious discussion ever since Hippocrates. Treatments had been discarded and reintroduced repeatedly. The reason for the unsatisfactory results lay in the aetiology of varicose veins. He believed that varicose veins were primarily due to a congenital deficiency or weakness of the valves and communicating veins. The condition was therefore progressive and no single operation was likely to cure it. Any treatment of varicose veins was a severe assault on the circulation, perhaps more severe than was imagined. Superficial veins were very liberally supplied with nerve-endings and arteriovenous anastomoses in their walls. One of the indications for treatment was, of course, pain, but he was doubtful about varicose veins causing pain, though it was true that the posterior saphenous group did so. He thought that in some cases the cause of pain was a deep phlebitis.

The sheet-anchor of treatment was adequate ligation. He had tried to prove whether a sclerosing agent would get into the deep veins or stay there, and after some trouble in getting a suitable radio-opaque solution he was able to show that the

sclerosing solution would go into the deep veins, and, what was worse, would remain on the valves. He was prepared to believe that if only a small quantity were used—say 2 or 3 ml.—comparatively little got into the deep veins and only small damage was done, but the procedure was not without danger. Below the knee it was probably safe, though now and then people were found with fairly large communications just below the head of the tibia. Bearing in mind that varicose veins were rather a doubtful cause of symptoms, and that what one was out to do was to prevent chronic venous insufficiency and ulceration, more and better ligation was probably safer than attempting by other means to produce a cosmetic result.

In some further discussion Dr. MARTIN asked what kind of supporting bandages were recommended for a varicose ulcer. Mr. SOLLY COHEN said that patients who developed embolus did so not on account of the little stump left behind in the ligation but because of the solution which flowed into the deep vein causing a clot. Mr. DICKSON WRIGHT said that he was a great believer in elastoplast in the treatment of varicose ulcers. It should be reinforced by strips of adhesive across the ulcer and after that by some felt or rubber, and the elastoplast was placed, as a rule, above that, giving a very firm support.

OPHTHALMOLOGICAL CONGRESS

Subjective Disorders of Vision

The annual congress of the Ophthalmological Society of the United Kingdom was held in London from April 8 to 10, under the presidency of Dr. A. J. BALLANTYNE (Glasgow). Prof. MARC AMSLER (Lausanne) delivered the Bowman Lecture on "The Vegetative Eye"; Prof. W. H. MELANOWSKI (Warsaw) contributed a paper in which he urged that atropine was indispensable in starting the treatment of glaucomatous iridocyclitis, and other distinguished foreign guests who joined in the various discussions included Prof. H. J. M. WEVE (Utrecht), Prof. VAN DER HOEVE (Leiden), Dr. ELES (Copenhagen), Dr. J. W. NORDENSEN (Stockholm), Dr. THOMASSEN (Oslo), and Prof. FRANCESCHETTI (Geneva).

Medical Aspects of Disorders of Vision

The principal discussion, on subjective disorders of vision, excluding those due to local ocular disease, was opened from the standpoint of general medicine by Prof. HENRY COHEN. In the process of seeing, he said, two chains of events were concerned. The first began with the entry of light into the eye, traversing its transparent media to the receptive retinal nerve endings, whence impulses spread along well-recognized nerve pathways to excite ocular muscle movements and electrical disturbances in the brain cortex. The second comprised that still incomprehensible series of events which translated these cortical disturbances into the mental process of "seeing." Disease in either of these chains would affect vision. Such visual disturbances might arise from hereditary developmental defects, infection, nutritional abnormalities, toxæmias, vascular disturbances, degenerative lesions, and neoplastic changes.

The first major subjective disorder of vision which came to the general physician, Prof. Cohen continued, was visual fatigue, common in patients suffering from exhaustion of all types. Complaint was made sometimes of blurred distant vision, a useful sign in the differentiation of hypoglycaemic and hyperglycaemic states. Blurred near vision was not infrequently associated with diabetes mellitus, not because of the hyperglycaemia, but rather because of the associated dehydration. Patients with continued vomiting or marked diarrhoea, patients with diabetes insipidus and excessive water output, would commonly complain of blurred near vision; 15% of patients under 21 suffering from diabetes showed marked blurring.

Of visual hallucinations very little was known. No one had as yet with certainty produced a visual hallucination by direct stimulation of the cortex, yet in diseases of the cortex hallucinations occurred. Hallucinations were associated with many toxæmias. Digitalis would commonly lead to marked chromatic disturbance, frequently "white vision," in which all objects appeared to be covered with snow, but sometimes green,

or he had even seen blue, vision. Unilateral sudden blindness almost invariably had a vascular basis, while bilateral sudden blindness was usually of toxic origin. Colour blindness rarely came within the purview of the general physician. He added a word on the sudden "black-outs" which were not primarily visual disturbances but were apparently psychical in origin, such as the transient interruptions of consciousness which might occur in epilepsy. Not infrequently patients with petit mal consulted the ophthalmologist because of transient loss of vision.

Ophthalmological and Neurological Aspects

Mr. J. H. DOGGART classified subjective disorders of vision in three grades: (1) the obtrusive symptom, such as visual failure, which sent the patient rushing for medical relief; (2) the kind of sensations which could be pieced together only by expert questioning; (3) the subjective disorders, such as small field defects, which were brought out only by special tests. The same kind of symptom might be fitted to any of the categories, and its effective severity would vary with the patient's tolerance and powers of observation. One victim might be incapacitated by a paracentral scotoma, while another might fail to realize until questioned that he had been vaguely aware of it for some time, and yet another might continue in ignorance until the scotoma had been mapped out by charting the central field.

Diplopia, said Mr. Doggart, did not necessarily indicate ocular paresis. There might, for example, be a convergence defect associated with an anxiety state in a patient whose internal reactive function was normal in all conjunctive movements. When a patient did not complain of diplopia on his own initiative it was unwise to ask whether he had seen double. The over-analytical patient might proceed to give an account of what was nothing but a physiological or, as it had been called, an "introspective" diplopia. Defective vision suddenly arising in one eye, followed by substantial recovery within two or three weeks, was a well-known early manifestation of disseminated sclerosis. A similar lesion implicating both optic nerves behind the globes might occasion transient disturbance of vision in certain cases of pituitary or other intracranial neoplasms. Hallucinations opened up a fascinating subject. The laic man was quite convinced that he could not mix fantasy with objective events, yet the arguments against a sharp dividing line were formidable. Tricks could be played by the memory, however recent the event, as those accustomed to hear evidence given in court well knew. And at what point did legitimate clinical optimism degenerate into "facultative Nelsonism" by which latter device the surgeon could direct a blind eye on his failures and claim 100% success? He reminded his hearers of the visual aura of epilepsy, the geometrical figures which emerged at the height of a migrainous attack, and the strange images which might haunt the victims of Ménière's disease. The most elaborate hallucinations sprang from damage to the visual cortex, whether vascular, inflammatory, toxic, or traumatic.

Dr. DENIS WILLIAMS said that ophthalmologists and neurologists, as a result of their precise methods of testing visual function, were inclined to consider perception as tested in terms only of the lower visual pathways. He gave some curious examples of persons who had lost at least one-half of their total visual pathway and yet were able to "spare" or "split" their macular vision at will. Observations on the nature of macular "sparing" illustrated the effects of other related mechanisms upon the results of simple visual testing.

Dr. H. M. TRAQUAIR said that he had always been in the habit of teaching students that the eye was like a telephone receiver, with no function at all save to accept images and translate them into messages which were sent to an exchange, possibly in the area striata, and that the act of "seeing" was performed not by the eye or its connexions but by the ego. A discussion in which many strange cases of disorientation and hallucination were mentioned was contributed to by Mr. R. LINDSAY-REID, Mr. D. V. GILL, Mr. EUGENE WOLFF, Mr. F. RILEY, and others.

Detachment of the Retina

Mr. C. DEE SHAPLAND read a paper on prognosis in detachment of the retina. He reviewed 155 cases (122 civilian and

33 Service) operated upon by diathermy. About two-thirds of the cases were in males. In this and other series a slight but constant tendency for the right eye to be affected rather than the left was noted. In the civilian cases a successful result in the sense of reposition continuing after twelve months was obtained in 55.8%, and in the Service cases—a younger and selected group—in 80%. Mr. Shapland said that the results were weighted in favour of the surgeon and the patient up to the age of 50, but after 50 it was the other way about, although the oldest patient in his series—a woman of 78—showed a good result.

Prof. WEVE (Utrecht) said that his department had statistics concerning 3,000 cases operated on during the last thirty years. The cases which healed quickly and well were almost always those which were dealt with immediately. He was astonished at the number of ophthalmologists who, seeing a case of haemorrhage in the vitreous, never supposed it to be the beginning of a detachment and put the patient on the waiting list.

Mr. G. T. W. CASHELL described two cases of special interest: the first a subconjunctival rupture of the globe due to penetration by a cow's horn, and the second an aneurysmal varix of the retina. The first case showed an extensive migration of uveal pigment. Dr. W. C. SOUTER mentioned that in Aberdeenshire he had found cows responsible for sclerectomy, iridectomy, subconjunctival dislocation of the lens, total dislocation of the lens, and enucleation of the globe.

Retinal Vascular System

Dr. I. C. MICHAELSON described some research on the mode of development of the vascular system of the retina. He said that a study of the developing retina of man and other mammals had shown that vessel growth in the retina was by a process of budding from pre-existing vessels. The formation of retinal capillaries was pre-eminently a function of the retinal veins. If vein and artery were close together, growth took place initially from the side of the vein remote from the neighbouring artery. The spread of capillary growth towards an artery extended for only a certain distance, leaving finally in the definitive eye a well-marked capillary-free space around the arteries. This suggested that a factor affecting the growth of retinal blood vessels was present in the extravascular tissue of the retina and in such concentration that it differed in arterial and venous neighbourhoods, its action being predominantly on the endothelium of the veins. If the bulk of the capillary system in the retina could be considered as part of the venous system, and the arterial system as supra-capillary, such dispositions had implications for the appreciation of diabetic and hypertensive retinopathy. In the former capillary disturbance was evidenced by micro-aneurysms, haemorrhages, and exudates closely associated in time with changes in the visible veins, and in the latter long-continued arterial or arteriolar changes might be present without evidence of capillary disturbance. Development showed a dividing line in the vascular system corresponding to that found in pathological processes.

A paper on "Latent Nystagmus" was presented by Mr. T. KEITH LYLE. He said that this condition was first described in 1872, and cases had been recorded by several observers, but in many such cases there had also been signs of organic disease in one or other eye, conditions which might of themselves give rise to nystagmus. In the cases he reported there was no sign of organic abnormality in either eye. He showed a film of two cases in small girls taken eight years ago, and a similar film of the same subjects taken recently.

Glaucomatous Eyes

Dr. T. L. THOMASSEN (Norway) read a paper on venous pressure in glaucomatous eyes. He showed that venous pressure, compared with bulbar pressure, is high when the ocular pressure is in an increasing phase and low when the ocular pressure is in a decreasing phase. After the instillation of pilocarpine the venous pressure falls first and the ocular pressure shortly afterwards.

Mr. J. P. F. LLOYD surveyed 45 cases of congestive glaucoma, the average time of the congestive attack being eleven days.

He wondered whether operation was justified when the eye had settled down after what might be the only crisis in a lifetime. Dr. G. I. SCOTT described the use of the Bjerrum screen in the early diagnosis and prognosis of chronic glaucoma simplex.

Prof. ARNOLD SORSBY presented a classification of unassociated dystrophies of the fundus, discussing the topographical types, varieties of reactions, and genetic behaviour. In this connexion Prof. FRANCESCHETTI (Geneva) mentioned the remarkable familial incidence of choroiditis in certain valleys of Italian Switzerland. Other papers were by Dr. HELEN DIMSDALE and Mr. D. G. PHILLIPS on ocular palsies due to infection of nasal sinuses, Mr. EUGENE WOLFF on the conjunctival naevus, and Mr. A. G. CROSS on papilloedema in association with toxic hydrocephalus. Pictorial demonstrations were given by Dr. H. M. TRAQUIR and Dr. J. ELLISON, and Dr. W. C. SOUTER showed a colour film of a man who had the power of everting completely one or both upper eyelids without assistance, though he did it more surely with finger pressure on the temples. The film showed the great elasticity of his facial muscles. Another event of the Congress was a clinical meeting at the Ophthalmic Institute, Central London Ophthalmic Hospital, Judd Street, when about twenty cases were shown.

STREPTOMYCIN

At a meeting of the Liverpool Medical Institution on Feb. 19, with the president, Prof. T. P. McMURRAY in the chair, Prof. NORMAN B. CAPON opened a symposium on streptomycin.

Prof. Capon outlined the events leading up to the beginning of streptomycin trials, on behalf of the Medical Research Council, at Alder Hey Children's Hospital in February, 1947. He emphasized that treatment with streptomycin was a severe trial for the patient even though toxic effects were few, and it imposed a strain upon both medical and nursing staffs. It was clear that the prevention of spread of the disease to children and adequate provision for the care of cases of primary tuberculosis were still the most important aspects of the problem.

Dr. ROBERT HUGHES described the organization of a centre for the streptomycin treatment of tuberculous meningitis and miliary tuberculosis at the Royal Southern Hospital, Fazakerley, in September, 1947. So far 10 cases had been seen, and 5 of them had completed the course of treatment. Of these patients, one—a case of miliary tuberculosis with meningitis—had apparently been cured completely and was now perfectly well. The results in the other four cases of meningitis were unsatisfactory in varying degrees. In view of the results at Alder Hey Children's Hospital he suggested that there might be more than one type of tuberculous meningitis and that those cases associated with miliary tuberculosis might be more amenable to streptomycin than those with meningitis due to rupture of a tuberculoma. The cases treated were described in some detail. Toxic reactions to the drug had been almost invariably mild and had necessitated cessation of the treatment in one case only.

Dr. Hughes concluded by saying that streptomycin as used at present was not the complete answer to these problems. Perhaps it might be used more successfully in conjunction with other forms of chemotherapy. At the present time, too, there was not a sufficient quantity of the drug nor enough beds or staff to treat all the cases of these conditions which occurred.

Method of Treatment

Dr. R. M. TOPP said that during the past twelve months 29 cases of various forms of tuberculosis were treated with streptomycin at Alder Hey Children's Hospital. The drug was given intramuscularly in doses of 0.02 g. per pound (454 g.) body weight per day in divided doses six-hourly; and also in the cases of meningitis intrathecal doses of 0.1 g. were also given daily. Intramuscular therapy was continued for an average of twelve weeks in patients who had had over four weeks' treatment. Intrathecal injections were originally continued for long periods, but experience had shown that one or two short courses of seven days' duration with an interval of fourteen days between the courses produced better results.

Four cases of miliary tuberculosis were treated and two survived; one patient was alive and well forty weeks after the onset of the disease. Four cases of tuberculous bronchopneumonia all survived and three were alive fourteen, twenty-two, and forty-six weeks after the onset of the illness. Twenty-one cases of tuberculous meningitis—with or without evidence of miliary tuberculosis or tuberculous bronchopneumonia—had been treated and seven were alive. Three of these had completed streptomycin therapy and had survived nineteen, twenty-three, and forty-six weeks after the onset of the disease. Clinically they showed no evidence of meningitis, but one patient was completely deaf. A raised protein and increased cell count were still present in the cerebrospinal fluid. These three cases had been examined by a psychiatrist, who reported that none of the children showed any evidence of moral deterioration, change of disposition, anxiety, moroseness or apathy, but in the deaf child there was some slowing of mental development not altogether accounted for by impaired hearing and hospitalization.

Toxic reactions were few. In five cases a generalized maculopapular rash was observed, and in two cases the eosinophil count was 7% and 5%. A peculiar tremor resembling that seen in cerebellar disease was observed in eight patients who received intrathecal streptomycin, but this tremor quickly disappeared. Pleocytosis in the cerebrospinal fluid was relatively common and reached 500 per c.mm. in one case. Renal complications were observed in three cases—frank blood in one case, casts and red blood cells in two cases—but there was no permanent renal damage.

Prognosis depended on: (a) Early diagnosis: choroidal tubercles might lead to early recognition of miliary dissemination. In two of the cases tuberculous meningitis developed while the patients were under treatment with streptomycin for tuberculous bronchopneumonia and miliary tuberculosis, and these cases were diagnosed as a result of routine cerebrospinal fluid examinations. No abnormal clinical signs were observed at the time. (b) Age: the prognosis was worse in children under the age of 3. (c) Cerebrospinal fluid changes: the presence of tubercle bacilli on more than two occasions after starting streptomycin therapy was a bad prognostic sign. (d) Hydrocephalus, as evidenced by skull changes and generalized muscle-wasting, carried a poor prognosis. Radiologically the miliary tubercles might disappear during treatment, although in these cases they were still visible in large numbers at necropsy.

Four cases of influenza meningitis had been treated with intramuscular and intrathecal streptomycin. Injections were continued for from seven to ten days, the cerebrospinal fluid becoming sterile on the second or third day. Three made an uninterrupted recovery, but the fourth case developed spasticity of the left arm two weeks after discharge from hospital and subsequently died from pneumococcal meningitis.

Laboratory Control

Dr. A. C. T. VAUGHAN emphasized the necessity, in view of the ease with which resistance developed, of maintaining strict laboratory control of streptomycin treatment. With one exception, confirmed at necropsy, the tubercle bacillus had been isolated from each patient under treatment at Alder Hey Children's Hospital. An unexpected finding had been the inability to detect any increase in the resistance of the infecting organism isolated post-mortem in those who failed to respond, even when in one case treatment had lasted for sixty-six days.

Dr. C. A. ST. HILL said that streptomycin was an efficient bacteriostatic agent against the tubercle bacillus *in vitro*, but its results in the treatment of tuberculous meningitis were disappointing in many cases. These disappointments were due to a large extent to the formation of adhesions around the brain and spinal cord with consequent hydrocephalus. These adhesions might further hamper the action of the drug by burying the tubercle bacilli and thus protecting them from its influence. It would seem, therefore, that an advance in treatment might follow if some means could be found to prevent the formation of adhesions. There were a number of drugs which might be

used for this purpose, and two patients were being given heparin and streptomycin, but the effect of this treatment could not as yet be ascertained.

Dr. V. COTTON CORNWALL said he felt that the results were bound to be disappointing in a large number of cases of tuberculous meningitis. Dr. Hughes' division of meningitis into at least two groups was important, for it was in the cases associated with milary tuberculosis that the best results had been obtained. The American literature suggested that streptomycin was often useful in recent exudative pulmonary tuberculosis, and he hoped supplies would be available soon for a trial in such cases.

At the same meeting Dr. C. ASTLEY CLARKE read a short paper on asthma.

CREDÉ'S METHOD

A meeting of the North of England Obstetrical and Gynaecological Society was held in Manchester on March 5 with the president, Mr. J. E. STACEY, in the chair.

SIR WILLIAM FLETCHER SHAW said that as a result of recent experiences in the conduct of higher examinations he had come to the opinion that ideas on what constituted Credé's method had changed. In the past he himself had taught, as he had been taught, that it was a method of applying gentle rhythmical stimulation to a sluggish uterus in the third stage to induce it to contract and so separate the placenta; only when it was contracting vigorously was it to be squeezed a little harder and the placenta delivered from the vagina by pushing the uterus gently downwards in the axis of the pelvis. Nowadays there appeared to be a widespread belief that Credé's procedure consisted essentially in extremely forceful squeezing of the uterus to promote separation of the placenta, and he therefore wished to draw attention to Credé's original description of his method (*Klinische Vorträge über Geburtshilfe*, 1853, 1, 600):

"... Failing natural discharge of the placenta... In numerous cases, without exception, successful expulsion of the placenta has been obtained within a quarter or half an hour after the birth of the child, by massage through the abdominal wall around the fundus and body of the uterus—gentle at first and gradually increasing in force, thus producing an artificially stimulated powerful contraction. When this is at its height I grasped the uterus so that I lay in the palm of the hand and the fingers and thumb along the sides of the organ, exerting a gentle and outward pressure. In each case I felt the placenta slide out of the uterus from under my fingers with such an impetus that it was carried through to the very external genitals; or at least to the lowest parts of the vagina."

Sir William Fletcher Shaw concluded from this that Credé meant gentle massage to be used for the purpose only of inducing strong contraction of the uterine muscle, the final squeeze being intended only to push the placenta from the lower uterine segment and the vagina. If vigorous and forceful squeezing of the placenta from the fundus of the uterus was ever justified, it ought not to be associated with Credé's name. Moreover, even the method described by Credé was not original, and had been discussed by John Harvie, who in 1767 wrote:

"... As soon as the child is committed to the care of the nurse let the accoucheur apply his hand upon the belly of the woman, which is then very loose, and he will readily feel the contracting uterus; then, having placed the flat of the hand over it, let him by a light and gentle pressure bring it downwards or towards the pubis, and he will feel the uterus sensibly contracting and then feel it so reduced in size as to be certain the placenta is expelled. By this method he will seldom have anything to do afterwards but to help it through the os externum; if even so much remains undone..."

As in so many other examples in the history of medicine, the name of the originator was not associated with the disease or its treatment, but rather the name of the person who discovered it afresh at some later date.

In the discussion which followed there was general agreement that there should be no interference during the third stage of labour unless there was a clear indication for it, and that energetic squeezing and manipulation of the uterus was dangerous in that it was conducive to placental retention and shock. Many speakers said, too, that the present-day tendency

was to distinguish between squeezing the fundus to promote placental separation (rightly or wrongly attributed to Credé) and expression of the already separated placenta from the lower uterine segment and vagina.

Unusual Cases

Dr. R. M. CORBET (Preston) described a case of pregnancy complicated by a large hydronephrosis.

Mr. JOHN HAMILTON (Liverpool) discussed a case in which he had successfully removed a large fibroid uterus weighing 32 lb (14.5 kg.) from a grossly anaemic woman, and also a case of pregnancy in a bicornate uterus in which the pregnant horn had ruptured spontaneously at the eighteenth week. After removal of the ruptured horn, and of the pregnancy sac from the peritoneal cavity, the patient made a good recovery.

Miss K. LIEBERT (Manchester) described a case of post-abortion general peritonitis treated with streptomycin. A persistent and virulent peritoneal infection did not respond to sulphamezathine, penicillin, or drainage of the abdomen, but was dramatically cured by streptomycin. The organisms concerned were coliform bacilli and non-haemolytic streptococci, both shown to be resistant to penicillin but sensitive to streptomycin.

POST-PARTUM HAEMORRHAGE

At a meeting of the Edinburgh Obstetrical Society on March 11 with the president, Dr. W. F. T. HAULTAIN, in the chair, a paper was presented by Dr. RICHARD DE SOLDENHOFF on haemorrhage in obstetrics.

Dr. de Soldenhoff said that 99 maternal deaths from haemorrhage had been reported to the Department of Health for Scotland in 1946-7; 67 were due to post-partum haemorrhage and some 40% of these were young primiparae. The majority of these women died in hospital, in Dr. de Soldenhoff's opinion because they had been moved to hospital following the birth of the child while suffering from post-haemorrhagic collapse.

He referred to the arrangements in the County of Ayr, where since 1937 a whole-time obstetrician had been employed by the local authority. Since that date this officer had operated an emergency domiciliary service chiefly for the resuscitation of such cases. Dr. de Soldenhoff had held this post since the autumn of 1946. The equipment used was readily transportable and included all the apparatus necessary for transfusion and for dealing with retained placenta, incomplete abortion, etc. It included blood and plasma, and the resuscitation team always carried a citrate-containing flask for the immediate replacement of a portion of the blood donation by the contribution of a relative of the patient taken at the time of transfusion. A supply of high-titre anti-CD serum was included to avoid the dangers of rhesus incompatibility.

Dr. de Soldenhoff then discussed the principles of the management of third-stage haemorrhage, post-partum haemorrhage, antepartum haemorrhage, and incomplete abortion. Immediate manual removal of the placenta was advocated for antepartum haemorrhage of severe degree. He condemned Credé's manoeuvre and advocated the vaginal pack for certain emergency cases of antepartum haemorrhage, and early curettage for incomplete abortion. He warned against the dangers of over-transfusion and advised against slavish reliance upon sphygmomanometer readings as an index of progress.

The paper was discussed by a large number of those present, including the president. It was agreed that the general use of such emergency services as those described was desirable.

Prof. Andre Dreyfus, Professor of General Biology and Dean of the Faculty of Philosophy, Science, and Letters in Sao Paulo University, is in Britain until April 23 under the auspices of the British Council. President of the Brazil-U.S.A. Cultural Union, he is also a member of the boards of cultural societies for relations with Russia, Canada, and Italy. As a geneticist working on *Drosophila*, the purpose of his visit is to meet British geneticists. The Glasgow Royal Technical College have arranged a programme for him in Scotland. He will visit Leeds on April 18-20, and Manchester on April 20-22.

Correspondence

The Four Points

SIR.—We have reached the stage in our fight with the Government when we must have clear-cut convictions, not woolly-minded conceptions masquerading as basic ideals. The issue has become so confused that the average doctor does not know where he stands—e.g., no alternative plan exists, the N.H.S. scheme is unacceptable, the present private service is out of bounds since the B.M.A. is committed to a national service, so all that is left is the N.H.S. with the four amendments (good-will, full capitation, etc.). The question then before us is, Are these four pillars of wisdom—or should I say freedom—well and truly founded, and are they worth fighting for?

Let us examine these four pillars. What do we mean by buying and selling practices? I think most doctors mean continuing the custom exactly as it operates at present. Now, this is impossible, as it involves administrative freedom with the right to appoint one's successor, etc. Indeed, it is comparable to saying that we are willing to work a Government service if we are allowed to run it privately. It is of course an untenable position, and yet I agree it is the only basis on which buying and selling could be justified.

The "master pillar" is that concerning abolition of the basic salary. It is argued that if we are paid by capitation only we are being protected from a full-time salaried service—a very laudable objective. It is true reference would have to be made to Parliament before such a step could be taken, but note all we have gained is the protection of a Government pledged to a full-time salaried service—truly a Pyrrhic victory.

The third pillar, concerning direction, is I think very weak. Obviously the main idea is to protect doctors' being forced into undesirable areas. Actually I feel greater difficulty will be experienced in getting medical men to carry out the proposed scheme in places such as Southport, Harrogate, etc., where we are dealing with an aged and ailing population, and where 1,000 patients would probably be a full-time job. Some adjustable scheme as that envisaged in the basic salary might prove very useful.

As regards the fourth pillar—viz., right of appeal to the courts—there is undoubtedly a case that could be argued cogently, but are the terms offered doctors different from those operating in other Government departments, and has the experience gained in these other departments been such as to create uneasiness? I do not think so.

To sum up, could these four amendments be elevated to the standard of convictions strong enough to sustain a fight? If my reasoning be accepted they certainly could not, as they are mainly myths. It must not be imagined that I am anxious for a Government service; I am only anxious to clarify the rodomontade that so many doctors are indulging in under the guise of saving the profession and the public. If we agree to a national medical service at all then we must, I think, under existing Government regulations yield administrative freedom, but we should make very sure that professional freedom is established. As regards a full-time salaried service, the only protection I know of is the will of the profession to resist it no matter what Government is in control. Even a clause in the Act could be altered.

I think it is unfortunate that the issues dealt with above should have excluded so completely all light on the business side of the proposed service.—I am, etc.,

Southport

S. H. STEWART.

Choosing Successor

SIR.—I suggest that a simple way of meeting our objections to forfeiting our freedom by the ban on the sale of practices would be to allow practitioners an unfettered right to choose their successors. Our main objection to the ban is the interference with our freedom to practise where we will. If the Local Medical Committee and the Medical Practice Committees were abandoned and the above method adopted, there would be no legitimate objection to the State purchasing our practices instead of by private arrangement.—I am, etc.,

Boston Cambs

A. E. MOORE.

Can Consultant Practice Survive?

SIR.—The consultants have been preoccupied in defending the interests of the general practitioner. Only here and there is a lone voice raised to inquire as to their future. No contracts have appeared for signature, and they are being lured into inactivity awaiting the decision of the Spens Committee. Could the Minister of Health be more pleased by any situation?

What are his aims? The consultant is in short supply. Private practice is anathema to the Labour Party. The consultant's service must be rationed and equally distributed in the Socialist ideal world. The poor must not feel that his more prosperous brother can avail himself of a better service. Under the new scheme, when specialist services are available without extra payment to one and all, can it be imagined that consulting practice as it now exists can survive? Here and there it may do. The large bulk of consultants will have to augment their private earnings—and will considerably come to rely on this source—from payment for their hospital services. If we need any indication of the scale, the L.C.C. payment of £700 a year for practically a half-time appointment may serve as a guide of a specialist's salary.

When the scheme has been in operation for a time, private consulting practice will dwindle further, and those holding such appointments will feel compelled to seek fuller employment under the authority. These duties are hardly recreational. The output expected is far from modest. Hospital appointments will probably be paid at a similar rate, and it can be easily envisaged that—in the absence of private practice—consultants with even two or three hospital appointments could not make a living in the larger centres. Herein lies the subtle process of *negative direction*—a form of economic compulsion driving the specialist out of his practice to eke out an existence in uncongenial surroundings, a servant of the new machine, painfully aware of its economic strength. That this is not imaginative, something that is now occurring will indicate.

I have knowledge of a hospital where the consultants have been required by regulations to attend for a certain number of sessions per week, so that their duties should be adequately accomplished. This hospital staff made application to the Ministry for payment—without prejudice to the future—on this sessional basis which they had voluntarily observed in the past. The Ministry have indicated that the attendances were far too numerous.

Billion dollar loans and the Marshall Plan may permit for a while longer this inflationary recklessness that beguiles the consultant into believing that payment under the new scheme is in the nature of a purloin. But the days of reckoning are numbered. Financial stringency, "mass-produced" specializing, and a tightened exchequer will make him realize that he should have thought, and thought hard, while he still had a chance to devise a way of escape.

It appears immodest to consider the financial side of the State scheme, but when it is being used as a weapon to exploit a class of professional men it calls for ventilation. We must retain: (1) freedom, and (2) security of tenure. This can only happen if we plan in unison not to expose ourselves to the possibility of economic strangulation. The general practitioner knows what he wants. It is time the consultant's demands for self-protection were formulated. The hospitals become State-owned in July. Is forgoing our salary our most vigorous protest against State servitude?—I am, etc.,

London, W.I.

JOHN SOPHIAN.

Hoyland Doctors Unite

SIR.—We the undersigned, all general practitioners in adjoining districts and all having voted "No" in the recent plebiscite, have formed ourselves into a committee for the purposes of (1) mutual protection and moral support; (2) the dissemination of facts to the public as opposed to rumour and misrepresentation.

We are holding public meetings in the districts in which we practise, and able medical speakers are being invited to explain the reasons for the doctors' objections to the National Health Acts of 1946 and 1947 and to discuss the patients' angle on the National Health Service. These meetings will be non-political and, as far as possible non-controversial. The audiences will

be encouraged to ask questions and the local doctors will be supported by those from the other districts concerned.

At our first committee meeting the following resolutions were passed, and submitted to those who had been unable to attend:

(1) For the next three months no transfer of National Health Insurance patients excepting those coming on to the panel for the first time or from outside districts. This resolution was passed for mutual protection against the suggestion made in some quarters that N.H.I. patients should threaten to withdraw their medical cards unless their doctor agreed to enter the National Health Service.

(2) The British Medical Association to be asked to take immediate action and not wait until July 5.

(3) No medical cards issued under the National Health Service Acts, 1946 and 1947, to be accepted by any doctor in the districts concerned.

(4) Public meetings to be held in all districts after March 17 to put the doctors' case before the patients.

We feel that if practitioners in each district or group of districts who are opposed to the Acts in their present form would join together in this way the unity of the profession would be greatly strengthened. Special attention should be given to those who may be wavering because of financial worries. It should be a case of "all for one and one for all," each practitioner helping and supporting his neighbour in every way possible.

Let us learn to have faith in ourselves and in each other, for only by presenting a united front can we hope to win the battle for professional freedom. Let all who value the ideals and traditions of medicine and who refuse to betray the medical men and women of the future join together throughout the country and cry "Halt" to the forces of totalitarianism. We shall fight and fight hard in our own area. Shall we fight alone?—We are, etc.,

B. WIGGINS, A. W. B. WIGGINS, J. AITKEN McEWEN,
J. H. FAIRCLOUGH, P. LEWIS, E. S. L. ALLOTT,
M. ALLOTT, J. S. L. ALLOTT, H. N. SKELTON,
J. H. RITCHIE, P. D. LESLIE, H. A. L. BANHAM,
D. W. MAYMAN, H. M. MILLS, W. JARDINE,
L. TAYLOR, W. G. MAXWELL, G. W. ETCHES,
J. W. WHITWORTH, C. B. BALL, J. C. PICKUP,
J. DICKINSON, M. F. GRENFELL.

Leam, Yorks.

Must the Doctor Tell?

SIR,—Although my Service numbers have only just had time to dry (8 months) I myself have had enough of direction and regulation. There is, however, one regulation that worries me now and may worry patients after July 5. I am instructed to inform my commanding officer of all second infections with venereal disease in other ranks and all first infections in the case of officers. This makes nonsense of the "confidential" advertisements one sees in civilian life, and incidentally of the Hippocratic ideal. If I refuse I am disobeying an order. If I comply I am the less a doctor. If some "sea lawyer" takes me to court for a breach of faith, am I or is the R.A.F. held responsible?

So much for my own difficulty, which has arisen through being a nationalized doctor in a nationalized force. The miner is nationalized; after July 5 the doctor is nationalized. The arguments applied to the airmen and myself will apply to doctor and miner. "The V.D. rate is high in the industry. The problem must be beaten." The doctor must inform the mine manager the miner has V.D. The logical sequence to this is to carry out "F.F.I." inspections in the nationalized industries, for if confidence is no longer to be maintained the patients will attempt to hide their condition.

I would be grateful if the eminent members of my profession would give an ethical ruling on the confidential issue and if Mr. Bevan would give his ruling on the same issue in its application to industry. It may lose him votes but it would at least be honest.

Finally, may I sympathize with the doctors' wives? My record number of signatures for one afternoon so far is 52. The clerks had to spend a long time preparing the forms for signature. The doctor's wife will now have to prepare them, for they will surely be necessary.—I am, etc.,

SERVING OFFICER.

A State Service

SIR,—I have just received my *Journal* for Feb. 7, containing an account of the consultants' meeting held on Jan. 27. I was amused by and read with some cynicism Dr. H. B. Morgan's statement that a number of services, such as the Public Health Service and Colonial Medical Service were full-time and functioning satisfactorily. I can only speak of the latter and use it as a pointer of things to come under Mr. Bevan's scheme.

Does functioning satisfactorily include one director, deputy directors, seven assistant directors, ten administrative senior officers to control 13 specialists and 109 general medical officers? Yet that is the fact stated in the latest staff list of the large colony. All 22 administrators are qualified doctors. Initiative, enterprise, ability, and skill are of far less value than a "good book." No one wants that for the United Kingdom—not even the present Minister of Health, probably. It is a fact, however, that once the administrative germ takes hold of the body medical petty bureaucracy engenders frustration, marked among the keen clinicians, of whom there are not a few. Meanwhile clerks, both medical and lay, flourish.

Only one out of the 14 doctors from the United Kingdom working in this area would have voted for the Health Service in the recent plebiscite had they received papers in time, I understand.

For my crime of being a Civil Servant I am not allowed to sign my name to this letter under the direst of penalties. The same could easily occur at home in a full State service—I am, etc.,

F.R.C.S., COLONIAL SERVICE.

Rural Remuneration

SIR,—As has already been noted, the proposed N.H.S. remuneration, although it may be adequate in industrial areas will cause great hardship or worse to many rural practitioners. The industrial practice is closely grouped around the main surgery, to which patients have ready access by public transport. Such visiting as there is is from door to door. In the country not only can the blind, the halt, the aged, and the infants not come to the surgery owing to hills, distance, lack of transport or stress of weather, but when a visit to them is made arrival at the gate may mean a further climb of 50 or 100 feet of long steep path. A recent census over two months showed a ratio of 4.1 visits to every surgery attendance.

My partner and I live four miles apart and serve some 25 square miles of broken country. One of us has patients on and across a rapid tidal estuary. In the winter there is no ferry, which means getting out one's own boat and rowing. During the last six months 33 such visits were made. On two days gales made anything but visual communication impossible. On a time-energy basis each such visit equals six or more ordinary ones. As this harbour work is within a mile's radius of the surgery no mileage is claimable under N.H.I. Moreover, mileage allowance as at present calculated is a farce. On a group of patients in a hamlet two miles away on a main road it may be reasonable, but the more inaccessible patients never present their cards until ill. Mileage should be paid on an item-of-service basis, as is now quite satisfactorily done by the Admiralty, Army, and other departments.

The total population in this area is probably under 3,000 and it seems impossible on the terms offered that we shall not be down several hundred pounds on our present income. It should be borne in mind too that we are "at risk" for the whole population of the area, not as in a city with the risk spread over many practitioners. That work will be greatly increased under N.H.S. is generally admitted—for example, extra visits solely for the purposes of certification (e.g., mild infectious diseases which must not come to the surgery and would normally be seen once or not at all). Further, whereas N.H.I. deals with patients healthy enough to be at work, N.H.S. will include a big percentage of primarily sick and chronic cases who must be visited.

Personally I think that the remuneration so far offered, however it is distributed, will be quite inadequate for good work, though possibly enough for mass-produced certification in a city. Unfortunately the legislators of all parties when making

ulations think always of straight streets of numbered houses, whether it be health, housing, rations, traffic, or whatever. Any of the difficulties resulting from the application of these regulations to country conditions would be laughable if they were not so wasteful and exasperating.—I am, etc.,

Jewson Fatters, S. Devon.

W. F. BENSTED-SMITH.

Plea for Compromise

SIR,—I am and always have been a convinced opponent of comprehensive national health service. Here the operative word is "comprehensive," as Government service can be perfectly satisfying. I have spent nearly 30 years in it and should now what I am talking about. But what made such service satisfying is the fact that nearly 95% of the profession were inside it. If an individual felt himself aggrieved by the conditions of his service, he could always retire and go into civil practice. If the grievance was a general one, the B.M.A. could, and did on occasion with great effect, turn off the supply at source. Once the service becomes comprehensive both these safeguards vanish. For the dissatisfied individual there is no remedy but to emigrate, as a certain Member cynically remarked in the House; for the generality there is no refuge.

It is therefore with real apprehension that I see looming before us the prospect of such a comprehensive service. It is possible that resistance at an earlier stage might have avoided it. The Beveridge Report contained in germ all the most objectionable features of the present Act. A firm stand then might have reduced the whole scheme to its proper proportions: an extension of the N.H.I. Act. A very grave error was made when, instead of submitting an alternative scheme of our own, we agreed to negotiate on the Government proposals only, by so doing we admitted the principle of direct Ministerial control. The acceptance of the 100% principle practically made the State our sole paymaster and deprived us of the strength independent income would have given us.

But it is no use crying over spilt milk; we must now face the grim prospect of a Government-controlled service which we have accepted in toto except for some of the details as to how that control is to be exercised. And this is surely the time for some give and take on both sides. The right of appeal to the courts the Minister may well yield us. It will rarely be exercised. We on our side might yield on the question of the ownership of our practices. It is, I think, an illusion at this will render us more helpless. The power of the State which we have yielded is so strong that it can make the difference.

The remaining two points are matters in which concessions could be made on both sides. The right to refuse permission to settle in an over-doctored district is harmless; it prevents over-crowding. The right to direct men into unpopular districts is objectionable. Men should be coaxed, not driven into such districts. By "coaxed" I mean such inducements as higher honours and the right to a move after a certain number of years. The danger about a universal basic salary is that it easily leads to a salaried service. This danger would disappear if we restricted to men setting up independent practice for the first time and allowed gradually to disappear. Here I should like to adopt a suggestion made to me that the initial salary could be at least double the present figure and taper off in succeeding years until it vanished altogether in, say, five years. This would give the maximum help when it was most needed and act as an incentive to work. I make no claim that my suggestions are a solution of our difficulties, but I do make a plea that that genius for compromise for which this country is rightly famed may be allowed to prevail before further bitterness.—I am, etc.,

Andover, Hants

J. A. BALCK-FOOTE.

Morality of the State

SIR,—Dr. Stephen Taylor, though he had outlined his views quite clearly (March 6, p. 463), does not yet seem to understand why we are disturbed. Yet out of his own mouth we have the answer. Under item 4 of his letter he states that an amending Act would give us no protection whatever. In other words, no guarantee by those who represent the State is worth much.

Surely, Sir, this is the crux of the issue. The historian knows that history teems with broken pledges; these are broken as freely, probably more so, by the State than by individuals. In fact the individual, even if he would, is often bound to his promise by laws imposed by the State. Socialists cannot have it both ways. They cannot elevate the State above the individual, permit it to break all the rules of manners and ethics, and then expect us to give it trust, loyalty, and respect.

This issue, so often evaded by those charged with the defence of morality, is of fundamental importance at a time when worse tyrannies than Socialism are just over the water. I do not think many of us could feel happy under the Act until some more definite safeguards against abuse of power by the State are forthcoming. It may not be possible to bind any future government to anything, but we should be well aware that tyranny may be practised by the so-called democracies as much as by Fascists, Communists, and absolute monarchs.

If we accept that the State should be as moral in its actions as the individual, how does Dr. Taylor regard the threat to which general practitioners are now exposed? The Minister says in effect, "Come into the Service or lose your money. I will not buy your practice and you may not sell to another." Is this morally defensible? Will Dr. Taylor tell us in these columns if it is?

The Act, as it stands, is misleading to the public, since many of the things published in the prospectus are not there, nor can they be for years to come. Can Dr. Taylor wonder then that we feel great moral indignation, not only because of the injustice with which we are threatened but because of the fraud at which we are asked to connive? If Dr. Taylor detests intimidation and coercion, as do all those with a sense of fair play, I suggest that he considers these points. He might also like to make clear to the Surrey Federation of Trades Councils that their proposed questionnaire to doctors is unethical and contrary to the spirit of true Socialism.—I am, etc.,

Hadley Wood, Herts.

G. C. PETHER.

Refinancing the Service

SIR,—My letter "Financing the Service" (Feb. 14, p. 311) has been justified rather sooner than I expected by the revised estimates of the cost of the N.H.S. which have now been issued, and the miscalculations can be seen to be even more gross than I anticipated.

The sum of £87 million for hospital and specialist service has now been raised to £134 million, exposing an original error of 54%. The sum of £45 million for the G.P., optical, pharmaceutical, and dental service has been stepped up to £60 million, an error of 33%.

Such casual manipulation of "meaningless symbols" by the back-room boys of Whitehall cannot be condoned. Or were the underestimates deliberately designed to facilitate the passage of the Bill through Parliament? Let us hope, as taxpayers if not as doctors, that the watchdogs of the Treasury will be among the first to claim dental benefit and be fitted with new acrylic-resin, or preferably stainless-steel, teeth.—I am, etc.,

Bournemouth.

T. R. AYNLEY.

Methods of Fighting

SIR,—I am a realist, and as I sat at the Representative Meeting on March 17 I felt it was unfortunate that there were not more in the medical profession, and particularly so on the Council. Most of us agree that this comprehensive service is non-political and was introduced by a coalition government for purposes of certification essential for the successful running of the social insurance scheme rather than for a crying need for improved treatment of the sick.

A motion was proposed that doctors should attend the sick after July 5, but no certificates other than for infectious diseases, lunacy, and death should be issued. Dr. Guy Dain, Chairman of Council, said he was amazed that such a motion should be brought forward, and he was supported by Dr. Gregg that to withhold certificates was a paltry act. The motion was rejected by your representatives.

As a realist, I am amazed that the Council should ask the members of the B.M.A. for the far from paltry sum of £100 as a first contribution for a fight for which they have obviously

no stomach. An earlier speaker pointed out that, if you are to have a fight, someone must get hurt. In our fight the Council are determined that it shall not be the patient; we can rely on Mr. Bevan to look after himself; and so I will give you one guess who will get hurt. When the Council announce on what lines they intend to fight I shall decide whether to subscribe or not, but if they continue their present methods they will certainly lose the fight and our money.—I am, etc.,

Camberley.

LESLIE HARTLEY.

The Alternative

SIR,—The *Journal* (Supplement, March 27, p. 56) reports Dr. E. A. Gregg, whose position lends authority to his voice, as saying, "Our alternative is the National Health Service scheme with the changes in it for which we have asked and of which you are all aware." If this statement represents the full content of our opposition to his scheme Mr. Bevan may well sit back content in the belief that he will soon see a landslide in his favour just as did another very adroit, very intelligent Welsh politician who manœuvred the profession into an untenable position a generation ago. It must be obvious to anyone who has followed your correspondence columns that many who voted against the Service did so from motives which had little connexion with the four so-called principles. I venture to suggest that a great number would feel chagrined and frustrated if Mr. Bevan were to yield on all four points and thus leave us with no option but to agree to serve his ends.

I cannot believe that I am alone in opposing the scheme because it appears to be a gigantic fraud, a vast confidence trick about to be perpetrated on the British public. We know that those who issue fraudulent company prospectuses are in danger of finding themselves behind prison walls, in company with practitioners of the confidence trick, but at least their victims have a chance to say "No" to such gentry; whereas everyone will be legally obliged to pay for a service which Mr. Bevan knows full well must fall far short of his promises for many years, even if he has the enthusiastic co-operation of the profession from the outset. But the Minister goes farther than Dr. Gregg and announces, through his mouthpiece Dr. Stephen Piggott, that even with one-third of the necessary staff he intends to run his service on the appointed day.

Dr. Gregg seems either to hold an entirely different view as to the value of the Service under existing circumstances or to believe that this aspect is of no concern to us. If he can tell me of any real value to the community which the Service will possess I shall be very grateful to him, but if he cannot he is in effect declaring that, if we retain the right to sell our practices, are not forced to accept salaries, are free to practise where we will, and may appeal to the courts if illegally dismissed, then we will be the willing accomplices and accessories of this gigantic immorality. If the suggested interpretation of Dr. Gregg's statement is fair and accurate there seems to be no very obvious reason for surprise that Press, public, and Parliament are predominantly hostile, or at least distrustful, not of the Minister but of us.—I am, etc.,

Launceston, Cornwall.

DONALD M. O'CONNOR.

The Doctor-Patient Relationship

SIR,—The fight for freedom by our colleagues at home is being watched with keen interest out here, but it is a matter of some comment that no stress has been laid on what is after all the crux of the situation—namely, the destruction by the Act of the doctor-patient relationship. I take the titles of letters on p. 311 of your issue of Feb. 14: Alternative to Salary, Financing the Service, Compensation, Remuneration in the N.H.S., Goodwill in Practices—all dealing with the material aspect of our fight, and a side of it in which the general public—whose good will we deserve and must have—is either not interested, or which it is apt to misconstrue.

We, however, know from the experience of medicine in existing services that one of the first things a doctor tends to lose is that sympathy, understanding of the individual patient, and knowledge of and interest in his environment which taken together make up the doctor-patient relationship and which result in the patient that confidence which is so often three-quarters of the battle.

I feel we are not doing justice to our cause by harping so much on the material angle. If we insist on conditions which preserve this relationship everything else follows automatically, for all conditions which will or may turn us into Civil Servants would have to be withdrawn. Is it too late, even now, for a big publicity effort directed especially to the general public and explaining and stressing this most vital point?—I am, etc.,

Nairobi, Kenya.

KEITH DUFF.

A Clear Reply

SIR,—Already one is being asked, unofficially of course, "How do we stand with reference to the new scheme and with you, Doctor?" What is one to say, and should not you, Sir, give a lead so that we may speak with one voice? Let us be clear and loud in our reply, which one would suggest should be in the following terms: We cannot say anything definite, but if the scheme is modified, as we hope it will be, to remove all our objections, then there should be no difficulty.

Is this enough, or should one explain further? And will this be enough when the patient is advised by the Ministry to ask his doctor whether or no he is coming into the scheme? No evasive action will then suffice with a public which has been led to believe that the Act is coming into force on July 5: whether the doctors agree or not.

Whether we like the method or not we shall require to adopt the method of the present Government and put our position clearly to the public by poster, leaflet, and radio. At least every practitioner should have a card which he can place in his waiting-room which states clearly his position regarding July 5.—I am, etc.,

London, N.6

W. LEES TEMPLETON.

Implementing the Vote

SIR,—It is surely time for those of us who voted No in the plebiscite to devise means for implementing our vote. Which of us is serenely happy at the prospect of disposing of the Minister's contract or deed of acceptance when the time comes? Is there not some element of doubt in our minds about the other fellow? We all have much at stake and we shall need a lot of reassurance. We do not like the scheme, but we want to remain solvent. There is to be a central fund, but we are not beggars. We may despise the timid, but the timid may well outnumber the fearless. I submit this proposition to all who voted No—to the fearless and the timid, counting myself among the latter. I should add that it is not my own idea, having been outlined originally by a colleague at a meeting of the local branch of the B.M.A.

The suggestion is that the B.M.A. should act as agent for the individual practitioners. Each practitioner should forward the contract or deed of acceptance or whatever may be the instrument selected by the Minister to the B.M.A. with instructions such as the following:

I am reluctant to enter this scheme but I am not prepared to forfeit my capital and possibly the greater part of my income for an indefinite period without the assurance that the majority of the profession is prepared to do likewise. If you are satisfied that such a clear majority is attained, I wish to be associated with it. But if it is not attained, I wish to accept service in the scheme, with regret. You should inform the Minister or his representatives accordingly.

The word "majority" should be clearly defined beforehand, and I have never seen any quarrel with the original figure for such a majority, which was, I believe, 63%. I trust that some such arrangement may be organized and adequately advertised before any one of us is faced with that contract paper with only a Thomas as counsellor.—I am, etc.,

Loughborough, Leics.

R. E. RAINEY.

Foresight

SIR,—Would you allow me to say with how much pleasure (not unminged with a little pain, be it said) I read your correspondence in these days? The pleasure goes without any more stressing; the pain is due to the almost contemptuous silence which met my letter in your columns (*Supplement*, Dec. 2, 1944, p. 134), when not a pen was lifted in support of the views expressed in it. The subject was the Coalition Government's

White Paper. I imagine that one of the reasons why I suffered neglect was that most of your present-day correspondents were still in the karyokinetic stages of their medico-political development. I am glad to think they have now passed the early stages of dentition, for some of them *can bite!* But, Sir, why ask for more than the fundamental requirements enumerated in the White Paper above quoted?—I am, etc.,

London, S.W.3.

A. R. EATES.

Assistant Dispensers in N.H.S.

SIR,—I am from time to time asked what is to be the position of assistant dispensers under the new Health Service, and shall be grateful if you will allow me, through your columns, to clarify the position in so far as this is at present possible. The Act lays down that "nothing in this Act shall interfere with the rights and privileges conferred by the Apothecaries Act, 1815, upon any person qualified by that Act to act as an assistant to any apothecary in compounding and dispensing medicines." With the taking over of the hospitals it is anticipated that the staffs will continue in their existing posts, and it is thought that many health centres will employ holders of the Assistant's Certificate. It cannot yet be known how many doctors will continue to dispense their own medicines, but at the present time the demand for assistant dispensers far exceeds the supply.—I am, etc.,

The Worshipful Society of Apothecaries
of London.

ERNEST BUSBY,
Clerk.

Iron in Anaemia

SIR,—With reference to the question and answer on iron in anaemia (March 27, p. 625), we agree from our own experience that there is no advantage in adding manganese or other trace elements. Iron seems to be specific in this disease.

We have been concerned for a long time with the problem of refractory microcytic hypochromic anaemias. Even when due allowance is made for complications such as neoplasm, infection, and continued haemorrhage, and when concurrent deficiencies of vitamins, thyroid, etc., have been corrected, they have formed a not inconsiderable proportion of the total. Such patients appear unable to absorb adequate quantities of iron, while an additional group of patients are unable to tolerate iron preparation when given orally. In a much larger number of cases the response to oral iron falls short of expectations.

The problem, therefore, is one of introducing sufficient iron into the body in a form free from the complications of local pain and toxic reactions. Once introduced, iron-deficiency anaemia appears to utilize it quantitatively. We have made many trials of different types of iron compounds parenterally, both by the intramuscular and the intravenous routes, but all the intramuscular preparations tried proved to be too painful. On the other hand an intravenous iron-sucrose complex, similar to the saccharated iron used by J. A. Nissim (*Lancet*, 1947, 2, 49), but having constant therapeutic and chemical characteristics in routine sterilization, has given entirely satisfactory results with freedom from reactions in the day-to-day out-patient treatment of 55 cases of iron-deficiency anaemias during the past twelve months. It has also proved invaluable in the experimental study of iron metabolism.

The clinical results and studies on iron metabolism, using this complex, are now in preparation for publication. Using this preparation the treatment of the average patient with iron-deficiency anaemia can be completed in 10 out-patient visits without fear of reactions, provided that a simple system of increasing the dosage is adopted. The injections present no special difficulties after a short initial experience, and no follow-on venous lamage is ordinarily required. Many of the clinical results are as dramatic as the response of pernicious anaemia in relapse to full doses of parenteral liver. In all cases of iron-deficiency anaemia the anaemia was relieved fully.—We are, etc.,

H. G. B. SLACK,
JOHN F. WILKINSON.

Manchester.

Human Chorionic Gonadotrophin

SIR,—In the annotation on this subject (April 3, p. 650) attention is drawn to observations of Brown and Bradburg (*Amer. J. Obstet. Gynec.*, 1947, 53, 749) of the effect of human chorionic gonadotrophin on the menstrual cycle of

women, and the conclusion is reached that their findings strengthen the suggestion that chronic gonadotrophin prolongs the activity of a pre-existing and functioning corpus luteum, but does not by itself induce ovulation or initiate luteal activity. The further inference was drawn "that it should be used when it is desired to enhance already established but deficient luteal activity. . . ."

That it would appear to be unwise to accept without considerable reserve either of these conclusions may be deduced from the findings in two cases of hydatidiform mole which I have recently investigated. The Friedman test was positive at dilutions of 1 in 10 and 1 in 100 respectively (10 ml. urine being the standard quantity injected), indicating the presence of considerable quantities of chorionic gonadotrophin (not less than 20,000 and 200,000 I.U. per litre respectively), but in both cases the urinary pregnanediol excretion was nil when estimated on five occasions. If one accepts the urinary pregnanediol level as reflecting the blood progesterone concentration, the inescapable conclusion is that in these cases abnormally large amounts of chorionic gonadotrophin were incapable of maintaining the activity—and it may be wise to emphasize activity rather than morphology—of established corpora lutea.

There is a further inference to be drawn from these observations, namely that the placental tissue responsible for the elaboration of chorionic gonadotrophin cannot be the same as that which, in the second and third trimesters of pregnancy, secretes progesterone.—I am, etc.,

London, W.C.1

G. I. M. SWYER.

Posterior Pituitary and Labour

SIR,—Dr. Mavis Gunther's letter (March 20, p. 567) recording her observations on the escape of milk during the contractions of labour are most interesting. Though pregnancy should inhibit the lactating processes, lactation does continue in spite of the large amount of oestrogens being produced. But it is usual to find that if this is the case prolactin has continued to be secreted because of suckling. It would be therefore interesting to know when this terminated in actual fact.

Many mothers even though gravid continue for various reasons to suckle till term, and therefore, in theory, milk should in these cases be present in the breasts at the onset of labour. The myo-epithelium—the basket cells that surround the alveoli—because of their contractibility, and provoked by the posterior pituitary extract, can be responsible for the expulsion of the contained milk, and this is what Dr. Gunther observed. The visual demonstration of this expulsion coinciding with each uterine contraction, and the knowledge that the former is due to posterior pituitary extract, is highly suggestive that the uterine contractions were identically produced.—I am, etc.,

London, W.1.

JOHN SOPHIAN.

BAL and Lead Poisoning

SIR,—The article by Dr. N. R. W. Simpson (March 20, p. 545) adds another link to the lengthening chain of evidence that 2:3 dimercaptopropanol is effective in the treatment of chronic gold poisoning. The curative action of BAL on the toxic effects of gold in man runs counter to the experimental findings in acute toxicity studies in mice. Graham and Hood (1947) found that BAL, 40 mg. per kg., given intraperitoneally to groups of white mice increased the lethality of sodium aurothiomalate also given intraperitoneally immediately before the BAL. The mode of action of BAL on acute gold poisoning in animals and chronic gold poisoning in man is obviously different.

Similarly Braun, Lusky, and Calvery (1946) working with rabbits, and Graham and Hood (1947) working with mice, have shown that BAL has a deleterious effect on animals acutely poisoned with lead. It does not follow that BAL will be ineffective in acute or chronic lead poisoning in man. This point should be tested clinically as soon as possible, since the treatment of lead poisoning at present is not entirely satisfactory.—I am, etc.,

Glasgow.

JAMES D. P. GRAHAM.

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- Braun, H. A., Lusky, L. M., and Calvery, H. O. (1946). *J. Pharmacol.*, 87, Suppl. 119, 19.
Graham, J. D. P., and Hood, J. (1945). *Brit. J. Pharmacol.*, 3, 84.

Disk Lesions and Osteopathy

SIR.—Dr. G. Macdonald's partisan letter (April 3, p. 663) really cannot be allowed to stand unchallenged. A. T. Still (the founder of osteopathy) postulated that *all* diseases arose from pressure on arteries and nerves as the result of vertebral displacements. If medical research has led to the recognition of spinal disk protrusion, and if this is now claimed as the vindication of osteopathy, it must prove the opposite of Dr. Macdonald's contention. Surely it shows that the whole of osteopathic doctrine, except in that small particular, is false.—I am, etc.,

London, W.1.

JAMES H. CYRIAX.

Intervertebral Disk Lesions

SIR.—I was interested in the letter by Dr. J. Donaldson Craig and Mr. A. W. Lipmann-Kessel (March 20, p. 570) concerning sciatica produced by prolapsed intervertebral disks. They state that the pain produced by stimulating the fifth lumbar inter-spinous ligament is clinically and subjectively indistinguishable from that occurring spontaneously in an L5-S1 disk lesion, and also that sciatic pain might be regarded as a deep segmental pain due to joint disturbance.

I would suggest at the present time that we are in danger of considering that every case of sciatica must be caused by direct pressure of a displaced disk on a nerve root, thus causing direct pressure pain. It is true that in some cases where operative exploration is undertaken for sciatica the surgeon fails to see a disk prolapse, and yet to his pleasure the patient appears cured, at any rate for some time, of the distressing sciatic pain. Possibly the mere exposure of the dural sac and the traction of it in exploring the disks is sufficient to tear down adhesions in that area. Recently I dealt with a case that illustrates well the points brought out by Dr. Donaldson Craig and Mr. Lipmann-Kessel in their letter.

A well-built young man, aged 28, was referred to me at Fleet Hospital, Hampshire, by Dr. Sharkey on account of pain in the back and sciatica of five months' duration, following a fall on to his back at football. Diagnosing a prolapsed disk causing moderate pressure, for a further four months I carried out the so-called old-fashioned treatments for sciatica—namely, diathermy applied to the back and leg, stretching of the nerve, and manipulation of the spine. Immobilization both in bed and in a plaster spinal jacket was tried, all to no effect. Finally I decided to explore the spinal cord. After removing the ligamentum flavum between the 4th and 5th laminae, and the 5th lamina, I found no prolapse of the 4th disk. On proceeding, however, to remove the ligamentum flavum from the 5th lamina to the 1st sacral, with a view to removing the sacral lamina and exploring the 5th disk, I found that there was a local adhesion of the posterior aspect of the dura to one point on the flaval ligament, just at the level of the sacral lamina. On passing a hook around the adhesion to determine its size and desirability of cutting, it was noted that traction on it produced contractions of the posterior leg muscles. Further investigation showed that one of the roots of the cord equina was also adherent in the adhesion. The adhesion was freed from the ligament and resected off the underlying root, and the dural hole carefully sutured. No prolapse of the 5th disk was found. To my joy the next day the patient reported that he had completely lost his sciatic pain, and after a normal convalescence he returned to his job as a schoolteacher, standing, and riding a bicycle to school. He has had no return of backache or sciatica.

Such a case would bear out some of the early views held that backache and sciatica may be caused by adhesions of the soft tissues to the cord and roots rather than always being due to disk pressure, which appears to be the modern trend of thought.—I am, etc.,

London, W.1.

G. O. TIPPETT.

Bone Conduction in Otosclerosis

SIR.—I would like to refer to the letter by Mr. W. H. B. Magauran (March 20, p. 569) concerning air and bone conduction tests in otosclerosis. It has been known for some time now that improvement of hearing by both air and bone conduction occurs in the unoperated ear in a certain number of cases—but not by any means all—following the fenestration operation, but the improvement is never permanent. In fact in over 500

fenestrations I have not one case of sustained improvement by air or bone conduction over six months in the unoperated ear, though improvement be fully maintained in the operated ear.

I feel bound to confess, my amazement that anyone practising the fenestration operation to-day should rely upon inaccurate tuning-fork tests—and the one fork of the least importance at that, namely 256—for selection of suitable cases. Mr. Magauran states that "bone conduction . . . was found to be lengthened by a few seconds and to be reduced by about 50% on the left mastoid bone." I cannot help feeling that if adequate audiometric analysis had been carried out before the operation both ears may have been found suitable for the operation and the patient would not have had to rely on the result of the first operation to determine whether the second ear would respond to the fenestration operation also.

I could not agree more with Mr. R. Scott Stevenson's letter (March 27, p. 618) in regard to the need for a careful, sober, and dispassionate estimation of the results of the fenestration operation for otosclerosis. I would like to reiterate the plea that I made in the *Post-Graduate Medical Journal* (November, 1947) for the institution of most careful records of the pre-operative examination, details of the actual operative technique, and post-operative records at intervals of one month, three months, six months, and then yearly for ten years. In addition to these records a questionnaire should be answered yearly by the patients regarding the state of the result from their own point of view.

It is advisable that this operation should not be performed sporadically, but only by those who are willing to take time and pains necessary to develop an irreproachable operative technique, and who will undertake the complete after-treatment either by themselves or by an assistant specially trained for this purpose. Those otologists regularly practising this operation under these conditions should in my opinion compare their results from time to time, especially in relation to the technique of the operation, for it is beyond doubt that those employing the best technique obtain the best results. It is inexpedient to come to conclusions of the value of the fenestration operation based on the results of those only occasionally performing it.—I am, etc.,

London, W.1

E. R. GARNETT PASSE.

SIR.—Mr. W. H. B. Magauran (March 20, p. 569) can only have seen an abstract of the paper which I read to the Royal Academy of Medicine in Ireland on "Bone Conduction in Otosclerosis," which no doubt accounts for a misconception about one of its main points.

In a study of cases before and after the fenestration operation I showed that, after omitting those cases in which pre-operative masked bone conduction was normal and those cases in which no improvement in air conduction took place, the acuity of hearing for masked bone conduction in the operated ear was increased in 90% of cases. There was no alteration of masked bone conduction in the unoperated ear, and in fact the unoperated ears were used as controls to show that the alteration of bone conduction in the operated ears was a genuine improvement. Mr. Magauran's finding of a "considerable lengthening of bone conduction in the unoperated ear" is directly contrary to my findings, and strongly suggests that the operated ear was inadequately masked during the test. Without adequate masking of the untested ear, bone-conduction tests in otosclerosis may be quite misleading. I have never seen the hearing of the unoperated ear altered in any way, either for air or bone conduction; and indeed it is inconceivable that an operation on one ear could affect the working of the opposite one. Such a result can only be explained as an error in testing, either on the part of the patient or the examiner.

There is one further point. In assessing the suitability of a case of otosclerosis for the fenestration operation, bone-conduction tests with a 256 tuning fork are quite valueless. These tests must be performed at 512, 1024, and 2048 cycles per second. Normal bone conduction is often found at 256, when there is severe loss in the higher frequencies. Furthermore, neither tuning forks nor conversation voice tests can be used for quantitative estimation of the degree of deafness without introducing errors so large as to make the results of little value. If the results are to be expressed quantitatively audiometric measurement must be used.—I am, etc.,

Dublin.

R. R. WOODS.

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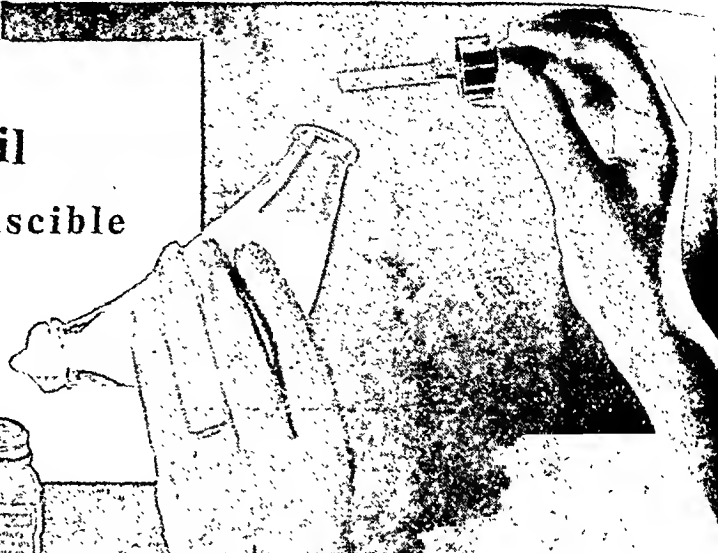
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Prevention of Post-operative Thrombosis

R.—I should like to make comment on certain points in Hamilton Bailey's article (March 27, p. 594). In that article emphasizes the importance of early detection of phlebotomosis—importance which cannot be overstressed. He proceeds to remark that the goal of prevention of phlebotomosis cannot be reached at the present time save in a clinics with special facilities. While perfection is a goal which is never reached in human circles, there can be no justification for the underlying suggestion that something very close prevention of phlebotomosis cannot be reached. I base reasons for this statement on our observations in a Department of Health for Scotland Hospital at Ballochmyle, Ayrshire.

Towards the end of 1946 strenuous endeavours were commenced to institute a campaign in the surgical side of the hospital against post-operative phlebotomosis and pulmonary embolism. The treatment under treatment were general surgical, gynaecological, and nose, and throat. In the first six months of that campaign our efforts were directed at instructing the junior medical staff, the nursing staff, and the physiotherapists in the early diagnosis of phlebotomosis. Great endeavours were made to combat venous stasis by activity in bed, the abandoning of Fowler's position, encouraging early rising, and post-operative breathing exercises. During this period 671 operations were performed. Eight of these patients were diagnosed as developing thrombosis and were treated with heparin and/or dicoumarin, and in none of them did a fatal pulmonary embolism occur. There were five cases of sudden fatal pulmonary embolism in which phlebotomosis had not been diagnosed previously.

In the following twelve months an impressive difference was seen. 12 operations were performed, with nine cases of phlebotomosis and no fatal post-operative pulmonary embolisms. These cases were treated with heparin, and in no case was venous ligation or amputation carried out. If these figures are compared with those recorded by Bauer (*Lancet*, 1946, 1, 447) with reference to the pre-coagulant era, we find that post-operative thrombosis occurred in one patient in every 180, as against an expected rate of one in 1,622.

Further, fatal pulmonary embolism occurred in no patients out of 1,622, as against an expected rate of one in 360. Perhaps this can be regarded as "an iota of evidence" that pulmonary embolism is less frequent in at least one hospital without special facilities than it was "ten, fifteen, or twenty years ago."

There can be no doubt that femoral thrombectomy is not called for save in a relatively advanced case of phlebotomosis, and even in these cases satisfactory results accrue from ligation. The risks of producing pulmonary embolisms during thrombectomy are surely considerably greater than the risks of fatal pulmonary embolism under adequate heparin therapy. One could hardly expect any better success than our reports, namely three fatal pulmonary embolisms in 495 cases.

Mr. Bailey refers to the "unbridled use of expensive drugs." The average cost of treating a hospital patient with heparin for a recent and early phlebotomosis is about £14. When prolonged morbidity or actual loss of life is being averted such an amount of money can scarcely be regarded as excessive even from a purely economic point of view. I am convinced that any surgical unit which is determined to reduce its rate of post-operative phlebotomosis and pulmonary embolism can do so by adequate training within the unit and by the use of heparin when a case of phlebotomosis is diagnosed.—I am, Sir, Sir,

Mauchline, Ayrshire.

GAVIN J. CLELAND.

Clinical Value of E.S.R.

SIR.—Dr. J. Robertson Sinton's article (Feb. 28, p. 391) on the erythrocyte sedimentation rate was of great interest, but there are some points in his article to which I should like to draw attention. He mentions that the investigation was carried out at laboratory temperatures varying from 12° C. to 25° C. This is a wide range and surely tends to invalidate some of his figures. It has been shown by Westergren,¹ Ham and Curtis,² and others that a rise in temperature increases the rate of sedimentation; this, however, has been denied by Weingarten,³ who refutes the general statement that sedimentation rates are higher in warmer temperatures.

Table I shows readings taken simultaneously at 15.6° C. (60° F.) and 21.1° C. (70° F.) in a recent very small series of

cases. It will be noted that the temperature range is smaller than that of Dr. Sinton's, and the differences would be greater still with his wider range. The method used was the standard Westergren with 200 mm. tube, 1.6 ml. of blood, and 0.4 ml. of sodium citrate, and the readings were taken at the end of one hour.

TABLE I

Disease	15.6° C.	21.1° C.
Normal	8	12
Hodgkin's disease	6	10
Rheumatic fever	30	35
Pregnancy	11	15
Tonsillitis	15	22
"	12	16
"	20	30
"	17	25

An additional possible inaccuracy in the Westergren technique using sodium citrate is the measurement of the latter and the blood. To show the difference between a 1:4 and 1:3 ratio of blood to sodium citrate a few sedimentation rates were carried out at a constant temperature using these two dilutions, and the results are shown in tabular form below.

TABLE II

Disease	Ratio of Blood to Sodium Citrate	
	1:4	1:3
Normal	8	5
Rheumatic fever	6	4
Pregnancy	30	23
Tuberculous synovitis	35	24
Tonsillitis	13	7
"	15	10
"	32	22
"	12	8
"	16	11
"	14	9

An error of 0.1 to 0.2 ml. in measuring the blood or citrate may be sufficient to alter the ratio from 1:4 to 1:3—such an error may easily arise with the type of syringe usually used.

A final factor influencing the rate is the inclination of the tube. Westergren, Wintrobe and Landsberg,⁴ Ponder,⁵ and others all emphasize the necessity for the tube to be vertical: this is difficult to achieve. Moreover Ham and Curtis⁶ have shown that only 5° from the vertical produces a substantial error. A method of ensuring a vertical tube and also a constant temperature is that advocated by Rogers.⁷ In this the tube forms its own plumb-line, is plugged at its lower end, and is suspended in a large jar containing water at the desired temperature. The method is rapid, and the results may be directly compared—this is especially important in serial cases where the sedimentation rate is used as a guide to progress and in which normally a winter reading might be too low and a summer reading too high.—I am, etc.,

London, S.W.3

M. C. JOSEPH.

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Medicine in a Planned Economy

SIR.—Finding myself very much in agreement with the trend of thought in the article by Dr. Ff. Roberts (March 13, p. 485) I cannot help adding the plea to all doctors in hospital or practice to be more thoughtful in their selection of, and demand for, specialized tests and laboratory examinations.

A friend who works in a large hospital in this city, where the patients are largely drawn from the upper age limits of the population, commented acidly to me on this very point the other day. As he puts it: "Subjecting an aged (75) arteriosclerotic with cerebral thrombosis to a full blood examination, lumbar puncture, and other examinations" may be an exaggeration of the actual state of affairs, but there is no doubt that a lot of tests (useless so far as the future of the patients is concerned) are being done. The minds of the younger members

of the profession are muddled by the ever increasing amount of scientific knowledge, and in their endeavour to keep up with and to apply that knowledge they are apt to get lost in a maze of often meaningless figures. The older clinicians in their endeavour to follow suit get lost even more easily. The language at the average residency table (to an outsider at least) would puzzle even an Egyptologist trying to unravel the mysterious message on some ancient papyrus. The nonsense being banded about on many lips in many spheres of life is becoming intolerable.

In school the new entrant is often measured by pseudo-scientific psychological tests. My own child was refused admission to school here because she did not reach up to the standard demanded by these tests. In fact, she was refused admission because she was "dull and backward." By other means I pressed her admission into this school—to find that the same "dull and backward" child shines now at or near the top of her class (no doubt a class of "backward" children). And so the nonsense goes round and round, using the words of the famous song. It is time some of us took a more sensible line, and Dr. Roberts is to be congratulated in reminding us this time of our failings.—I am, etc.,

Edinburgh

K. I. E. MACLEOD.

The Treatment of Hyperidrosis

SIR,—Mr. H. A. Haxton (April 3, p. 636) in his opening paragraph states that essential hyperidrosis is seen in those parts of the body which are affected by mental or emotional sweating. He later goes on to say that the cause in most cases is unknown, and appears to discredit the theory of abnormal psychic disturbances, substantiating this by reference to a case in which the onset was before the age of ten years. As the genesis of most emotional disturbances occurs in infancy this would not appear to be a valid argument against the theory. It is to be noted also that in Case 5 the symptoms prevented the patient from dancing and in Case 9 occurred when the patient was warm or embarrassed—both of these would suggest an abnormal emotional background.

I have recently observed a patient, 34 years of age, in whom hyperidrosis of the hands commenced suddenly after a febrile illness, and in the early stages occurred only when the patient was playing cards, but later at frequent and apparently unconnected times. Varied local treatments were tried without success. About the same time the patient complained of praecordial pain and dyspeptic symptoms; these progressed to a frank anxiety state. Psycho-analysis revealed a deep emotional conflict of which the patient had been completely unaware. As the analysis proceeded the frequency of the hyperidrosis became less and less, and the patient was able to connect its occurrence with his conflict.

I would suggest that the majority of cases of hyperidrosis should be classified as psychosomatic, and in all cases where an organic cause is not found adequate psychological investigation should be carried out before submitting the patient to an operation, which although it may relieve his immediate symptoms will leave the basic cause unresolved.—I am, etc.,

London W 2

JOHN H. L. CONWAY-HUGHES.

Pulmonary Embolism

SIR,—I am grateful to Mr. Norman C. Lake (March 20, p. 569) for giving some details of the necropsy findings in two of his cases, but I doubt whether he is right in blaming Nature for being preposterous as it seems probable that the necropsy examinations were not full enough to justify his conclusions. In his first case Mr. Lake states that clot was projecting into the superior vena cava from the azygos vein. This, I would submit, may refute rather than support his suggestion that the fatal embolus originated from this source. In the second case the fact that the clot was found projecting into the iliac veins (I take it that this refers to the internal iliac veins) is again no proof that this was the source of the embolus.

Let Mr. Lake should consider me unduly disputatious, may I add a few further remarks?

1. It must not be presumed that any veins containing ante-mortem thrombus at necropsy were the site of origin of a fatal embolus, unless (a) the veins of the legs have been carefully dissected, and (b) the loose clots in the heart and lungs can be shown to fit the veins from which they have allegedly

originated. Where these steps are taken there are very few cases in which an embolus can be proved to have arisen from those unusual sites which (in the absence of adequate necropsy examination) were formerly accepted as the source of some emboli.

2. In the ordinary necropsy, where examination rarely extends below the groins, it is frequently the empty rather than the clotted veins in which we should be most interested, and unless the leg veins are explored it is unjustifiable to incriminate the only veins that happen to have been examined.

3. Ante-mortem thrombosis is frequently extensive, and I have commonly found thrombosis at other sites when the veins of the lower limb were unquestionably the source of a fatal embolus. In the absence of full necropsy the wrong vein would have been incriminated.

I never doubted that Mr. Lake was fully aware of the importance of early movements nor did I think that he should have devoted much more space to the question of pulmonary embolus. I do, however, consider that his conclusions about these cases are unjustified and that it is singularly unfortunate that the little he did say should concern these two cases.

The purpose of my last letter was to challenge a too prevalent defeatist attitude to this subject of embolism. I fully appreciate that active movements alone will not prevent thrombosis, and it is for this reason that I would advocate daily examination of the legs and the "abortive" treatment of any thrombosis with heparin. If it be believed that thrombosis usually arises from the abdominal wall or from haemorrhoids, then there is little possibility of early diagnosis, and still less opportunity of selecting suitable subjects for anticoagulant therapy. This erroneous belief is disproved by the results of thorough necropsy examination.—I am, etc.,

Radlett, Herts.

REGINALD S. MURLEY.

Prostatectomy for Retention of Urine

SIR,—In the article by Mr. G. A. Bagot Walters on immediate prostatectomy for retention (April 3, p. 638) I read that recently as 1945 an excellent authority favourably compares the patient with acute retention operated on from the street at the bedded patient who has undergone "sulpha, catheter, anticipatory" treatment.

Now I think the comparison may be misleading. An acute retention with benign prostatic enlargement may frequently demand prostatectomy, whereas a patient catheterized for a few days or weeks may not need any debilitating "sulpha" treatment and certainly no confinement to bed with attendant loss of appetite and anxiety. In this rural area I remember twenty years ago how difficult it was to catheterize for more than a few days without having the depressing increasingly dirty condition of the urine brought to one's notice. From the time I commenced giving "metramine," one capsule daily, to mildly disinfect and make blue the urine I have not failed to keep it free from unpleasant odour or cloudiness, even after catheterization for some weeks in cottage conditions.

When one's experience is limited, it is unfortunate that hospital the only case of acute retention I saw decompress with a lumbar puncture needle suprapubically, died. In practice where catheterization has been imperative and possible I have always spent an hour in emptying the distended bladder—without very frequent interruptions in the flow—while engaging the patient in conversation and deprecating all efforts to assist expulsion.

Of my few elderly prostatic patients I give, as illustrations, what may happen, (1) a case refusing a second-stage operative satisfied to live and get about with a permanent and leaking suprapubic drainage emptying into a milk bottle suspended by tape from the neck of the patient; (2) two cases, both over 70 years, who after catheterization for some weeks resumed normal micturition for several years; (3) one case who had weeks of catheterization with "metramine" administration, without recovery of natural function, and who submitted to immediate and uneventful prostatectomy by a general surgeon; (4) one patient who died from heart attack a few days after suprapubic drainage had been established by an eminent genito-urinary surgeon; (5) one sturdy patient admitted to hospital without catheterization but with considerable residual urine, as shown by percussion, who died four days later from urinary suppression after suprapubic drainage; (6) one patient aged 80 years, who in 1947 had acute retention through unavoidable

play in micturition. This case gave a history of nocturnal frequency very many years. Owing to having an ailing wife he refused operation; catheterized daily for three weeks, and with metramine, he assumed natural micturition, getting up once nightly, and to-day is living a very active life.

I write these particulars for the rural practitioner who may be interested in the common things of life.—I am, etc.,

Haydon Bridge, Northumberland.

RICHARD BELL.

Malignant Syphilis

SIR.—The report headed "A Fatal Case of 'Malignant' syphilis" by Drs. Robert Lees and William Fowler (March 6, 1948) is of considerable interest. Although the occurrence of lupial lesions and mucous patches together with penile sores and a positive Wassermann reaction makes the diagnosis of syphilis extremely likely, it seems nevertheless a pity that apparently no attempt was made to demonstrate *Spirochaeta pallida* in genital or other lesions.

It would be interesting too to learn whether any Herxheimer reaction was noted on commencing treatment. No doubt the small initial dosage of penicillin was designed to prevent therapeutic shock. Yet recent American work would suggest that the risk of therapeutic shock is no greater with large initial doses of penicillin than it is with small ones.¹ Moreover, in the apparent absence of involvement of vital structures surely it would have been more logical to have begun treatment with large doses of penicillin plus a potent arsenical, plus a soluble bismuth or mercurial salt, in order to combat an apparently fulminating infection. A fulminating meningococcal septicæmia, for example, is regarded as requiring heavier dosage with sulphonamides than would a case of average severity.

Isolation of the spirochaete would also have made possible an attempt to determine by means of rabbit inoculation whether the infection was caused by a drug-fast strain such as that reported on by Beerman and Severac,² whilst microhistological investigation might have determined the condition of the smaller and medium vasculature, as vascular causes have been held responsible for destructive changes both in early and late syphilis.³

Lastly, occasional batches of penicillin are found to be therapeutically ineffective. Was the particular batch used tested and proved to be therapeutically active on another patient, or otherwise assayed for penicillin content?—I am, etc.,

C. D. ALERGANT.

Liverpool

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Thiouracil in Thyrotoxic Heart Disease

SIR.—I feel that Dr. W. E. Clarke (March 27, p. 597) has been unlucky in his experience of treating thyrotoxic cardiovascular disease with thiouracil, since in many hospitals satisfactory results are being obtained. I have before me the notes of twelve consecutive cases of thyrotoxicosis that I have treated during the past year. Six had cardiac failure, and three of these auricular fibrillation. The degree of failure seemed more severe than in Dr. Clarke's cases, and the initial pulse rate was never below 120. In all six cases the cardiac symptoms were entirely relieved by thiouracil, the fibrillation reverting to normal rhythm, which has persisted. The condition of the patients, on a small maintenance dose, is excellent. Surgery was offered but was refused in every case, though in fairness it must be said that patients referred to a physician using thiouracil are in some sense selected. One woman, for example, had refused to go to hospital for years, until she was told that a non-operative treatment was available.

As regards the frequency of heart disease in thyrotoxicosis I would question the statement that few cases now develop cardiac complications. It would be safer to say that the thyrotoxic element in heart disease is often overlooked. No assessment of the incidence of thyrotoxic heart disease is valuable unless the age of the patients is taken into account. Of my twelve cases, those whose hearts failed were all over 44, while the others were all under 41 save one. I would suggest that in

the older patient cardiac failure may occur quite early in the illness.

Dr. Clarke does not give details of dosage, and it is possible that the drug fever and granulopenia which caused him to resort to surgery were associated with a higher dose than is used to-day. I have not used more than 200 mg. of the methyl derivative three times a day in the cases of which I have spoken. A mild granulopenia should not cause treatment to be given up. Of his other failures, neurosis seems an odd reason for surgical intervention, and malignant exophthalmos is seen after thyroidectomy. Of my own cases there are two in whom I should like to see the goitre removed for cosmetic reasons, but the patients will not hear of it.

Either thyroidectomy or thiouracil can control the symptoms of thyrotoxicosis with minimal risks if properly used. Operation will always be favoured by those who regard the goitre as the *font et origo mali*, but it is surely more correct to look upon it as a link in a disordered metabolic process. From the practical point of view patients to whom the alternatives are fairly presented will decide for themselves. It behoves us, by a careful follow-up, to see that we are in a position to present the facts.—I am, etc.,

Chesham, Surrey.

C. P. PETCH.

The Danger of Intubation under Trichlorethylene

SIR.—Dr. W. M. Maidlow (March 13, p. 523) rightly emphasizes the dangers of too early intubation. Intubation under trichlorethylene is often unsatisfactory, as the laryngeal and tracheal reflexes in the uncocainized patient are still active, and indeed under these conditions may be dangerous. This danger exists under all anaesthetics. Other fatalities have been reported, occurring immediately after intubation, when agents other than trichlorethylene have been employed. Early intubation can be necessary and is sometimes vital, but I feel there is a strong tendency to intubate in lighter and lighter planes of anaesthesia, more because of impatience or to satisfy a personal vanity than any other reason. Intubation should be reserved for those occasions which require it, and then only after adequate preparation of the patient.

Reflex spasm of all muscles of respiration occurs after early intubation, but I would hesitate to use curare in this condition, which always responds excellently to an increase in the anaesthetic concentration.—I am, etc.,

London, W 1

G. E. HALE ENDERBY.

"Myanesis" as a Relaxant in Children

SIR.—With reference to the article by Dr. W. H. Armstrong Davison (March 20, p. 544) I think the use of "myanesis" combined with general anaesthesia for Ramstedt's operation is a retrograde step. The operation can be carried out quite satisfactorily using local anaesthesia with procaine, and I feel that the use of a drug about which there is still a diversity of opinion is unjustifiable in these cases.

Dr. Armstrong Davison states that the objections to local anaesthesia are that the technique is time-consuming and relaxation is unsatisfactory. The time factor should not influence an anaesthetist where the safety of his patient is at stake. The degree of relaxation obtained with local anaesthesia is quite adequate for the operation, which can usually be performed using 10 ml. of 0.5% procaine, which is well within the safety limits of the drug.—I am, etc.,

London, W.C.1.

J. N. T. HUTTON.

Naming Drugs

SIR.—In reviews and abstracts of articles appearing in foreign periodicals it frequently happens that a familiar drug escapes recognition by being referred to under a name not in use in this country. A case in point was the reference to mandelamine (methenamine mandelate) in your leading article "Streptomycin Bactericidal" (Feb. 28, p. 399). Mandelamine is, of course, an American proprietary preparation, but it will not be readily apparent to everyone that methenamine is the name used in the United States Pharmacopoeia to describe the substance known in this country as hexamine ("urotropine"). Other examples, perhaps better known because more frequently encountered, but which still cause some confusion, are epinephrine (adrena-

line) and neostigmine ("prostigmin"). There are, of course, many others.

In the absence of an international nomenclature it would appear highly desirable that wherever possible English names should be given in parenthesis in such cases. The additional burden imposed upon reviewers and abstracters would be only a little greater than that demanded by your most excellent custom of inserting metric equivalents to follow quantities expressed in British units, and would, I am convinced, be more than outweighed by the resultant increase in the usefulness of the material.

Much of the trouble is caused by manufacturers of proprietary drugs who, having an organization on both sides of the Atlantic, choose two names for a particular substance and use one in the United States and the other over here. There may be good reasons for this course, but it would help very considerably if one name could be selected for use in both countries.—I am, etc.,

Manchester Royal Infirmary.

J. B. LLOYD,
Chief Pharmacist.

The Lazy Eye

SIR,—Having been engaged in school clinic work for over 35 years I have to admit I am much disappointed. At Tottenham alone I see some 2,000 children in a year, and in many cases have to deplore the child growing up with an amblyopic eye.

There are many reasons for this. We may get the child too late. At nine or ten the value of occlusion is rather problematical, and if strabismus starts at a very early age and we see the child when it starts school there may be no fixation in the squinting eye and occlusion is useless. Furthermore, without intelligent co-operation from the parents it is often impossible to overcome the amblyopia, and attendances are apt to be irregular. Again it is deplorable that children are not taught to recognize the letters much under seven, which makes the estimation of visual acuity difficult. And one must remember that a squinting eye may get quite straight and yet remain amblyopic.

If a gross error, say 5D of astigmatism, be corrected at the age of two, much better visual acuity will ultimately be attained than in a case in which glasses were only worn several years later, and this applies much more in cases of anisometropia. The difficulty is spotting the error at so early an age, and this can only be done objectively. A gross error can be recognized in a few seconds with the retinoscopy mirror, and I have endeavoured to get the school medical officer to do so whenever possible, and refer doubtful cases to me. Also if I find two or more children in a family with defective sight I ask to see all the younger ones, and in this way secure better vision and often forestall a squint.

One should remember that a visual acuity of 6/6 is compatible with 5D of hypermetropia, but such a case can be recognized undiluted. With 6/9 in each eye, a small error, and no symptoms, it is often inadvisable to order glasses as it may be difficult to get the child to wear them.—I am, etc.,

London W 1

T. W. LETCHWORTH

POINTS FROM LETTERS

Contracting Out of National Insurance

Mr. JOHN B. S. JAY (Ayr) writes: Dr. W. Reginald Wilson's much better leads me to mention that a petition entitled "National Insurance, the Right to Contract Out" may be had for 1d. from K.R.P. Publications, Ltd., 7, Victoria Street, Liverpool. It sets forth some little-known facts about national insurance, including facts about its origins and manner of introduction.

Two Masters

Dr. M. I. COTTE (Edinburgh) writes: I have had so little experience of general practice that it is with some hesitation that I take up my pen to criticize others who can write with so much more authority. I feel that the dilemma which so many feel they will suffer in the proposed Health Service due to their loyalty being divided between Government and patient is a dilemma in which a conscientious practitioner must even now often find himself. An insurance doctor, if he is to do his duty, must always bear in mind that he has a double loyalty. If the patient comes first and last then of course the Government or Health Society will become bankrupt. It is probable that many, perhaps most, general patients do not appreciate the double loyalty of insurance, nor have they any idea of the cost

of the medicines with which they are supplied. When I suggest a patient that a certain medicine is expensive and that someone had to pay for it, or that a certificate of incapacity for work is a ticket-of-leave-with-pocket-money, the reaction varies from indifference to righteous indignation. So I suggest that as far as the matter is concerned our grievance is not that we shall have two masters, but rather that one of them may be too demanding.

Easy Money

Dr. C. E. GOLDSBOROUGH (Rothwell Haigh, nr. Leeds) writes: One of the best arguments I have met against basic salary is that there is no legal obstacle to the wife of Dr. X (who is, say, in public health service), by virtue of her also being a doctor, to put up a brass plate now at her residence, and in four months' time qualifying for a life pension of £6 per week. This is no theoretical surmise.

Certificate Madness

Dr. W. B. JAMISON (Belfast) writes: The other day I signed an official-looking certificate designed, I think, by the Board of Health, to prove that my patient had not grown a normal leg to replace an artificial one since the date of his last certificate. This document entitles him to a few extra clothing coupons. Yesterday I signed another so that my patient might be entitled to use the lift in the building in which she is employed in a domestic capacity. I lift attendant had informed her that only those employees in possession of a doctor's certificate were allowed to use the lift.

Aetiology of the Common Cold

Dr. FRANK CORT (Whitburn, Durham) writes: I read with interest the remarks of Dr. C. H. Andrewes (March 20, p. 559) at the meeting of the Medical Society of London and the discussion on the aetiology of the common cold. In particular I notice Dr. Andrewes said that bringing together virus and patient was not enough to produce a cold, that it is possible that a great many people carried an aetiological agent of a cold in their noses until something happened to upset the balance between host and parasite and a cold followed.

In my view the onset of a common cold is entirely due to oedema of the local mucous membranes by the onset of sudden histamine activity in the patient, and within 24-36 hours the oedematous mucous membranes have become invaded by secondary invading organisms producing mucopurulent catarrh, which is so often the stage which we see in our patients.

If this theory is correct then it is logical that the administration of any antihistamine agent will abort a common cold if given at the early stage of oedema before secondary invasion has occurred. I have tried this with various antihistamine agents, and in all cases in which I have been fortunate enough to treat the case in the early oedematous stage the cold has been aborted in a few hours and no mucopurulent stage has supervened. . . .

I am now working on the theory that if a virus is responsible for it acts by rendering active histamine bodies produced by such changes of protein metabolism. . . . I should feel honoured to be Dr. Andrewes' opinions on my remarks and experiences.

Prevention of Prickly Heat

Dr. PERCY E. TURNER (Thames Ditton, Surrey) writes: Very soon after commencing work in Travancore in 1901 I became aware of the local custom of a regular "oil bath," and sometimes saw the process being carried out by a faithful wife. The husband's skin was first of all freely anointed with some coco-nut or other oil and rubbed on, and after he had sat in the sun for say twenty minutes letting it well soak in, the excess was then washed off with strong vegetable soap and hot water, and I came to associate the specially velvety appearance of the skin, as described by Lieut.-Col. C. F. Barber (Feb. 14, p. 317) with this custom. But at first I did not appreciate the due order of things, and tried the oil application on my own skin after bathing (as believed by Col. Barber for 50 years) the result being an immediate outbreak of acute prickliness. Then I came to appreciate that the oil on the wet, hot skin was the best technique, and so reversed the order of things, setting out as follows in my *Tropical Medical Manual* (p. 12, 3rd ed., 1942, The Salvation Army, I.H.Q.).

"The sodden condition of the skin produced by much sweating with perhaps an accentuated microbic activity, leads in many people to a very troublesome condition known as prickly heat. It will be noticed that the natives of the country, although also free sweating, practically never suffer from this trouble. The secret appears to be in their addition to the free use of oil to the skin, and it will be found that the following to a moderate extent of the same custom is of very great service in keeping those from Western lands also free in this respect. Either olive oil, fresh coco-nut oil, or some similar vegetable oil, or a mixture of one of these with an eighth part of lanoline, will make a suitable application, which should be rubbed well into the skin when dry and the excess pressed off with warm water and a mild soap, leaving the deep part of the skin soft and supple and free from irritation."

bility of Pills

R. ROBERT DORMER (Chingford, London, E.4) writes: The public compressed tablets "pills," and swallow them intact. I have as a result of this practice considerable personal experience of tablets passing through the digestive tract completely unaltered. It could appear from this that all solid drugs which are not very easily soluble should be dispensed with abundant pill excipient, or powders in readily soluble capsules. . . .

Iccated Stomach Substance

J.L. writes: Personal and family experience of treatment with variations of desiccated stomach over a period of seventeen years has made me feel that a few practical hints to those who prescribe and those who have to take this unpleasant product may not come amiss. The best way to take it appears to be in cold water, the colder the better. Stir the powder into the cold water quickly and it is off. Take another mouthful of cold water after it. It does mix easily and some is apt to remain on the glass, but do not spend time trying to make it mix. An ounce of water should carry about 10 g. of the powder. The water should be put in the glass, and the powder added.

A new tin is always more objectionable. The unpleasant taste and smell will diminish a little if the tin is left open for a night. . . .

Current Dislocation of the Shoulder

Dr. D. W. C. GAWNE (Hong Kong) writes: This sign has been seen in five cases of recurrent dislocation of the shoulder joint in three of recurrent subluxation. It is elicited with the patient sitting or standing or lying down.

The fingers of the hands are interlocked and the hands rested, arms down, upon the vertex of the head, or palms resting in the cleft of the neck. The arms are held in a natural and comfortable position (elbows 30 degrees forward). Standing in front of the patient, a hollowing out of the axilla with a relative prominence of the head of the humerus will be seen on the affected side. On extension the humeral head will be clearly felt, with little interposed between it and the skin. A hollow surrounds the head, into which the fingers can be sunk without difficulty, particularly laterally and anteriorly. On the normal side a thick muscular belly is interposed between the head of the humerus and the skin, which can be rolled on its side to side on the front of the head.

The sign is due to a wasting of the oblique portion of the scapularis, which arises from the dorsum and lateral margin of the scapula and runs upwards in front of the head of the humerus. In the arm is held in this position.

St Examination

Dr. T. J. O'CONNELL (Sligo) writes: Sometimes difficulty is experienced in getting a patient to co-operate when examining his chest with a stethoscope. This can frequently be overcome by the simple device of distending a paper bag and getting the patient to hold it in his mouth and nose. After a short time the breathing becomes deep and regular. This is an old cure for hiccup, and for a number of years I have found it useful when examining chests. Perhaps the method may be of use to others, especially when examining the chests of children and mental patients.

Text in Old Age

Dr. G. C. ADENEY (Ditchling, Sussex) writes: The review by F. Parkes Weber of Dr. Vischer's *Old Age* (March 13, 1951) will have been welcomed by many medical men and men who, like myself, are approaching their own senescence. The presentation of old age as a period which should, and will, make its own indispensable contribution to the human process—process, indeed, of which the real meaning has not yet been closed—is itself a contribution that will serve to stir us up and us thinking.

His concluding translation of a fine fragment of fifth-century Latin tempts me to offer in exchange the last stanza of Longfellow's *Veni Salutatibus*, q.v.

Christian Medical Group

Dr. NEVILLE BRADLEY, Hon. Secretary, Medical Prayer Union (14th End Cottage, Turville Heath, Henley-on-Thames), writes: Founded over 50 years ago the Medical Prayer Union has sought in various ways to foster fellowship among Christian doctors. It has organized the Missionary Breakfast at the Annual B.M.A. Meetings and another for medical students every year in the spring. It would not from many points of view that the time is opportune to link medical men and women in some more effective way in order to promote and maintain a distinctive Christian witness in what is tending to become an increasingly secularized and nationalized service. I hope to foster and support the medical missionary activities of the Church at home and overseas. Will any interested send me their suggestions regarding such a "Christian Medical Group"?

Obituary

JAMES MCINTOSH, M.D., LL.D.

Dr. James McIntosh who died at Aberdeen on April 5 at the age of 65, had been professor of pathology in the University of London and director of the Bland-Sutton Institute of Pathology at the Middlesex Hospital since 1920. His brilliant attainments and many activities had made his name familiar wherever medical research is in progress.

James McIntosh was educated at Robert Gordons College, Aberdeen, and at the University of Aberdeen, where he graduated M.B., Ch.B. in 1905 and gained the M.D. with the highest honours in 1908. The first part of his career was devoted almost exclusively to research in various subjects, until in 1920 at the age of 37, he was appointed professor of pathology in the University of London and director of the Bland-Sutton Institute of Pathology at the Middlesex Hospital. After taking up this position his main interest was still in research, but administrative, teaching, and routine pathological duties made their claims on his energies. He worked on many different pathological problems, but there can be traced four main threads which ran through the whole of his research career. These four threads were his work on syphilis, on anaerobic bacteria, on chemotherapy, and on virus diseases.

His study of syphilis dated from his earliest research work under Levaditi at the Pasteur Institute, Paris, where he held an Alexander Anderson Scholarship from 1905 to 1907. It was continued at Aberdeen, where he held a Carnegie Research Scholarship, and at the London Hospital from 1910 onwards. This period was one of great activity on this subject on the Continent and was marked by the introduction of salvarsan. At the London Hospital he worked under William Bulloch, to whom he expressed lifelong gratitude for the training he had given him in bacteriology. It was here that he first collaborated with Paul Fildes, and so began a long and fruitful partnership. Their work was concerned with the chemotherapy of syphilis and also with perfecting the technique of the Wassermann reaction. The technique devised by them at this time remained for many years the standard method of carrying out the Wassermann reaction.

McIntosh's researches on anaerobic bacteria commenced at the London Hospital, again in collaboration with Paul Fildes, and were continued by McIntosh working alone during the first world war. The results of this work were embodied in a Special Report to the Medical Research Committee in 1917, a publication which for long constituted the standard work on these infections. This work was continued, and further researches in this direction proved of considerable value in the second world war, when McIntosh was a member of the War Wounds Committee of the Medical Research Council.

His interest in chemotherapy also started early in his research career at the London Hospital, where he was working on the chemotherapy of syphilis with particular regard to the solubility and mode of action of the substances used. Fildes and he at this time noted the production of drug-resistant strains of micro-organisms. This work was continued later in connexion with the newly discovered sulphonamides in conjunction with Lionel Whitby and with the old partnership renewed when Fildes was installed in the Middlesex Hospital.

McIntosh first became interested in virus diseases when in his early years at the Pasteur Institute he investigated the infective agent of acute anterior poliomyelitis. This work was resumed at the London Hospital after the first world war in association with Hubert Turnbull. In 1921 Turnbull and McIntosh gave the first description of encephalo-myelitis occurring after vaccination, and after his appointment to the Bland-Sutton Institute of Pathology McIntosh continued his studies of virus diseases of the central nervous system. This subject formed the basis of his presidential address to the Section of Pathology of the Royal Society of Medicine in 1928. McIntosh consistently upheld the view that the lesions of post-vaccinal encephalo-myelitis were directly due to neural infection with the virus of vaccinia. This view was opposed by many of his colleagues, and for long he ploughed a lonely furrow in this respect. It was not until many years later that

his view was accepted as correct by the majority of his colleagues. In more recent years he was entrusted by the Ministry of Health with the task of investigating the occurrence of cases of encephalo-myelitis during the war.

He was a confirmed believer in the possibility of virus infection being the principal factor in the production of malignant disease and did a considerable amount of work on virus infections bearing this aspect in mind. This continued for many years, and may be said to have culminated in his key experiment in which he showed that tumours induced by chemical carcinogens could be propagated by means of cell-free filtrates. The importance of this experiment has not been completely realized even yet, although it is beginning to attract more attention both in this country and on the other side of the Atlantic. It may well prove to have established factors of fundamental importance in the aetiology of cancer. This work constituted his chief interest for the last few years of his life and has been the subject of numerous papers. At the time of his death he was still deeply interested in this side of his work, which he was exploring with the aid of the high-speed centrifuge and of the electron microscope.

In general the most outstanding features of his contributions to research were his ability to strike at the root of a problem and to design experiments which would throw light on the solution. What amounted almost to mechanical genius stood him in good stead, as did his ability to maintain a thread running throughout the whole of his work, and he made use of advances in other sciences which would have a bearing on his own immediate problems. His wide interests and reading in a large number of different subjects enabled him to make valuable use of knowledge which at first might appear unconnected with the problems of pathology.

Outside his activities in the Middlesex Hospital he gave his services freely for the benefit of pathological science. For many years he acted, as treasurer of the Pathological Society of Great Britain and Ireland and was its representative on the Library Committee of the Pathology Section of the Royal Society of Medicine. He also did a considerable amount of work for the Pathological and Bacteriological Laboratory Assistants' Association. He acted as examiner to the Universities of London, Cambridge, and Manchester, and for the Conjoint Board. He was a senior member of the Medical Research Club, in which he took a deep interest and to which he communicated a number of papers.

Naturally of a shy and retiring disposition, McIntosh would yet fight strongly for what he believed to be right, and he possessed a very wide circle of friends. His work was characterized by vision, enthusiasm, and perseverance, and his personal attributes of charm, sympathy, and understanding endeared him to his colleagues and gained him the loyalty of his assistants. He requires no other monument than the record of the additions to medical knowledge made by himself personally and by the Institute which he so wisely guided for twenty-eight years.

EDWARD DEANESLY, M.D., F.R.C.S.

Edward Deanesly, who died on March 31 at the age of 82, made an outstanding contribution to the advancement of medicine and in particular of surgical practice in the Midlands. He was born at Wincanton, Somerset, in 1866, the second son of a wine merchant of that town. He was educated at King's School, Bruton, and at University College, London. He graduated B.Sc. in 1886, and in the following year took his M.B. with first-class honours in forensic medicine. In 1888 he proceeded M.D., and in 1891 he took the F.R.C.S. Deanesly held the posts of house-surgeon, obstetrical officer, and house-physician at University College, which at that time boasted a brilliant staff. On the medical side Deanesly enjoyed the teaching of Boston, Sidney Ringer, William Gowers, and Thomas Barlow, and on the surgical side of Marcus Beck, Bilton Pollard, Richard Godlee, and Victor Horsley.

In 1893 Deanesly was appointed house-surgeon to the Wolverhampton and Staffordshire General Hospital, and from then until his retirement in 1931 his work was bound up with that of the hospital. He early recognized the importance, particularly in an industrial population, of the proper treatment of wounds, especially of the hands, and on relinquish-

ing his resident post in 1895 in order to enter general practice in Wolverhampton he accepted the newly created post of honorary casualty officer. His few years in general practice enabled Deanesly to gain a thorough knowledge of the stages of surgical disorders, and he himself always credited them to have added enormously to his judgment and efficiency as a surgeon. In 1891 he was appointed assistant surgeon, and finally full honorary surgeon to the hospital.

There was no branch of surgical work, except ophthalmic surgery, in which Deanesly was not at home. His published work included articles on hernia, prostatectomy, cerebra abscess, the surgery of the renal tract, and on abdominal surgery. In his later years he devoted much time to abdominal surgery, especially the treatment of gastric ulcer. Deanesly is regarded his work on the surgery of the kidneys and ureters as his most important contribution to medicine. He was first to describe the difference between ruptures of the ureter caused by direct violence and those caused by fractures of the pelvis. Possibly more important was the technique which he developed in the treatment of recent wounds. Deanesly allowed himself to be diverted into an increasingly elaborate aseptic technique. Himself a pupil of Christopher Heath, personally acquainted with Lawson Tait and Jordan Lloyd, he knew the brilliant results obtained by these surgeons. Early in his career he began to treat the lacerated wounds produced by factory or street accidents by dissecting out, after proper cleansing, the whole surface of the wound however deep, including all tissue too damaged to recover; he then closed the wound without stitches by a firm absorbent dressing and left it undisturbed for at least a week. This practice soon became his routine and was taught to all his house-surgeons in the early 'nineties.

The Royal Hospital, Wolverhampton, is a standing monument to Deanesly; when he joined, its staff was recruited from general practitioners working in the town. Deanesly saw that for a hospital to attain to the first rank its staff must include a proportion of consultants and specialists. He persuaded the board of management to adopt the then almost unheard-of step of offering financial inducement to men to promise to come on to the honorary staff. He recognized the importance of the application of pathology in medical practice, and it was he who persuaded the board to build the nucleus of the present pathological department, which was opened by Sir Clifford Albutt in 1914 and of which Prof. William Bayliss, now of the University of Toronto, was the first head.

Deanesly was one of the original members of the Surgical Union, now the Provincial Surgical Club, founded by the late Lord Moynihan. With this Society he visited Berlin, Paris, Rome, Vienna, and many other Continental centres of surgery. Before the work of the hospital took up the whole of his time Deanesly took an active part in the civic life of Wolverhampton. He was elected a member of the Town Council in 1901, and served on the education committee; he resigned in 1917, it is usually supposed to escape his duties as mayor. He was appointed a justice of the peace in 1918.

By nature a Conservative and a traditionalist, Deanesly never closed his mind to new ideas or ways of thought; his philosophy was to test all things and to cleave fast to that which is good, but before accepting it he required clear demonstration that a new way or idea actually was good. He hated cant, and his forthright personality made him impatient of minds less clear and less honest than his own. His mordant tongue and habit of sustained irony, combined with an impressive delivery, made him a stimulating if somewhat alarming speaker on public occasions. In private his quick wit, never better displayed than over the dessert and wine at his own table and those of his friends, always assured fruitful conversation. He read widely and deeply, particularly in philosophy and history, and to the end of his life maintained his interest in the classics.

On retirement from active practice Deanesly was appointed a vice-president of the Royal Hospital; he took up his residence at Cheltenham, but shortly after the outbreak of the second world war moved to Llanbedr, Merionethshire, where he died. His widow, daughter of the late Alderman John Marston, of Wolverhampton, survives him, together with two sons and three daughters.—S. C. D.

H. M. STRATFORD, F.R.C.S.Ed.

ard Stratford died very suddenly early on Good Friday home in Burwash, East Sussex. Although he was known to have suffered for some time from heart attacks his death was a shock to his many friends.

Edward Martin Stratford, who was born at Cirencester in 1872, was educated privately and later at schools in Norfolk and Gloucester. Brought up by his uncle, Dr. Drinkwater, of Cirencester, he acquired early in life his love for horses and dogs. His student days at Aberystwyth University and at Oxford entered King's College Hospital, where, after qualifying in 1900, he acted as house-surgeon to Mr. Boyce Barrow. He was interested in ear, nose, and throat work. Stratford later became registrar at the Royal Ear Hospital in Dean Street and at the Royal London Ear, Nose and Throat Hospital. He also held appointments at the London Lock Hospital, Hereford Infirmary, Colchester Hospital, and the Western General Dispensary, Marylebone. Later, after spending some time in Assam, tea plantation, he returned to England and started in practice in Wimbledon, remaining there for only a year or two. On taking the Edinburgh F.R.C.S. in 1913 he settled in Phillimore Place, Kensington, where he remained until his retirement in 1938. Up to 1914 he also had an office in the City, where he acted for insurance companies. Already a Territorial, he joined the R.A.M.C. on the outbreak of war, serving in France, Mesopotamia, Egypt, and Palestine, for the most part in field ambulances.

Dr. Stratford was medical officer to the Post Office in Kensington. He was a staunch B.M.A. man and had been honorary secretary and chairman of the Kensington Division. He was on the Council for a time and had also been president of the Metropolitan Counties Branch. As a representative of the Kensington Division for ten years he attended many annual meetings. An old member of the West London Medico-Chirurgical Society, Stratford had been honorary secretary and president. He was also a keen supporter of the Society of Members of the Royal College of Surgeons, of which he was president for a time. He attended regularly the annual meetings of fellows and members and frequently spoke there. He did at most Council meetings of the B.M.A. His last speech was three weeks ago at Hastings, where he voiced his strong feelings regarding the National Health Service Act. He had an intense interest in medical politics. He married Miss Sybil Gould, of Hampstead. To his widow and three who survive him our sympathy is extended.

Stratford was a warm-hearted and generous friend. He was a very ready speaker, and never pushed his opinions; but his many friends realized that when he did speak he talked with sense and was worth listening to. He had a sunny smile though he certainly did not wear his heart on his sleeve, a friendly nature.

Dr. H. H. Sanguinetti writes: With the sudden death of Edward Stratford there has passed from our midst a charming personality of the old school of doctors, not perhaps in high life in these bustling days but standing for an essential something which we may be in danger of losing at the present time. Edward Stratford was a die-hard—not by any means necessarily firm of reproach, for it is the die-hards who will preserve for our generations many of our most precious traditions. What Stratford believed in he gave himself to whole-heartedly, and the Kensington Division was fortunate in securing his services as secretary in 1923. Working devotedly for it, he succeeded in vivifying it. Rather than relinquish his work for the division naturally he suffered the writer to be elected chairman in 1927, but became chairman himself in 1929. His interest in the activities of the B.M.A. were shown further by his becoming secretary and in 1931 president of the Metropolitan Counties Branch, and his popularity with his fellow practitioners and consultants was again demonstrated by his election to the presidency of the West London Medico-Chirurgical Society. Stratford naturally joined up at once in 1914 and was with enthusiasm in the march to Jerusalem. His war service permanently damaged his health, and probably this was partly responsible for his retirement from practice before the last war. His retirement did not mean idleness or even loss of interest in things medical; the war provided many opportunities for

further work for which his previous experience had prepared him. I think he would have chosen a rapid ending to his life—restrictions would have been resented. He knew his life was precarious, but he was a gallant gentleman.

Dr. ARTHUR WINFIELD, who died on Jan. 26 at the early age of 60, was educated at Wigan Grammar School, Cambridge University, and the University of Liverpool. He obtained the Cambridge M.A. with honours in 1912, and qualified in 1917. He served abroad in the 1914-18 war as a surgical specialist with the acting rank of major. After the war he settled in practice in New Ferry, Cheshire, and continued there until his death. For many years he was honorary radiologist at the Birkenhead General Hospital. He was a member of the Liverpool Medical Institution and had been chairman of the Birkenhead and Wirral Division of the British Medical Association from 1941-3. He was also an active member of the St. John Ambulance Brigade and fulfilled the duties of police surgeon in his area. Marrying rather late in life, he lost his wife with tragic suddenness after only a few years. He will be remembered chiefly for his kindness and for his readiness to help all in need. Quiet and reserved in manner, he was a staunch friend, a wise physician, and an outstanding obstetrician. He had few interests outside his work, but reading and music were his chief forms of relaxation, and he was a flautist of no mean ability. His death robs the profession of a man who, though not easily roused, fought tenaciously to maintain medicine not only as a science but as an art and an ideal.—G.S.S.

Dr. DAVID LAING died in Arbroath, Angus, on Feb. 27 at the age of 86. He was born in Kirkcaldy, and studied at Edinburgh University, graduating M.B., Ch.B. in 1884, and proceeding M.D. in 1887. He entered general practice in Arbroath just over sixty years ago, and was a member of the visiting medical staff of Arbroath Infirmary from that time until his retirement in 1946, when he became honorary consulting physician to the Infirmary. During his long years of service he played an important part in its development, and was himself mainly responsible for the introduction and working of the x-ray department, to which he gave so much of his time and enthusiasm. Throughout his life in Arbroath he was closely connected with the Ambulance Associations and the Boy Scout movement, of which for many years he was district commissioner. He was an old volunteer and an officer of the Territorial Army, and was the holder of the Territorial Decoration. He had been a member of the British Medical Association since 1894, and was chairman of the County of Angus Division from 1940-4. During his long life in Arbroath as a general practitioner his cheerfulness and buoyancy of spirit became bywords in the burgh, and left behind a pleasant memory of a fine old gentleman.—W.C.C.

Dr. CLAUDE LIONEL COODE died on March 23 at the age of 73, in Stroud, where he had been in practice for over forty years. Dr. Coode was a student at Oxford and at the London Hospital. He graduated M.B., B.Ch. in 1903 and settled in general practice in Gloucestershire after a period as surgical assistant at the out-patients' department of the London Hospital. He was later house-surgeon to Stroud General Hospital and subsequently, in 1907, honorary assistant surgeon and finally consulting surgeon there. Dr. Coode was largely responsible for starting the x-ray department and later the ear, nose, and throat department at the hospital. Apart from his professional activities Dr. Coode found recreation in sailing and in the study of natural history. He had been an active member of the British Medical Association for many years and was president of the Gloucestershire Branch in 1927-8.

Dr. WILLIAM HENRY JOHNSTON died on March 23 at his home in Tufnell Park, London, at the age of 62. A native of County Tyrone, Dr. Johnston was educated at the Royal School, Dungannon, and the Royal College of Surgeons in Ireland, qualifying in 1912. He worked for a time at the North-West Hospital, Hampstead, before serving in the 1914-18 war with the rank of captain, R.A.M.C. After the war he was in general practice at Fortress Road, N.W.5, and subsequently at Junction Road, N.19, where he remained until his death. At the outbreak of the recent war he was temporarily in charge of a civilian casualty evacuation train.

Dr. GEORGE ROBERT PHILIPSON, of Whitley Bay, Northumberland, died on March 26 at the age of 71 after a short illness. He graduated M.B., B.S. in 1906 from Durham University Medical College, and was a house-surgeon and house-physician at the Royal Victoria Infirmary, Newcastle-upon-Tyne. He was

in general practice for a number of years at Belford and Wallsend before coming, in 1924, to Whitley Bay, where he was in practice up to the time of his death. A native of Allendale, Northumberland, he had a life-long association with the Methodist Church, and was an active member and trustee of the Oxford Street Church at Whitley Bay. A man of quiet character, he was much loved by his patients. He leaves a widow, a son, and two daughters.

Dr. DONALD KERR MACDOUGALL, who died on April 4, was one of the most valued and trusted members of the profession in Southport. He graduated M.B., Ch.B. at Glasgow in 1915, and then served with the R.A.M.C. in Mesopotamia and in India during the first world war. Settling in practice in Southport in 1920, he developed ear, nose, and throat work as a specialty. For many years he was assistant surgeon to the ear, nose, and throat department of Southport Infirmary, and on retirement he was appointed consulting surgeon. The whole burden of work in this department was shouldered by him during the second world war, and he acted in a similar capacity at the Southport Emergency Service Hospital. Many other honorary and public appointments were held by him. He was chairman of the Southport Division of the British Medical Association in 1937-8, and a past president and secretary of the Southport Medical Society. He maintained a keen interest throughout the years he practised in Southport in the work of the Association and of the Society, and his sound and experienced advice was often sought in their management. A Gaelic scholar of note, he was possessed of a whimsical quality of mind which endeared him to his closest friends and lent him a charm appreciated by colleagues and patients alike. Conscious of the serious nature of his illness in the last few months of his life, he retained his whimsicality, and this and his courage made a visit to "Mac" the same delight in illness as it had been when he was in robust health. We mourn his loss and extend our deepest sympathy to his widow and three children.—P. Y. L.

Dr. ARTHUR WILLIAM LATHAM died at his home in Llanaber, North Wales, on April 4 after a long and painful illness borne with great fortitude. He was born at Haydock, near St. Helens, and was educated at Owens College, Manchester, where he had a distinguished career. He graduated M.B., Ch.B. in 1902, and proceeded M.D. two years later. He gained a fellowship in medicine in 1902-3, obtaining a gold medal. Dr. Latham had an extensive practice in St. Helens for over forty years, retiring only in 1946. He was an honorary surgeon at the St. Helens Hospital, medical officer to the Post Office, and a colliery doctor. In 1934 he was made a J.P. and sat on the St. Helens Bench. Dr. Latham took a great interest in sport, and was honorary surgeon to the St. Helens Rugby Football Club. He was an active member of the St. Helens Division of the B.M.A., and was chairman in 1927-8. Our sympathy goes out to his widow and his two daughters, both of whom are married. A.A.W.M.

Medico-Legal

ALLEGED CONSPIRACY TO PROCURE MISCARRIAGES

At Marylebone police-court on April 7, before Mr. Rowland Thomas, K.C., two women doctors, Dr. Eleonore Bergmann, of Park Square, N.W., and Dr. Mary Bell Ferguson, of Devonshire Place, together with Mrs. Pauline Mary Evans, Dr. Bergmann's receptionist, were charged with conspiring together and with others unknown unlawfully to procure miscarriages. Mr. H. A. K. Morgan prosecuted. Mr. Gerald Howard defended Dr. Ferguson, and Mr. B. B. Gillis and Mr. A. J. Wrottesley defended Dr. Bergmann and Mrs. Evans. Dr. Bergmann was also charged with having attempted to commit suicide. Counsel for the defence said that at the right time defendants would make clear their answer to the charges.

Mr. Morgan referred at the outset to the statement of the law in such cases which was given by Mr. Justice Macnaghten in *Rex v. Bourne* at the Central Criminal Court in 1938. The judge then said:

"If the Crown fail to satisfy the jury that it [the procuring of the miscarriage] was not done for the purpose of preserving the life of the mother, then my direction to you here is that your verdict

should be a verdict of 'Not Guilty.' If, on the other hand, the Crown do satisfy you that they have discharged the burden upon them under the section [Infant Life Preservation Act, section 1] then your verdict should be 'Guilty.'" His lordship continued, "The law does not permit the termination of pregnancy except for the purpose of preserving the life of the mother. I say myself that those words ought to be construed in a reasonable sense; if the doctor is of opinion, on reasonable grounds, and adequate knowledge, that the probable consequence of the continuance of pregnancy would indeed make the woman a physical or mental wreck, then he operates in that belief for the purpose only of preserving the life of the mother."

The case for the Crown, Mr. Morgan went on, was that none of the four instances brought forward did Dr. Bergmann operate, even in this wide sense, for the preservation of the life of the mother, and that in the two cases in which Dr. Ferguson gave a certificate it was not an honest expression of her belief that operation was necessary to that end, but was given as a cloak to cover Dr. Bergmann's activities.

The first case—in which Dr. Ferguson was not concerned—was that of a married woman employed as a staff nurse at a hospital. Realizing she was pregnant, and that it would be practically impossible for her to get accommodation if she had a child, she went to Dr. Bergmann, who confirmed the pregnancy but at first refused to do anything to terminate it. Eventually, however, she yielded to the woman's pleading. When seen by the police-inspector at a later date Dr. Bergmann said, "Fancy Mrs. ——— doing this to me. I knew it was wrong. I first refused to help her. How on earth did you find out about it?" The inspector then mentioned other cases. Dr. Bergmann made a statement about each. She had performed an operation under pentothal to terminate pregnancy. The first woman stated that she gave £10 to the receptionist who herself received £5 in this and in each of the other cases. The receptionist had stated that Dr. Bergmann had told her that she never terminated a pregnancy unless she had a certificate from another doctor stating that this was necessary in the interests of the health of the mother.

The second case was that of a single woman, a student, in November last suspected pregnancy, which was confirmed by her family doctor, who also said that she was quite healthy and perfectly capable of bearing a child. The woman made an appointment to see Dr. Bergmann, and broke down and crying pointed out her unmarried condition and family difficulties. Dr. Bergmann suggested that she should see Dr. Ferguson, who was a specialist in psychoneurotic cases. Dr. Ferguson examined her and ultimately gave her a letter for Dr. Bergmann stating that she was of a neurotic type, that her reaction to children was pathological, that she was unbalanced in her attitude to life, and mortally afraid of her father. The fee paid to Dr. Ferguson was three guineas. Dr. Bergmann gave her a pentothal injection and carried out the operation. The fee paid was £75. Dr. Ferguson, questioned by the inspector concerning this case, was alleged to have stated that she had no doubt that the girl would have had a nervous breakdown if the pregnancy continued.

In the third case the woman was again recommended by Dr. Bergmann to see Dr. Ferguson, who at first advised her to have the child and get it adopted, but the girl said that this was out of the question, and ultimately Dr. Ferguson wrote a letter stating that the girl was in an anxiety state, that in fact there was a vicious circle—she was exhausted, was anxious, did not sleep, and so became more exhausted—and that it would be better for her health, bodily and mental, if the pregnancy was terminated. She also stated that the girl had had a very bad attack of jaundice a few months previously. In this case £75 was paid to Dr. Bergmann.

The fourth case was that of a woman who had had a baby in June of last year, and at Christmas found herself again pregnant. She was married but had kept her marriage secret. In this case a fee of £50 was paid.

The four women concerned, whose names were not divulged, gave evidence to the above effect. In the two cases in which Dr. Ferguson's name was mentioned Mr. Gerald Howard asked the witnesses whether it would not be fair to say that Dr. Ferguson elicited a complete picture of their history and their physical and mental condition, and they agreed that it was so. One of them added that Dr. Ferguson talked to her

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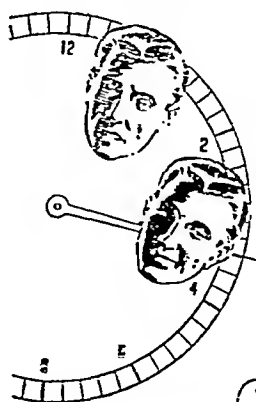
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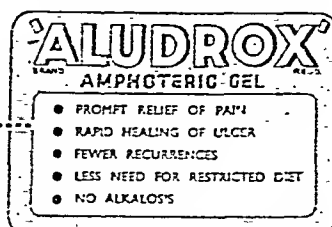
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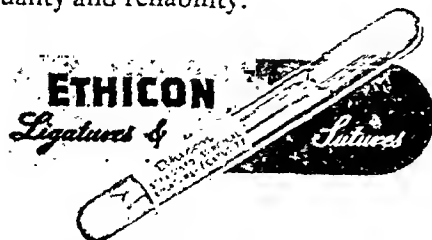
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a long time, examined her lungs, took her blood pressure, asked about her family. She was with her for about three-quarters of an hour.

r. Alexander D. Petro, of Wilton Place, testified with regard to the third woman that she came to see him and at her request he tested her for pregnancy and also examined her ecologically. He told her that he saw no reason why she should not have a baby. Similar evidence was given with regard to the other of the women by her family practitioner. The hearing was resumed on April 13, when all three defendants were sent for trial.

Medical Notes in Parliament

NATIONAL HEALTH SERVICE

MR. BEVAN'S STATEMENT

Minister of Health made the following statement in the House of Commons on Wednesday, April 7: "I think that the time has come for me to make a statement to the House about the medical profession and the National Health Service. Needless to say, I make this statement on behalf both of the Secretary of State for Scotland and myself, of the Government as a whole.

I have been receiving representations from many quarters, the Royal College of Physicians and the British Medical Association have sent me—and which have since been published and are familiar to the House. Meanwhile I have been trying, so far as I am able, also to determine for myself what it is that is really and sincerely worrying the doctor.

No doubt, as we gain experience, we shall find many modifications which would improve the scheme. That is always true of major legislation of this kind. But it seems to me that it is somewhere beyond all this that the key to the doctors' uneasiness and restlessness lies, and that it consists of some instinctive feeling—shared by many most well-meaning men and women—that although the Act does not propose it and although the Government have themselves denied it, the real objective is a full-time, salaried State medical service. It is this fundamental issue which I want now to tackle once and for all. As long as we are in this House, I said:

"Some doctors have expressed the fear that this is merely the beginning of a full-time salaried service. I cannot read the mind of any future Minister or prophesy what may be done by future Governments, but that is not our intention." (*Guardian*, Nov. 4, 1946; vol. 428, c. 1125.)

It seems clear that something more than my spoken assurance is needed, and I am certainly quite willing to do what is needed to banish this apprehension for good. The Royal College of Physicians has made the useful suggestion, with which the other Royal Colleges associate themselves, that I should now make it statutorily clear that a whole-time service will not be brought in by regulation, but would require further legislation to make it possible. My colleagues and I accept this most cordially. In short, we propose that it should be impossible to institute a full-time salaried service by regulation alone. It would then need express legislation if it is ever proposed.

As the House knows, I am about to set up an expert legal committee to advise me on the disputed effect of the Act on partnership agreements. I hope to announce details of this committee at Question Time to-morrow. It seems likely that a clarifying Bill may be needed as a result of its inquiries. So, I shall take the opportunity—and, if not, I shall invoke the opportunity specially—to ask Parliament also to clarify its intentions about any full-time salaried service in the way suggested above.

There is one further way, in which we can eliminate these apparently widespread fears of a full-time salaried service. By many doctors the proposed fixed element of £300 remuneration seems itself to be a menacing thing to fear. I for my part have always conceived it rather as an allowance for the young beginner and for the older practitioner wishing to ease up in old age, and as a peg on which to hang additional assured payments for doubtful areas or other services—and these are all worthy objects. However, if doctors are afraid of sinister intentions in this, I think these worthy objects can be achieved in another way, and no amendment of the Act is needed for this. Let all new entrants to practice receive the advantage of this assured element of £300 for a period of say, three years. Then let each decide for himself whether he will forgo it and pass to a system of plain capitation fees,

or stay as he is with his fixed £300 plus a lower proportionate rate of capitation. He will be able to do this at any time. Similarly, let any doctor in established practice be able to elect for himself at any time to go on to the system of £300 fixed payment, plus the lower capitation rate, if and when he wants to—for example, in old age—instead of the higher rate with no fixed payment at all.

So now it can rest with the individual doctor himself to decide the extent to which he prefers the combined system of £300 plus lower capitation, or all capitation—with the exception that beginners will start with three years on the former system.

One other point. I have already given assurances in this House that I do not for one moment intend to interfere with the ordinary rights of doctors to express themselves in speech or in writing with absolute freedom. Similarly I have already given assurances to the profession that the Chairman of the Tribunal under the Act will be a lawyer of high professional standing appointed by the Lord Chancellor. I need scarcely repeat such assurances now, but—for the removal of any vestige of doubt—I do so.

I trust that what I have said will finally free doctors from any fears that they are to be turned in some way into "salaried civil servants." I look forward now to a future of active and friendly co-operation with the profession in putting into operation next July a great social measure which can be made a turning point in the social history of this country and an example to the world.

MR. OLIVER STANLEY: All of us in this House hope that when this National Health Service scheme comes into force it shall come in a form which will command the whole-hearted co-operation of the doctors. It always has been, and it still is, for them to decide, and I shall make no comment on the proposals which the right hon. Gentleman has made; but I am sure that speaking for everyone on this side of the House we welcome anything which tends to break the deadlock which has occurred, and above all we welcome the tone in which the right hon. Gentleman has spoken to-day.

MR. CLEMENT DAVIES: May I, on behalf of my colleagues and, I am sure, on behalf of everyone in this House, congratulate the right hon. Gentleman upon the action which he has taken and the statement he has made. I am quite sure it is the desire of every one of us that the National Health Service should work smoothly and harmoniously. I should like to ask him whether he is prepared—as I am sure he is—to meet the Negotiating Committee at once if they desire to see him.

MR. BEVAN: As I have said on many previous occasions, and as my right hon. Friend the Prime Minister declared quite recently, I am always prepared to meet the Negotiating Committee when they desire to see me.

DR. HADEN GUEST: May I also congratulate the Minister on this decision very largely on the ground that it will secure that the Service will begin with the good feeling of the doctors and the good feeling of the whole country in this matter—a most important aspect of this new service?

MR. WILSON HARRIS: Will the right hon. Gentleman clarify his very encouraging statement in two respects? First, will he give an assurance that no influence will be brought to bear on the doctors in the matter of issuing sickness certificates? Secondly, with regard to the basic salary, the formal suggestion of the Royal College of Physicians seems to leave it open—I am sure it is not the right hon. Gentleman's desire—to any Minister to raise the £300 by regulation to £600, £900, or any figure so long as it does not constitute a whole-time salaried medical service? Would the right hon. Gentleman be willing to go as far as to put into the amending Bill a provision that the original sum of £300 should not be increased except by a new Act of Parliament?

MR. BEVAN: That is a point of refinement which can be looked into later on. I am perfectly prepared to discuss the terms of the amendment with the representatives of the medical profession. I should like to take this opportunity of pointing out that there is very considerable misapprehension on this matter. People appear to think that the power to make terms and conditions of employment by regulation is something the Minister himself wants. The fact is that it is usually what the professions themselves desire, because it makes the whole system much more flexible. If we had to have an amending Act every time we altered the terms and conditions of remuneration, very often they would not be altered. The recent increase in capitation would not have been possible except by regulation.

SIR ERNEST GRAHAM-LITTLE: The right hon. Gentleman has asked what the doctors and the profession want. He has only mentioned one very important objection, and that is the fear of a full-time salaried service. I was present at the meeting of the Royal College of Physicians at which this resolution

was passed, and I should like to ask this question—will the Minister take into consideration the second motion which has been published in the Press, and which was moved at the meeting of the Royal College of Physicians, and accepted by them?

MR. BEVAN: I am always prepared to receive any representations made to me either by the Negotiating Committee or by the Royal Colleges.

MR. BAIRD: As the Minister to-day has been very generous to the British Medical Association, will he take into consideration the disquiet felt by Members on this side of the House about the delay in setting up health centres, and will he also consider making a gesture to this side of the House by speeding up the building of health centres?

MR. BEVAN: That lies rather outside the scope of the statement I have made, which is concerned with the terms and conditions of remuneration of the general practitioners. I hope, however, that the statement I have made will elicit from the representatives of the doctors the same spirit of cordial co-operation.

MISS BACON: Arising out of the last statement made by the Member for London University (Sir E. Graham-Little), is my right hon. Friend aware that any further concessions made by him will not be welcomed by many of us on this side of the House?

MR. BEVAN: It will be the opinion of hon. Members in all parts of the House and of the general public that the Government have gone a very considerable way to meet the profession, and it now lies with the profession to show an equal desire to make the National Health Service a success.

MR. RANKIN: Will my right hon. Friend clear up one point? If at the end of three years a doctor decides to continue receiving the £300 basic salary will he have to accept the lower capitation fee?

MR. BEVAN: Most certainly. He cannot have the £300 basic salary plus the higher capitation rate. He must take one or the other. The advantage of the proposal that I made is that the extent to which a fixed element is in existence will depend upon the initiative of the doctors themselves, and upon no one else.

DR. SUGAT: In view of the cordial reception given from all parts of the House to the Minister's statement, will he now himself take the initiative in inviting the Negotiating Committee to meet with him to discuss their remaining fears about the National Health Service?

HON. MEMBERS: No.

MR. BEVAN: Right hon. and hon. Members in all parts of the House will realize that the prestige of Parliament must be sustained. I am always ready to meet representatives of the medical profession. I should like to point out that we have sent to them in the course of the last few months a considerable number of letters asking for their co-operation on technical matters, and we have not received that co-operation.

MR. GALLAGHER: While agreeing that it is very desirable that the National Health Service should start off in a healthy manner, would it be permissible for the Government or the Minister to advise the workers to show the same solidarity and tenacity as the doctors?

House of Lords

A similar statement was made in the House of Lords on the same day by Lord ADDISON. Commenting on it, Lord SALISBURY said it deserved and needed a good deal more consideration. In addition the House of Lords would wish to scrutinize the legislation which he understood to be envisaged. It was evident that the Government were making efforts to break the deadlock between them and the medical profession. Everyone hoped that the proposal now put forward would result in an agreement satisfactory not only to the Government but to the medical profession, to whom all owed so great a debt for their selfless endeavours.

Lord SALISBURY said the statement made by Lord Addison could be taken to indicate the probability of a settlement between the two contending parties. As such it would be welcomed with great pleasure in all quarters. It must be a special satisfaction to Lord Addison to announce a measure of reassurance to the profession of which he had been so distinguished a member. The House would also wish to congratulate Lord Moran who, as President of the Royal College of Physicians, had done much to promote a settlement of the controversy.

Lord MORAN thanked Lord Addison and congratulated Mr. Bevan on what he had said in another place. Lord Moran also enthusiastically welcomed the statement. The Health Act had been forced for what it might become. Doctors had dreaded that it might be the prelude to a whole-time medical service. The Government's amendment of the Act Mr. Bevan had introduced had been possible to remove that dread. He had told the representatives which some had made to him by

making the basic salary optional after three years in practice. The Minister had boldly met the main fears of the doctors. Lord Moran hoped he would be rewarded by the loyal support of all reasonable members of the profession. He felt the doctors would now set their minds to the task of making this service under very difficult circumstances a turning point as Mr. Bevan had said, in the social history of the country.

Legal Committee Appointed

On April 8 Mr. MONSLOW asked the Minister of Health whether he had any statement to make with regard to a legal committee which he proposed to appoint to advise whether the National Health Service Act ought to be amended to secure an equitable result between partners in medical practice.

MR. BEVAN replied that he was glad to say he had been fortunate enough to enlist the services of the following gentlemen: Mr. G. O. Slade, K.C. (Chairman), Mr. Colin Phipps, C.B.E., Sir Cyril Radcliffe, K.C., Mr. J. H. Stamp, and for the Scottish Bar, Mr. J. R. Philip, K.C. The terms of reference were as follows:

To consider whether, in the application of the principles set out below to partnerships existing at the appointed day, it is desirable, in order to secure an equitable result as between partners, to amend Sections 35 and 36 of the National Health Service Act 1946, either by clarification of the provisions thereof or by extension of the powers thereby conferred or in some other way and to make recommendations accordingly.

The principles above referred to are:

(1) The general prohibition of the sale or purchase of the goodwill or any part of the goodwill of the medical practice of a medical practitioner whose name is on the appointed day or at any time thereafter entered on a list prepared under Section 33 (2) of the Act is to be maintained.

(2) Compensation is to be paid on the lines set out in Section 36 to practitioners whose names are on the appointed day entered on any such list, and subject to the provisions of Section 37, to such practitioners only.

(3) Practice in partnership is to be encouraged, and, except for the purpose of securing an equitable result, there should be as little interference as possible with the continued operation of existing partnerships.

(4) Within the general principle of the prohibition of sale and purchase of goodwill, exceptions in relation to sales or purchases in pursuance of a partnership agreement existing at the appointed day are permissible, if they appear necessary to secure the equitable working of these principles in relation to doctors practising in partnership.

(5) The possibility of legislation to make some addition to the sum of £66 millions, for which provision is made in Section 34 in order to meet cases which might arise if doctors whose names were entered on a list at the appointed day were required, in pursuance of a partnership agreement existing at that date, to buy the goodwill of doctors whose names were not so entered, is to be excluded if such an addition appears to be necessary in order to secure an equitable distribution of the £66 millions between doctors whose names are entered on a list at the appointed day.

Purchase Tax on Drugs

During his Budget speech on April 6 Sir STAFFORD CRIER said he was working out, with Mr. Aneurin Bevan, proposals for widening the scope of the present exemption for essential medicines. Hitherto the exemption list had been restricted to certain more costly preparations, but he and Mr. Bevan proposed to extend it to include a much wider range of non-proprietary medicines. A provision with this object would be included in the Finance Bill.

Diabetics Denied Pensions

MR. GRANVILLE SHARP raised, on April 7, the claim to disability pensions of men who, after serving in the Forces during the last war, had been discharged on medical grounds as suffering from diabetes mellitus. The Minister of Pensions had stated on March 6 that whereas 3,600 men were discharged from the Forces suffering from this disease, only 600 of the number had applied for a pension had succeeded in their claim.

DR. H. B. MORGAN said the Minister was in a difficult position. He had to take the advice of his experts. The bulk of the men who got into Government Departments seemed to lack the great deal of that human feeling which they should have received as applicants.

MR. THORNTON-KEMSLEY: "That is why doctors do not want to be State servants."

DR. MORGAN said that when a man got into the Ministry of Pensions he knew very little of what he was taking on.

The new laws come into operation on Jan. 1, 1949. Candidates who have appeared for the Fellowship examination on or before March 15, 1948, will be allowed to reappear for the examination at any time under the conditions set forth in the laws at present in operation. Candidates who appear for the examination for the first time on June 28, 1948, and are unsuccessful will have an opportunity of reappearing for the examination on Oct. 1, 1948, under the existing laws, but thereafter, if necessary, they must reappear under the new laws. Candidates who appear for the examination for the first time on Oct. 1, 1948, and are unsuccessful must thereafter appear under the new laws.

EPIDEMIOLOGICAL NOTES

Measles

The rise in notifications in recent weeks has been disproportionate and somewhat out of rhythm. Although no explanation of this trend can be offered, consideration of the pattern of notifications in the country makes the rise more easily understood.

Since general notification began in 1940 there have been four biennial periods in each of which the main epidemic peak came in the early months of the second year, following a gradual rise during the whole of the first year. During each of the first three two-year periods the last three months of the second year were periods of sub-epidemic level. At present (the early part of the first year of the fifth biennial period) notifications are at an exceptionally high level, and the rate of increase is more rapid than at the corresponding period in previous "even" years.

The main difference from previous periods seems to be the absence of the expected quiescent period in the last months of 1947. A rise in incidence followed immediately upon the subsidence of the main 1947 epidemic, and a comparatively high level had already been attained by the beginning of 1948. Present levels of incidence are greatly in excess of those at the corresponding time in 1946 in all parts of the country, the proportionate increase being greater in some districts than in others.

In the following counties the figures have already exceeded the maximum weekly figure during 1946-7, and are still rising: Herts, London, Norfolk, Peterborough.

In Middlesex and Surrey the notifications, having reached weekly figures nearly as large as the 1946-7 maximum, are still rising.

The following, having reached figures in excess of the maximum weekly figures in 1946-7, seem to have passed their peak and the figures are now declining: Cornwall, Northants, and the Holland, Kesteven, and Lindsey divisions of Lincolnshire.

It is noteworthy that London and Norfolk are both among the above-mentioned counties. In the previous biennial period these two counties, with East Suffolk, formed a small group which differed from the rest of the country in having the maximum incidence in the first, instead of the second, year. Two possibilities present themselves:

1. That the present incidence is the beginning of a two-year cycle similar to the previous four and leading to an unprecedented maximum at the beginning of 1949. Against this are the facts that (a) the rate of increase is more rapid than at the same stage in previous epidemics; (b) the rise began well before the beginning of the year; and (c) as mentioned above, some counties have already passed their peak and begun to decline.

2. That the present trend is unique in experience since notification began, and that we are now approaching a maximum for the whole country in the "even" year.

Forecasting what may now happen is largely guesswork. In 1946-7 certain towns (e.g., London, Sunderland, and Liverpool) began to show an increasing incidence early in 1946 and came to a maximum in the summer of that year, each having a further epidemic in the summer of 1947. England and Wales may possibly follow the lead of these towns, in which case we can expect two maxima in 1948-9, one in the summer of each year. On the other hand, if a sufficiently large part of the country remains on the rhythm of the winter-spring epidemic we may expect the figures for the whole country to show two peaks, one in the summer of 1948 and the other early in 1949. It seems inevitable that there will be a high incidence this summer, and this may be welcomed as being likely to reduce the case fatality even further.

Poliomyelitis

The number of notifications (uncorrected) in England and Wales in the week ended March 27 was: poliomyelitis 17 (20); polio-encephalitis 1 (2). Figures for the previous week are given in parentheses.

It is of some interest to compare the experience of the beginning of this year with that of the beginning of 1939. The year 1938 was the year of highest incidence before 1947. The total number of notifications in the thirteen weeks ended April 1, 1939, was: poliomyelitis 116, polio-encephalitis 21. The total number in the thirteen weeks ended March 27, 1948, was: poliomyelitis 425, polio-encephalitis 21. The figures for 1948 were higher than is usual in the first quarter, and the Chief Medical Officer of the Ministry of Health pointed out (*Ann. Rep. for 1938*, p. 32) that a similar phenomenon had been observed in 1927 following the high prevalence of 1926. In 1927 it was attributed to the abnormally mild weather that characterized the last two months of 1926, but in the winter

of 1938-9 there was a very cold spell about Christmas followed by a very wet and cold January.

The incidence of poliomyelitis in the early part of a year seems to be an inconsistent guide to the probable incidence during the year. The following are some examples:

Notifications (Poliomyelitis only)

Year	First quarter	Whole year
1925	72	371
1926	55	1,159
1938	71	1,489
1939	116	744
1944*	58	464
1945	52	784
1946	83	606
1947	102	7,350†

* Figures for 1944 and after are "corrected."
† Estimated "corrected" figure.

Discussion of Table

In England and Wales infectious diseases were less prevalent during the week. There were decreases in the incidence of measles 726, whooping-cough 701, scarlet fever 321, acute pneumonia 243, dysentery 34, and diphtheria 19.

The largest decreases in the incidence of measles were reported from London 291, Middlesex 202, Norfolk 141, and Cheshire 115; the largest increases were Lancashire 131, Derbyshire 95, and Surrey 84. The notifications of whooping-cough fell in all areas except in Wales, where a small rise of 27 was recorded; the largest declines were Middlesex 106, Lancashire 78, Essex 73, Yorkshire West Riding 66, London 54, and Kent 52. The incidence of scarlet fever fell throughout the country; the largest fall was 77 in Lancashire.

Diphtheria was at the lowest level for seven months, although no change of any size occurred in the local trends during the week. A decrease in the number of notifications of acute pneumonia was recorded in most areas; the largest decline was Lancashire 53.

A further 22 cases of dysentery were notified from the outbreak in Derbyshire, Shardlow R.D., where 9 cases were reported last week. The other important centres of dysentery were Lancashire 59 (Liverpool C.B. 17, Salford C.B. 13), Yorkshire West Riding 18 (Sheffield C.B. 13), London 10. The largest returns of acute poliomyelitis were: London 3, Wiltshire (Trowbridge U.D. 2), and Warwickshire (Birmingham C.B.) 2.

In Scotland a decreased incidence was recorded for measles 136, acute primary pneumonia 69, scarlet fever 41, and cerebrospinal fever 15. The only increase was in the incidence of dysentery 23. The chief centres of dysentery were the cities of Dundee 10, Edinburgh 16, Glasgow 9.

In Eire the only changes in the trends of infectious diseases were decreases in the notifications of measles 13 and diphtheria 5, and an increase of 12 in the notifications of diarrhoea and enteritis.

In Northern Ireland the largest changes in trends were a decrease of 20 in the notifications of scarlet fever and an increase of 6 for cases of whooping-cough.

Quarterly Returns for Eire

The birth rate during the December quarter was 202 per 1,000, being 0.5 below the rate for the preceding fourth quarter. Infant mortality was 64 per 1,000 registered births and was above the rate for the December quarter of 1946. The death rate was 11.7 per 1,000; this rate was 0.8 below the rate for the preceding fourth quarter, which was the lowest of the December quarters. The death rate from respiratory tuberculosis was 8 per 10,000 and from other forms of tuberculosis 2 per 1,000; these rates were the same as for the preceding fourth quarter.

The provisional figures for the year show a birth rate of 23.1, the highest of recent years. The death rate was 14.9, being 1.0 above the rate for the preceding year. Infant mortality was 67, being 4 above the rate for 1946. Deaths from infectious diseases included 734 from diarrhoea and enteritis under the age of 2 years, 291 from whooping-cough, 106 from measles, 55 from diphtheria. There were 2,796 deaths attributed to pulmonary tuberculosis and 838 to other forms of tuberculosis—240 and 61 respectively more than in the preceding year.

Week Ending April 3

The notifications of infectious diseases in England and Wales during the week included: scarlet fever, 142; whooping-cough 2,639, diphtheria 161, measles 10,874, acute pneumonia 764, cerebrospinal fever 51, acute poliomyelitis 17, dysentery 188, paratyphoid 1, and typhoid 5.

No. 13

INFECTIOUS DISEASES AND VITAL STATISTICS

Print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended March 27.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included), (b) (c) (administrative county), (d) Scotland, (e) Eire, (f) Northern Ireland. *Figures of Births and Deaths, and of Deaths recorded under each infectious disease, or:* (a) The 126 great towns in England and Wales (including London), (b) (c) (administrative county), (d) The 16 principal towns in Scotland, (e) (f) 13 principal towns in Eire, (g) The 10 principal towns in Northern Ireland. dash — denotes no cases; a blank space denotes disease not notifiable or return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Prophylactic fever	53	5	8	1	3	115	9	37	3	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	154	13	46	10	2	254	28	46	16	18
Deaths	3	—	—	—	—	3	1	—	—	—
Enteric fever	136	10	53	1	1	85	6	13	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Epidemic typhus	1	—	—	—	—	1	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scabies	—	—	40	5	3	—	—	41	6	7
Deaths	—	—	—	—	—	—	—	—	—	—
Active enteritis or diarrhoea under 2 years	—	—	—	—	—	—	—	—	—	—
Deaths	44	4	9	25	2	74	10	14	33	1
Measles	9,308	1,425	369	99	48	10,780	541	370	36	38
Deaths	—	—	—	—	—	21	—	—	—	—
Ethelism neonatorum	38	4	8	—	—	83	3	16	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Rat typhoid fever	1	—	1(B)	—	—	3	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Eumonia, Influenzal	720	44	6	5	6	1,025	65	16	15	2
Deaths (from influenza)	14	—	3	—	3	38	3	5	6	2
Eumonia, primary	242	44	226	29	9	—	68	—	33	16
Deaths	—	—	—	—	—	—	—	—	—	—
Poliomyelitis, acute	1	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Diphtheria, acute	17	3	1	—	—	7	1	2	1	1
Deaths	2	—	—	—	—	—	—	—	—	—
Typhoid fever	—	—	11	—	—	—	1	29	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid pyrexia	103	12	14	1	—	141	12	16	—	1
Deaths	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	1,526	97	261	36	39	1,317	96	220	26	57
Deaths	—	—	—	—	—	1	—	—	—	—
Smallpox	—	—	—	—	—	1	1	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid fever	4	—	1	7	—	5	1	—	14	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough*	2,603	192	50	45	16	2,263	267	358	94	29
Deaths	13	2	1	—	—	25	2	4	9	3
Deaths (0-1 year)	306	37	58	19	9	349	69	69	63	21
Infant mortality rate (per 1,000 live births)	—	—	—	—	—	—	—	—	—	—
Deaths (excluding still-births)	4,704	705	601	179	109	6,063	945	802	—	177
Annual death rate (per 1,000 persons living)	—	—	12.1	11.2	—	—	—	16.7	22.1	—
Live births	7,663	1,195	963	411	233	10,678	1,634	1,355	—	313
Annual rate per 1,000 persons living	—	—	19.4	25.7	—	—	—	27.3	24.5	—
Stillbirths	194	26	32	—	—	286	36	43	—	—
Rate per 1,000 total births (including still-births)	—	—	32	—	—	—	—	31	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ The number of deaths from poliomyelitis and poliomyelitis for England and Wales, London (administrative county), are combined.

§ Includes paratyphoid fever for England and Wales and Eire.

Medical News

Mrs. Roosevelt at Netherne Hospital

On Friday, April 9, Mrs. Roosevelt visited Netherne Hospital, Coudsdon. She saw the chapel, nurses' training school, female occupational therapy department, the patients' canteen, the staff and patients' cafeterias, the insulin bay, operating theatre, art studio, three of the reception wards, library and reading room, hairdressing saloons, laboratories, a display of occupational therapy, and an exhibition of the patients' pictures. Mrs. Roosevelt was particularly interested in radiography taken during leucotomy operations with two leucotomies in position in the brain. The charts of cases she saw undergoing prolonged narcosis were inspected and she asked many questions about the nursing and feeding. The gallery of pictures which had been produced in psychotherapeutic sessions also attracted Mrs. Roosevelt's attention, particularly as she had some knowledge of the use of this work in the treatment of delinquent children. The various kitchen articles, toys, and library shelving made from salvage material were carefully examined as were some of the occupational products which are being sent to America through the Women's Voluntary Services. Mrs. Roosevelt asked about the social work of the hospital, the follow-up scheme, the patients' social clubs, the willingness of patients to return if they became well, the patients on ground and town parole, the admission rate, and the hospital population. A number of the Women's Voluntary Service workers who have given welcome assistance in the hospital for the past two years were introduced to Mrs. Roosevelt.

Research in Disseminated Sclerosis

A gift of money has enabled the Middlesex Hospital Medical School to endow a scholarship for research in organic nervous diseases. The work will be carried out under the direction of the physician in charge of the Department for Nervous Diseases. The subject chosen for research is disseminated sclerosis. Dr. N. D. Compston, M.R.C.P., has been appointed research scholar for 1948-9.

Health Education

The Central Council for Health Education is planning regional courses of lectures to be held throughout the country for professional workers nominated by local authorities. Attendance is free. It will also appoint an exhibitions officer to make material available free of charge for exhibition by local health authorities. In order to develop these services the Central Council has closed down its area offices except in Northern Ireland. Information may be obtained from the Central Council, at Tavistock House, Tavistock Square, London, W.C.1.

American Psychiatric Association

Dr. Daniel Blain, formerly chief of Neuropsychiatric Services for the Veterans Administration, has been appointed Medical Director of the American Psychiatric Association.

Chevalier of the Order of St. Charles

The decoration of Chevalier of the Order of St. Charles has been conferred upon Dr. Kenneth Edward Eckenstein by the Prince of Monaco, in recognition of valuable services rendered by him in the capacity of Vice-Consul at the Consulate-General of Monaco in London.

Wills

Lieut.-Gen. Sir Harold Ben Fawcett, K.C.B., C.M.G., D.S.O., formerly D.G.A.M.S., left £838. Dame Freda Clara Martyn, formerly Dr. Freda Kelly, widow of Sir Henry Martyn, K.C.V.O., left £2,533. Dr. John Edridge Healey, of Fulwood, Lancs, left £66,373. Surgeon Rear-Admiral Charles Marsh Beadnell, president of the Rationalist Press Association, left £7,733.

COMING EVENTS

Exhibition of German Publications.

Lord Pakenham, Minister for Germany and Austria, will open the first post-war exhibition of German publications from the four zones of occupation at the Academy Hall, Oxford Street, London, W., on Monday, April 19, at 4 p.m. The exhibition will remain open for a week.

South-West Metropolitan Region Psychiatric Advisory Group

A general meeting of the psychiatrists in the South-West Metropolitan Region will be held at the County Hall, Kingston-upon-Thames, on Wednesday, April 21, at 5 p.m. The chairman of the Regional Board, Mr. F. H. Elliott, D.L., J.P., has kindly invited all those attending to tea at 4.30 p.m. Those who intend to be present should notify the honorary secretary, Dr. T. P. Rees, Warlingham Park Hospital, Warlingham, Surrey.

Lebanon Hospital for Mental Diseases

The 48th annual meeting of the Lebanon Hospital for Mental Diseases will be held at the Cora Hotel, Upper Woburn Place, London, W.C., on Thursday, April 22, at 4.30 p.m., when the medical director, Dr. R. B. Robertson, will present his first annual report and personal accounts of the work of the hospital will be given by Mr. R. de C. Baldwin and Dr. W. M. Ford Robertson. There will be opportunity for questions and discussion and all interested are invited to attend the meeting.

Association of Surgeons of Great Britain and Ireland

The annual meeting of the Association of Surgeons of Great Britain and Ireland will be held at Edinburgh on Thursday, Friday, and Saturday, May 6, 7, and 8, instead of in July as previously planned. A full programme will be circulated in April, but the provisional arrangements are as follows: *May 6*, business meeting; discussion on "Maintenance of Metabolism by Parenteral Methods." *May 7*, discussion on "Diaphragmatic Hernia." *May 8*, discussions on "Hypertension" and "The Surgery of Pancreatic and Ampullary Neoplasms." Fellows or Associate Fellows requiring accommodation in Edinburgh should apply direct to Messrs. Thomas Cook and Son, Ltd., Princes Street, Edinburgh (Tel. Edinburgh 33794), as soon as possible. There will probably be a meeting of the International Surgical Society on May 6 at 5 p.m. Fuller details may be obtained from Mr. H. W. S. Wright, M.S., F.R.C.S., honorary secretary of the Association, at 45, Lincoln's Inn Fields, London, W.C.2.

N.A.P.T. Medico-Social Section

The Inaugural Meeting of the N.A.P.T. Medico-Social Section will be held on May 7 at 5 p.m. at B.M.A. House, Tavistock Square, London, W.C.1. Sir Robert Arthur Young will preside, and Mr. Anthony Greenwood, M.P., will address the meeting on "Social Aspects of Tuberculosis." All who are interested in social work for the tuberculous are invited.

Haematology

The International Society of Hematology will hold its biannual meeting at the Hotel Statler, Buffalo, New York, on Aug. 23-26. Those interested should communicate with Dr. Robert R. Race, Lister Institute, Chelsea Bridge Road, London, S.W.1.

Physical Education

The Friends of Physical Education will hold an International Congress at Venice on May 10-13. Further information may be obtained from Prof. Mario Gallo, Comitato Esecutivo di Feste Internazionali di Educazione Fisica e Sports, Venezia, Italy.

International Congress on Obstetrics and Gynaecology

The American Committee on Maternal Welfare has agreed to sponsor, in conjunction with the Fourth American Congress, a conference on obstetrics and gynaecology, which will be held at Hotel Pennsylvania, New York City, from May 14 to 19, 1950. All inquiries should be addressed to the general chairman of the congress, Dr. Fred L. Adair, 24, West Ohio Street, Chicago 10, Illinois, U.S.A.

Climatology

An International Congress of Climatology and Thalassology will be held at Riccione (Forlì), Italy, on June 12-13. Further information may be obtained from Prof. Tommaso Oliaro, Minerva Medica, Torino, Italy.

Airborne Medical Services

All ranks who served in the 1939-45 war who wish to attend a reunion of the Airborne Medical Services on or about Sept. 25 in or near London should communicate with Major A. D. Young, D.S.O., R.A.M.C., The Depot and T.E., R.A.M.C., Boyce Barracks, Crofton, Hampshire.

SOCIETIES AND LECTURES**Saturday**

BRITISH ASSOCIATION OF ALLERGISTS—April 17, 11.30 a.m., at Junior Common Room, Worcester College, Oxford, Business Meeting. 2.30 p.m., at Lecture Room, Nuffield Institute of Medical Research, 43, Woodstock Road, Oxford, Scientific Meeting and Discussion, "Allergic Conditions of the Eye." One speaker, Dr. Vera Walker.

BRITISH CLINICAL MEDICAL SOCIETY—At Shewley Hospital, near St. Albans, Herts., April 17, 3 p.m., General Meeting. *Demonstration of the use of the Electro-Cardiogram in Therapy and Curative.* Dr. D. W. Shepherd and Dr. D. T. Barton followed by Dr. R. Pratt and Dr. S. T. Hayward.

Monday

EDINBURGH UNIVERSITY: PHYSIOLOGY CLASSROOM—April 19, 11.30 a.m., "Medical Archaeology and Folklore," by Dr. Douglas G. Hunterian Society.—At Talbot Restaurant, London W.C.1, April 19, 7 for 7.30 p.m. Annual general (dinner) and "Laboratory Animals—Their Uses and Abuses." Address by Mr. A. L. Bacharach.

ROYAL SOCIETY OF ARTS, John Adam Street, Adelphi, W.C.—April 19, 4.30 p.m. Second Cantor Lecture on Advances in Anaesthesia: "The Theory of Anaesthesia and Chloroform—Early Apparatus—Inhalation Anaesthesia—Signs of Anaesthesia. The Anaesthetic Gases—Apparatus." Dr. Frankis T. Evans.

Tuesday

EDINBURGH POSTGRADUATE BOARD FOR MEDICINE—At Edinburgh Royal Infirmary, April 20, 5 p.m. "Medico-Sociological Aspects of Marriage," by Prof. F. A. E. Crew, F.R.S.

Wednesday

HARVEIAN SOCIETY OF LONDON—At St. Mary's Hospital, Paddington, W., April 21, 4.15 p.m. Clinical Meeting: "Penicillin Doses," by Sir Alexander Fleming, F.R.S.

ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE, 28, Portico Place, London, W.—April 21, 3.30 p.m. "The Influence of Heredity on Disease (Illustrated)," by Prof. L. S. Penrose.

Thursday

EDINBURGH ROYAL INFIRMARY—April 22, 4.30 p.m. Illegible Lecture: "Folic Acid—Indications and Contraindications," by Prof. L. S. P. Davidson.

MEDICO-LEGAL SOCIETY—At 26, Portland Place, London, W., April 22, 8.15 p.m. "The Medico-Legal Problems of the Doctor," by Sir Geoffrey King and Dr. J. H. Sheldon.

Saturday

KENT PAEDIATRIC SOCIETY—At the Star Hotel, Maidstone, Kent, April 23, 2.30 p.m. Annual general meeting.

MEDICAL SOCIETY FOR THE STUDY OF VENEREAL DISEASES, Chandos Street, London, W.—April 24, 2.30 p.m. General meeting. "The History of the Treatment of Venereal Disease," by Mr. Johnston Abraham.

BIRTHS, MARRIAGES, AND DEATHS**BIRTHS**

Anderson—On March 28, 1948, to Tessa, wife of Dr. A. L. S. Anderson, Hill, Littleborough, Lancs., a son.

Brittain—On April 1, 1948, at Harcourt Nursing Home, Dublin, to the wife of Dr. George Brittain, a son.

Buxton—On March 14, 1948, to Alysion, wife of Dr. Robert James F. Galhampton Manor, Yeovil, Somerset, twins—son and daughter.

Cohen—On April 4, 1948, at Westminster Hospital, to Joan (née Eshel) of Dr. E. G. Cohen, a daughter—Diana Gillian.

Cooper—On March 20, 1948, at Southmead Hospital, Bristol, to Flora G. (née James), M.B., Ch.B., D.A., wife of Ashley Cooper, a daughter—Lisa.

Fodden—On April 5, 1948, at Park House, Waterloo, Liverpool, to the wife of Dr. J. H. Fodden, a daughter.

Grant—On March 24, 1948, at Gwyn-mor Nursing Home, Cardiff, to the wife of Hugo M. Grant, M.B., Ch.B., F.R.C.S.Ed., a son—Ian Nicholas.

Hendry—On April 2, 1948, at Nuneaton General Hospital, to the wife of D. W. Hendry of Nuneaton, a son—A brother for Billy and Ian.

Kershaw—On March 25, 1948, at 51, Lillingston Road, Leamington Spa, to Valerie (née Jackson), wife of Dr. G. R. Kershaw, a son.

McConachie—On April 2, 1948, to Dorothy J. McConachie (née Macdonald), M.B., Ch.B., wife of James S. McConachie, M.B., Ch.B., F.R.C.S., 11, Burnside Gardens, Aberdeen, a son—Stewart.

McNally—On March 28, 1948, at Dublin, Eire, to Betty (née Harty) of P. A. McNally, M.D., F.R.C.P.I., a daughter.

Williams—On March 25, 1948, at Firs Maternity Hospital, Newcastle, to Margaret Doreen (née Shaw), wife of Dr. T. Gwynne Williams, a son.

MARRIAGES

Stevenson-Ferguson Wood—On Feb. 26, 1948, at Addiscombe, Surrey, Stevenson, M.R.C.S., to Marjorie Ferguson Wood, B.Sc., S.R.N.

Way-Cattermole—On April 3, 1948, at Christ Church, Radley, Oxford, Way, M.B., B.S., (London), to Jean Cattermole, S.R.N.

DEATHS

Blair—On April 1, 1948, at 16, Greyfriars Gardens, St. Albans, Herts., Edward Blair, M.D.Ed.

Brown—On March 28, 1948, at Llanynhafal, Denbigh, N. Wales, Brown, M.B.E., M.B., Ch.B., aged 68.

Calthrop—On April 7, 1948, Gordon Thomas Calthrop, M.D., D.P.H., M.D., F.R.C.S., aged 82.

Gandy—On March 30, 1948, at Corners, Ceme Abbas, Dorset, Gandy, M.B.

Harker—On March 31, 1948, at St. Thomas's Hospital, London, SE 1, Vaughan Harker, M.R.C.S., L.R.C.P., D.P.M., aged 72.

Philpotts—On March 26, 1948, at "Seaward," The Rectory, Northumberland, George Robert Philpotts, M.D., B.S., aged 72.

Pollock—On March 22, 1948, Aileen Marion Scott Pollock, B.Sc., Principal, Women's Christian Medical College, Edinburgh, aged 52.

Rehder—On March 20, 1948, at his home, 1, Market Street, Brighton, Christopher Joseph Rehder, M.R.C.S., L.R.C.P.

Any Questions?

respondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Liquid Paraffin for Cooking

Q.—The use of mineral oil for consumption and for cooking purposes seems to be increasing. Apart from the fact that the oil is wholly without food value, has it or has it not any deleterious effect upon the consumer? In the United States, opinion is held that the use of mineral oil in salad dressing is an adulteration under the Federal Food, Drugs, and Cosmetic Act, however it may be labelled. A recent decision in a North-East of England magistrates' court confirmed this opinion, and evidence was given that the continued use of hydrocarbon oil might lead to a "paraffin liver." Is there any evidence to support these opinions?

A.—The laxative properties of mineral oil (liquid paraffin) depend upon the fact that it is almost completely unabsorbed, the possibility of its leading to "paraffin liver" seems hardly likely to arise when the cells of the intestinal lumen are exercising their normal physiological functions. These generally do not allow the passage of particulate fat unless the globules are below a certain critical diameter, depending upon a number of factors, including the chemical nature of the fat itself. If, however, circumstances favour the thorough dispersion of liquid paraffin in the upper part of the alimentary tract there may occur some degree of absorption, with subsequent storage there in the fat depots along with unsaponified fats via the lymphatics, or in the liver along with resaponified fatty acids in the portal vein. It is conceivable that continuous treatment with relatively high doses of paraffin might therefore ultimately lead to considerable deposition in the liver, though it is doubtful what pathological consequences, if any, would follow.

There is, however, one clear contraindication against the excessive oral use of mineral oils. At the present time a considerably higher proportion of our vitamin A requirements is being met by the conversion of vegetable carotenoids (particularly β -carotene) into vitamin A than by supplies of the pre-formed vitamin, restricted owing to the relative shortage of eggs, milk, cheese, and liver, which were the most abundant sources in pre-war diets. Carotene is a hydrocarbon, vitamin A is an alcohol, with the result that the former is the more lipophilic and the latter the more hydrophilic. Consequently, in an emulsion containing both carotene and vitamin A the carotene will tend to pass into the non-aqueous and the vitamin A into the aqueous phase. If the non-aqueous phase consists of a considerable extent of unabsorbable oil, such as liquid paraffin, it is clear that a corresponding proportion of the provitamin will be lost in the faeces with the oil. The greater the proportion of vitamin A derived from the provitamin in the diet the more likely is excessive paraffin medication to reduce some degree of vitamin-A deficiency. This medication should, in all instances, be taken in moderation; its use as a substitute for vegetable oils in salad creams and cooked products generally should be prohibited by law; and the rare cases requiring unusually large doses should be recommended to take between these doses some concentrated preparation of vitamin A, of which a number are available through ordinary channels.

Stability of Penicillin

Q.—How long do the various preparations of penicillin retain their potency? Could an authoritative table be given for ordinary penicillin, crystalline, ointment, cream, lozenges, emulsion, solution in saline—both at ordinary room temperature and when stored in the usual household refrigerator?

A.—The stability of penicillin depends on its degree of purity, concentration, and composition, and on the pH of the medium in which it is contained and temperature. Although there is much accurately determined and published information about the rate

of deterioration of different preparations, so many variables are concerned that no hard-and-fast rules are possible. The powder itself is indefinitely stable if kept dry, but according to Brindle and Keefe (*Quart. J. Pharm.*, 1947, 20, 177) the usual commercial type of container capped with rubber is not efficiently sealed against moisture; this can slowly enter and cause loss of potency. Other dry preparations, such as lamellae and lozenges, should keep for months if protected from the air. Properly made solutions deteriorate slowly in a refrigerator. A satisfactory rule would be to use them within one week. Ointments or creams, if the base is satisfactory, behave similarly. Since exact potency is less important, they might well be kept for longer periods in the cold. At room temperature deterioration is more rapid. Solutions and creams should be refrigerated unless they are to be used up within two days.

Immunity to Cancer

Q.—(a) Is there such a thing as natural immunity to cancer in human beings? (b) Has any lysis or agglutination been observed when the serum of a healthy person whose family is known to be free from cancer is brought into contact with living human cancer cells? (c) Have blood or plasma transfusions from healthy persons of non-cancer families been tried in the treatment of human cancer?

A.—(a) So far as is known, no condition of natural immunity to cancer is found in man. Since it might be difficult to demonstrate, this is not to say it does not exist, and remarkably high degrees of insusceptibility, either to particular classes of tumour or to spontaneous cancer as a whole, can be attained by selective inbreeding in mice. Even so, such animals may be susceptible to the induction of cancer by a carcinogenic agent applied externally. Apart from natural immunity, organ immunity may be conferred in special cases by intervention, notably in cancer of the penis, which does not occur after circumcision on the eighth day according to the Jewish practice. It should be noted that the protection given by the Jewish operation is not due to removal of the cancer-bearing area (see Kennaway, *Brit. J. Cancer*, 1947, 1, 335).

(b) Lysis of live cancer cells by normal serum was described by Freund and Kaminer, and was made the basis of the so-called Freund-Kaminer diagnostic reaction, which, however, has not been generally confirmed.

(c) The writer is not aware of any such attempts except those undertaken from time to time in leukaemia, and most recently by P. Croizat and L. Revol ("Traitement des leucémies aiguës par les perfusions sanguines répétées," *Lyon méd.*, 1947, 177, 553-60). In such cases transfusion is of course carried out using blood from healthy persons, not necessarily "of non-cancer families."

Massage in Spastic Paralysis

Q.—Does massage influence muscle tone? What is the value of massage in the affected limbs in: (a) spastic paraplegia of cerebral origin; (b) spasticity of striatal disease; and (c) compression paraplegia of traumatic origin?

A.—Massage does not influence muscle tone. The three types of spastic paralysis mentioned respond similarly to massage and need not be considered separately. While physiotherapeutic techniques such as muscular relaxation and re-education can be most helpful, massage alone is not likely to be of value in these conditions. Superficial effleurage expertly administered may assist in obtaining relaxation prior to re-educative exercises, but massage wrongly applied may act as a stimulus to further muscle contraction.

Diet after Total Gastrectomy

Q.—Can you advise a suitable diet for a man who has had a total gastrectomy?

A.—Most patients who have undergone total gastrectomy can take a diet of the post-Lenhartz type. In the early stages multiple small meals at regular intervals are desirable; these may include pounded fish, minced meat, and purées of vegetables as well as the other dishes which are common to all diets for convalescence from peptic ulceration. The proximal loop of jejunum rapidly becomes dilated and able to accommodate a meal of reasonable size without discomfort to the

patient. Nevertheless it is advisable to avoid bulky foods, and the caloric value of the diet must be maintained with milk drinks. There is need for additional vitamins, and this is best met by giving a concentrate. Such patients also have particular difficulty in absorbing iron.

Early Signs of Rheumatoid Arthritis

Q.—Is a vague generalized stiffness of the muscles on getting up in the morning an early sign of rheumatoid arthritis? If so, what treatment should be undertaken? The case in question is that of a woman of 35 whose mother developed rheumatoid arthritis at the same age after the same early symptoms.

A.—The symptoms in this case cannot be regarded as definite signs of early rheumatoid arthritis, but in view of the family history they call for careful investigation and close observation. The sedimentation rate should be taken, and repeated possibly at monthly intervals for a time, together with blood counts, morning and evening temperatures, and search for any possible infective focus. The only other treatment at this stage should be by general tonics, and especially cod-liver oil. There may be a nervous factor in the form of fear of arthritis, and reassurance must be emphatic if the investigations are negative. Contributory influences, over-fatigue, deficient nutrition, worry, and anxiety must also be guarded against so far as is possible.

Curly Hair and Pregnancy

Q.—Since the birth of my first child six months ago my hair seems to have lost its former natural curl. Is the curl likely to return, as there is no sign of it so far? If I were to have a "permanent wave" would it have an adverse effect on any natural tendency to curl which is at present dormant?

A.—After the birth of a child it is quite usual for the hair to change character entirely. This is due to the endocrine rearrangement natural after pregnancy. Any patient in whom such a change is marked ought to be medically examined for evidence of endocrine dysfunction and treated accordingly. As a rule small doses of thyroid and large doses of vitamin B (whole complex) should aid the return to normal. If the normal periods have not been resumed oestrone may be indicated. A permanent wave carried out by the hot method would have no adverse effect on the natural tendency to curl. The waving must be done by a skilled operator, so that no over-drying effect is caused.

Autoserotherapy in Allergy

Q.—In the treatment of allergic skin eruptions I have been advised to inject the patient's own blood intramuscularly in doses of from 1 to 12 ml. Is it as effective to take off a pint of blood, store it, and give the serum in graduated doses?

A.—Autoserotherapy subcutaneously is usually considered as effective as and essentially the same as intramuscular autohaemotherapy. The treatment is empirical, and roughly the same amount of serum as of whole blood is used.

Mechanism of Rigors

Q.—What is the productive mechanism of a rigor? What agents may produce a rigor?

A.—The causes which initiate the train of events termed a "rigor" are ill-understood. It is generally held that the pyrogenic agents act directly or indirectly on the heat-regulating centres, for they are without effect in decerebrate animals. Another suggestion is that the locus of the action of these substances is peripheral, causing a flow of water from the vascular system to the tissues, with consequent reduction in the circulating blood volume and a decrease in cutaneous blood flow which initiates the nervous mechanism. Whatever may start the process, the earliest obvious change is cutaneous vasoconstriction, which, by reducing heat loss from radiation and convection, causes the body's temperature to rise. The sensation of warmth and cold depend on the skin temperature, which is a function of the blood flow through the superficial vessels. Cutaneous vasoconstriction thus results in a sensation of warmth, although the internal temperature of the body is actually raised. The fall in skin temperature evokes the reflex which usually raises the body's temperature in such

circumstances: this is the fine fibrillary contraction of skeletal muscles, experienced as shivering, with contraction of the smooth muscle to cause "goose flesh." Thus increased heat production is added to reduced loss, and the body's temperature rises rapidly. When it reaches a level which varies from case to case there is sudden relaxation of the cutaneous vasospasm, the skin flushes, and as the warm blood floods through the superficial vessels the patient's sensations change to those of intense heat. Heat loss by radiation and convection is greatly increased at this stage and may be further aided by evaporation of the profuse sweat which may bathe the body surface. In patients with such disorders as malaria the changes are sufficient to reduce the body temperature to normal in an hour or two; where a rigor initiates a period of continuous fever sweating is absent, but a balance between heat production and heat loss is struck, so that the body temperature is maintained at a constant, though higher, level.

Among the infective agents which produce rigors are certain bacterial "toxins," particularly those of the pyogenic cocci, the *coli* group; the malarial parasites; the rickettsiae; *Leishmania donovani*. Although rigors are less common in infections due to viruses, they occur frequently at the onset of smallpox, sandfly fever, and influenza. Injection of foreign protein, particularly when intravenous, is followed by a rigor if the dose is large enough. The rigors which follow infusion of saline or blood transfusion are to be attributed to pyrogens elaborated by bacteria contaminating the distilling water. Certain non-protein agents, especially those containing sulphur, have a similar effect.

Phlebitis in the Leg

Q.—What is the best treatment for the phlebitis in the leg so often seen in middle-aged women? Has penicillin proved to be of any use in this condition?

A.—Penicillin has been found to be of no value in any form of phlebitis except the suppurative or the septic type, which is invaluable. Recurring phlebitis in middle-aged women usually occurs in varicose veins, and these should be treated radically by simultaneous ligation and injections if the patient is not too obese or the phlebitis is not part of a severe thrombotic tendency. The active attacks should be treated with "elastoplast" support supplemented by padding above and over the actual clots. Dicoumarol therapy is also indicated during attacks, and very quickly brings them under control.

NOTES AND COMMENTS

Pyloric Stenosis.—Dr. T. N. NAUTH-MISIR (Brentwood, Essex) writes: I notice that in answer to a question on the use of atropine nitrate in the treatment of congenital pyloric stenosis ("Any Questions?" March 20, p. 583) you state that a 0.6% solution in alcohol are required to 1 ml. of the 1 in 10,000 solution. I would like to point out that this is inaccurate. One drop of the 0.6% alcoholic solution is 0.1 mg. of methyl atropine nitrate (*Textbook of Paediatrics*, p. 621. Edited by Waldo E. Nelson. W. B. Saunders and Philadelphia), and 1 ml. of the watery solution also contains 0.1 mg. Therefore one drop of the former is equivalent to 1 ml. of the latter. Absorption of the alcoholic solution occurs as soon as the drop is placed on the infant's tongue, unlike the watery solution which takes a little while to dissolve. For this reason I think the alcoholic solution is to be preferred. The initial dose of 2 drops placed on the tongue twenty minutes before each feed may be increased to three or four drops if necessary, rarely necessary to exceed four drops.

All communications with regard to editorial business should be addressed to the EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: WESTCON, LONDON. ORIGINAL ARTICLES AND LETTERS for consideration for publication are understood to be offered to the *British Medical Journal* unless the contrary be stated.

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SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY APRIL 17 1948

THE NEW ZEALAND SCHEME

annual meeting of the New Zealand Branch of the British Medical Association was held on Feb. 3, when Mr. J. A. Sims, President of the Branch, spoke on the medical service suggested some remedies for the abuses to which it is put.

He said that the public had paid very dearly for a service naturally felt entitled to get it. That applied to both hospital and private medical services. No one could demur at that, though it could be pointed out that a service had been sold that did not belong to the seller, and that there had been a promise of hospital facilities that did not exist.

The majority of the population was fair-minded and reasonable, but from both observation and conversation it was evident that there was a section sufficiently abnormal to look for visits to a doctor as one of life's interests, who enforced formalities knowing that they could go from door to door until an impecunious doctor was reached. It could logically be said the doctor was to blame, but in the present service the more meritorious the medical man the larger his practice and income became. There was something very wrong in such a system.

More serious than the waste and cost was the deleterious effect on the medical man, who was forced by circumstances to be a party to what he inwardly knew to be humbug, at times bordering on fraud. It was humiliating to the extreme degree, and eventually must lead to an outlook that changed him from a conscientious to a form-signer. Laws had been passed that were obviously parallel with those either in operation or hoped for by Labour Governments in many countries. It was no overstatement to say that the underlying objective was for a political

in their discussions with the Government in 1937 and 1938 weaknesses in the structure of the scheme had been pointed out.

These were the defects of to-day. It was his conviction that if their memorandum of December, 1937, had been tried and developed they would have had a service free of most of the present defects and abuses. Perhaps it was not too late.

There was a way out of the present difficulty. Medicine and tactics would never mix, irrespective of the political party or period. The Department of Health should cover hygiene, preventive medicine, and the control of infectious diseases, but not be suited to the task of operating a medical service. The Government should appoint a permanent commission completely free of all political influence to control all hospital health services. If the key personnel were wisely chosen and possessed of real authority, success should be assured. The requirements were a commissioner trained in administration, impartial, broad-minded, well educated, with the integrity of a judge, assisted by a commission made up of representatives of all employed in the work, nominated by them and appointed by the Government from the nominations submitted. The second point would be a reorganization of health and hospital districts, each area being controlled by a regional committee which would be advisory to the commission and have advisory powers in its own area.

It was probable that the Dominion was training almost twice the number of students required by the population, and there was but little incentive now for graduates to go on to higher degrees or diplomas.

They were living on their capital so far as highly trained men were concerned, and unless the situation changed they

would become a country in which all had been levelled to mediocrity. There must be no compromise with a system predestined to lower the standards.

If the Government had the courage to admit it had misjudged human nature, both as regards the public and the profession, and placed a small financial barrier between the patient and doctor, patient and chemist, and patient and hospital, many of the present abuses would cease at once.

The Minister of Health, Miss Howard, addressed the conference on Feb. 4 on the general practitioners' scheme, saying that, though it had for the most part fulfilled its purpose, there nevertheless were some defects. The great majority of their doctors continued to practise as they would under conditions of ordinary private practice. They had considered it beneath them to give other than the best that their knowledge, experience, and their ethical standards fitted them to give. A few, on the other hand, were undoubtedly exploiting the scheme. The mere number of attendances, for each of which they received a standard fee of 7s. 6d. from the Social Security Fund, was, one could only suspect, their chief measure of the service they could render the community.

There were only very limited and unreliable means of finding out who were the black sheep. The Department could see what amounts were paid from the fund to every doctor, together with the amount of refunds made in respect of attendances by them. Although it was an incomplete picture, it was a matter of no little concern that for 232 doctors, or approximately 20% of the total, payments or refunds for last year had exceeded £3,000. A number of them in this category were men of outstanding skill and reputation, and it was not with them that they were concerned. Three of them had exceeded £10,000.

It was common knowledge and a source of considerable gratification that the great bulk of the profession were equally concerned with the consequences of inordinate payments from the fund. It was most heartening, therefore, that through the good offices of the Council it had been possible to set up a joint committee of representatives of the Association and the Department to examine the working of benefits in respect of medical services.

Another matter which had also given them concern, and one which the Association was already moving to correct, was the excessive charges on the fund for pharmaceutical benefits. Not only had the number of prescriptions shown a striking upward trend, but the Department had drawn attention on several occasions to a tendency on the part of a few doctors to prescribe unduly costly drugs.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Poplar.

Non-Country Borough Councils.—Dartford, Radcliffe (limited to future appointments), Tottenham, WallSEND.

Urban District Councils.—Denton, Droylsden, Houghton-le-Spring, Huyton-with-Roby, Portslade, Redditch (restricted to new appointments), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

HEARD AT HEADQUARTERS

Organization of Consultants

The organization of the new Regional Consultants and Specialists Committees is a piece of Association work in connexion with any new health service which will be of permanent value. These committees with the central committee at Headquarters will represent all consultants and specialists on the most democratic basis. They will help to prevent the chief danger which those who are concerned with the hospital problem see in the new regional set-up—namely, the separation of the teaching hospitals from the ordinary regional hospitals. This danger was voiced at a recent meeting at the Royal Society of Medicine which was addressed by several of those who took part in the Hospital Surveys inspired by the Ministry of Health. The committees, representing all consultants whatever their attachment, and whether teaching or non-teaching, whether in the employment of local authorities or in private practice, will help to prevent that rift. Of course, if there is any real divergence of interest it will still be possible for subcommittees representing teaching interests and non-teaching interests to be formed, but they will all be within the new framework and will be identified with the general body of consultants, just as the regions themselves will be linked up into one through the central committee.

The Association's Film Library

A great deal of work, some of it highly expert, has been put in by the Film Committee of the Association, and the Film Bureau and Library is now well in sight. A projector is to be purchased so that films can be viewed at B.M.A. House or at medical meetings elsewhere, and the next task is an appraisal of the films already in the Association's possession and other films provided or recommended from other sources. When these films have been assessed it will be necessary to make a number of copies of those to be included in the library. The films will be only those that meet the requirements of medical audiences. Many films on medical subjects, of course, have no particular value for members of the medical profession, and to extend the scope to cover health films in general would be to enter a very wide territory with results perhaps of little value from the objective which the Film Committee has been pursuing. The Association's Film Library will be complementary to rather than in competition with the Central Film Library of the Central Office of Information, and indeed some of the films which are not considered of use for medical audiences may be passed on to the Central Film Library.

FEEs FOR MIDWIFERY

The Minister of Health has prescribed a new scale of fees for medical practitioners called in by midwives. They come into operation on April 18. The Minister points out that the medical practitioner must claim his fees within two months by statute, but, recognizing that this may be inconvenient, he intends to propose to Parliament the extension of the time limit.

Scale of Fees

(1) Fee for all attendances of a medical practitioner during the period from the beginning of labour until the child is born, whether or not operative assistance is involved, including subsequent visits to mother and/or child during the first fourteen days inclusive of the day of birth, and including also a post-natal examination at or about the sixth week after the birth, except where owing to circumstances beyond his control the practitioner cannot undertake such examination, £4 14s. 6d.

(2) Fee for all or any of the following—namely, version in labour, removal of adherent or retained placenta, exploration of the uterus, treatment of post-partum haemorrhage or any operative emergency arising directly from parturition, including subsequent visits during the first fourteen days inclusive of the day of birth, and including also a post-natal examination at or about the sixth week after the birth, except where owing to circumstances beyond his control the practitioner cannot undertake such examination, £4 14s. 6d. A fee is not payable under this paragraph when a fee under paragraph (1) is payable.

(3) Fee for a single attendance only, either during the period from the beginning of labour until the child is born (whether or

not operative assistance is involved) or for any of the purposes mentioned in paragraph (2), £2 12s. 6d. A fee is not payable under this paragraph when a fee under paragraphs (1) or (2) is payable.

(4) Fee for either of the following—namely (a) surgery of perineum, (b) resuscitation of baby, £3 3s.: provided that if only one attendance is made a fee of £2 12s. 6d. shall be payable in lieu of the £3 3s. A fee is not payable under this paragraph when a fee under paragraphs (1) to (3) is payable.

(5) Fee for induction of labour whether or not more than one visit is involved, £2 12s. 6d. A fee is not payable under this paragraph when a fee under paragraphs (1) to (4) is payable.

(6) Fee for attendance at, or in connexion with, a case of abortion, miscarriage, threatened abortion, or ante-partum haemorrhage at the 28th week of pregnancy, including all visits in respect of attendance during the fourteen days from and including the first visit, £4 4s.: provided that where only one attendance is made a fee of £2 12s. 6d. shall be paid in lieu of the £4 4s.

(7) Fee for attendance of a second medical practitioner to give an anaesthetic, whether on the occurrence of abortion or miscarriage at parturition, or subsequently, £1 15s.

(8) Fee for visits to mother and/or child not included under paragraphs (1) to (6): Day (9 a.m. to 8 p.m.), first visit, 13s. 6d. subsequent visit, 10s. 6d. Night (8 p.m. to 9 a.m.), 11s.

(9) The usual mileage fee of the district to be paid for all attendances under paragraphs (1) to (8): provided that one mileage only shall be paid in respect of one journey, whether such journey is made for visiting one or more than one patient.

(10) Fee for attendance on mother or child at the medical practitioner's residence or surgery, 5s.

(11) The appropriate fee as prescribed above shall be increased the amount of any reasonable expenses necessarily incurred by the practitioner in supplying any of the drugs or preparations below where such a drug or preparation is essential for the treatment of the mother or her child.

List of Drugs and Preparations

Carbon dioxide,	Penicillin preparations,
Ergometrine,	Pethidine,
Lobeline,	Sex hormones,
Liver extract and injections of liver,	Sulphonamide preparations,
Methylamphetamine,	Vasopressin,
Oxygen,	Vitamin B ₁ complex,
	Vitamin K.

MEDICAL BOARDS

Fees for specialist members of Ministry of Pensions Medical Boards have been the subject of discussion and correspondence since the Ministry's announcement of a revision of the payment for this work on Oct. 1, 1947. A deputation from the Consultants and Specialists Committee, headed by its chairman, A. M. A. Moore, met officials of the Ministry of Pensions recently. As a result agreement has been reached on payment of specialist members of the Ministry's medical boards and the fee has been fixed at four guineas for a session which involves the examination of not less than three cases. A remuneration on a case basis was agreed as £2 12s. 6d. for one case and £3 5s. for two cases. The Ministry of National Insurance has also agreed to similar fees for specialist members of medical boards set up under the National Insurance (Industrial Injuries) Act, 1946.

H.M. Forces Appointments

ROYAL ARMY MEDICAL CORPS

Lieutenant-Colonel W. R. D. Hamilton, O.B.E., to be a colonel and has been granted the local rank of Brigadier.

Lieutenant-Colonel D. F. Pantton, C.B.E., has retired on pay and has been granted the honorary rank of Brigadier.

Lieutenant-Colonels G. E. L. Simons, J. C. Gilroy, J. L. Henson, O. J. O'B. O'Hanlon, D. C. Scott, C.B.E., R. N. Phillips, F. J. Hallinan have retired on retired pay and have been granted the honorary rank of Colonel.

Lieutenant-Colonel R. G. Martin, retired and re-employed, reverted to retired pay on ceasing to be employed and has been granted the honorary rank of Colonel.

Major (War Substantive Lieutenant-Colonel) J. E. Jones, retired receiving a gratuity and has been granted the honorary rank of Colonel.

Majors S. G. M. Lynch, F. King, A. J. Clynne, M. S. W. F. R. W. Scott, O.B.E., and W. F. L. Fava to be Lieutenants-Colonels.

C. P. Stevens, M.B.E., has retired, receiving a gratuity, and has been granted the honorary rank of Lieutenant-Colonel. Captains T. A. G. Reed, S. M. P. Conway, M.C., and J. H. Whitham to be Majors. Captains G. T. Wallace, L. F. Q. MacLaine, and J. N. Darbyshire, to be Captains. Short Service Commissions.—Captains R. T. Kiddie and H. E. E. have been granted Short Service Commissions in the rank of Major. Lieutenants H. Benson, D. A. Bailey, A. M. Ferrie, J. Fry, P. A. Hood, G. L. Hamilton, I. Lamond, G. A. K. P. R. Needham, N. O'Beirn, G. D. Powell, H. F. McElligott, V. G. Miln to be Captains. Lieutenants D. Hamilton and Lazarus, from Emergency Commissions, to be Lieutenants. Captain (Brevet Major) B. Malaher, having exceeded the age limit for recall, has ceased to belong to the Reserve of Officers on account of disability.

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Substantive Lieutenant-Colonel (Temporary Colonel) G. J. has relinquished his commission and has been granted the honorary rank of Colonel. War Substantive Majors W. T. Thom and J. McK. Johnstone have relinquished their commissions and have been granted the honorary rank of Lieutenant-Colonel. Specialist Short Service Emergency Commission.—War Substantive Captain A. C. Cunliffe has relinquished his commission and has been granted the honorary rank of Major. War Substantive Captains W. J. Ramsay, M.C., A. W. Patton, J. R. Vollet, D. C. Saehdeva, I. Gurland, W. F. Jepson, T. G. R. Crawshaw, and M. V. Kramer have relinquished their commissions and have been granted the honorary rank of Major. War Substantive Captains D. S. Clark, F. Allen, and R. Love have relinquished their commissions on account of disability and have been granted the honorary rank of Major. War Substantive Captains P. Frankl, C. M. Monro, J. A. P. de Speville, E. W. Ball, R. J. Elsborg, and M. Seifert have relinquished their commissions and have been granted the honorary rank of Captain.

Short Service Commissions, Specialists.—War Substantive Lieutenant-Colonel C. G. Parsons has relinquished his commission and has been granted the honorary rank of Colonel. War Substantive Majors W. R. S. Hutchinson, S. Y. Feggetter, and H. E. S. Pearson have relinquished their commissions and have been granted the honorary rank of Lieutenant-Colonel. War Substantive Captains B. Rogers, P. G. Konstam, J. M. Mallett, E. E. O'Malley, and W. Wyse have relinquished their commissions and have been granted the honorary rank of Major. War Substantive Captains L. P. Loperas, R. J. Cairns, and A. B. McGrigor have relinquished their commissions and have been granted the honorary rank of Major.

Lieutenants L. P. Thomas, E. R. Banner, H. L. Backhouse, T. A. Appleby, G. L. Cantrell, J. Chalom, T. Daly, G. E. Davies, J. McK. Jancan, W. McC. Edgar, D. Fitzgerald, H. E. Floukes, B. H. G. Hayward, J. R. Horler, R. P. C. Handfield-Jones, I. D. Jacobs, A. Kerfoot, S. Levy, J. R. M. Miller, F. R. G. Mellor, M. B. Moore, J. A. S. Metcalf, J. S. Noble, I. W. Payne, M. Roper, R. Smith, W. D. C. Thomas, H. N. Taylor, P. M. de C. Williams, L. Whitmore, T. K. Whitmore, J. N. Walton, C. P. O'Hanlon, C. Jones, C. W. Anderson, A. S. MacVicar, D. L. Griffiths, J. Jolleys, R. T. Towson, D. T. Binns, T. C. Beard, H. E. A. Carson, C. Dryburgh, G. R. Fryers, G. Grant, J. D. Huntley, K. E. Inman, H. Links, P. A. Meehan, C. J. J. Silveira, F. R. Sutherland, J. M. Stowers, W. M. Thomas, D. R. Thomas, Venables, J. C. Sloper, A. H. Pote, K. A. Rowley, J. Ainsworth, L. Armistead, L. W. Bland, R. H. J. Fanthorpe, I. M. Gow, R. Goodwin, H. C. Graham, C. C. Jackman, J. Levy, G. B. L. Laird, L. A. Liversedge, R. D. G. MacLennan, M. C. Pennington, S. Raphael, B. S. H. Storr, E. L. N. Shocion-Sack, W. Staunton, V. R. Wardill, C. J. Williams, J. E. R. B. Williams, G. Yerbury, W. J. Jaslowitz, E. G. G. Roberts, G. H. Carrick, R. H. Gosling, Brown, K. Sinclair, D. W. K. Buchanan, I. S. Bruce, J. A. Bullied, A. J. Barry, D. Clark, A. Cameron, J. D. K. Dawes, C. K. Hefferman, J. S. P. Kerr, C. P. Lowther, H. A. R. Losedale, I. R. Lambah, A. I. MacKenzie, R. J. Walsh, J. McG. McKinnon, R. W. L. Heddle, F. M. Hall, R. C. Humphreys, N. S. Moores, K. E. Marsh, M. B. McEvedy, J. McCollum, J. A. Noblett, K. P. O'Sullivan, H. Parkes, R. Raddock-West, C. Rosen, A. D. Stewart, I. F. Stewart, D. A. Sims, D. C. Simpson, K. M. Shaw, G. Trosser, W. Vant Hoff, L. S. Whyte, A. E. White, M. W. P. Ward, S. Whitfield, G. C. Richards, A. A. Baker, J. R. Baker, H. H. D. Kelly, G. V. S. Wright, J. H. E. Carmichael, J. McLelland, G. C. Mackie, and M. Silverman to be Captains.

To be Lieutenants: J. H. Apsted, A. G. Atkinson, S. Brest, D. W. S. Evans, W. S. R. Fenton, E. C. Fleming, E. Giordani, M. Grant, J. N. Harris-Jones, T. L. Henderson, B. G. Irving, E. Jones, F. Nicholl, E. Roderic-Evans, C. S. Treip, J. R. R. Wray, R. McL. Bain, B. W. Barras, R. I. Bodman, D. D. Cowen, M. H. Daniels, A. J. A. Dawes, K. R. Dempster, A. L. de Silva, A. J. E. Dudington, C. M. Dunlop, D. G. H. Hollis, R. K. Jones, I. L. McKelvie, I. Ranger, R. A. Ryan, J. P. A. MacD. Skene, W. B. Smellie, I. Sober, M. J. Souires, K. L. Williams, R. S. Williams, L. C. Wolfman, W. C. S. Von Reykiewski, J. Aiken, J. K. Anderson, J. B. Bell, S. A. Biggar, F. B. Briggs, E. H. Brown, P. D. Collingwood, A. D. Cook, W. A. J. Crane, I. S. J. Crosbie, C. J. C. Drey, E. Dewshury, B. R. Finlay, J. B. Fox, G. Freeman, G. F. J. Goldard, A. Hand, J. L. Harris, P. M. Higgins, N. Jaswon, H. T. Jones, J. Josephs, A. R. Kirby, D. B. Leaming, S. T. Lunt, G. May,

I. McAlpine, K. A. McCluskey, K. McKay, M. S. Millard, A. R. Muir, D. B. Neilson, C. F. Noon, D. O'Brien, J. B. O'Donovan, M. H. Pettigrew, W. R. Plews, A. I. G. Robertson, L. W. Robinson, A. D. Roy, S. Saehner, N. R. W. Taylor, H. M. Adam, D. K. M. Allison, E. Armitage, W. H. Barker, T. H. Barrie, P. J. H. Barron, M. A. Birnsting, M. D. Blend, I. H. Brave, R. A. Bremner, I. F. Bruce, A. E. Caines, D. J. Cawthorne, W. F. Crane, M. E. Evans, J. P. Fraser, B. A. Gavourin, L. A. Gillanders, D. L. Goughly, A. C. Griffith, D. A. Gregson, A. Guinea, J. S. Happel, C. Hayward, E. V. Hulst, F. G. Isaacs, W. Jack, M. S. Kay, D. Keith, J. G. Kilner, H. F. Lake, N. P. Lancaster, R. A. L. Leatherdale, J. G. Leopold, M. F. Levy, D. C. Lindars, W. H. McIlveen, B. D. McKee, H. M. MacLeod, B. MacTaggart, V. T. Mason, H. G. Parker, D. Refson, S. Solomon, J. Stewart, W. E. Suffield, M. H. Turner, J. C. Ward, R. M. C. Williams, J. H. B. Yule, and D. G. Walker.

HOUSEHOLD CAVALRY

Lieutenant H. W. Trusted to be Surgeon Captain.

WOMEN'S FORCES

EMPLOYED WITH THE R.A.M.C.

War Substantive Captains I. M. Coleman, E. M. Grant, and B. L. H. Sergeant have relinquished their commissions and have been granted the honorary rank of Captain.

War Substantive Captain M. S. Stevenson has relinquished her commission on account of disability and has been granted the honorary rank of Captain.

Lieutenants E. M. K. Irwin, N. M. Dwyer, M. T. Keyes, M. H. Swift, M. D. Cameron, J. H. Mitchell, A. M. McDonagh, and F. L. O'Rourke to be Captains.

COLONIAL MEDICAL SERVICE

The following appointments have been announced: J. Braun, M.D., Medical Officer, Gold Coast; J. Browne, M.B., Assistant Medical Superintendent, Mental Hospital, Singapore; J. K. Craig, M.B., Medical Officer, Kenya; C. H. Todd, M.B., Medical Officer, Seychelles; H. D. Crosswell, M.D., M.R.C.P., Medical Officer, Jamaica; T. Jezierski, M.D., Medical Officer, Fiji; T. K. Abbott, M.B., D.P.H., Senior Medical Officer, Seychelles; R. H. Heisch, M.B., Parasitologist, Kenya; W. M. Lewis, M.B., Medical Officer, Uganda; C. R. Philip, M.D., D.T.M.&H., Deputy Director of Medical Services (Supernumerary), Kenya.

Association Notices

SIR CHARLES HASTINGS CLINICAL PRIZE

The Sir Charles Hastings Clinical Prize, which consists of a certificate and a money award of 50 guineas, is again open for competition. The following are the regulations governing the award:

1. The prize is established by the Council of the British Medical Association for the promotion of systematic observation, research, and record in general practice: it includes a money award of the value of 50 guineas.
2. Any member of the Association who is engaged in general practice is eligible to compete for the prize.
3. The work submitted must include personal observations and experiences collected by the candidate in general practice, and a high order of excellence will be required. If no essay entered is of sufficient merit no award will be made. It is to be noted that candidates in their entries should confine their attention to their own observations in practice rather than to comments on previously published work on the subject, though reference to current literature should not be omitted when it bears directly on their results, their interpretations, and their conclusions.
4. Essays, or whatever form the candidate desires his work to take, must be sent to the British Medical Association House, Tavistock Square, London, W.C.1, not later than Dec. 31, 1948. The prize will be awarded at the Annual General Meeting of the Association to be held in 1949.
5. No study or essay that has been published in the medical press or elsewhere will be considered eligible for the prize, and a contribution offered in one year cannot be accepted in any subsequent year unless it includes evidence of further work. A prizewinner in any year is not eligible for a second award of the prize.
6. If any question arises in reference to the eligibility of the candidate or the admissibility of his or her essay the decision of the Council on any such point shall be final.
7. Each essay must be typewritten or printed, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto and enclosing the candidate's name and address.
8. The writer of the essay to whom the prize is awarded may, on the initiative of the Science Committee, be requested to prepare

a paper on the subject for publication in the *British Medical Journal* or for presentation to the appropriate Section of the Annual Meeting of the Association.

9. Inquiries relative to the prize should be addressed to the Secretary.

KATHERINE BISHOP HARMAN PRIZE

The Council of the B.M.A. is prepared to consider an award of the Katherine Bishop Harman Prize of the value of £75 in 1949. The purpose of the prize, which was founded in 1926, is to encourage study and research directed to the diminution and avoidance of the risks to health and life that are apt to arise in pregnancy and child-bearing. It will be awarded for the best essay submitted in open competition, competitors being left free to select the work they wish to present, provided this falls within the scope of the prize. Any medical practitioner registered in the British Empire is eligible to compete.

Should the Council of the Association decide that no essay submitted is of sufficient merit, the prize will not be awarded in 1949, but will be offered again in the year next following this decision, and in this event the money value of the prize on the occasion in question will be such proportion of the accumulated income as the Council shall determine.

The decision of the Council will be final.

Each essay must be typewritten or printed in the English language, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto and enclosing the candidate's name and address. Essays must be forwarded so as to reach the Secretary, to whom all inquiries should be addressed, at B.M.A. House, Tavistock Square, London, W.C.1, not later than Dec. 31, 1948.

MIDDLEMORE PRIZE

The Middlemore Prize consists of a cheque for £50 and an illuminated certificate, and was founded in 1880 by the late Richard Middlemore, F.R.C.S., of Birmingham, to be awarded for the best essay or work on any subject which the Council of the British Medical Association may from time to time select in any department of ophthalmic medicine or surgery. The Council is prepared to consider the award of the prize in the year 1949 to the author of the best essay on "The Value of Orthoptics in the Treatment of Squint." Essays submitted in competition must reach the Secretary, British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1, on or before Dec. 31, 1948. Each essay must be signed with a motto and accompanied by a sealed envelope marked on the outside with the motto and containing the name and address of the author. In the event of no essay being of sufficient merit the prize will not be awarded in 1949.

PRIZES FOR NURSES

The Council of the British Medical Association is prepared to consider the first award in 1948 of three prizes each of the value of 20 guineas for the best essay and three prizes each of the value of 10 guineas for the second best essay submitted in open competition by each of the following categories of nurses: (i) Pupil nurses; (ii) State-registered nurses working in a hospital; (iii) State-registered nurses not working in a hospital—i.e., district nurses, private nurses, etc.

The subjects of the essays for 1948 shall be: Category (i) "Suggested Improvements in the Methods of Training Nurses"; Category (ii) "Nursing the Patient, not the Disease: the Nurse-Patient Relationship"; Category (iii) "Difficulties of Nursing in the Patient's own Home and their Solution."

The purpose of these prizes is the promotion of systematic observation among nurses. In awarding the prizes due regard will be given to evidence of personal observation. No essay that has previously appeared in the medical press or elsewhere will be considered eligible for a prize. Nurses who are undergoing a course of training at a hospital are eligible to compete under category (i); nurses registered by the General Nursing Council are eligible to compete under categories (ii) and (iii). If any question arises in reference to the eligibility of a candidate or the admissibility of his or her essay, the decision of the Council of the British Medical Association shall be final. Should the Council decide that no essay submitted is of sufficient merit, no award shall be made. Each essay must be typewritten or legibly written, must be unsigned, and have enclosed in a sealed envelope containing the name and address of the candidate and the category into which he or she falls. Essays must be forwarded to reach the Secretary of the British Medical Association not later than May 31, 1948. Inquiries about the prizes should be addressed to the Secretary, British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1.

SCHOLARSHIPS IN AID OF SCIENTIFIC RESEARCH

The Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows: Ernest Hart Memorial Scholarship of the value of £200 per annum; Walter Dixon Scholarship of the value of £200 per annum; four Research Scholarships each of the value of £150 per annum. These scholarships are given to candidates whom the Committee of the Association recommends as qualified to take research in any subject (including State medicine) to the causation, prevention, or treatment of disease. It will be given, other things being equal, to members of the medical profession.

Each scholarship is tenable for one year starting on Oct. 1. The scholar may be reappointed for not more than two additional terms. A scholar is not necessarily required to devote the whole of his or her time to the work of research but may hold an appointment at a university, medical school, or hospital, provided the duties of such an appointment do not interfere with his or her work as a scholar.

In addition, applications are invited for the first award of the Insole Scholarship of the value of £250 for research into the causation and cure of venereal disease.

Conditions of Award: Applications

Applications for scholarships must be made not later than February 30, 1948, on the prescribed form, a copy of which will be supplied on application to the Secretary of the Association, B.M.A. House, Tavistock Square, London, W.C.1. Applicants will be required to furnish the names of three referees who are competent to speak of their capacity for the research contemplated.

CHARLES HILL,
Secretary

GROUP OF VENEREOLOGISTS

Notice is hereby given of the formation by the Council of the Group of Venereologists, which shall be composed of members of the Association who are engaged predominantly in the practice of venereology. Members of the Association are invited to conform to this definition and are invited to complete the form set out below and return it to the Secretary, B.M.A. House, Tavistock Square, W.C.1, not later than April 19, 1948. The first general meeting of the Group will be held at a date to be subsequently announced in the *Supplement*.

CHARLES HILL,
Secretary

British Medical Association Group of Venereologists

Form of application for membership

To the Secretary,
British Medical Association,
B.M.A. House,
Tavistock Square,
W.C.1.

I wish to apply for membership of the Group of Venereologists which is composed of those members of the Association who are engaged predominantly in the practice of venereology.

I understand that the inclusion of any individual within the Group is at the discretion of the Group Committee subject to approval by the Council of the Association.

I am a member of the Association. I am a venereologist and am engaged predominantly in the practice of venereology.

Name (IN BLOCK CAPITALS).....

Qualifications..... Date of Qualifying.....

Experience in Venereology since Qualifying.....

Appointments

.....

Whether employed in full or part-time duties and, if first.....

of hours per week devoted to venereological work.

Signed

Address

Date.....

BRITISH MEDICAL JOURNAL

LONDON SATURDAY APRIL 24 1948

FOLIC ACID*

BY

JOHN F. WILKINSON, M.D., M.Sc., Ph.D., F.R.C.P., F.R.I.C.

Hon. Physician; Director of Department of Haematology,
Royal Infirmary and University of Manchester

olic acid," so named by Mitchell, Snell, and Williams (1, 1944) because of its isolation as a crystalline substance from spinach and other green leaves and grasses, recently identified constituent of the vitamin B group. It is necessary for the growth of two organisms—*Clostridium casei* E and *Streptococcus faecalis* (Str. lactis)—these have formed the basis of a microbiological method of estimation. It has been shown that a number of substances either similar to or identical with this particular "folie acid" (*L. casei* factor, as it is also termed) can be isolated from many other sources, such as yeast, liver, kidney, milk, mushrooms, grasses, and green leaves.

The isolation, identification, and, later, synthesis of folic acid was the culmination of a series of different independent investigations which became particularly active after Hill and Peterson (1940) demonstrated the existence of a vitamin-like substance essential for the growth of *L. casei*; several groups of workers (Mitchell *et al.*, 1941, 1944; Hestings *et al.*, 1941, 1944; Stokstad, 1943) have studied the growth factors for various bacteria and noted that extracts of plants or animal organs are essential for this growth. It soon became clear that there were several different but allied "folie acids," and of these at least four crystalline products have since been prepared and found to have different activities on the growths of *L. casei* and *S. faecalis*.

The very recent synthesis (Angier *et al.*, 1945, 1946) of one of these "folie acids"—pteroylglutamic acid—and the establishment of its identity with Stokstad's crystalline substance from liver (the liver *L. casei* factor) and with the essential growth factor for both *L. casei* and *Str. faecalis* have led to great advances in its therapeutic applications, especially since the pure substance has become generally available.

Vitamin B₁₂ and Folie Acid

Hogan and Parrott (1940), by feeding a diet containing the then known essential elements, produced a nutritional macrocytic anaemia in chicks which could be prevented or cured by a fuller's-earth concentrate from which yeast, green leaves, etc., containing a factor they named vitamin B₁₂ (Campbell *et al.*, 1944, 1945; Richardson *et al.*, 1942; O'Dell and Hogan, 1943). Vitamin B₁₂ was isolated from liver and yeast by Stokstad (1943) and Hestings *et al.* (1944), the yeast factor being less active in the liver factor for growth of *L. casei* and inactive for *S. faecalis*. Binkley *et al.* (1944) showed that vitamin B₁₂ from yeast was inactive for *L. casei* until after enzyme treatment, when it became equally active for *L. casei* and *S. faecalis* (Str. lactis R).

The vitamin-B₁₂-deficiency anaemia of chicks was made worse by the administration of sulphonamide derivatives—presumably through their bacteriostatic action preventing either synthesis of an essential anti-anaemic factor or digestion of the B₁₂ conjugate—much greater quantities of vitamin B₁₂ being required to relieve it. The effects of vitamin B₁₂ now appear to be identical with those of synthetic pteroylglutamic acid.

Pfiffner *et al.* (1943) isolated crystalline chick anti-anaemic factors from liver and yeast; the yeast factor was different from the liver vitamin B₁₂ in that the former did not promote growth of *L. casei* or *Str. faecalis* until it had been digested with enzymes. Thus the yeast factor for chick anaemia was considered to be a vitamin-B₁₂ conjugate which after digestion with a conjugase enzyme liberated the vitamin B₁₂ identical with the liver vitamin B₁₂.

Briggs *et al.* (1943, 1944) also suggested that the so-called liver vitamins B₁₀ and B₁₁ were responsible for the feather formation and growth, respectively, of chicks—the macrocytic anaemia and leucopenia being cured simultaneously—while Campbell, Brown, and Emmett (1944) produced with a synthetic diet a hypochromic anaemia and leucopenia in chicks which could also be prevented by crystalline vitamin B₁₂. Later work has shown that synthetic pteroylglutamic acid plus β -pyracin will prevent or cure this deficiency anaemia in chicks better than either separately (Scott *et al.*, 1945, 1946).

Folie Acid and Experimental Leucopenia in Rats

From an entirely different angle it was found that agranulocytosis or leucopenia, aplastic or hypoplastic anaemia, and thrombocytopenia with hypoplasia of the bone marrow could be produced quite readily in rats by the addition to their diets of 1–2% of sulphasuxidine (succinyl-sulphathiazole), sulphaguanidine, or thiourea (Martin, 1942; Daft *et al.*, 1943, 1945; Ransome and Elvehjem, 1943).

Complete haematological remissions were obtained by the use of liver extracts, folie acid concentrates (Axelrod *et al.*, 1943), or synthetic pteroylglutamic acid (Daft and Sebrell, 1943; Endicott, Daft, and Ott, 1945; Petering *et al.*, 1947). Totter and Day (1943) also noticed that xanthopterin relieved the leucopenia in rats fed sulphasuxidine on purified diets, but they and others have since failed to confirm this (Axelrod *et al.*, 1943; Daft and Sebrell, 1943; Wright and Welch, 1943).

Vitamin M and Folie Acid in Monkeys

Wills and her colleagues (1932, 1935), while studying tropical macrocytic anaemia, showed that a macrocytic hyperchromic anaemia with leucopenia and granulocytopenia

*Lectures (abridged) given to the Section of Experimental Medicine at the Royal Society of Medicine on May 13, 1947, and to the Medical Society of London on Feb. 9, 1948.

penia could be produced in rhesus monkeys fed on a diet similar to that normally taken by many Indians. The features of this condition in the monkey may resemble human tropical macrocytic anaemia or the sprue syndrome (Darby *et al.*, 1945, 1946a, 1946b), including a macrocytic anaemia, a megaloblastic marrow hyperplasia, leucopenia with granulocytopenia, diarrhoea, sore tongue and mouth, and diminution in resistance to infection. Both conditions responded to yeast preparations, such as "marmite," and certain less-purified liver preparations. The unknown factor concerned in relieving this nutritional cytopenia (termed "vitamin M" by Day *et al.*, 1936; Langston *et al.*, 1938) was shown to be different from the anti-pernicious-anaemia liver factor (Wills, Clutterbuck, and Evans, 1937).

Later the good results following the use of yeast, liver, and folic acid on the leucopenia in the macaca monkey were reported by Wilson *et al.* (1942, 1946) and by Waisman and Elvehjem (1943), while it was claimed by Totter *et al.* (1943, 1944) that xanthopterin would relieve the anaemia and leucopenia for a short time, giving a subnormal reticulocytosis (4.5%) but no other permanent improvement.

More recently Day *et al.* (1945) have tried a highly purified *L. casei* factor (active for *Str. faecalis* after enzyme digestion) with complete success in the vitamin-M-deficiency nutritional cytopenia in monkeys. Since synthetic pteroylglutamic acid relieved the condition completely, with a sharp reticulocytosis, rapid improvement in haemoglobin and in the red-cell and white-cell counts, and relief of symptoms, they suggested that vitamin M was probably a vitamin B₁₂ conjugate. Cooperman *et al.* (1945) noticed that fresh liver or lyophilized liver preparations were more active in the treatment of vitamin M deficiency in monkeys than ordinary dried liver powders, which lose some activity from the method of their preparation. They did not find any improvement in the monkeys when fed β -pyracin with folic acid, in contradistinction to their haematological effects in chick anaemia.

Folic Acid in the Treatment of Pernicious Anaemia

The synthesis of a "folic acid" (pteroylglutamic acid) was soon followed by the early reports of Vilter *et al.* (1945), of Moore *et al.* (1945), and of Spies *et al.* (1945) on its use in the treatment of sprue and pernicious anaemia. Receiving early supplies of this synthetic pteroylglutamic acid for trial, Wilkinson, Israëls, and Fletcher (1946) presented their preliminary results of the treatment of five patients with pernicious anaemia with folic acid when given orally and parenterally. We extended our investigations, and up to date have had some 25 cases of pernicious anaemia under continuous folic-acid therapy for periods up to one and three-quarter years—so that we are able to assess its later effects.

My first 20 patients all had the typical features of uncomplicated relapsing pernicious anaemia, and were chosen in conformity with the rigid criteria that I laid down some years ago and have often re-emphasized as being essential in testing the potencies of anti-pernicious-anaemia substances (Wilkinson, 1932)—namely, a patient with pernicious anaemia in relapse, with a megalocytic hyperchromic anaemia, megaloblastic marrow, achylia gastrica, no complications or marked cord involvement, and no effective anti-anaemic treatment to have been given previously.

A satisfactory response to treatment after the preliminary control period without treatment was judged by (1) a good reticulocyte response inversely proportional to the initial red-cell count within 5 to 10 days of beginning treatment; (2) transformation of the megaloblastic into a normoblastic marrow; (3) a sustained rise in red cells and haemoglobin

with a return to normal levels; and (4) clinical remission of symptoms. The patients were kept on an ordinary hospital diet without liver, other glandular products, eggs, while no medication was given apart from the "folic acid" under trial.

Pteroylglutamic acid was given (1) orally in the form of 5-mg. tablets as supplied by the manufacturer or (2) parenterally in aqueous solution, which was prepared by dissolving the pure folic acid powder in distilled water or in 0.9% saline with the addition of the minimal amount of disodium hydrogen phosphate or sodium bicarbonate and sterilizing by autoclaving at 10 lb. for 15 minutes or by passage through a Seitz filter. It is tasteless and offers no difficulty in administration, while intravenous or intramuscular injections do not cause any disturbances or ill effects at all. The patients were kept on pteroylglutamic acid only from the beginning, receiving no other therapy, with the exception of those developing subacute combined degeneration of the cord, who were later given liver or stomach extract.

Results of Parenteral Therapy

The patients referred to in Table I received folic acid either intravenously or intramuscularly in doses varying from 15 mg. daily to 200 mg. in a single dose.

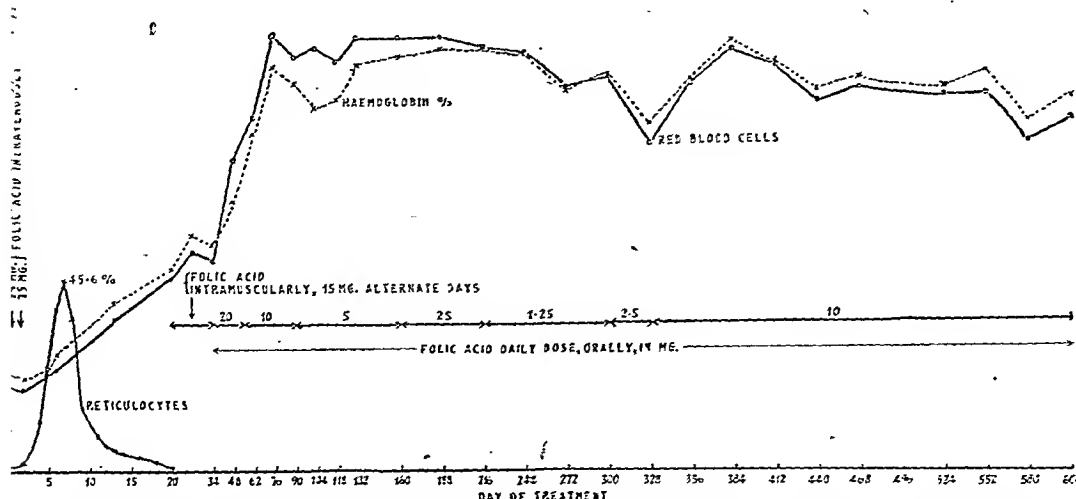
TABLE I.—Parenteral Folic Acid in Pernicious Anaemia

Case	Sex	R.B.C. $\times 10^6$	Hb %	Reticulocytes Max. %	Folic Acid Dose (mg.) and Duration (Days)
1	F	0.85 3.27 (24) 4.92 (328) 5.20 (468)	18 72 (24) 96 (328) 106 (468)	26 (7)	15 i.v. daily (4) 15 i.v. alternate days (6-12) 15 (456) orally
2	M	0.95 2.50 (24) 5.22 (60) 4.13 (549)	22 54 (24) 96 (60) 88 (549)	45.6 (7)	75 i.v. (1, 2) 15 i.v. (18-23) 1.25-20 orally (52)
3	M	1.42 2.62 (14) 3.19 (33) 4.71 (278)	36 64 (14) 86 (33) 108 (278)	33 (7)	200 i.v. (1) 10-30 mg. daily (12)
4	M	2.20 3.14 (14) 2.54 (34) 4.11 (78)	54 74 (14) 64 (34) 76 (78)	18 (8) 11 (23)	50 i.v. (1, 15) 100 i.v. (24) 10 orally from (35)

*) Day since beginning treatment. [] Number of days on treatment

Case 1.—A married woman aged 63 had had intermittent treatment for pernicious anaemia since 1939. She was referred to my clinic in severe relapse—R.B.C., 1,260,000; Hb, 28%; C.I., 1.12; W.B.C., 4,200 (polymorphs 66.5%, lymphocytes 27%, large monocytes 4%, eosinophils 2.5%, basophils 0.5%); anisocytosis and poikilocytosis marked; nucleated red cells 0.5%; platelets scanty; pronounced megaloblastic marrow; achylia gastrica. After a preliminary control period (R.B.C., 850,000; Hb, 18%; C.I., 1.06; W.B.C., 4,300) she was given 15 mg. of synthetic pteroylglutamic acid intramuscularly daily for four doses, then a week later 15 mg. on alternate days for four doses.

With a prompt reticulocytosis (26% on seventh day), the sternal marrow became normoblastic, and on the 24th day she had R.B.C., 3,270,000; Hb, 72%; W.B.C., 7,200. After this the dose was gradually reduced from 10 mg. per day to 15 mg. on alternate days, on which she continued to 1.25 mg. daily in 1947, when she complained of paraesthesia in the fingers (R.B.C., 4,520,000; Hb, 94%); this increased with larger doses of pteroylglutamic acid, and on Oct. 7, 1947, of marked unsteadiness of gait, slight slurring of speech, and vibration sense in legs below knees, absent ankle jerks, loss of joint sense in the right foot; plantar reflexes brisk; flexor, knee-jerks brisk; Romberg's sign positive; power poor in limbs; there was no muscular wasting. R.B.C., 5,200,000; Hb, 106%; W.B.C., 5,200. The folic acid was continued and she was given parenteral liver extract weekly and "pepsac" 1 oz. (28 g.) daily, with gradual improvement in the neurological condition over the following months. On Jan. 6, 1948, there were still some para-



Case 2; male aged 58, treated with folic acid parenterally and then orally from 34th day. Preliminary control period omitted from chart. Note change of time scale at 34th day.

and feet; ankle-jerks were negative, Romberg's sign ve, vibration sense was absent in both legs, plantar reflexor; R.B.C. 5,320,000, Hb 104%.

A joiner aged 58 had had pernicious anaemia for 18 which he had taken treatment very irregularly. He had been referred to me with R.B.C., 1,210,000; C.I., 1.16; W.B.C., 2,900 (polymorphs 49%, lymphomonocytes 5%, eosinophils 1%; reticulocytes, 1%; xanthoblastic marrow hyperplasia; achylia gastrica. He 75 mg. of pteroylglutamic acid intravenously on five days, the blood rising steadily from R.B.C., Hb, 22%; reticulocytes, 1.2% (first day), with cytosis of 45.6% (seventh day), to R.B.C. 5,220,000 96% on Aug. 23, 1946. (See Fig. 1.) On the 1st the marrow showed a cellular normoblastic hyperplasia was continued with 15 mg. intramuscularly 5 days, and then 20 mg. orally daily. (See Table I and on Aug. 23 the dose was gradually reduced to 5 mg. daily, and the blood count, which had remained fairly March 4, 1947, began to fall slowly until on April 30 : R.B.C., 3,880,000; Hb, 92%; C.I., 1.05; W.B.C., leucocytes, 2.8%. Treatment was then increased to 10 mg. daily, with a good improvement, so that on May 7 his : R.B.C., 4,610,000; Hb, 94%; C.I., 1.02; reticulocytes, 2.8%; platelets, 141,000; M.C.V. 84 c.u., M.C.H.C. 39%. He remained about this level, in good 10 mg. of pteroylglutamic acid daily, and on Jan. 14, red R.B.C., 4,130,000; Hb, 88%; C.I., 1.06; W.B.C.,

TABLE II.—Folic Acid Orally in Pernicious Anaemia

Case	Sex	R.B.C. / 10 ⁶	Hb %	Reticulocytes Max. %	Folic Acid Dosage (mg.) and Duration (Days)
5	F	0.95 4.51 (57) 4.25 (559)	24 96 (57) 94 (589)	32.6 (9)	20 [18], 10 [38], 5-2 [266] 30 [253]
6	F	1.10 4.00 (82) 2.85 (203)	26 83 (82) 70 (203)	30.6 (10)	5-20 [208]
7	F	1.15 4.22 (68) 4.00 (300)	30 94 (68) 90 (300)	28.4 (8)	15 [17], 10 [22], 5 [23] 1.25 [182], 5 [42] 10 [217]
8	F	1.40 5.30 (115) 4.07 (507)	34 110 (115) 86 (507)	25.2 (7)	20 [17], 10 [56], 1.25- [144]
9	M	1.47 5.61 (99) 3.80 (224) 5.37 (476)	36 106 (99) 98 (224) 100 (476)	34.6 (8)	20 [9], 10 [43], 5 [14] 1.25-2.5 [259], 1 [146]
10	M	1.53 5.17 (53) 4.29 (151)	36 86 (53) 86 (151)	30.6 (8)	20 [45], 15 [42], 15 [6]
11	F	1.54 4.82 (201) 5.04 (411)	32 92 (201) 98 (411)	9.8 (7)	20 [36], 10 [164], 1 [210]
12	F	1.82 5.25 (252)	42 106 (252)	28.6 (7)	20 [210]
13	F	2.00 4.30 (34) 4.06 (272)	60 74 (34) 72 (272)	8.9 (9)	30 [20], 20 [63] 30 [189]
14	F	2.08 5.96 (90) 4.60 (377)	40 100 (90) 98 (377)	*13.4 (6)	10 [34], 2.5 [28] 1.25 [56], 2.5 [252]
15	M	2.15 4.35 (40) 4.66 (330)	56 96 (40) 100 (330)	9 (8)	20 [40], 15 [14], 10- [276]
16	F	2.45 3.96 (70)	54 58 (70)		20 [56]
17	F	2.46 4.35 (29) 3.81 (197)	80 112 (29) 100 (197)	*4.2 (6)	20 [14], 5 [14], 1.25- [168]
18	F	3.28 3.74 (28) 4.13 (63)	86 90 (28) 90 (63)		5 [28] (Liver extract 2 m weekly)
19	M	3.76 4.74 (61) 5.82 (117)	94 102 (61) 116 (117)	4.2 (7)	20 [32] Hog's stomach
20	F	3.30 4.12 (7)	90 94 (7)		20 [7]
21	F	3.56 5.30 (56)	95 110 (56)		15 [56]

* Maximum peak probably missed as out-patient.

(.) Day of treatment. [] Number of days on treatment.

Results of Oral Therapy

Table II are the main details of 17 patients with pernicious anaemia who were treated with pteroylglutamic acid in daily doses of 20 mg. initially, with reductions to 10 mg. daily as the blood counts returned normal. The following are illustrative cases.

A married woman aged 50 was admitted to hospital with features of pernicious anaemia, R.B.C., 950,000; C.I., 1.26; W.B.C., 4,400, very active megaloblastic marrow, and achylia gastrica. She was treated with 10 mg. of synthetic pteroylglutamic acid orally daily, and rapidly with reticulocytosis (32.6%) and reversion to normal normoblastic hyperplasia of marrow on the ninth day. C. 1,560,000 and Hb 36% on 11th day. (See Fig. 2.) The dose was reduced to 10 mg.; the blood count R.B.C. 3,570,000, Hb 78% (31st day), and then daily dose of 5 mg. to R.B.C. 3,110,000, Hb 74%. Pteroylglutamic acid was increased, and ultimately was daily before the count could be raised to R.B.C. 4,130,000, Hb 94% on Jan. 27, 1948. She was well clinically.

Case 9.—A male garment-maker aged 47 collapsed at work and was admitted to hospital under my care with pernicious anaemia (R.B.C., 1,470,000; Hb, 36%; very active megaloblastic marrow hyperplasia; achylia gastrica). He was given 20 mg. of pteroylglutamic acid per day orally, and responded very well clinically, with reticulocytosis (34.6% on the eighth day) and an active normoblastic marrow (tenth day); on the 23rd day he had R.B.C. 3,720,000 and Hb 88%. (See Table II.) His treatment was reduced gradually to 5 mg. twice weekly, producing on Sept. 16, 1946, R.B.C., 5,610,000; Hb, 106%; C.I., 0.94; W.B.C., 6,200. Thereafter he gradually fell to R.B.C., 3,800,000; Hb, 98%; C.I., 1.2 on May 6, 1947, and the treatment was increased to 15 mg. daily with improvement in the blood count which has remained at Jan. 12, 1948 (now on 10 mg. daily), R.B.C., 5,370,000; Hb, 100%. Clinically he is very well indeed.

Immediate Results of Treatment

From the results summarized in Tables I and II the following points may be noted:

Rapid haemalogical responses followed the intravenous or intramuscular administration of pteroylglutamic acid from 15 mg., intramuscularly, to 200 mg. in a single dose, as has been observed with liver extracts when given by the same routes. A daily dosage of 20 mg., orally, was quite adequate to initiate good reticulocytosis and clinical remission in most cases, although the reticulocyte peaks were rather lower than would have been obtained with an active liver or stomach preparation. There was not a striking difference between the rates and the heights of the reticulocyte responses whether the oral or the parenteral route of administration was employed; nor was there more than a very slightly greater rate of red blood cell and haemoglobin formation after parenteral pteroylglutamic acid.

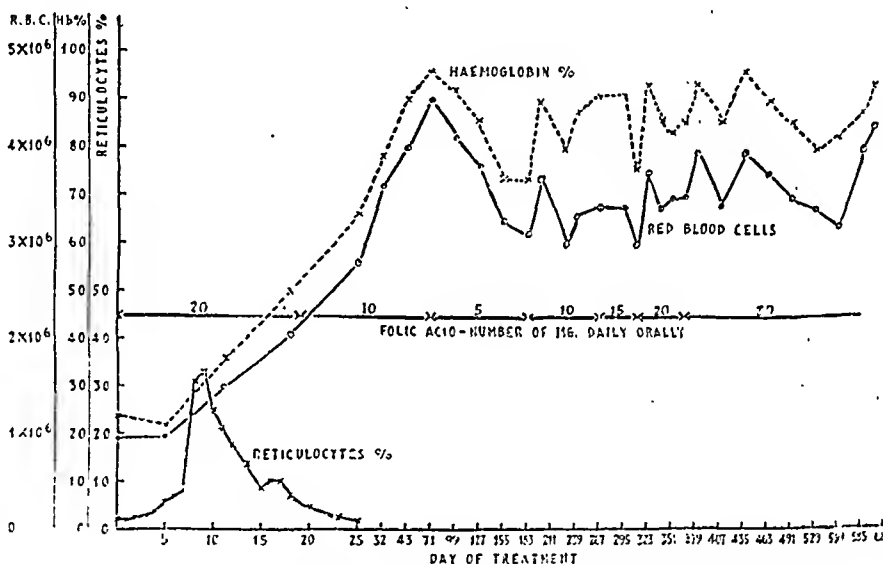


FIG. 2.—Case 5; female aged 50. Preliminary control period omitted from chart.
Note change of scale from 25th day.

Not all the patients showed full reticuloeytosis in keeping with the initial red cell counts: thus, Case 11 gave only 9.8% (expected 18-26%) on the 7th day, with initial red cell count of 1,540,000; Case 13, 8.9% (expected 14-19%) on the 9th day, with red cell count of 2,000,000; and Case 15, 9% (expected 10-18%) on the 8th day, with initial red cell count of 2,150,000. Though subsequently there were satisfactory clinical and hematological improvements.

With the rise of the haemoglobin and red cell counts to normal limits it was often possible to reduce the doses of pteroylglutamic acid to 2.5-5 mg. daily for a time. Eventually, however, with most of the patients the daily maintenance dose had to be increased to 10-20 mg. again after varying periods of time on these smaller doses, since the red cell count and haemoglobin percentage tended to fall slowly—e.g., Cases 5, 6, 8, 9, and 10. (See Fig. 2.)

Macrocytosis still persisted in many patients even when the hemoglobin and red cell count were within normal limits. The white blood cells and platelets showed the expected improvement usually seen after liver or stomach therapy, but not more than 50% of the normal.

In all three cases the original megaloblastic sternal bone marrow was rapidly converted to normoblastic ones, and this was complete before the maximal reticulocyte

peaks were reached. This result is in keeping with the findings of Levy (1947) and others, who did serial stem biopsies after giving a single oral dose of 50 mg. of pteroylglutamic acid to one case, and resembles the effects of live virus under similar conditions.

The *clinical symptoms* in this group showed rapid improvement in most cases, very much in the same way and at the same speed as noted after standard liver extracts or stomach therapy (Wilkinson, 1931a, 1931b). Occasionally, —e.g., Cases 12, 15, and 17—however, showed slower response to pteroylglutamic acid in these doses. The patient begins to feel better even before the maximum reticulocyte count is reached, and this is followed by a rapid improvement in general symptoms; flatulent dyspepsia and diarrhoea, soreness of the tongue disappears, and there is a very marked improvement in the dyspnoea, palpitation, and lack of appetite returns, and the whole outlook of the patient becomes more cheerful and normal. Splenomegaly, if normally as with ordinary standard treatment, but, as well expected, the achylia gastrica persists. On the other hand, have not seen any improvement in the peripheral neuropathies, paraesthesiae, or the more marked symptoms or signs of cord involvement (see below).

Summarizing, the *immediate* effects of treatment with quate doses of synthetic pteroylglutamic acid, whether administered orally or parenterally, to severe cases of per-

anaemia were good, the result being almost but quite as effective as a potent liver extract or preparation of hog's stomach. On the 7th day, a good increase in red blood cells, haemoglobin percentage, and reticulocytes, and cessation of the megablastic to normoblastic marrow, the macrocytosis failed to persist; complete relief of all the clinical symptoms and signs of pernicious anaemia was noted except those associated with the central nervous system.

Later Results of Pteroylglutamic Acid Therapy

Of greater importance are the later effects of continuous pteroylglutamic acid therapy. So far, after nearly 3 years, I have the following additional observations to make: (See Tables I and II.)

No ill effects or reactions due to pteroylglutamic acid have followed its continued oral or parenteral use in dosages ranging from 2.5 to 200 mg. Total dosages in some cases have reached 10 g. Many of my patients have remained on doses varying between 2.5 mg. weekly and 20 mg. daily, however, with some it has often been necessary to increase dosages owing to a very definite tendency for the red cells and haemoglobin percentage to fall again in the subsequent months; in some cases this may probably be due to too small a maintenance dose, which is ordinarily between 5 and 10 mg. daily. A few patients have been slow in regaining normal cell counts and haemoglobin percentages. Although the cell counts and haemoglobin percentages were within the normal

macrocytosis still tended to persist in many patients, in corpuscular volume, mean corpuscular haemoglobin ration, and haematocrit percentage often being outside normal range. (See Table III.)

TABLE III

x	R.B.C.	Hb %	Haematocrit % (M 40-54; F 37-47)	M.C.V. c.μ (82-92)	M.C.H.C. % (32-36)
1	4-61	94	39	84	34
1	4-92	102	45	90	32
1	4-94	104	45	99	28
1	4-48	92	42	116	31
2	4-62	96	43	94	31
2	4-08	90	42	103	32
2	4-82	92	45	92	29
2	4-19	98	45	107	32
2	4-09	108	51	126	29
2	4-12	94	42	102	31

Other observers have reported the marked beneficial effect of pteroylglutamic acid on pernicious anaemia and Wright, 1946; Davidson and Girdwood, 1946; Meyer *et al.*, 1946; Goldsmith, 1946; Harrison and 1946; Vilter *et al.*, 1947; Wilkinson, Israëls, and 1946; but Kaufmann and Schwager (1946), (1947), and Vilter *et al.* (1947) do not think that pteroylglutamic acid is as good as a potent liver extract in patients, and over the longer periods of observation I inclined to agree, for we have long known that both extracts and hog's stomach do produce and maintain remissions in pernicious anaemia with an entire return to the normal clinical and haematological state (Mason, 1931a, 1931b).

Acute Combined Degeneration of the Spinal Cord and Peripheral Neuritis

Perhaps the most important considerations in pteroylglutamic acid therapy are those concerning the neurological effects, and the results are disquieting. Eight of my 20 patients had signs and symptoms of central nervous system involvement: one (Case 10) had the symptoms before the beginning of pteroylglutamic acid treatment, which did not bring about any improvement in them; three (Cases 1, 17, and 18) showed definite deterioration in their neurological condition; while four (Cases 4, 8, 15, and 16), originally free of any neurological involvement, developed within two weeks acute symptoms and signs of subacute combined degeneration of the cord after receiving pteroylglutamic acid therapy—with peripheral polyneuritis, loss of vibration in the lower legs, extensor plantar responses, and poor knee-jerks and ankle-jerks in both legs; nevertheless haematological conditions improved considerably. None of these patients showed any improvement on only increased doses of pteroylglutamic acid, but some improvement is to be observed since the institution of internal liver extracts or desiccated hog's stomach orally (Mason, 1933).

There is a most important point to bear in mind when using "folic acid" preparations, since the development of changes is difficult to reverse by any form of therapy, one of the prime points in the treatment of pernicious anaemia is to give sufficient potent anti-anaemic therapy to prevent the development or progression of neurological symptoms.

These observations parallel those of Spies and Stone (1941) and Vilter *et al.* (1947), who found that during the pteroylglutamic acid treatment of 21 patients with pernicious anaemia four developed neurological signs, while of the seven got worse on folic acid. Further, Heinle and 1947 observed, as I have, an acute onset of subacute combined degeneration of the cord in one patient with

pernicious anaemia under treatment with pteroylglutamic acid (making a total of three out of their 27 cases). Similar cases are reported by Ross, Belding, and Paegel (1948), Bethell *et al.* (1946), Hall *et al.* (1946, 1947), Davidson and Girdwood (1947), and Heinle *et al.* (1947), who also noted the failure of pteroylglutamic acid to relieve or prevent neurological changes. On the other hand, Doan (1946) and Goldsmith (1946) claimed that the neurological symptoms were relieved by pteroylglutamic acid.

In view of the general experience it is very clear that patients with pernicious anaemia must still have full treatment with potent liver extracts or hog's stomach whether pteroylglutamic acid is given or not. The latter may have a place in initial therapy where quick results are needed, for those sensitive to liver extracts, and perhaps for ill-nourished patients, although highly potent liver extracts are quite adequate. I am fully of the opinion that pteroylglutamic acid is neither the best nor the cheapest form of treatment for pernicious anaemia and must not be given alone to patients with neurological symptoms.

Refractory Macrocytic Anaemias

From time to time cases of macrocytic anaemia are seen with blood pictures resembling pernicious anaemia but usually having normoblastic marrows, although refractory megaloblastic anaemias are also seen. They may have normal gastric acidities or achlorhydria gastrica, and are refractory to ordinary anti-anaemic treatment. Some are said to respond to treatment with proteolysed liver extracts, while others certainly do not.

Four such refractory cases were treated in my clinic with pteroylglutamic acid (three orally, one intravenously) without the slightest haematological or clinical improvement. They all had normoblastic marrows, two had achlorhydria, one a normal gastric acidity, and one hyperacidity. (See Table IV.) None of these patients had any obvious or

TABLE IV.—Refractory Macrocytic Anaemias

Case	Sex	Gastric Acidity	R.B.C. Initial	Hb % Initial	W.B.C. Initial	Folic Acid Dosage
W. G.	M	Normal	2-10	64	3,200	20 mg. orally [26]
			2-32 (23)	64 (23)	1,600 (23)	
R. B.	M	Hyperacidity	1-06	24	3,420	100 mg. i.v.
			0-99 (14)	24 (14)	3,600 (14)	
M. S.	F	Achlorhydria	1-72 (1)	34 (1)	3,200 (1)	20 mg. orally [14]
			1-50 (15)	30 (15)	2,600 (15)	
			2-05 (1)	50 (1)	4,200 (1)	10 [14], 20 [53]
			2-25 (91)	43 (91)	3,200 (91)	40 [14]
A. M.	F	"	2-73	56	6,200	20 mg. orally [14]
			2-84 (14)	62 (14)	8,000 (14)	
			3-60 (70)	64 (70)		Proteolysed liver [56]

All four patients had normoblastic marrows.

detectable nutritional deficiencies and were on perfectly adequate dietary intakes. They do not correspond to the nutritional macrocytic anaemias so commonly quoted in the American literature by Spies and others, in which there were marked nutritional deficiencies.

Davidson and Girdwood (1946, 1947) have noted some response in liver-refractory anaemias, but the blood remained macrocytic until further liver therapy was given, while Watson *et al.* (1945) did not observe any improvement in similar refractory cases after 5 mg. of a folic acid concentrate daily for six days.

Achrestic Anaemia

This is a primary hyperchromic megalocytic anaemia characterized by a megaloblastic hyperplasia of the marrow (identical with that of pernicious anaemia), free hydrochloric acid in the gastric secretion, little or no disturbance of the gastro-intestinal tract, no neurological symptoms or signs, no pyrexia, and no evidence of haemolysis—the

general anatomy resembles pernicious anaemia, and there is a failure in varying degree to respond to specific anti-pernicious-anaemia therapy, the course being sometimes prolonged with the help of blood transfusions (Wilkinson and Israëls, 1935, 1936).

The following is the report of a patient with achrestic anaemia under the care of Dr. Stock.

A housewife aged 26 complained of weakness, lack of energy, dyspnoea, palpitation, and increasing pallor. There were no gastro-intestinal symptoms, glossitis, or involvement of the central nervous system or peripheral nerves. No haemolysis was to be found. Gastric secretion contained normal amounts of hydrochloric acid. Sternal puncture on May 7, 1947, showed an active cellular marrow with 42.5% megaloblasts, while a few days later it contained 8% megaloblasts and 34% normoblasts and was still very active and cellular. A blood count on April 21 showed: R.B.C., 900,000; Hb, 25%; W.B.C., 5,000; reticulocytes, 1.6%; M.C.V., 128 c μ ; M.C.H.C., 31.3%. On April 30 it was: R.B.C., 1,200,000; Hb, 23%; W.B.C., 3,800; platelets, 93,600. She was given synthetic pteroylglutamic acid, 20 mg. per day orally, and a reticulocyte peak of 27.4% was obtained on the 8th day. The bone marrow still showed 8% megaloblasts on the 10th day, and on May 9 the R.B.C. was 1,800,000; Hb, 45%; platelets, 206,000; and reticulocytes, 15.2%. The haematological and clinical conditions continued to improve, and on June 4 her blood count was R.B.C., 3,600,000; Hb, 75%; C.I., 1.04; W.B.C., 10,000. At this stage she was given liver extract instead of folic acid, and on Dec. 17 reached R.B.C., 4,500,000; Hb, 95%; C.I., 1.05; W.B.C., 8,600.

(The conclusion of these lectures, with a list of references, will appear in our next issue.)

ACUTE INTUSSUSCEPTION IN CHILDHOOD

BY

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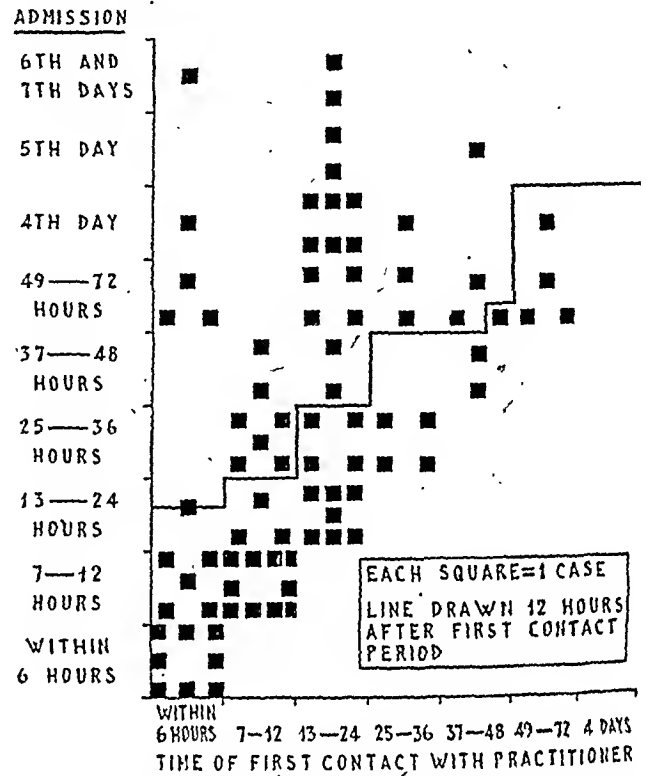
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The detailed study of 100 children treated for acute intussusception in this department from 1944 to 1946 has revealed certain facts which we believe will help the family doctor as well as those responsible for treatment. In the past thirty years the reported mortality has fallen from nearly 40% to less than 10%, yet while the figure for children treated in the first 24 hours is below 5% it rises steeply to 20% or more when the disease remains untreated for more than two days.

Time is an important and often a vital element in all disease, and we have paid special attention to the exact duration of the illness and the times when the different symptoms and signs made their appearance, when the doctor was called, and when the child reached hospital.

Of the 100 cases there were 83 in which accurate time-intervals were known, and of these 66 (80%) were seen by the doctor within the first 24 hours, but only 34 (41%) were admitted to hospital within that period. (See Graph.) Of the 82 seen within 48 hours only 53 had reached hospital by the end of the second day, while the admission of the remainder was not completed until the seventh day. This delay is culpable in view of the increasing mortality after the second day. It suggests that the problem of acute intussusception, in this area at least, is primarily not concerned with improving methods of treatment, but rather with the ability to suspect this disease in the first 24 hours and ensure prompt admission to hospital.

The accepted description in British textbooks is so dramatic that the failure of the family doctor to recognize it in many cases is unexpected. Further, even the passage of blood from the bowel does not invariably bring the disease to mind; for of those who passed blood and were seen by the doctor 41 (79%) were admitted within 12 hours and 11 (21%) were not admitted within 12 hours of the event. Of the latter, 6 were not admitted for 48 hours or over. This



Graph showing the relation between contact with the family doctor and admission to hospital in 83 cases.

failure to recognize acute intussusception in its early stages suggests that the traditional description may need modification in the light of local experience.

When faced with a child who may have intussusception the first and most important step is to take a detailed history of the illness from the mother or from someone who has been with the child all the time. This is so essential for diagnosis in an early case, and so valuable in assessing the need for resuscitation and operation in many of the later cases, that we have always considered it worth while to send for the mother if she was not with the child even though many of our patients live up to 50 miles from the hospital.

At the beginning the physical signs alone may not be sufficient to indicate the need for admission to hospital. The diagnosis should not be delayed until the discovery of an abdominal tumour, as its detection may require a level of experience which comes only from frequent and regular contact with the disease in a large hospital.

The description of the disease is similar in most British textbooks. A healthy, well-nourished male child, with no history of recent illness, at 9 months or shortly after weaning is seized by violent abdominal pain, with pallor and collapse. The pain recurs at intervals of about half an hour and the spasms last from a few seconds to a few minutes, the child drawing its knees up and rolling about. Vomiting may occur, although it is not a prominent symptom. Apart from an initial stool, constipation is the rule, though after a variable unspecified interval dark-red blood resembling red-currant jelly is passed per rectum, and the diarrhoea then becomes apparent.

Such a picture is obviously diagnostic of acute intussusception, but during the first 24 hours it was present in only 39 of the 100 cases; yet if we aim at a mortality rate below 5% such treatment must be completed within the first two days. We shall therefore reconsider in detail the early clinical picture of this disease.

Aetiological Factors

Age.—The accepted age of onset is 6 months. Table I shows that, though the condition is rare before 6 weeks, 33 cases occurred between 3 and 6 months. In fact, almost as many

TABLE I.—The Age in 100 Cases of Acute Intussusception

Age:	Months				Years		
	Under 3	3-5	6-8	9-11	1-2	2-6	7-12
No. ..	3	33	35	11	8	7	3

occurred in this period as in the following three months. There were 82 in the first year, and after 18 months the disease was uncommon.

Sex.—A striking male predominance is generally accepted, but in this series 45% were females.

Nutrition.—The view that well-nourished, often exceptionally well nourished, children are mostly affected was confirmed. In 34 children whose state of nutrition was recorded it was described as "very good" in 80 and "poor" in only 4.

Precipitating Factors.—Dietary changes or indiscretions can be excluded with reasonable certainty in many cases, especially those under 4 months. After this age the extent of intermittent unofficial additions to the diet is unknown. As the actual process of weaning or the recent establishment of mixed feeding was present in only 29 cases they cannot be considered of major significance.

Respiratory or Other Infective Illness.—In 10 children the intussusception followed a few days' malaise, usually with evidence of mild respiratory infection, and in four there was a preceding gastro-intestinal infection. This is not the place to discuss the possible role of infection in aetiology, but these cases are important because the infective signs may be considered sufficient to account for the illness, and the intussusception may be missed or the diagnosis delayed. In one such case the child had bronchitis for several days and later became ill. Vomiting, pain, and even the passage of blood from the rectum went unnoticed, and he was admitted to hospital moribund from bronchopneumonia. A very tight ileo-ileal intussusception was found and reduced at operation, but the child died.

The Clinical Picture in the First 24 Hours

TABLE II.—The Main Combination of Symptoms in the First 24 Hours

Clinical Features	No. and % of Cases
Pain, vomiting, and blood	39
Pain and vomiting	34
Vomiting, blood, and minimal pain	10
Vomiting	5
Pain and blood	4
Pain	4
Blood	4

In 82 cases the health and behaviour in the preceding week had been completely normal and the onset of the disease was sudden and unexpected. Almost always the parents were able to give the exact time when the initial vomit, screaming attack, or collapse occurred. In the remaining 18 the precise time of onset was blurred by a few days of respiratory, gastro-intestinal or other infection, though even here careful inquiry revealed a sharp change in the symptoms consistent with the beginning of the bowel invagination. Pain in one or more of its varied expressions was the presenting symptom in 55 of the children; vomiting in 34; and collapse, with the child found pale and cold in the cot or pram, in five. The spontaneous passage of obvious blood from the bowel was the first indication of the disease in only four cases. The remaining two cases started with a stubborn refusal to feed.

Pain.—The recognition of pain in babies is often difficult. Some scream, some cry loudly, others whimper, and an important minority are quietly restless. It is in the last type of case that diagnosis may be long delayed. We have seen a child drawing his knees up and blanching with spasms of pain, rolling his head about, and then rolling over on to his face, yet never uttering a sound. The spasmodic nature of the pain is a constant feature. Distress is often severe during the spasms, and in over half the cases there was also striking pallor. Between the spasms the child lies quietly, as though exhausted, and often sleeps. They last from a few seconds to a few minutes, and the interval between them may be anything from five minutes to several hours, but as the condition worsens they tend to become more frequent. During the attacks of pain the child draws the knees up to the abdomen, and the older babies and children roll over on to their hands and knees and sometimes around the bed.

Vomiting.—Vomiting occurred in 88% of the children in the first 24 hours. It is usually an early and often the presenting symptom. At first whatever is in the stomach is vomited during or after a spasm of pain, and the amount is not large unless the baby is drinking well between attacks. The vomiting, however, can be very forceful, and there may be slight bile-staining, making the vomitus yellow or light green. When obstruction is established the vomit changes in character: it is now copious and dark green or brown, resembling coffee-grounds, or is frankly faecal. It is very important to distinguish between these two types of vomiting, as the latter indicates serious intestinal obstruction.

The Bowels.—The frequency and character of the stools are together particularly important, because the common alternative diagnosis leading to delayed admission is infective gastro-enteritis. The traditional picture is of one or two normal or loose stools at the onset, followed by the passage of blood and mucus without faeces. In the week before the disease started 96 children had normal stools and four a mild diarrhoea. After the onset only eight had complete constipation, and they were all admitted on the first day. The passage of apparently normal stools was more common than we expected: in 36 this occurred in the first 24 hours and in eight as late as the second or third day. Unless early treatment has taken place abnormal stools are eventually passed in most cases. The main types of stool in 80 children with detailed information on this point were as follows: blood or blood and mucus, 46%; blood intimately mixed with faeces, 21%; a stool streaked with blood, 19%; frequent small brown liquid stools, 5%; loose, green, and undigested stools, 7%. Mucus was present in 30% of the children with abnormal stools. In 93% the total number of stools before admission was three or less, and only in the small group with six or seven offensive brown liquid stools could the dangerous alternative diagnosis of infective gastro-enteritis by the family doctor be justified.

Spontaneous Passage of Blood.—This is considered the cardinal diagnostic feature of acute intussusception, and stress is laid on its appearance within the first six hours or, less commonly, towards the end of the first day. Its relation to the duration of the disease in the present group is shown in Table III.

TABLE III.—Time when Blood was First Passed

At the onset of symptoms	4	On the third day	2
Within the first 12 hours	30	Not recorded	..
Within the second 12 hours	22	Never	24
From 24 to 48 hours	16		100

It was completely absent in 24 cases, 13 of which were admitted to hospital on or after the third day. In only 56 cases was blood passed during the first 24 hours. It is such a disturbing event for the parents that it is unlikely to be disregarded, and so in a disease where progress must be measured in hours rather than days the fact that it may be a late or an absent sign is of great diagnostic importance. In fact, if the present mortality is to be lowered the condition must be suspected on other evidence alone.

Physical Signs.—The physical examination can be conclusive, but during the vital first day of the illness it may yield very little evidence. Although obvious constitutional disturbance was present after admission in 80 cases, the proportion of babies who do not seem to be particularly ill between the spasms must

be higher when first seen by the family doctor. The positive signs fall into two groups—those of "shock" or constitutional disturbance, and the local changes in the abdomen. The factors concerned with the production of "shock" or collapse are probably nervous "reflex" effects from the pulling on the mesentery by the intussusception, and from the severe colicky pain and loss of fluid in vomiting. They develop together and it is difficult to differentiate between them, though the former is probably the more important, particularly during the first 24 hours. Marked pallor, quietness, and limpness, with a rapid heart rate, are frequent, and can be quickly produced by a severe spasm of pain followed by vomiting. On the first day these often alternate with crying and restlessness due to pain. Sunken eyes, loss of skin tone, and dryness of the mouth denote dehydration and become more evident on the second and third days. When intestinal obstruction is established the combination produces a desperate picture. The baby with anxious, grey, cyanotic facies, restless movements of head and limbs, and coldness and blueness of the extremities then enters the final stage of complete peripheral circulatory failure.

Fever.—Here we wish to make a substantial alteration in the traditional picture. It is often stated that the temperature in intussusception is normal or subnormal. Others, while admitting the possibility of moderate fever, say that this is a late or terminal sign. In our cases some rise in temperature was the rule, even in the first day of the disease, and in one-half of them it was as high as 100–104° F. (37.8–40° C.). Fever therefore cannot be adduced as evidence in favour of infective gastro-enteritis. What is more, in two children seen since this survey was completed a temperature of 104° F., with no evidence of systemic infection, was associated with frank convulsions in the first 48 hours of the intussusception.

Signs in the Abdomen.—In a vigorous child the abdomen can be very difficult to palpate because of the strength of the muscles and the resistance induced by tenderness. Once obstruction is established the distension may make it difficult to feel a mass. On the other hand, in a collapsed baby the tumour may be felt and handled with the greatest of ease and little or no protest. It must be emphasized that ease of palpation arises presently from ease to ease, and if the history is suggestive admission should never be delayed until the tumour has been felt. It is often helpful to examine the abdomen with the baby in the prone position, on his hands and knees, or on the mother's lap. The mass, as is well described in most accounts of the disease, is cylindrical or sausage-shaped and lies somewhere in the line of the colon, except in ileo-ileal invaginations. The consistency varies from time to time; the tumour can often be felt to harden under the hand during palpation, while at other times it may become so ill-defined that it is difficult to be sure of its existence. Localized tenderness over the tumour is usually present and there may be well-marked muscle-guarding. This is a sign of some importance, especially if the mass is not very well defined.

The lower border of the liver and the edge of the rectus muscle may, however, deceive even the most experienced. Local masses are less confusing, as they are usually multiple and are present in the rectum as well as the colon. When the mass is at one of the colonic flexures and under the costal margins it may be quite impalpable. Though a tumour was felt in 88% of this series the difficulties have been stressed in order to emphasize the danger of waiting for its detection before sending the child to hospital. Distension and visible peristalsis are grave signs, as they denote an established obstruction. They indicate a very serious condition and the need for careful pre-operative preparation.

Rectal Examination.—Rectal examination can give information in three main ways and should never be omitted:—(1) the presence of blood on the finger or its passage after the examination, (2) the direct palpation of the apex of a low intussusception, and (3) the empty, even ballooned, condition of the rectum in many cases but requires experience for its interpretation. Distension, or an emptiness in the right iliac fossa, is not a reliable sign, as it is quickly masked by the movement of the child and the rectum.

Rectal Irrigation Experiments.—We feel that there are scarcely any contraindications to the use of rectal irrigation. A single experiment is sufficient, if need be, repeated examination

will provide the answer in almost every case. Where circumstantial evidence is strong but conclusive proof is lacking, a laparotomy under modern hospital conditions adds little to the risk while leading to accurate diagnosis and prompt treatment. Though the experience of diagnostic barium enemas in this department is small it is sufficient for us to disagree with those who say that the manipulation involved has no adverse effect on the child's general condition. The proper use for this technique is in the investigation of suspected sub-acute or chronic intussusception.

The Anatomical Type of Intussusception

It is well known that mortality is higher in intussusception involving the small bowel. From the clinical point of view it is sufficient to divide the different anatomical types into three main groups: (1) small bowel, including ileo-ileal and ileo-ileocolic; (2) boundary, with ileocolic, ileocaecal, and caecocolic types; and (3) large bowel, arising at some distance from the ileocaecal valve. The relative distribution and associated mortality in the present series is shown in Table IV. Although the number of cases

TABLE IV.—Anatomical Type

	Small Bowel	Boundary	Large Bowel	Unknown
No. of cases ..	14 (14%)	77 (77%)	4 (4%)	5 (5%)
Deaths ..	2 (14%)	8 (10%)	—	—

the small-bowel group here does not admit of statistic proof there is no doubt of their greater risk. It would be valuable if a clear clinical distinction could be made so that the small-bowel invaginations could be discovered very early in the disease. Unfortunately this cannot always be done with certainty, but the following tentative conclusion can be drawn from the present survey.

Small-bowel Intussusception.—(1) Ileo-ileal:—A study of the literature suggests that these invaginations occur more commonly after 2 years of age. This was true of our three cases. The spontaneous passage of blood is a late event. An abdominal tumour is difficult to feel and may be situated at or just below the umbilicus. Because of these two features, and in spite of the early collapse which is often present, admission is delayed, and the children are seriously ill when they reach hospital. (2) Ileo-ileocolic:—There were 11 of this type with a clinical picture very similar to ileo-ileal intussusception, though the ultimate passage of the intussuscepiens through the ileocaecal valve leads to more frequent recognition of the abdominal tumour.

Boundary Intussusceptions (ileocolic, ileocaecal, and caecocolic types).—In these 77 children blood was passed early in the disease in most cases. An abdominal tumour was readily felt, especially in the ileocaecal and caecocolic varieties, where it may be in the left flank when the child is first seen. In nearly one-third of this group the head of the intussusception was felt on rectal examination. Ileocolic invaginations occupy a position midway between the ileo-ileal and the ileocaecal and large bowel types. They have no special features which permit their accurate separation from the rest of the boundary group.

Large Bowel (colocolic intussusception).—There were few invaginations of this type, starting at some distance from the ileocaecal valve. The clinical picture was similar to the boundary intussusceptions, and there were no deaths.

Treatment

Acute intussusception is a serious emergency, and when so many different medical functions are involved—diagnosis, resuscitation, anaesthesia, operative surgery, and general paediatric care—there will be divided authority and responsibility. It is therefore essential for treatment to be in the hands of a team each member of which knows his part and the extent of his responsibility.

We find that the best working arrangement is to have the paediatrician responsible for the conduct of the case

with a special concern for resuscitation at all stages of the illness, full consultation with the surgeon taking place on diagnosis, the best time to operate, and the treatment of complications.

Pre-operative Treatment

The important part played by shock and later by dehydration in the outcome of the disease demands their prompt control. Further, if this resuscitation is to be fully effective it must be well under way before the operation begins. We cannot help feeling that in previous accounts of the disease some of the deaths which occurred during or soon after the operation and were attributed to surgical intervention were in fact deaths from uncorrected circulatory failure. The operation was rather the last straw for a circulation already in a state of serious breakdown. Further, the technical difficulty of canalizing a vein in a small child on the operation table, with the surgeon and his assistant working against time to get the gut replaced and the wound closed, and the small space available, are likely to defeat the most experienced, and such a situation should never be allowed to arise. It is equally risky to leave the transfusion till the end of the operation, when the child may be irreversibly collapsed and the technical difficulties greatly increased by the peripheral circulatory failure and the empty veins.

During the early part of this series it became our practice to transfuse any child showing evidence of collapse or dehydration or of established obstruction. Serum or plasma was given initially—approximately 100 ml. for an infant below 9 months and 150 ml. for those between 9 and 18 months. The aim was to get the child as fit as possible before going to the theatre—even though this meant a delay of several hours. Saline solutions were given later if required. The results were encouraging, and the practice was extended to include all babies under 18 months and older children with more than 24 hours' history or with signs of collapse. Unexpected difficulties in reduction necessitating much manipulation or even resection have been encountered at operation when the local and general signs have not given cause for alarm, and in such cases the advantages of an established pre-operative infusion have been great. In the ordinary course of events, after a successful reduction the drip can be discontinued 12 to 24 hours after operation, but when there has been much vomiting or any abdominal distension it may be necessary to continue it for several days combined with gastric suction.

Operation

Both anaesthesia and the technique of surgical reduction are the province of the specialist and we are not competent to offer detailed comment. We know from experience, however, how important are the quality of anaesthesia, both during and after the operation, and the necessity for obtaining the help of a skilled anaesthetist. If this is done and the induction is started only when the surgeon and his assistants are quite ready the length of anaesthesia is reduced to a minimum. These babies tend to vomit during operation, and a nasal catheter passed into the stomach beforehand and left in position will often assist the anaesthetist and later the paediatrician. Although speed and gentleness are obviously desirable in all cases we find that there is considerably less trouble from vomiting and distension when reduction is carried out inside the abdomen.

Immediate Post-operative Care

Sudden deterioration, with the production or progression of circulatory collapse, is common in the immediate post-operative period and requires continuous supervision—in the theatre, on the way back to the ward, and in the ward—by someone experienced in resuscitation and able to take the decisive action required. Prompt clearing of the airway

oxygen, and the prevention of vomiting and inhalation by gastric suction may all be necessary. A small stomach-tube should be passed at the end of the operation if this has been unwisely omitted earlier. Circulatory failure or excessive haemorrhage calls for the immediate administration of plasma or whole blood.

Later Measures

In a straightforward case we have continued with intravenous saline for 6 to 12 hours after operation as a slow drip, meanwhile re-establishing fluid administration by mouth as described below. Where vomiting of dark-green fluid or faecal fluid occurs, hourly gastric suction and full replacement therapy by the parenteral route are employed until only clear fluid or nothing at all is obtained from the stomach for some hours. If 20–30 ml. of water is given orally after each aspiration an idea of the amount of absorption taking place can be obtained, and infection and soreness of the mouth and oesophagus are minimized.

In most cases fluid is given as sips of water as soon as the child has recovered consciousness, and 1 oz. (28 ml.) hourly is started within 5 to 6 hours after operation. This is increased to 2–4 oz. (57–114 ml.) two-hourly, according to the size of the baby, if no vomiting occurs, and milk feeds at two-hourly intervals can be started after 12 hours. If the child is breast-fed the mother is admitted and feeding started about 12 hours after the operation.

After 48 hours, if the bowels have been opened—with the help of a glycerin suppository if necessary—and feeds are being taken and retained, there is no need for continued stay in hospital, and early discharge is the rule. In most cases some degree of fever continues for several days, but it tends to subside steadily, and in our experience need not prevent the child from going home. The wound can be sealed off with "elastoplast" over a gauze dressing, and normally needs no further attention until the stitches are removed on the seventh or eighth day, which can readily be done at an out-patient visit. It is more satisfactory to have the child return to the hospital for a general examination and inspection of the wound than to have the dressing done at home, though the latter may be necessary if the home is too far away or travelling is difficult. The length of stay in hospital in uncomplicated cases is three days. Children with ileostomy or anastomosis, of course, require a longer period in hospital and special surgical care suitable to the nature of the operation.

Severe post-operative vomiting of obstructive type may be encountered, and is presumably due to a temporary ileus from oedema or haemorrhage into the bowel wall. Hourly gastric suction and adequate parenteral fluids may have to be continued for some days, but are usually effective. This is not the place to discuss the detailed measures required to maintain water-and-salt balance in such cases.

Use of Enemata, Alone or Combined with Surgery

Here we enter the difficult but important field of comparison. A careful study of the many accounts of acute intussusception written in the past 50 years reveals the disturbing fact that many of these are so lacking in precise information about age, the duration of the disease at the beginning of treatment, the length, character, and effect of pre-operative resuscitation, and the quality of anaesthetic and surgical skill employed that comparison is difficult and unprofitable. Further accurate recording of the time relationships in this disease is indispensable if we are to achieve a valid assessment in strictly comparable groups of cases.

Table V sets out our results in Newcastle-upon-Tyne beside a similar series treated by primary surgery in America. Table VI shows the results obtained by Hipsley (1937) in Australia, Nordentoft (1943) in Denmark, and

TABLE V.—Mortality in Two Series Treated by Surgery Alone

	Gibbs and Sutton, U.S.A. (1943)	Present Series
Period ..	1927-37, Group A; 1937-42, Group B	1944, Group C; 1945-6, Group D
Age ..	Infancy and early childhood	Infancy and early childhood
Length of illness at operation	Groups A and B: 64% within 48 hours, 21% over 4 days	Group C: 52% within 48 hours, 29% over 4 days Group D: 74% within 48 hours, 14% over 4 days
No. of cases	Group A, 55 Group B, 36	Group C, 27 Group D, 73
Mortality ..	42% 8%	15% 8%

TABLE VI.—Mortality in Series Treated by Enemata and Surgery

	Nordentoft		Hipsley		Nyborg	
Period ..	1928-35		~1937		1935-41	
Age ..			92% below 2 years		45% below 1 year	
	No.	Deaths	No.	Deaths	No.	Deaths
Treatment:						
Barium enemata ..	97	2%	—	—	40	0%
Saline enemata ..	—	—	60	0%	—	—
Enemata + laparotomy ..	100	23%	32	3%	35	8%
Primary operation ..	185	22%	50	10%	9	11%
Total ..	382	17%	142	5%	84	5%

Nyborg (1943) in Sweden, using reduction by enemata alone or combined with surgery. The excellent results obtained by Hipsley and Nyborg with the lowest recorded death rate in this disease would at first sight suggest that the combined approach is superior to primary surgical reduction. This is an important practical point, implying the need for the initial use of barium enemata in all early cases and the availability, whenever necessary, of staff expert in this technique.

A most careful reading of the three papers, however, suggests that the real factor responsible for the excellent results is less the therapeutic method employed than the

the age of the child, the anatomical type of invagination; and the degree of difficulty encountered in the surgical reduction.

Summary and Conclusions

A detailed study is made of 100 cases of acute intussusception in children treated at Newcastle-upon-Tyne.

It is concluded that the mortality from acute intussusception can be substantially reduced only by its diagnosis and treatment within the first 24 hours.

The clinical features of this series of cases suggest that the traditional picture of the disease may require modification in the following details:

1. A considerable number of cases occur between 3 and 6 months of age.
2. Male predominance is not always present.
3. Spontaneous passage of blood from the bowel is often a late sign in terms of the period available for effective treatment.
4. In acute cases a sudden illness, occurring in a previously healthy child between 3 and 18 months old, characterized by recurrent abdominal pain and vomiting, especially when associated with pallor or collapse, should be regarded as intussusception and sent to hospital without delay.
5. The emphasis in diagnosis should be placed on the total history rather than on any individual physical signs. Though an abdominal tumour was felt in a high proportion of the cases in this series, the family doctor, seeing relatively few cases, should not wait for its detection. Rectal examination should never be omitted, as blood may be found in this way before its spontaneous escape from the bowel. The presence of fever is quite consistent with acute intussusception and should not lead to the delaying diagnosis of infective enteritis.
6. The outlook is mainly determined by the duration of the disease before treatment and the efficiency of pre-operative resuscitation. In expert hands, primary surgical reduction and hydrostatic pressure supplemented by surgery are both effective. There are certainly no grounds for a change from the

TABLE VII.—Detailed Analysis of Deaths in the Newcastle Series

Case No.	Age	Duration of Disease	Type of Intussusception	Pre-operative Plasma	Time of Death after Operation	Probable Cause of Death
550*	7 mths.	4 days	Ileocolic	None	4 hours	Circulatory failure; cyst of vitello-intestinal duct removed at operation. No resuscitation.
562*	4 mths.	4 days	Ileocaecal	150 ml.	14 hours	Prolonged intestinal obstruction; extensive fatty change in liver; toxic changes in heart and kidneys
1239*	8 mths.	5 days	Ileocolic	Less than 100 ml.	15 hours	Prolonged intestinal obstruction; degenerative and fatty changes in heart, liver, and kidneys; pulmonary haemorrhage
1334†	8 mths.	3 hours	Caecocolic	150 ml.	30 hours	Lipoid pneumonia—aspiration. Death not directly due to intussusception
2467†	2 years	72 hours	Ileo-ileal	100 ml.	24 hours	Circulatory failure; possible recurrence of intussusception
2335*	4 mths.	49 hours	Caecocolic	40 ml.	36 hours	Recurrent circulatory collapse; necrosis of caecal mucosa, pulmonary collapse
2456†	4 mths.	67 hours	Ileocolic	200 ml.	9 hours	Operation postponed for 24 hours; barium enema given; continued intestinal obstruction and circulatory collapse
3033*	7 mths.	5 days	..	240 ml. (100 ml. saline)	12 hours	Prolonged intestinal obstruction
3435*	3 mths.	33 hours	Ileo-ileocolic	200 ml.	48 hours	Progressive circulatory failure; inadequate response to pre-operative resuscitation; gangrene of gut—peritonitis
4147*	3½ mths.	45 hours	Ileocolic	170 ml.	5 hours	Progressive intestinal obstruction with relentless increase in distention

* Difficult reduction. † Easy reduction.

high proportion of cases coming for treatment early in the disease. Nearly 90% of Nyborg's children had been dealt with in the first two days. In the larger group collected by Nordentoft this was not the case, and the combined results are less satisfactory than in cases treated by surgery alone. Although Hipsley does not give precise details of the duration in each case, the average in each of his three groups was 16, 17, and 24 hours, suggesting again that the majority of his cases were treated early in the disease. What is more, 84% of his deaths occurred in children who had had the disease from two to five days before treatment was carried out.

Table VII gives the main details of the ten Newcastle children who died. The factors which in our experience determine the outcome of this disease are the duration before treatment, the efficiency of pre-operative resuscitation,

surgical technique which has long been accepted in this country, though more expert supervision at all stages of the disease and operation by interested as well as experienced surgeons are desirable.

We are grateful to Professor J. C. Spence for his unfailing encouragement; to Drs. Swinburne, Walton, Whitehouse, and late Dr. Sheriff for the very high standard of their case reports which alone made this study possible; and, lastly, to Dr. Whiteham for his help with the figures.

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AN UNUSUAL CASE OF ADRENAL CARCINOMA

WITH A NOTE ON THE APPLICATION OF A NEW
COLOUR TEST

BY

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This case is recorded not only because it was unique in our series in having general clinical appearances of a typical Group I virilism associated with an adreno-cortical tumour instead of marked bilateral hyperplasia, but also because the later stages were accompanied by manifestations of disturbances in both carbohydrate and steroid metabolism of a particularly striking order. Moreover, the case afforded an opportunity of applying the urinary colour test recently devised by Patterson (1947) for distinguishing between adreno-cortical tumour and marked adrenal hyperplasia.

Case Report

The patient, a girl aged 14½ years, was kindly referred by Dr. H. B. Hayman, of Gloucester. He wrote: "She had been admitted to the City General Hospital, Gloucester, on April 20, 1947, with a four-months history of fits followed by coma. During the past 18 months she had become very hairy, the voice had deepened, her secondary sex characters had not appeared, and she had never menstruated. On admission she was semi-comatose, with a marked right-sided hemiplegia and all the signs of an upper-motor-neurone lesion. The latter completely disappeared within the next three days. She then developed epileptiform fits accompanied by incontinence of urine. Each fit lasted 30 minutes, with a return to normal. The fits then began to increase in frequency, with lengthening periods of unconsciousness.

"On examination her complexion was dark and the nipples pigmented. She was drowsy and her voice was deep. There was marked hirsuties, also a male pubic triangle. The clitoris was enlarged to the size of the tip of the little finger. The blood pressure was 120/85 and the cardiovascular system was normal. The central nervous system showed on the right side a seventh-nerve palsy, a dilated pupil, and an extensor plantar reflex. The eyes deviated to the left, with papilloedema more pronounced on the right side than on the left. A large tumour was present in the left hypochondrium. The cerebrospinal fluid and urine were normal, the blood urea was 25 mg. per 100 ml., and the sugar-tolerance test revealed marked hypoglycaemia, with blood-sugar figures following 50 g. of glucose ranging from 55 mg. per 100 ml. at 15 minutes to 70 mg. at 120 minutes, and the urine showing a trace of sugar."

On July 7, 1947, the patient was admitted into Charing Cross Hospital. She had that gnomish appearance typical of marked Group I virilism, with the figure of a boy rather than a girl. The chest was flat, the musculature well developed, with limbs short in proportion to the torso. During lucid periods the mentality appeared dull but psychologically feminine. The blood urea was 19 mg. and fasting blood sugar 35 mg. per 100 ml., haemoglobin 104%, and the 17-ketosteroid excretion 1,980 mg. a day—about 2½ times the highest level we have seen reported. The dehydroisoandrosterone test (Patterson: see Addendum) was strongly positive. X-ray examination showed calcified streaks in a large adrenal shadow, a normal pituitary fossa, and premature epiphyseal fusion corresponding to the age of 20 or over. From the day of admission till July 20, when she died, there was a succession of fits, with stupor and recovery. The stupor would last as long as a whole day. At times she was irritable and incontinent, and on waking would cat voraciously. On July 13 she was roused temporarily by 2 minims (0.12 ml.) of adrenaline intravenously, and on the 14th from a deep stupor by 5 ml. of 50% glucose intravenously. On July 16 she was seen

by Dr. Gardiner-Hill, who suggested that the hypoglycaemia was due to the unopposed action of insulin—the adrenal medulla being destroyed—and that she be put on a high-protein low-carbohydrate diet to avoid the further stimulation of insulin production. During the attack in which the blood sugar was estimated the value fell to 15 mg. per 100 ml. (Hagedorn and Jensen method). There was no return of any central nervous symptoms, except that during July 19 and 20 the pupils began to dilate with the head turned to the right, and the temperature began to rise.

At necropsy the left adrenal tumour together with attached kidney weighed 6 lb. 8 oz. (2.98 kg.). The thyroid gland was enlarged, the pituitary was normal, and there was no evidence of any secondary deposits.

Report on the Tumour

The following are the findings of Prof. Willis, of the Royal College of Surgeons, with regard to the adrenal cortical tumour.

"*Gross Description.*—The left adrenal tumour is rounded, well circumscribed, measures 22 cm. in main diameter, and weighs nearly 6 lb. (2.72 kg.); it consists of almost fluid degenerated and haemorrhagic material, with only a thin rim of living tumour tissue in places. The kidney and also the other pieces of organs submitted (liver, spleen, thyroid, right adrenal, uterus and ovaries, and pancreas) show no obvious abnormalities, except for marked post-mortem changes.

"*Microscopical Description.*—The adrenal tumour consists of large, rounded, and irregular cells of variable size, irregularly arranged in masses and trabeculae and showing extensive areas of degeneration. The structure is that of a malignant adrenal cortical tumour, although mitotic figures are not numerous. Spleen, adrenal, kidney, pancreas, liver, ovary, and thyroid show pronounced congestion and post-mortem changes (especially in the pancreas and kidney) and scattered large bacilli which are probably post-mortem invaders. Other noteworthy points are: kidney shows patchy areas of calcification in both the cortex and medulla; post-mortem changes in pancreas are so advanced that islet tissue cannot be distinguished; ovary contained abundance of healthy primary and vesicular follicles; and thyroid shows a mild degree of colloid retention."

Discussion

Clinically the patient did not show such an advanced degree of virilism as other cases of similar age group in our series where the underlying pathology was due to pronounced adrenal hyperplasia. Nevertheless, the 17-ketosteroid excretion was 20 to 50 times that commonly found in the latter group. This finding makes the case a notable example of gross discrepancy between clinical manifestations of virilism and the 17-ketosteroid excretion.

It is also a matter of interest that the opposite adrenal was present. This seems to conform to the rule that in heterosexual virilism both adrenals are invariably present, whereas in isosexual precocity the carcinoma may arise in a solitary adrenal. We have experienced the latter combination on three occasions: two boys, one with a tumour imbedded under the right lobe of the liver and one with a huge tumour of the left adrenal; and a girl, also with a huge tumour on the left side, with an androgen excretion of 260 mg. a day, who was being treated concurrently with the present case. These patients are of the fat, ruddy-complexioned type, more akin to Cushing's syndrome.

Some of the difficulty of correlating clinical manifestations with 17-ketosteroid output undoubtedly arises from differences in the type of androgen secreted. Crooke (1946) puts forward the view that the association of adreno-genital tumours with virilism in some instances and with basophilism in others might be accounted for on the theory that the androgenic steroids of the first type are derived from incompletely elaborated hormones, whereas in the second type they derive from vital hormones, and that it

Clinical examination revealed gynecomastia in all, varying in degree from "as in a girl" to "female" and appearance. Holl's second case had great tenderness to palpation. The breasts are described as being nodular or "lumpy" to palpation. Holl and Lissner recorded secretions from nipples. Pigmentation of the areola and Montgomery's follicles are also mentioned. In four of

Up to the doctors and dentists, pharmacists welcomed the new National Health Service Act, said Mrs. J. K. Irvine, president of the Pharmaceutical Society of Great Britain, speaking in Edinburgh on April 2. Subject to satisfactory terms of service and remuneration they were prepared to take their part in the new service. Under the Act pharmacy became a complete public service applying to the whole population. The new service was going to change pharmacy not only as the medical benefit part of the Act of 1911, but also as the pharmacy of that day. Pharmacy under the Act bore a put an end to the dispensing doctor, most of the old practice will be done by pharmacists. It meant a complete reorganisation of prescribing and dispensing. Pharmacists were taking the Act on trust, because as yet they had not seen the terms of service or the remuneration. They would not be paid for the time was now short for the Government to make arrangements with the Minister of

uses the penis and testes were small, and testicular atrophy in some instances was extreme—the "size of a pea" (Bittorf). Two authors reported the genitalia as "normal," two others made no mention of their state. A varicocele occurred in two cases on the same side as the adrenal tumour. Secondary sex characters seemed to show little changes, and most cases had a normal masculine hirsuties, although in two instances the beard area was described as becoming softer. In a 15-year-old boy there was no facial hair, and the pubic hair was described as transverse female type. In Bittorf's case the voice was high-pitched, but there had been no recent change. Holl, who recorded acne and dilatation of skin veins in one of his cases, was the only author to describe changes in the skin.

The general nutrition and body weight were normal in four of the cases, Holl's second case was grossly obese, and Simpson and Joll's (1938) case gained weight before becoming emaciated. Two cases had lost weight. Facies described in only three of the cases—two as being "soft" (one patient changed so greatly that his acquaintances failed to recognize him), and the third (our case) as normal. There was a loss of libido and potency in three cases; the patients seem to have become sexually indifferent. The development of homosexuality is not recorded. A palpable abdominal mass or "fullness" was present in all cases, and in all but one was left-sided. Two cases showed increased pigmentation of the skin, in two it was absent, and in the remainder it was not commented upon. Blood pressure was normal where it was recorded.

Pyelography was carried out in four cases, and in each there was depression downwards of the kidney, and in some there was rotation. Two radiologists observed a mass above the kidney. The single glucose-tolerance curve in the series revealed an impaired tolerance to glucose. No basal metabolic rate estimations have been recorded. X-ray examination of the skull and sella turcica, when made, was normal.

Estimations of oestrogens and androgens were recorded in three cases: all showed moderate excess of androgens, and in the two cases investigated gross excesses of urinary oestrogens were found, as follows:

Simpson and Joll.—Androgens: comb-growth capon units, 5-100 per litre (normal, 8-25). Oestrogens: 100-6,400 M.U. per litre (normal, 20). Aschheim-Zondek test negative.

Roholm and Teilum.—Androgens: 54-164 C.C.U. (normal, <25). Oestrogens: 750-8,000 M.U. (normal, <20). Gonadophin: 30-50 R.U. (normal, <30).

Armstrong and Simpson.—Ketosteroids: May, 1942, 34 mg.; November, 1942, 108 mg. (normal 6-23 mg. in 24 hours).

Treatment.—In two of the four cases operated upon nothing could be done (Armstrong and Simpson; Holl, case 1). In Simpson and Joll's case the tumour was removed, but the patient died from secondary deposits. Joll's second patient was operated on successfully by Jertle, and 12 months later was still alive and well, showing no evidence of secondary deposits.

Course.—In five cases the condition ran its course in a few months, the patients dying of cachexia and secondary deposits. In Simpson and Joll's case the duration was three years and in Roholm and Teilum's case five years. Holl's case remains unique as a possible cure. The younger patients have all died quickly; the older group survived longer.

Post-operative Results.—Holl's patient regained his masculine appearance; his penis and testes became larger; libido and potency returned. The breasts, which had become very tender and congested, rapidly became painless and soft, pigmentation disappeared, and when last seen they were still getting smaller. Simpson and Joll's patient gained weight, the breasts became smaller, the genitalia larger, and there was a partial return of libido and potency.

This was only temporary, and he redeveloped all his symptoms owing to secondary deposits.

Pathology.—All cases have been due to malignant adrenal tumour arising in the adrenal itself, except in Lissers case, which arose from an adrenal rest. All metastasized except Holl's second case. Metastases have occurred in lungs, bones, liver, lymph nodes, and the opposite adrenal.

Case Report

The patient, a policeman aged 40, was admitted to hospital in February, 1942, complaining of pain below the left costal margin, night sweats, and loss of weight. Examination revealed a tender mass closely resembling a spleen protruding two finger-breadths below the left costal margin. The patient was of good physique and showed no signs of loss of weight. Whilst in hospital he ran a low-grade intermittent pyrexia. Splenomegaly was suspected, but full investigation revealed no clear cause for the pyrexia or the "splenomegaly." He was discharged home and told to report to the out-patient department in two months. When seen again in May, 1942, he complained of a pain in the right breast, and was found to have developed bilateral gynaecomastia. On his readmission to hospital it was observed that the pain in the left side of the abdomen had worsened and now radiated to the left hip. He was then investigated as a possible case of adrenal neoplasm.

On examination the patient was of normal bodily contour, with no obesity or feminine distribution of fat. The facies and hair distribution were normal for an adult and had shown no recent change. To external examination the genitalia also appeared normal. There was no abnormal pigmentation. A well-marked bilateral mammary swelling could be felt, due to the presence of nodular glandular tissue. Clinical examination of the cardiovascular and respiratory systems revealed nothing of note; the blood pressure was 128/88. The central nervous system was normal, and urinalysis showed nothing abnormal. Haematological investigation revealed a slight hypochromic anaemia. The leucocyte count varied between 7,500 and 12,300 per c.mm., and there was a slight absolute lymphocytosis. The Wassermann reaction was negative.

Routine chest radiography showed a "possible calcified primary complex, but no evidence of recent disease." The report on the intravenous pyelogram read: "Right pyelogram normal; left kidney seems to be displaced downwards and laterally. ? due to mass"; and the retrograde pyelogram: "No abnormality of pelvis or calices of left kidney, but the kidney is displaced downwards and laterally. Right side, nil."

17-ketosteroid investigations gave the following 24-hour results: May 22, 34 mg.; Sept. 30, 108 mg.

At laparotomy on June 17 Mr. T. A. Hindmarsh found a large adherent and necrotic tumour above the left kidney. Because of the vascularity of the tumour mass, its size, and extensive adhesions, no attempt was made to remove it. Subsequently the patient deteriorated rapidly; he became emaciated and jaundiced, he developed ascites, and his liver became enlarged and nodular. Death occurred during November, 1942, some eleven months from the onset of his symptoms. There was a terminal haematuria.

Abstract of Dr. J. G. Thomson's Necropsy Report

The body is of a well-developed but poorly nourished subject; there is deep jaundice. The breasts are larger than normal in a male and measure 7.5 by 8 cm., with a maximum thickness at nipple level of 1 cm. The nipples are prominent, free from hairs, and measure 0.7 cm. in diameter. Hair on the trunk shows the normal masculine distribution.

Internal Examination.—Lying above the left kidney, which is compressed and distorted but nowhere invaded, is a large lobulated tumour measuring 17 by 13 by 19 cm. It appears to be well encapsulated, and section reveals that the tumour mass is divided into lobules 3.5 cm. in diameter by fibrous septa. Approximately three-quarters of the growth is haemorrhagic or yellow and necrotic; the remainder is pink in colour and soft in consistency. No left adrenal is recognizable.

Secondary deposits are present in both lungs; they are mainly small, and measure up to 2.5 cm. in diameter (the left lung

has six secondary deposits, the right has eight). The liver is enormously enlarged to 8,010 g. by secondary deposits up to 7 cm. in diameter, most of which show extensive yellow foci of necrosis. An isolated secondary deposit is present in the twelfth thoracic body, and the first and second lumbar bodies are diffusely infiltrated by tumour. The breasts are readily separated from the surrounding tissues, and the left, without nipple, weighs 28 g.; section shows it to consist of firm fibrous tissue. The prostate is normal in size and appearance. The testes are not significantly reduced in size; they measure 4 by 2.5 by 2 cm. (with epididymis) and together weigh 28 g. The cut surfaces are brownish and atrophic.

The following organs show no obvious abnormalities: thyroid, pituitary, right adrenal, spleen (240 g.), brain (1,310 g.), heart (208 g.), and right kidney.

Histology.—This confirms the adrenal origin and carcinomatous nature of the tumour. Differentiation varies a great deal and nuclear irregularities are frequent, but even in the secondary deposits resemblances to adrenal cortical cells in nucleus and the lipid content of the cytoplasm are retained to a varying degree. Necrosis is everywhere a prominent feature, and in the sections studied half the tumour is necrotic. Whilst a fair degree of resemblance to adrenal cortical cells is present the picture nowhere approximates to that of the adrenal cortex or of a well-differentiated cortical adenoma, and in particular the normal relationship of cortical cells to sinusoids is nowhere evident. *Testes* show early atrophic changes with marked fibrous thickening of the walls of the tubules, diminution of the cellular content, and an increase of wear-and-tear pigment in the interstitial cells. *Breasts* show dilated ducts containing protein material and cells, and abundant glandular tissue, producing a picture not unlike that of a female breast.

Comment

Acquired feminism due to carcinoma of the adrenal cortex causes a well-defined syndrome of gynecomastia, abdominal tumour, atrophy of the external genitalia, and loss of libido and potency. The condition is rapidly fatal, especially in the younger patients. Biochemically there are a moderate excess of urinary androgens and a gross excess of oestrogens. A most striking feature is the invariable presence of a palpable abdominal tumour.

The possibility that feminism might be due to hyperplasia of the adrenal cortex has been suggested by Broster and Vines (1933), who have clearly shown that virilism can be due to hyperplasia of the adrenal cortex as well as to carcinoma or adenoma. They consider that, similarly, feminism may be due to hyperplasia of the adrenal cortex. Roholm and Tellum (1942) also discuss this possibility.

In our clinic we are investigating cases of hypogonadism, with or without gynecomastia, and are considering hyperplasia of the adrenals as a possible aetiological agent.

Summary

The condition of feminism is defined and discussed.

The eight reported cases due to carcinoma of the adrenal cortex are analysed in detail.

A clinical report and necropsy findings of a case of feminism due to carcinoma of the left adrenal are described.

Our thanks are due to Dr. J. G. Thomson, of the Department of Pathology, for the report on the necropsy and the histological findings, to Dr. Freda K. Herbert for the 17-ketosteroid investigation, and to Dr. S. Whately Davidson for the radiological reports.

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IDIOSYNCRASY TO *d*-TUBOCURARINI CHLORIDE

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Since first introducing pure *d*-tubocurarine chloride as an aid to anaesthesia it has been clear to us that patients show a marked variability in their reactions to average clinical doses of this substance. The following factors are known to influence the individual response.

Age.—As with most drugs, the administration of *d*-tubocurarine chloride must be made with caution in the extremes of age. Children up to the age of puberty tolerate the drug well provided that a dose-for-weight ratio (2 mg. per stone (6.35 kg. body weight) is used. The aged, on the other hand, show varying susceptibility, and some patients past the allotted span have required as much *d*-tubocurarine chloride as their less brethren in the prime of life.

Body Weight.—In so far as it bears a relation to muscle mass—e.g., in children—this is a useful guide to dosage, but in adults a maximum initial dose of 15 mg. should not be exceeded. It is, however, a general rule for the muscular well-developed patient to tolerate *d*-tubocurarine chloride well.

Physical Condition.—The dosage must be modified considerably in cachectic and feeble patients.

Drug Tolerance.—There is clinical evidence to show that patients who show a natural or acquired tolerance to the opium and barbiturates tend to require a larger dose of *d*-tubocurarine chloride than normal.

Some authorities would modify the dose in the presence of certain anaesthetic agents, either in particular. In our opinion it is preferable to reduce the amount of the toxic anaesthetic agent.

These, then, are the salient factors upon which the initial dosage of this drug is computed, but they do not account for all the variations. Minor variations in reaction on either side of normal are often seen, and the following two cases demonstrate very clearly that this variability may be of serious degree and consequence.

Case 1

The patient, a man aged 40, was admitted to hospital with an obstructive lesion of his main bronchus. He was losing weight and had a cough with repeated haemoptysis. Five days before the present examination a bronchoscopy had been performed under local analgesia, but it was decided to repeat the examination and carry out a biopsy. The following sequence of events took place.

1 p.m.—Anaesthesia was induced with *d*-tubocurarine chloride, 15 mg., and thiopentone, 0.5 g., and respiratory arrest ensued. The lungs were inflated with oxygen, and bronchoscopy was performed. On bronchoscopy the picture was that of an inoperable carcinoma of the bronchus. Owing to the non-return of respiration the surgeon was asked not to take a biopsy. The examination was speedy and at no time was the patient deeply cyanosed, oxygen being insufflated through a side tube of the bronchoscope and artificial respiration performed whenever he went a little "off colour." At the end of the examination there was no sign of any respiratory arrest; the patient appeared to be more than usually relaxed and comfortable. An airway was introduced, a facepiece applied, and artificial respiration maintained by manual compression of the rubbering bag of a closed-circuit anaesthetic machine.

After 30 Minutes.—"Prostigmin," 5 mg., and atropine, 1 mg. (1.3 mg.), were given intravenously. No effect was observed. The patient continued in apnoea.

After 60 Minutes.—The dose of prostigmin and atropine was repeated. Following this a little diaphragmatic respiration became evident. Within ten minutes, however, these slight respiratory efforts had ceased.

After 105 Minutes.—A further dose of prostigmin and atropine was administered with a very similar response, the respiration being temporarily stimulated but fading off after ten minutes.

After 165 Minutes.—The dose of prostigmin and atropine was repeated, and this time the slight diaphragmatic response was maintained. The general condition of the patient had remained excellent throughout, and the pulse and blood pressure were normal.

After 180 Minutes.—The patient was in good condition and was showing evidence of continued diaphragmatic respiration.

After 195 Minutes.—Blood-stained fluid was regurgitated from the stomach and some entered the air passages. Bronchoscopy was carried out without delay and as much fluid as possible was aspirated from the bronchial tree. The patient's blood pressure was 150/75 and his pulse rate 90 a minute, but from this time his condition began to deteriorate and for the first time cyanosis became a feature of the case, tending to increase despite vigorous artificial respiration with oxygen.

After 270 Minutes.—The pulse was of poor volume and the blood pressure had fallen. Ephedrine, 1½ gr. (0.1 g.), was administered intravenously and slight improvement followed. The respiratory function was now practically in abeyance.

After 285 Minutes.—Nikethamide, 4 ml., was given intravenously, with a resultant transient improvement in the general condition. But circulatory failure was supervening.

After 300 Minutes.—The cyanosis had increased and the patient was now grey. Nikethamide, 4 ml., was repeated.

After 311 Minutes.—The pulse was imperceptible, and despite all efforts the patient died at 6.14 p.m., 314 minutes after the induction of anaesthesia.

Necropsy.—A very extensive carcinoma of the left main bronchus was found, and this rendered the whole of the left lung practically functionless. The right lung showed evidence of the aspiration of a large amount of blood-stained fluid which had undoubtedly reduced the aerating surface of this sole remaining lung below the minimum required for sustaining life. The stomach and intestines showed numerous small and recent punctate haemorrhages. These were not evident in the duodenum or in the large bowel. It was the blood from these which had been regurgitated from the stomach. Nothing else was found. There was no evidence of a persistent or enlarged thymus.

Remarks

This most severe case of hypersensitivity to *d*-tubocurarine chloride might not have been fatal had the possibility of regurgitation been anticipated and suitable precautions taken on the institution of artificial respiration. Before this accident the patient was apparently recovering and a fair degree of diaphragmatic respiration had returned. The necropsy was performed within three hours of death, and the haemorrhages of the gastro-intestinal tract were clearly of recent origin. The condition of the intestines bore a close resemblance to that discussed by Cole (1946) in his experiments performed on dogs to find a lethal dose of *d*-tubocurarine chloride. There was no suspicion or evidence of any myasthenic element in this case.

In view of this misfortune it was decided to give all patients a trial dose, namely, one-third of that estimated as necessary for the induction. That this was a wise precaution is amply confirmed by the sequence of events in Case 2.

Case 2

A woman aged 40 was found to be suffering from pulmonary tuberculosis in May, 1943. At no time had she complained of any symptom or shown any sign of myasthenia gravis, but she stated before operation that she had always reacted badly to drugs, especially to analgesics and opiates. Apart from the tuberculous disease of the right lung her condition was good and her blood picture normal. She was presented for a first-

stage thoracoplasty on the right side. After premedication with morphine, 1/6 gr. (11 mg.), and atropine, 1/150 gr. (0.43 mg.), one hour previously, *d*-tubocurarine chloride, 6 mg., was administered.

After 1 Minute.—The patient had become completely curarized and all respiration had ceased. A pharyngeal airway was introduced and the facepiece of a closed-circuit anaesthetic machine applied. The lungs were inflated with oxygen.

After 2 Minutes.—Thiopentone, 0.3 g., was injected and the patient was placed in the thoracoplasty position. The operation was started and the anaesthesia was maintained with a 50% mixture of oxygen and nitrous oxide.

After 45 Minutes.—Her respiratory efforts returned and the diaphragmatic contractions gradually increased in amplitude. The anaesthesia was perfectly satisfactory throughout the procedure, but there was more than the usual amount of haemorrhage.

After 130 Minutes.—The operation was completed. The respiratory excursion was now much improved, but it was still inadequate. Prostigmin, 5 mg., and atropine, 1/50 gr. (1.3 mg.), were administered intravenously. This produced an immediate effect. All the reflexes were present when the patient left the table and she was fully conscious and co-operative ten minutes after arriving in the ward.

Further Progress.—The patient developed some basal consolidation accompanied by rusty sputum, but this cleared quickly and her convalescence was otherwise uneventful. On inquiry she stated that after the injection of *d*-tubocurarine chloride she felt "like a fish out of water"—as if she could not breathe. She could just remember the beginning of the injection of thiopentone.

Four weeks later she was presented for her second stage. The premedication was as before, and it was decided to follow the same regime as on the previous occasion in order to confirm the hypersensitivity. A test dose of 5 mg. of *d*-tubocurarine chloride was administered. The following sequence of events took place.

After 1 Minute.—There was complete ptosis of the eyelids and she was quite unable to raise them.

After 1 Minute 5 Seconds.—Her respirations were gasping and her pulse rate 130 a minute. She was showing signs of distress, and 0.3 g. of thiopentone was injected, the facepiece applied, and artificial respiration begun.

After 3 Minutes.—The facepiece was now accurately in position and the administration of a mixture of nitrous oxide and oxygen (25%) was started.

After 5 Minutes.—Manual full inflation of the lungs was met by a slight resistance at the end of the "stroke."

After 9½ Minutes.—There was some diaphragmatic flutter with slight arm movements; 0.2 g. of thiopentone was administered.

After 14 Minutes.—The respirations were regular but the tidal volume was small. The pulse rate was 80 a minute.

After 25 Minutes.—The respirations were still regular but small in volume and tending to be grunting. Pulse rate, 80 a minute.

After 43 Minutes.—The operation was terminating. Prostigmin, 3.5 mg., and atropine, 1/50 gr. (1.3 mg.), were administered. An immediate effect was observed.

After 45 Minutes.—The patient was coughing and groaning. All her reflexes were present and she was practically conscious on return to bed. This time the post-operative course was uneventful. There was no urinary disturbance or melaena.

This patient had a third-stage thoracoplasty two weeks later. The dose of *d*-tubocurarine chloride was reduced to 2 mg., which again produced complete ptosis and respiratory arrest, which this time lasted for five minutes.

Remarks

The hypersensitivity to *d*-tubocurarine chloride shown by this patient on the occasion of her first operation was confirmed and placed beyond all possibility of reasonable doubt at the second and third operations. The difference between the dosage (1 mg.) accounted for the slightly less

severe reaction on the second occasion. It is interesting to speculate what would have happened if a preliminary small dose had not been administered.

Neither of these cases gave any history or symptom suggestive of myasthenia gravis, and the second has since been examined most carefully without disclosing any sign of this disease.

Discussion

For reasons which have been repeatedly stressed (Gray, 1947) we consider that *d*-tubocurarine chloride should be given before the induction of anaesthesia, and these two cases further urge the importance of this observation. But it is clear that the primary administration of this drug, whether at induction or during the course of an operation, should always be preceded by a trial dose not exceeding 5 mg. for the healthy adult. Its effects should be observed for at least two minutes before proceeding with the further administration. In the conscious patient a "normal" reaction to the trial dose is evidenced by a sensation of lassitude and fatigue and difficulty in keeping the eyes open; very rarely there may be a slight and transient diplopia.

Any ptosis that occurs should still be under voluntary control. If it is not, or if there are other signs of a more than usually severe reaction—e.g., persistent diplopia, dysarthria, or dysphagia—any subsequent dose should be reduced significantly. It does not need to be emphasized that if there is respiratory embarrassment after this small dose (Case ?) further administration should be abandoned.

Summary

The factors controlling the dosage of *d*-tubocurarine chloride are reviewed and two cases of extreme hypersensitivity are described; the advisability of the preliminary administration of a trial dose is stressed.

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Medical Memoranda

Perforation of the Posterior Fornix and Pouch of Douglas during Coitus

The following case is presented because of the rarity of this type of injury.

CASE HISTORY

The patient, a woman aged 57, had had eight children, the eldest being 37 and the youngest 15. She had travelled to the hospital by bus, and was seen at the receiving room. The history was that whilst having intercourse about one hour previously she experienced a sharp pain in the vagina and had since been bleeding slightly per vaginam. At the same time she felt a dull ache in the lower abdomen and this had persisted. Since the birth of her last child she had not menstruated. Intercourse had last been indulged in about twelve months previously.

On inspection the patient was pale and apprehensive but was not shocked. The pulse was 86, temperature 97.4° F. (36.3° C.), respirations 18, and blood pressure 110/80. The lower abdomen was resistant but not rigid. There was some tenderness over the hypogastrium. Vaginal examination revealed that there was a transverse tear in the posterior fornix about 1½ in. (3.75 cm.) in length, and a loop of intestine was felt to be lying in the wound. There was a trickle of blood from the vagina. She was placed in the left lateral position and a Sims speculum inserted. The vault of the vagina was examined, and a loop of small intestine was seen to be prolapsed through the tear.

During the examination the patient suddenly collapsed. She became grey, the pulse was almost imperceptible, and the blood pressure fell to 0. The examination was discontinued, and within a few minutes she recovered and the blood pressure rose to its former level.

In view of the unusual type of injury and the possibility of it having been caused by an instrument of some sort, exploratory laparotomy was performed, the abdomen being opened by a midline incision. About 3 to 4 oz. (85 to 114 ml.) of blood was found in the pouch of Douglas, but there was no bleeding-point. The intestines were undamaged. The tear in the pouch of Douglas was not visible but was easily found with the finger. The uterus was small and anteverted, and both ovaries were healthy. They were not unduly atrophic.

The blood was mopped up and a drainage-tube inserted through the rent in the pouch of Douglas into the vagina. It was secured to the posterior wall of the uterus by one stitch of No. 0 catgut. The abdomen was then closed in the usual manner. A prophylactic course of penicillin and sulphonamide therapy was started after operation, and apart from a slight "spike" on the second night the patient remained afebrile. Nothing drained from the drainage-tube, which was removed on the third day. Vaginal examination on the 18th day revealed a transverse scar in the posterior fornix. Cerebral sepsis was complicated by a stitch abscess, and the patient was discharged from hospital on the 23rd day.

A few days after operation she gave further details of the mishap. Her partner was not her husband but a man aged 30. She insisted that normal coitus had taken place in the dorsal decubitus position, and that no bizarre or unusual practices had been indulged in. She stated that her partner had been very excited, and she thought he had used too much force.

DISCUSSION

Minor injuries of the vaginal introitus due to defloration are not uncommon, and these occasionally require medical attention. More serious injuries of the vagina are rare, and Neugebauer in 1899 collected from the world literature 15 cases of injuries to the vagina sustained during coitus. Thirty-eight of these showed a posterior fornix injury. Since then four more cases of injury to the posterior fornix have been reported.

Of these 42 cases only four had the pouch of Douglas opened, and only one of these four had a prolapsed loop of intestine. Three of the four cases occurred in rape: children, two being 8 years old and one 15 years old. All three patients died—two being murdered, and one dying of generalized peritonitis. The fourth case, reported by Fischer (1928), occurred in a woman of 26 who had had both ovaries removed for inflammatory disease some years previously. The patient recovered after laparotomy. The common factor in all the cases was a thin vaginal wall, due either to post-menopausal atrophy or to pre-pubertal immaturity.

The condition probably never occurs in a normal woman in child-bearing years, and should such a patient show a rupture of the pouch of Douglas one should bear in mind the probability of an instrumental injury due either to an attempt to procure abortion or to unusual sexual practices.

My thanks are due to Mr. Lewis Graham for his helpful advice in the management of this case, and to Dr. H. Notholds and Mr. Alistair Gunn for permission to publish the case history.

S. LASK, M.B., Ch.B.

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A Century of Public Health is the title of a small brochure which is being circulated abroad by the organizers of the Public Health and Municipal Engineering Congress and Exhibition which will be held at Olympia, London, from Nov. 15 to 20. The brochure traces progress from Edwin Chadwick and the first Public Health Act in 1848 to the present time. It attributes the substantial progress made first to the awakening of the social conscience and political instincts of the nation, and then to the advancement of science and the native skill and ingenuity in engineering. "If many years now," the writer states, "behind the public engineering there has been the forceful backing of engineers and inventors eager to direct their knowledge, skill, and resources to the betterment of the public health and municipal engineering of the world. Nowhere else in the world was the ground more fruitful for development; here was a highly industrialized country well on the van of progress in civil, mechanical, and electrical engineering well equipped to adapt itself to the needs of the crowd of industries which industry itself was creating." It is ten years since the Public Health Congress and Exhibition were held in Berlin, and the industries which exist largely for the public health and municipal engineering services will have many new developments to show.

Reviews

TUMOURS

Pathology of Tumours. By R. A. Willis, D.Sc., M.D., F.R.C.P. (Pp. 992; 500 illustrations. £3 3s., postage 1s. 6d. extra.) London: Butterworth and Co., Ltd. 1948.

This new book—indeed a *magnum opus*—will be welcomed not only by pathologists, to whom it will prove an indispensable aid beside the microscope, but as a work of reference by clinicians and all who are interested in tumours. In scope and format the volume superficially resembles the well-known *Neoplastic Diseases* of Ewing, which, however, was last edited in 1940; its author is now dead and the time is ripe for a fresh work on the subject. Professor Willis's book is the outcome of many years of study, formerly and mainly at Melbourne and more recently at the Royal College of Surgeons. Those familiar with his earlier work on *The Spread of Tumours in the Human Body* (1934), and remembering his balanced grasp and comprehensive knowledge of tumours and their habits, will know what to expect here.

The earlier part of the book, comprising about one-fifth, is on the general features of tumours and includes a survey of their statistical study and an up-to-date account of experimental carcinogenesis. In the rest the author discusses the regional aspects of the subject. He is lucid, unequivocal, and often challenging; he treats controversial topics with a refreshing dogmatism tempered with honesty and scepticism and richly illustrated from his own experience. Many will disagree with his opinion on some subjects—for example, the position of the angiosarcomas in the hierarchy of neoplasms, and his including Hodgkin's disease among the tumours of lymphoid tissue. But whether this condition is, as Willis insists, a form of sarcoma or whether it is, as more would agree, a granuloma cannot at present be decided. Willis regards all tumours of the lymphoid tissue as related variants of one disease—a simplification of the reticulates that further study alone will justify or refute.

A novel and welcome feature of the book is the inclusion in each section of a paragraph or two on the incidence of the tumour under discussion in animals other than man; it is evident that the author has ranged widely outside human pathology. There is a bibliography at the end of each chapter with guiding notes to the more important or more useful papers listed. Excellent photomicrographs profusely illustrate the text, and every pathologist will be grateful for the author's concentration upon the less familiar types and their variations at the expense of those commonly depicted in current textbooks.

There can be little doubt that this volume will be most useful and popular. In future editions Professor Willis might consider the advisability of gathering together information on the glomus and carotid-body tumours in the light of recent work on these structures. We hope that some sections will be enlarged—for example, that on carcinoma of the suprarenal cortex.

DOROTHY S. RUSSELL.

MEDICAL SCIENCE

The Background of Therapeutics. By J. Harold Burn, M.D., F.R.S., Oxford Medical Publications. (Pp. 367; illustrated. 22s. 6d.) London: Geoffrey Cumberlege (Oxford University Press), 1948.

Therapeutics has made great advances in recent years and the therapeutic nihilism of 50 years ago is little more than a memory. The subject matter of pharmacology includes much of the work on which these advances depend, although it has not all been done by pharmacologists. If pharmacological teaching is to be a really live force it must describe not only the results of the work that has been done but also the methods by which these results were obtained. Some writers have tended to present the subject as a collection of facts with scarcely more logical connexion than the facts of anatomy. The new book by Professor J. H. Burn is a welcome contrast to this dull but practical type of book. He has written it for those engaged in teaching clinical medicine, and he takes them straight to the frontiers of knowledge.

The subjects chosen for discussion are the recent advances in physiology, pharmacology, biochemistry, and clinical science which have had most effect on therapeutics, but the excellence of the book depends not so much on the subjects reviewed as on the stimulating way in which they are presented. Professor Burn describes experimental facts in detail and encourages the reader to think out their significance for himself; he provides the clues, but in many cases the solution of the mystery is still unknown. In the first chapter he discusses various unorthodox systems of medicine and the reasons for their success. In later chapters he considers the antidiuretic hormone, thiouracil, antihistamine substances, malaria, sulphonamides, salicylates, folic acid, iron, calcium, oedema, digitalis, theories of anaesthesia, diabetes, and many other things besides. There is a useful summary of recent work on acetylcholine and its relation to myasthenia. The last chapter is called "Statistics Explained," and the list of contents encourages the hope that this is achieved in three pages: actually the chapter occupies nearly a dozen pages. Professor Burn presents all these subjects in a way that will surely provoke thought, stimulate discussion, and lead on to new knowledge.

In the preface he says that when he visited America in 1942 and 1943 he was strongly impressed by the great interest that physicians show in laboratory and clinical research. He believes that this interest has been fostered by the growth of professorial units staffed by clinical workers who spend a substantial part of their time in laboratories, where they learn that the discovery of new facts is not only something which they themselves can do but is also very well worth doing. "The great need in clinical medicine to-day is of young people trained for at least two, and preferably for five, years in the laboratory." Professor Burn has done more than anyone else in Britain to train young medical research workers in the inspiring atmosphere of an active laboratory. His new book will extend his influence over wider circles.

J. H. GADDUM.

RETROPUBIC SURGERY

Retropubic Urinary Surgery. By Terence Millin, M.Ch., F.R.C.S., F.R.C.S.I. (Pp. 203; 163 figures. 25s.) Edinburgh: E. and S. Livingstone, 1947.

The author does not confine himself to discussing only prostatectomy but gives an account of the retropubic route as a means of approach for other operations in urological surgery such as the repair of traumatic rupture of the posterior urethra, the relief of stress incontinence in women, and occasionally the opening of a prostatic abscess. But the main interest of this book lies in Mr. Millin's method of prostatectomy. A reviewer must consider and answer two questions—first on the author's success or failure in clearly expounding his methods, and secondly on the value of the methods themselves. The first is much easier to answer than the second. Mr. Millin gives an excellent account in clear English—and clear English is not a characteristic of surgical textbooks—of his operative technique, and with the help of the numerous and clear illustrations no reader should have any difficulty in understanding his methods. Indeed, the whole production of the book is far above the average and the publishers are to be congratulated on producing such a handsome volume in these times of economic stress.

Too little time has elapsed to allow of any final verdict on the value of retropubic prostatectomy. Mr. Millin is right in saying that no surgeon can remain content with the older operation, which infringed several of the accepted principles of surgery. There can be no doubt that in his hands, and assisted by his well-trained team, the retropubic method has given good results, but it remains to be seen whether a wider use of it for a longer time will lead to a lowering of the mortality of prostatic surgery. Both transurethral resection and the operation advocated by Harris have been hailed in the past as the methods *par excellence* of dealing with prostatic obstruction, but some of those who formerly spoke of them with the greatest enthusiasm have now learnt that both techniques have their limitations. It may well be that retropubic prostatectomy is destined to survive as the method of choice, but time alone can tell. More and more surgeons are undoubtedly adopting this technique.

KENNETH WALKER.

MALNUTRITION OF NERVOUS SYSTEM

Nutritional Disorders of the Nervous System. By John D. Spillane, B.Sc., M.D., M.R.C.P. Foreword by George Riddoch, M.D., F.R.C.P. (Pp. 280; illustrated. 20s.) Edinburgh: E. and S. Livingstone. 1947.

The study of the effects of malnutrition of the nervous system during the recent war has shown how complex the problem is and how much we have still to learn. The time was therefore appropriate for a balanced survey of the present state of our knowledge, and Dr. Spillane has provided one. He describes first the vitamins of the B group and then such well-recognized syndromes as pellagra, beriberi, polyneuritis, Wernicke's encephalopathy, encephalopathy caused by nicotinic-acid deficiency, and subacute combined degeneration of the spinal cord. He next discusses the mixed and complex clinical pictures presented by cases of nutritional neuropathy in warm climates and in wartime, and finally gives an account of his personal experiences among German and Italian prisoners of war and Polish refugees.

The result is a book full of interesting clinical data interspersed with valuable critical reviews of the pathogenesis of the various syndromes, but the method of presentation imposes work on the reader, who has himself to correlate the discussions of the same topic which appear in the different sections. Dr. Spillane has often wisely avoided dogmatism. His book will therefore appeal more to the critical student than to the reader who demands a predigested diet, but perhaps a little mental roughage is not a bad thing.

W. RUSSELL BRAIN.

SENSORY DISCRIMINATION

Anatomical Pattern as the Essential Basis of Sensory Discrimination. By Prof. W. E. Le Gros Clark, F.R.S., F.R.C.S. Forty-ninth Robert Boyle Lecture, May 29, 1947. (Pp. 16. 1s.) Oxford: Blackwell Scientific Publications. 1947.

In his Robert Boyle Lecture Prof. Le Gros Clark interprets afresh the anatomical basis of sensory discrimination in the light of knowledge derived in recent years from studying the anatomical patterns of sensory systems. Though brief, it is valuable as a very clear and concise review of a subject to which Prof. Le Gros Clark has himself contributed so significantly. He reminds us that certain predictions can be made about the probable anatomical basis for sensory discrimination from the fact that only one kind of impulse can be transmitted along a nerve fibre. The relevant discoveries support these predictions—namely, (1) that the sensory receptors provide a system of peripheral analysers whereby the various stimuli within a sensory modality are sorted out in the first instance; (2) that the nerve impulses generated by receptors within each modality become segregated on their way to the higher functional levels of the nervous system; and (3) that they are eventually projected on to centres that are organized in spatial patterns. The precise and definite topographical relations exhibited by the intrinsic elements in these cortical centres must form ultimately the structural basis for sensory discrimination. Prof. Le Gros Clark reviews each sensory system in turn, with special emphasis on the visual mechanisms. His attempt to relate the six-layered type of geniculate body to the trichromatic theory of colour vision is briefly referred to. He considers that the intricate sensory plexuses in which the afferent fibres become appropriately segregated are essential prerequisites for sensory discrimination, and he concludes by discussing the problem presented by their morphogenesis.

The interpretation proposed by Prof. Le Gros Clark raises as many problems as it appears to solve. Sensory discrimination regarded as though it were a separate faculty of the brain would certainly seem to demand a corresponding anatomical "discrimination" as its basis, especially in regard to the peripheral analysers and their centripetal pathways. However, discrimination is intimately related to all the other complex activities which are subsumed under the general term perception. So far as an immediate problem is concerned this can be a great advantage, if it could be shown that separate anatomical structures dealt with the various "units" of perception—such as the appreciation of movement, contour, form, and direction of the first synthesis being left to some

higher centre. But in the case of vision, at least, the striate cortex and its afferent paths are themselves capable of the whole range of perceptual organization. Thus the same structural parts in the brain which are to be regarded as the final determinants of sensory discrimination must also be capable of explaining the other aspects of perception. The problem is rendered the more difficult in that many of the latter, such as sense equivalence (an object in the visual field always remains the same object despite incessant changes in visual fixation), seem to require almost the opposite kind of anatomical basis to that which must be presumed essential for sensory discrimination.

PETER BISHOP.

INTRODUCTION TO MEDICAL GENETICS

Genetics in Relation to Clinical Medicine. By F. A. E. Crew, M.D., D.Sc., Ph.D., F.R.S., F.R.C.P.Ed. (Pp. 111. 10s.) Edinburgh and London: Oliver and Boyd. 1947.

The student of human genetics draws on a wide range of biological data derived from animal and plant breeding, experimental embryology, and serological research. He relies on statistical methods to verify his hypotheses to a far greater extent than does the practical breeder of stocks and crops or the investigator doing designed experiments in the greenhouse or laboratory, who can control matings and standardize the conditions of his experiments. The medical student needs both a book to which he can turn for a simple exposition of statistical methods appropriate to the investigation of human material and a lively appreciation of the bearing of modern experimental research in the field of development and heredity on the problems of health and disease. Prof. Crew's book, like those of Frazer Roberts and E. B. Ford, is primarily on results and interpretations. He brings to his task the equipment of a medical training and a distinguished career of research in animal breeding before undertaking new responsibilities as Professor of Social Medicine in the University of Edinburgh.

The book fills a real need, and it is packed with lively information and pertinent examples of a wide range of biological phenomena relevant to medical problems. Prof. Crew's trenchant style as a platform speaker is less adapted to easy reading than to congenial hearing. One of his great merits is very temperate and imaginative appreciation of the complexity of the relations between nature and nurture as they affect the interpretation of medical problems—a quality all the more praiseworthy because it is only too rare among those who have devoted much of their time to the simpler problems of animal and plant breeding.

The book incorporates much recent work in the rapidly widening field of human genetics, including for instance a concise and lucid account of Prof. Fisher's theory of the inheritance of the rhesus antigens, and it is a useful work of reference—though an index would enhance its value. The rapidity of the advance of human genetics depends however on the keen observation and acumen of the general practitioner with the ready co-operation of the specialist in genetics, and too much emphasis cannot be given to Prof. Crew's plea on p. 83: "What are needed more than anything else for the speedy advancement of our knowledge of human genetics in its relation to clinical medicine are (1) the country-wide systematic preparation of pedigrees by genetically informed and interested medical practitioners, and (2) a storehouse where these can be received, pooled, and interpreted."

J. A. H. WATSON.

DEAF CHILDREN

Opportunity and the Deaf Child. By Irene R. Ewing, O.P.F., M.Sc., and Alex W. G. Ewing, Ph.D., M.A. With an appendix by Molly Sefton. (Pp. 252. 9s. 6d.) London: University of London Press, Ltd.

A child unable to understand what is said to it because of defective hearing suffers a handicap that is as misleading as it is serious—misleading because of the ease and frequency with which the real nature of the handicap is overlooked, because at an age when mental development should be continuing a process as physical development the principal element of communication is denied the deafened child. From their wide and unique experience the Ewings have written a book

andbook in response to numerous requests from doctors, parents, and teachers of deaf children. It should be read by all interested in the welfare of deaf or hard-of-hearing children. Its value is further enhanced by an account by Molly Sefton of how the world appears to a deaf child, and the full and fascinating story she tells of her education is a great tribute to her teacher, Mrs. Ewing.

Starting with a general survey of the education of the young deaf child and the methods of testing hearing in young children, the Ewings describe their experience with a clinic for young deaf children and their views on the development of speech in both normal and hard-of-hearing children. They compare the normal and deaf child and give a guide to the training of the deaf child in its earliest years. They discuss the problem of the hard-of-hearing as opposed to the deaf child and consider the value of hearing-aids. They then discuss deaf children who suffer from additional handicaps, and fully describe the schools that specialize in the education of these children. They stress the usefulness of lip-reading and the dual importance of getting speech into as well as out of the deaf child.

In this small handbook of 250 pages the Ewings have included a full and practical account of all the problems that confront the parent, teacher, and doctor who may be faced with the upbringing of a deaf child. It is a striking testimony to a lifetime's study, and it is likely to become a standard work for all who are interested in deaf or hard-of-hearing children.

TERENCE CAWTHORNE.

PAIN IN THE BACK

Chronic Structural Low Backache due to Low-Back Structural Derangement. By R. A. Roberts, M.B., Ch.B., D.M.R.E. (Pp. 105; 137 illustrations on 46 plates. 45s.) London: H. K. Lewis and Co. 1947.

This book is a valuable contribution to the study of a common but little understood complaint the sufferers from which have too often been labelled as neurotic or even malingers, especially in the Services. In the greater part of the book the author describes cases of low-back pain in which careful radiographical study has revealed lesions of the "pars interarticularis" of a lumbar vertebra. The author believes that the lesion, which may in some cases be congenital, is more often the result of strain leading to bone absorption like that seen in cases of "march fracture," reossification sometimes but not invariably following. A striking feature in many of the cases described is the association of visceral disorders, haemorrhoids, dysuria, albuminuria, haematuria, and even symptoms attributed to colitis, appendicitis, or cholecystitis which failed to yield to the usual medical or even surgical measures. Often the sufferer was referred to the psychiatrist and a diagnosis of anxiety state arrived at, even in men of fine type. The detailed account of these cases and of the various diagnoses, which led often to discharge from the Service with the stigma "neurotic," leaves the reader with an uncomfortable feeling of having been similarly in error. The author wisely emphasizes that a careful inquiry into the history of the cases is essential and may result in fewer being referred to the psychiatrist. He amply illustrates the desirability of examining the spine radiographically in doubtful abdominal cases and makes clear the risk of manipulation in treating chronic backache.

The second part of the book is on the study of neurovascular and visceral symptoms. The author suggests that oedema of soft tissues as a result of strain is a cause of pain and the precursor of nodule formation and adhesions in fibrositis. This idea calls to mind the striking results sometimes obtained from simple acupuncture as described by Sir James Simpson, a method now generally abandoned but which may have the same effect in relieving tension in inflamed structures as procaine injections or more elaborate measures. The book is illustrated by admirable reproductions of radiographs, and explanatory diagrams assist in their study. We cordially recommend it to general practitioners as well as to specialists in orthopaedics and rheumatic disorders, for even though the author's conclusions may not meet with universal acceptance they cannot fail to prompt the reader to further study and investigation.

C. W. BUCKLEY.

THE DIFFICULT CHILD

The Doctor and the Difficult Child. By William Moodie, M.D., F.R.C.P., D.P.M. Second edition. (Pp. 231. 52 or 11s. 6d.) New York: The Commonwealth Fund. London: Geoffrey Cumberlege (Oxford University Press). 1947.

The appearance of the second edition of this book is welcome, for it is one of the most sensible and informative that have been written on the subject. The occurrence of the second world war may have led some people to expect far-reaching changes in the book, since it might have been thought that the problems of child development would have greatly altered. Yet in spite of the bombing and evacuation, of family disruption and interference with education, the essential pattern remains the same. The stable child seems to take everything in his stride and adjusts himself without difficulty to abnormal conditions, whether these be sleeping in shelters or removal from the town to the country. To the unstable child similar experiences may be devastating, and he reacts to them by enuresis, sleeplessness, nightmares, or even by lying and stealing, as he has always done in response to difficulties. Bombing would seem to have been the least disturbing of wartime influences and interruption of education the worst, though the broken homes resulting—first from the departure of the father and secondly, too often, from his return—have made life more difficult for the child.

The author has added a new chapter on play therapy showing how important and fruitful this method may be in experienced hands for the psychological investigation and treatment of young children. A second new chapter is on the full constitution of the child-guidance team in the light of 20 years' experience. For the rest, the book is much as it was. In the first part the author discusses the recognition, diagnosis, and treatment of problem children on general lines, and in the second the various manifestations of mental difficulty in children such as lying and stealing, sex difficulties, speech defects, fits, anxiety, nightmares, and enuresis. As is usual with Commonwealth Fund publications the book is admirably produced, and all dealing with children should take advantage of this exposition of Dr. Moodie's experience and clarity of mind.

R. G. GORDON.

SCHIZOPHRENIA: AN AUTOBIOGRAPHY

The Kingdom of the Lost. By J. A. Howard Ogdon. (Pp. 256. 10s. 6d.) London: John Lane, the Bodley Head, Ltd.

The description by a schizophrenic of the experiences he has undergone during the acute phase of his illness is always a matter of great psychiatric interest, and especially so when the patient is a man of ability and learning. To these advantages Mr. Ogdon adds those of very unusual powers of introspection, a clear memory of past experience, and a gift for graphic writing. There can be little doubt that his book will be of interest to the intelligent lay public. To the psychiatrist it is likely to become a classic among self-descriptions.

Mr. Ogdon's illness lasted for about three years, and during this time he had several phases when symptoms were florid, each of which passed off leaving residual disabilities. A striking feature throughout was the development of symbolizations, by which every person, almost every object in his neighbourhood, numbers, colours, letters of the alphabet, and so on, came to have a symbolic meaning with the force of reality. Mental and physical activities were tied down by compulsions and inhibitions associated with these symbolic meanings. His account of the "heroic" phase, in which the patient felt that he controlled the world by his power over its symbols, makes fascinating reading.

Mr. Ogdon believes he is almost unique among schizophrenics in having cured himself without medical aid. Of the reality of the cure there can be little doubt, although the self-conscious psychiatrist is likely here and there to pick on a sequence of thought or a mode of expression that bears a schizophrenic stamp. Nor can there be much doubt that Mr. Ogdon did a very great deal to help himself, though once again those who are not disciples of Yoga or of Baudouin will be unable to follow him all the way in what he says. The main help that

these mental disciplines provided was probably not in halting the progress of the disease, which seems to have undergone a spontaneous remission, but in enabling the patient to rid himself of residual symptoms. Mr. Ogdon's criticisms of the law relating to certification and of the standards of treatment meted out in mental hospitals will be read with sympathy. He may rest assured that, in the second of these, matters are changing very rapidly, and a change in the first is inevitable in the not very distant future.

ELIOT SLATER.

WAR MEDICINE

Inter-Allied Conferences on War Medicine 1942-5. Convened by the Royal Society of Medicine. Hon. Editor: Major-General Sir Henry Lethbridge Tidy, K.B.E., M.D. Assistant Editor: J. M. Browne Kutschbach, M.B., B.Ch., D.P.H. (Pp. 531. 50s.) London: Staples Press. 1947.

Sir Henry Tidy is to be congratulated on his collecting together in this volume various papers read at the Inter-Allied Conferences on War Medicine held between 1942 and 1945. Perhaps to those who served as medical officers—and the book will have little appeal to those who did not—the section entitled "Active Operations" will be the most interesting. The very names, which had at the time few but the most odious associations, have been endowed by the passage of years with a nostalgic attraction. Brigadier Wallace's characteristic account of the battle of El Alamein and the advance through Daba, Fuka, Matruh, Sidi Barrani, Sollum, Bardia, Tobruk, and on to Tripoli; the R.A.M.C. at Arnhem; the personal adventures of medical officers by sea and by land in Europe, Africa, and Asia—it is to these that the ex-Service doctor will turn with a feeling of satisfaction that he had, in however humble a capacity, some share in these experiences.

The papers on organization and professional subjects have an interest that is different, but no less. The control of dysentery and malaria, the studies of infective hepatitis, the organization of the blood-transfusion service, and the treatment of neuro-surgical, vascular, and maxillofacial injuries are all discussed. The lessons learned during 1914-18 were largely buried in the *Medical History of the War*, and in 1939-45 there was little time or inclination to disinter them from a work of such forbidding magnitude. Many of the lessons were relearned in the wasteful school of experience and are restated in this small—although unduly expensive—compilation.

R. BODLEY SCOTT.

THE APPENDIX

The Appendix. By R. J. McNeill Love, M.S., F.R.C.S., F.A.C.S. (Pp. 186. 54 illustrations. 12s. 6d.) London: H. K. Lewis and Co. 1947.

It is well known that the London Hospital was the home in this country of the expectant treatment of certain cases of acute appendicitis which is appropriately called the Ochsner-Sherren treatment, thus commemorating the "London" surgeon who popularized the method here. Mr. McNeill Love thoroughly considers the pros and cons of the matter, though the method is widely accepted and practiced nowadays. However, he discusses not only acute appendicitis but all appendicular lesions, and although the book is much smaller than many others on the same subject it is one of the best summaries, especially from the practical point of view. The advice given is always wise and of real value to the surgeon, and the sections on differential diagnosis reveal the author's large experience. We found the chapter on chronic appendicitis particularly interesting and concur with the author's critical attitude towards the varied diagnoses of the condition. While not ignoring the help that x-ray examination may afford, he is especially careful not to let it sway his judgment. There can be no doubt that too many persistent appendices are removed as a result of an x-ray diagnosis unconfirmed clinically and that more discrimination would reduce the number of wrong diagnoses. The numerous illustrations are useful and clear. Altogether this is an admirable contribution to the literature of the appendix, not too long, not too short, not certain at all those points.

NORMAN C. LEWIS

BOOKS RECEIVED

(Review is not precluded by notice here of books recently received.)

The Medical Clinics of North America. Chicago Number (Pp. 299. No price.) Philadelphia and London: W. B. Saunders. 1948.

A collection of papers chiefly on endocrinology.

Diseases of the Chest. By R. Coope, M.D., B.Sc., F.R.C.P. 2nd ed. (Pp. 541. 25s.) Edinburgh: E. and S. Livingston. 1948.

An introduction for students and practitioners.

Textbook of Public Health. By W. M. Frazer, O.B.E., M.D., M.Sc., D.P.H., and C. O. Stallybrass, M.D., D.P.H. 12th ed. (Pp. 571. 30s.) Edinburgh: E. and S. Livingstone. 1948.

This well-known textbook has been brought up to date in the light of the recent Health and Insurance Acts.

An Introduction to Physical Methods of Treatment in Psychiatry. By W. Sargant, M.A., M.B., M.R.C.P., D.P.M., and E. Slater, M.A., M.D., F.R.C.P., D.P.M. 2nd ed. (Pp. 215. 10s. 6d.) Edinburgh: E. and S. Livingstone. 1948.

A general account for the clinician.

Liver Injury. (1) Transactions of the 6th Conference, May 1 and 2, 1947, New York. (2) Transactions of the 5th Meeting, September 26-27, 1946, New York. (Pp. 74 (1), and 127 (2). 5s. each.) New York: Josiah Mney, Jr., Foundation. 1947.

A variety of papers on experimental and clinical aspects of liver disease.

Surgical Treatment of the Abdomen. Edited by F. W. Emery, A.B., M.D., F.A.C.S., and P. A. Wade, A.B., M.D., F.A.C.S. (Pp. 1,026. £5 10s.) London: J. B. Lippincott. 1947.

A textbook, with operative details; includes section on anatomy.

New Biology. Edited by M. L. Johnson and M. Abercrombie. (Pp. 159. 1s. 6d.) West Drayton: Penguin Books. 1948.

Includes articles for the layman on statistics, hybrid vigour, and human teeth.

American Medical Research Past and Present. By R. H. Shryver, Ph.D. (Pp. 350. 14s.) London: Geoffrey Cumberlege. 1947.

A history of the growth of medical research in the U.S.A.

Emergency Surgery. By Hamilton Bailey, F.R.C.S., F.A.C.S., F.I.C.S., F.R.S.E. 6th ed. Part 1. (Pp. 180. 21s.) Bristol: John Wright. 1948.

The first of five parts in which the sixth edition of this well-known textbook is being published.

Normal and Abnormal Psychology. By J. E. Nicole, O.B.E., D.P.M. (Pp. 96. 8s. 6d.) London: George Allen and Unwin. 1948.

A concise account of normal and abnormal psychology for students.

Manual of Clinical Therapeutics. By W. C. Cuthbert, M.D. 2nd ed. (Pp. 712. 25s.) Philadelphia and London: W. B. Saunders. 1948.

A concise manual for house-men and practitioners.

Introduction to Medical Science. By G. L. Muller, M.D., D. E. Dawes, R.N., M.A. 2nd ed. (Pp. 580. 20s.) Philadelphia and London: W. B. Saunders. 1948.

An introduction to pathology and medicine for students.

Communicable Diseases for Nurses. By A. G. Brown, M.S., M.D., F.A.C.P., and E. B. Pihant, R.N. 6th ed. (Pp. 20s.) Philadelphia and London: W. B. Saunders. 1947.

A general account for nurses.

Minor Surgery. By F. Christopher, B.S., M.D., F.A.C.S. 4th ed. (Pp. 1,058. 60s.) Philadelphia and London: W. B. Saunders. 1948.

A textbook, with lists of references and many illustrations.

Standard Radiographic Positions. By N. Davis, M.S.R., and U. Leisberg, M.S.R. 2nd ed. (Pp. 223. 2s. 6d.) London: E. & S. Livingstone. 1947.

Many diagrams illustrate the positions.

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THE PLEBISCITE

The Council of the B.M.A. met last week to consider the Minister's statement in Parliament and the answers he gave to questions put to him by the B.M.A. It decided to hold an immediate plebiscite, the terms of which are described elsewhere in this issue. Some members of the profession may argue that another plebiscite is not necessary, and probably all will feel some reluctance at having once more to define their attitude to the National Health Service Acts of 1946 and 1947. It is, however, essential to recognize that the profession is now faced with a new situation, and before the Council can take any further step it is imperative that it should know whether the medical profession considers that the new proposals of the Minister of Health go far enough to meet the overriding objections to the Act which induced such an overwhelming proportion of doctors to disapprove in February of the Act in its present form. The democratic mechanism of the plebiscite may be cumbersome, but those who may hesitate to vote again should remember the heavy burden of work that falls upon those at B.M.A. House who have to conduct this operation. We would therefore urge once more all medical men to return their plebiscite forms and to vote with a full sense of responsibility towards the present situation.

In making up their minds how to vote medical men will ask themselves first whether the Minister's proposals are in fact sufficient to safeguard the essential freedoms of Medicine. They should also take into account the reaction of Parliament and the Press to the temperate and conciliatory observations made by Mr. Bevan in the House of Commons on April 7. If this second plebiscite should provide an adequate majority to justify collective opposition to service under the Act, public opinion will play a large part in determining the result. We must therefore take note of the fact that public opinion, as expressed by those who represent their constituents in Parliament and by responsible daily and weekly newspapers, considers that Mr. Bevan has made a conciliatory move towards a solution of present difficulties. It is recognized that this move has been made as the direct result of the enormous vote of no confidence in the present Act given in the plebiscite earlier this year. The Government had to take this into account and has in consequence modified its policy. Doctors must now ask themselves whether the modifications go far enough to remove their underlying fears of the Act in its unmodified form.

In a leading article in the *Journal* of Dec. 20 last year we stated that "preoccupation with financial and other details, important as they are, for medical men have their

living to make; must not obscure the main issue which the medical profession now has to face." This issue, we suggested, was summed up in the first of the principles enunciated by the Negotiating Committee in 1945. It is well to repeat the words of this:

The medical profession is, in the public interest, opposed to any form of service which leads directly or indirectly to the profession as a whole becoming full-time salaried servants of the State or local authorities.

This was the first and cardinal principle formulated by the Negotiating Committee and accepted by the profession. The Minister's new proposals must be measured against this principle. At the last Special Representative Meeting the Chairman of Council, Dr. H. Guy Dain, discouraged the Representatives from driving themselves "into the undesirable position of establishing a list of priorities in their demands." He begged the meeting "not to enter into a Dutch auction or a bargain sale, but to keep in mind the *maintenance of freedom and independence*." Dr. Dain on the same occasion said: "We doctors want a health service. We want our services to be available to all who need them. We are ready to enter into any discussion directed to making it possible for the medical profession to co-operate with the Government. If the Government can show us other ways, new ways, of preserving our independence, we are willing to listen."

The policy of the B.M.A. has always been clear and never more clearly stated than in these words of its principal spokesman, the Chairman of Council. Its objections are not to the Act as a whole, not to a general medical service for the nation, but to entering a service which in the words of the above principle "leads directly or indirectly to the profession as a whole becoming full-time salaried servants of the State or local authorities."

Doctors must now ask themselves whether the Government's promised Amending Bill directed towards the prevention of the introduction of such a service through Regulations under the present Act does meet the profession's fundamental objection as expressed in the first of the principles of the Negotiating Committee. If we are to be fair we should recognize that Mr. Bevan has agreed to put on the Statute Book what he has hitherto given only as an assurance, and which could not be binding on any future Minister of Health. We may recall, too, that during the Second Reading Debate on the Bill Mr. Key, then Parliamentary Secretary to Mr. Bevan, said that the Government recognized that a full-time salaried service was incompatible with free choice of doctor. Mr. Key then said: "We regard the free choice of doctor by the patients as being the more important principle, and, therefore, we put forward a compromise"—the compromise of payment partly by capitation fee and partly by salary. Mr. Bevan's promised Amending Act must be linked with his abolition of the universal basic salary. In his replies to the B.M.A.'s questions he is, too, prepared to consider the conditions applying to those who would like to opt for a basic salary. We recall that Mr. Willink proposed that the general practitioner should be in contract with the Central Medical Board—a central body which would also appoint the general practitioner wishing to enter the public service,

Since 1945 the position has changed. First of all, the practitioner is now in contract not with the Central Medical Board but with the Local Executive Council. It was then proposed that the Local Executive Council should have the principal voice in selecting a man for a vacancy in the public service on the advice of local doctors. In his replies published last week Mr. Bevan stated that, with certain obvious limitations, the practitioner will have the right to choose his partner or assistant. "Every doctor," Mr. Bevan states, "will be free to practise where he chooses, unless it is one of the areas where the Medical Practices Committee decide no more doctors are needed in the Service. In all cases except the latter 'consent' will be automatic."

Faced with these facts, the general practitioner will have to consider whether he is now offered adequate safeguards against becoming a full-time salaried servant of the State. In the absence of adequate safeguards the majority of general practitioners believe that retention of the custom of buying and selling practices is the only guarantee of freedom. Mr. Bevan continues to refuse to amend those Sections in the Act which abolish the buying and selling of public practices. It is clear that the Government will not give way on this point. The advantages to the doctor of this custom are many and considerable, and have been often discussed in these columns. The principle behind this custom is the safeguard afforded to the practitioner against becoming a full-time salaried servant of the State. General practitioners must now decide whether, with the abolition of this custom, the Minister's new proposals safeguard their essential professional freedom. In coming to a decision on this matter they will reflect that public opinion as expressed by all political parties is not in favour of the buying and selling of public practices in which the practitioner receives his remuneration from State funds. As our correspondence columns have shown, there are some young doctors who, while voting against the Act in its present form, consider that this custom now offers financial obstacles to the young man entering practice. It is important that practitioners should fit all these facts into the general picture in making up their minds on this extremely difficult question.

Mr. Bevan would not agree to the B.M.A.'s suggestion that his scheme for distributing doctors should be postponed for an agreed period in order to determine by experience whether the problem may not, in fact, largely solve itself. Mr. Bevan suggests that the system should be worked for an agreed period and then should be subjected to special review in about two years' time. We understand that the Medical Practices Committee is to draw up a list of areas in which the number of doctors is considered to be sufficient for the population. This will be a difficult task. In the rest of the country the doctor will be free to practise where he likes. The Minister would have been wiser if he had got rid of the objectionable feature of negative direction and substituted for it "positive inducement" to attract men into difficult or undesirable areas; it is true that he has set aside a sum of £400,000 for inducement purposes.

It is Mr. Bevan's refusal to grant the right of appeal to the courts against the decision of the tribunal and the

Minister to remove a doctor from a service open to the whole community. The legal background of this matter is discussed elsewhere in this issue by Dr. A. J. Gosh. While there may be some practical force in Mr. Bevan's arguments for his scheme, and while in practice very few doctors are likely to be affected, his refusal to grant a right of appeal seems to us to infringe a principle fundamental to the law of this country. Any one person should have the right to report a doctor direct to a tribunal composed of three men, two of whom have no legal training or experience to guide them in establishing the facts of a case. In his Andrew Lang Lecture at St. Andrews University on April 4 Lord Macmillan said: "There will soon be a break of the common law left either in England or in Scotland and the Statute-book and the vast volumes of statutory rules and orders will take its place." "No feature," he said, "was more noteworthy in recent social history than the tendency of the legislature to invade increasingly the customary conduct of the citizen's daily life and to regulate by law what was previously left to free choice." On the same day a Resolution was passed at the Annual Meeting of the Bar Council viewing with concern "the formidable growth of administrative and quasi-judicial tribunals" and urging the general council of the Bar "to examine the procedure adopted by such tribunals and make such recommendations as they think fit in regard thereto." Mr. Bevan's machinery may provide that justice will be done, but it is doubtful whether it will make it possible that justice "manifestly be seen to be done."

We have dealt more particularly with those matters which affect general practitioners. Consultants are safeguarded against the introduction of a full-time salaried service by the Minister's promised Amending Act, and in his reply to the first B.M.A. question he states that if any Regulations are made under Section 66 of the Act, which refers to Regulations with respect to the qualifications, remunerations, and conditions of service of officers employed in bodies constituted under the Act, he will exclude from that "any provision for universal whole-time specialist service." His reply to question 6 is that on the appointed day existing hospital staffs will be taken over by the hospital governing boards, and we understand that Boards of Governors will take over the existing staffs of teaching hospitals. Mr. Bevan's reply to the second question is that consultant specialist appointments should in most cases be private. He assumes that existing private pay-bed accommodation "will lie where it is at present"; but he cannot exclude himself or future hospital bodies to future distribution. In his third answer he observes that he has excluded teaching hospitals and that he will be unlikely to exclude a hospital first and then acquire it by purchase. Consultants may have cause to be uneasy about Mr. Bevan's statement on pay-bed accommodation and about his answer to the question relating to the medical committees. It would be more satisfactory if medical committees could elect their representatives on Boards of Governors or Hospital Management Committees. We welcome the assurance from the Minister that medical men will have complete freedom to publish their views on the organization and administration of the Service as well as on clinical matters without any prior consent to do so." As this is something which

fundamental to the essential freedoms of professional life we may hope that the Minister will make this assurance authoritatively secure in the new Amending Act.

When the B.M.A. Council met before the last plebiscite as held it issued a brief statement to every member of the medical profession which ended thus: "It would be lacking in its [the Council's] duty, however, if it did not make abundantly clear to every member of the profession its carefully considered and determined view that the profession should not take service under the Act in its present form." The Council then gave a clear lead to the profession to vote "No." Dr. Dain now (p. 805) states that Mr. Bevan's "concessions present us with a change of situation which makes the new plebiscite necessary." The Council observes that the profession has gained some points and not gained others, and makes this cautiously worded observation: "Bearing in mind that what we have secured falls short of what we sought, the Council's view is that, while progress has been made to that end, the freedoms of the profession are not sufficiently safeguarded." It goes on thus: "Whatever your views, please vote in order that the plebiscite may faithfully represent the views of the profession and guide those whose heavy responsibility it is to act on its behalf."

It is now the duty of every member of the medical profession to weigh the present situation in the balance, and to decide for himself whether the Minister's new proposals give him as an individual, and the profession as a whole, the necessary freedoms without which the individual doctor is unable to practise his profession in an atmosphere of intellectual freedom and in the exercise of full personal responsibility for the care of those persons in the community who seek his indispensable help and advice.

SHORTAGE OF BOOKS

The invention of printing 500 years ago provided the means by which division of the labour of thought could be effected and hence man's knowledge and mastery of his environment rapidly enhanced. Any restriction on the free exchange of opinion must have a harmful effect on the progress of civilized man, and in so far as it affects some communities and not others they will fall behind in what shows no signs of ceasing to be a struggle for existence. It is therefore a matter of concern that doctors and students continue to be hampered in their pursuit of knowledge by the severe shortage of books, and in order to investigate its extent and causes we addressed some questions to publishers, booksellers, and librarians. A report on their replies appears at page 800 of this issue.

The replies reveal that the medical books for which there is most demand are the standard textbooks of clinical and preclinical subjects. According to the evidence of the booksellers and librarians, each of whom was asked to name the 10 books most in demand, we found that those 10 most often chosen comprised 2 textbooks of medicine, 2 of surgery, 2 of pathology, 2 of anatomy, and 2 of applied physiology. This class of books is of fundamental importance to the learning and practice of medicine, yet, as the replies to another question show, these are the books most difficult to obtain.

The replies from the publishers suggested a number of reasons for the lack of books. There seems unfortunately to be no single impediment that could be easily removed, but rather many obstacles interposed between the publisher's desk and the bookseller's shelf leading to delay of publication up to two years—a period, on the average, about two or three times as long as before the war. Lack of paper, binding materials, skilled workers, and machinery are together or variously mentioned as causing the shortage. The export of books abroad—officially encouraged to obtain foreign currency—is also an important cause; one publisher mentions that his exports to the U.S.A. are double those of 1939. There is a great demand abroad for British books, particularly from the Commonwealth and from European libraries ruined in the war. Further, the much greater demand at home aggravates the material scarcity. There are more students receiving all kinds of higher education than ever before, their numbers being increased by young men and women who served in the Forces during the war. Commercial firms are said to be ordering more books. The growing specialization of medicine creates the need for a diversity of works on comparatively limited subjects—a need sharpened by the great scientific advances that were as usual incident to waging war.

The shortage of American books in this country is probably more easily remedied than is commonly known. Books may be imported from the U.S.A. either by authorized importers or by private individuals. The importers have a quota by which their expenditure on these books is limited to the average of what they spent over several years immediately before the war. As the replies from the booksellers and librarians show, the quota is short of the present demand. One reason for this is the increased cost of books, fewer being obtainable for the same permitted expenditure. Private persons, however, are entirely free to import books from the U.S.A. As Lord Chorley said, replying for the Government in the debate on the import of books in the House of Lords on Feb. 18: "Any one can get currency from his bank, give an order to a bookseller in America, and the book will be imported by parcel post. There is no difficulty about it, and many professors and scientists have been importing books in this way."

We may ask why recognized importers should not be allowed to obtain these books in bulk and thereby save the cost of individual packing, postage, and insurance. Presumably the existing arrangements, more costly and troublesome to the individual buyer though they are, save scarce dollars in the long run, but it seems that their efficacy in doing so depends largely on the public's remaining ignorant of them. Far more satisfactory would be to increase the importers' quota to 200% of the pre-war figure, as Lord Balfour of Inchrye suggested in the Lords' debate. Lord Chorley on that occasion said that the President of the Board of Trade was examining the quota system, adding, "And it may well be that as a result there will be some increase in the quota," but he could not hold out the hope that it would be 200%. No report has yet been issued.

To make books easy of access to those who need them has never been more necessary than to-day, and on another

page Mr. Le Fânu records the formation of a medical group within the Library Association. Sir William Osler suggested such a group at the annual meeting of the B.M.A. in 1909, and a similar body called the Medical Library Association in America celebrates its 50th anniversary this year. Though hampered by lack of funds, the medical group is preparing a catalogue of periodicals in medical libraries throughout the British Isles, and has already established a pool for the exchange of duplicates, which the Wellcome Historical Medical Library is administering.

More books and still more books should be produced, yet the restrictions are of such a nature that unless the Government helps to remove them it is unlikely that they can soon be overcome. Official circles do not yet appreciate that the unfettered production of scientific books is vital if this country's intellectual life is to flourish. Foreign currency must, of course, pay for other commodities besides paper, strawboards, cotton, and printing machinery, but many imports in comparison with these are of only trifling significance to the nation's well-being. Men and women should be encouraged through the Labour Exchanges and other means to enter the printing industry. The quota of books importers may obtain from abroad should be increased. Unless the fruits of knowledge are enjoyed when fresh, students will continue to "eram" hurriedly with one eye on the time when their borrowed books must be returned, and the achievements of our scientists, professional men, and technicians will fail to be "on the record" in time.

ACUTE INTUSSUSCEPTION IN CHILDHOOD

A death from intussusception is doubly tragic, for the victim is almost always a fine healthy baby, and the fatal outcome is often the result of an error of judgment. In a most instructive analysis of 100 successive cases which appears elsewhere in this issue Drs. Brenda Morrison and Donald Court show some of the ways by which such tragedies may be avoided. Early diagnosis is of course the most important single factor in saving life. In some cases failure in this may be due to the fact that the diagnosis did not cross the mind of the practitioner who was called in to an ill baby. In others, however, the delay in getting the child into hospital can be more justifiably ascribed to the difference between the presenting signs in actual life and that classic picture reproduced in textbook after textbook with a fidelity that arouses suspicion.

The differences from the classic description seen in this series are many and important. Vomiting was an early and constant symptom, occurring in 90% of cases; blood from the rectum (the crucial diagnostic point of the textbook) appeared during the critical first day in little more than half of them, and was altogether absent in a quarter. The main point for the family doctor is that sudden abdominal pain in a previously healthy baby justifies its immediate and urgent admission to hospital, where it can be investigated, closely watched, and, if necessary, operated upon by those with special experience. A dangerous reason for delay is the presence of fever, which may suggest an infection. Yet in half the cases the temperature was considerably raised, between 100° and 104° F. (37.9° and 40° C.).

On arrival at hospital the history is taken with the utmost care, and need be from a parent specially fetched. The child must be under close and continuous watching and care. The most exact examination, establishes the diagnosis. The

authors do not advise barium enema as an aid to diagnosis, and on this point some may differ from them. An admittedly small experience, they consider that the procedure may be harmful to the child, though they note the excellent results reported by other workers who use enema as a form of treatment, with or without laparotomy. The subject of the treatment of intussusception however, hardly falls within the scope of the article; the authors mention two most important points. The first is that the operation should not be begun unless an intravenous drip is running, and the second that the anaesthetic should start with the surgeon standing ready by the table. This paper emphasizes once again the need for checking classical descriptions of well-known conditions.

ARRESTING HAEMOPHILIC HAEMORRHAGE

For many years blood transfusion has been known to be valuable in the arrest of haemophilic haemorrhage. At first the benefit was attributed to the content of platelets but it was later shown that plasma free from factors I and II was as effective as whole blood.¹ During the last twelve years work has been carried on in the U.S.A. with the object of identifying and preparing for therapeutic use the anti-haemophilic substance or substances in plasma. Results have shown that the responsible factor resides in the globulin fraction of the plasma protein.

Minot and Taylor² have recently summarized this work. They describe and compare the results obtained from intravenous injection of Cohn's plasma Fraction I, I₁ from fibrinogen and prothrombin, with the effects of transfusion of blood or whole plasma: 400 mg. of Fraction I dissolved in isotonic saline produces roughly the same effect as 100 ml. of fresh blood or 80 ml. plasma. The accelerating effect on coagulation may last for 48 hours and enable operations such as dental extractions to be carried out with comparative safety. The results are, however, variable; the effective dosage differs from patient to patient, some who react to crude plasma will not respond to the separated fraction. Minot and Taylor claim that the reactions are caused and that injections may be repeated given without a refractory state developing. There is, however, some doubt on this latter point. In a recent report Craddock and Lawrence³ describe the development in patients with haemophilia of a circulating anticoagulant capable of slowing the coagulation of normal blood *in vitro*. Both patients became refractory to treatment with either fresh whole blood, plasma, or Cohn's Fraction I; in fact, the anticoagulant seemed to develop after repeated transfusions or injections of anti-haemophilic globulin. These observations may not be so exceptional for it has long been recognized that in some haemophiliacs the benefit of repeated transfusions becomes less as time goes on. Craddock and Lawrence's report is not encouraging from the point of view of the future prevention of haemophilic haemorrhage by injection of preparations of human plasma.

Very powerful haemostatics for local application have recently been developed in the U.S.A. Preparations of powdered human and animal thrombin, free of fibrinogen on which to act can coagulate blood in a few seconds, and may be applied directly to the bleeding site. This is, however, only a side issue; the fundamental problem of correcting the abnormality in the plasma of haemophiliacs has not yet been solved. Great progress has been made, but there is still a long way to go.

¹ Park, A. J., Jr., and Stetson, P. P., *J. Clin. Invest.*, 1947, 26, 363.
² *Ann. Intern. Med.*, 1947, 25, 363.
³ *ibid.*, 1947, 2, 593.

THE ADVANTAGES OF IMPURE PENICILLIN

It has been suspected for some time that the imperfectly purified penicillin of earlier days was more effective than the refined present-day product. This suspicion first arose in connexion with the treatment of syphilis, the earliest results of which were obtained with crude material in doses quite inadequate by present standards: they were nevertheless better, at least when allowance is made for altered dosage, than those obtained since. Recent investigations now tend to confirm the suspicion. In connexion with syphilis itself Dunham and Rake¹ first noted more than two years ago that crystalline penicillin G had no effect *in vitro* on the motility of *T. pallidum*, whereas impure penicillin reduced it. Rake, Dunham and Donovan² have now gone further and shown that certain samples of pure commercial penicillin were decidedly more active than pure penicillin G (the most active of the pure types) in the treatment of syphilis in the rabbit. Another observation pointing in the same direction is that of Groupe and Rake,³ who found that the action of commercial penicillin on the viruses of canary pox, fowl pox, and vaccinia was entirely due to impurities; this activity persisted after the penicillin itself had been destroyed with penicillinase, and pure penicillin had no effect.

The most exhaustive study so far on this perplexing problem is that of Hobby, Lenert, and Hyman.⁴ They began by comparing the effect of penicillins of various degrees of impurity with that of pure penicillins X, Y, and Z in mice. Having established that, unit for unit, the impure materials were more effective, they worked thenceforth with one of these which had an activity of only 54 units per mg. and with pure penicillin G. The relative therapeutic efficacy of these two materials may be expressed by saying that 100 units of the former had the same effect as 250 to 300 units of the latter. They showed that when the impure material had been treated with penicillinase a small quantity of it would enhance the activity of pure penicillin. The degradation products of the impure material must be due to an unknown substance other than penicillin derivatives. This substance also enhanced the activity of other penicillins than G. An admixture of K enhanced the activity of G to a greater extent than would be expected on a unit basis. This study, in which 25,000 mice were used, deals also with other aspects of the subject, but its main interest is in showing conclusively that in the purification of penicillin something unknown and valuable is lost.

When the full therapeutic possibilities of penicillin were first envisaged it was expected that deliberate modifications of its molecule might widen the sphere of its usefulness. This prediction has not yet been fulfilled, and in the meantime the chemistry of natural penicillins has proved unexpectedly complex. According to Winsten and Spark⁵ the number of these may be as great as eleven. But the added complication of an impurity or impurities of unknown nature enhancing therapeutic effect is still more baffling. Until these substances can be identified it might well be worth while to revert to older methods of manufacture, and so return to the cruder product which we have unjustifiably despised in recent times. Highly refined penicillin is essential for intrathecal and intraocular use, minor disadvantages; it is more painful, more apt to cause local inflammatory changes, and perhaps more often responsible for sensitization phenomena. At least we now

have an explanation why the standard dose of 100,000 units a day which was used for almost all purposes in early therapeutic studies was apparently as effective as the larger doses used to-day. Whether to change manufacturing policy in view of these discoveries must depend in part on the supply position: the present shortage would appear to favour the change and could doubtless be relieved by it. We have no information that such a step is contemplated, but it appears to deserve serious consideration.

DIAGNOSIS OF ADRENAL TUMOURS

Two fatal cases of adrenal tumour are described in this week's *Journal*, one of a 14-year-old girl with virilism and hypoglycaemia reported by Mr. L. R. Broster and Dr. J. Patterson, and the other of a 40-year-old policeman with gynaecomastia reported by Drs. C. N. Armstrong and J. Simpson. The correct diagnosis was soon made in the first case because of virilism and a huge output of urinary neutral 17-ketosteroids (the patient excreted almost 2 g. in a day), but despite this she died within 10 days of admission to hospital owing to hypoglycaemia which was so severe that she alternated between fits and coma and could not be brought to operation. In the second case a full investigation of the complaints of abdominal pain and night sweats did not reveal the cause of the symptoms, and it was only when the patient returned to hospital three months later that an adrenal tumour was diagnosed. The daily output of neutral 17-ketosteroids at this time was 34 mg., but later this rose to 104 mg. when the inoperable tumour had grown and secondaries had developed in lungs and liver. In spite of this it seems probable that the tumour was chiefly secreting oestrogen, since there was an associated gynaecomastia. Seven other similar cases to this have been reported in the literature, and in the two in which oestrogen output was determined it was abnormally high. These two cases illustrate the value and limitations of 17-ketosteroid estimations in the diagnosis of adrenal carcinoma. A rise in output is suspicious, but the extent of the rise does not mirror the degree of overactivity of the gland, nor does it coincide with the extent of virilism in women, for the girl with the huge output was less severely affected than girls of similar age with adrenal hyperplasia and outputs only 5-10% as great. This is where Patterson's colour test for dehydroisoandrosterone may be valuable. It is reported that this compound or closely related ones are present as a higher proportion of the ketosteroid output in cases of adrenal tumour than in cases of adrenal hyperplasia. So far Patterson¹ has applied the test to the neutral 17-ketosteroids from the urine of nine cases—three of adrenal tumour and six of adrenal hyperplasia. Positive results were obtained only in the former. The test has not yet had a severe trial since the output of neutral 17-ketosteroids per day in the two groups were widely separated—24-81 mg. in the hyperplasia group and 215-1,980 mg. in the tumour group. A crucial test of the value of the colour reaction will have to be made on a case such as that reported by Armstrong and Simpson, in which the output was relatively low. An interesting point is made by Broster and Patterson, who remark that their patient had a solitary adrenal gland is associated with isosexual precocity. This agrees with the finding of one normal adrenal in the policeman. The endocrine changes might be *run ad infinitum* to account for this and for the hypoglycaemia in the young girl.

THE LOYAL ADDRESS OF THE BRITISH MEDICAL ASSOCIATION

We print below the loyal address of the British Medical Association to His Majesty the King on the occasion of the twenty-fifth anniversary of Their Majesties' marriage.

To The King's Most Excellent Majesty:

The Humble Address of the President and Members of the British Medical Association.

May It Please Your Majesty,

We, Your Majesty's dutiful and loyal subjects, the members of the British Medical Association distributed throughout Your Majesty's Commonwealth and Empire, humbly offer to Your Majesty, and to Her Most Gracious Majesty the Queen, congratulations on the twenty-fifth anniversary of Your Majesties' marriage.

We beg leave on this auspicious occasion to express to Your Majesty our unfailing fidelity to Your Majesty's Throne and Person. We recall with deep gratitude Your Majesty's constant devotion to the well-being of Your Majesty's subjects throughout the past years of grave national privation and peril, and it is our fervent hope that Your Majesty's benevolent reign may long continue in a future blessed with prosperity and peace.

Signed on behalf of the British Medical Association:

HUGH LETT, *President.*

H. GUY DAIN, *Chairman of Council.*

J. B. MILLER, *Chairman of Representative Body.*

JOHN W. BONE, *Treasurer.*

NATIONAL HEALTH SERVICE TRIBUNAL THE LEGAL ASPECTS

BY

J. ARTHUR GORSKY, L.M.S.S.A.
Barrister-at-Law

The claim made by Lord Horder at the Special Representative Meeting on Wednesday, March 17, that the doctors were fighting for liberty is consistent with the recent statement of the National Executive Committee of the Labour Party that "... democracy cannot live without freedom of speech, press, and organization; without the right to protection against arbitrary arrest, the right of appeal to a non-political judiciary." This declaration of democratic principles, to which we as a free profession whole-heartedly subscribe, sounds a note of warning that these principles are our only safeguard against delegated legislation.

The growth of Administrative Law is a fundamental change in Constitutional Law, which developing slowly has now gathered momentum and threatens our liberties. The tendency of modern legislation is for Parliament to state the broad principles of its policy in an Act which empowers the Minister of State to delegate the duty of developing the details by Regulations and Orders to his executive administrative officers, who may be invested with delegated adjudicatory powers against which in some cases there is no right of appeal.

It is our duty as a medical community to be on guard against the uncontrolled growth of Administrative Law so far as it affects us in the provisions of the National Health Service Act and the subsequent Regulations and Orders that the Minister of Health, or those purporting to act for the Minister, may make by virtue of the very wide powers given to him in Clause 75.

Two evil tendencies have developed as a result of this system of delegated legislation. They were emphasized by Lord

Reading in the House of Lords when he introduced the Labour Party's Bill for the "Preservation of the Rights of the Subject."

"... the growing usurpation by the Executive of the power of Parliament, and the increasing exclusion of the courts of Law from what is perhaps their supreme function—protecting the individual citizen against excessive and illegitimate encroachment on his rights and abuses of authority."—(*Hansard*, Vol. 147, No. 71, p. 764.)

The doctors demand the right of appeal to a non-political judiciary, and in my view we cannot subscribe to the opinion expressed by Mr. Bevan that to give the doctor his right of appeal to the High Court against his dismissal "would be a judicial sabotage of socialized services." (Parliamentary Debates: Standing Committee C, Wednesday, June 26, 1947.) There has been, in my opinion, a considerable amount of less thinking and confused writing on the contentious question of "right of appeal."

Inquiries by Government Departments

The disquieting element in Clause 42 is subsection 7 (b), which empowers the Minister to apply, with modifications, any of the provisions of Section 290 of the Local Government Act, 1931, which is designated "Power of Government Departments to Direct Inquiries." Two very important implications result from this power possessed by the Minister:

1. The Tribunal becomes a departmental inquiry and is therefore *not* an independent tribunal, in spite of the fact that the legal chairman is appointed by the Lord Chancellor.
2. As such it becomes an "administrative" and not a "judicial" body.

The distinguishing features of an "administrative" tribunal are that it is a law unto itself, and that it possesses a "pure," "absolute," "complete," or "unfettered" discretion. The extensive case law on the subject makes it quite clear that no right of appeal is granted in the Act the High Court cannot interfere with an administrative tribunal's exercise of the discretion given to it. Such a tribunal is master of its own procedure except where an Act specifies that the Minister shall make regulations prescribing such procedure.

The National Health Service Act, 1946, gives the Minister power under Clause 42 (7) (a) to make regulations for prescribing the procedure for the holding of inquiries by the Tribunal. It is noteworthy that all the Minister has ordained is contained in Regulation 35 in the National Health Service (Service Committees and Tribunal) Regulations, 1948, which states the proceedings shall be held *in camera* unless the respondent has applied for the inquiry to be held in public, but otherwise the procedure at the inquiry "shall be within the discretion of the Tribunal." The High Court can only interfere in a limited way if the decision of the Tribunal "is contrary to the manifest principles of justice."

Administrative Law

The vital point at issue is whether "administrative" tribunals do in fact administer justice. In my submission they do not function as judicial courts but base their decisions on policy and expediency and not on legal rights and liabilities. The exercise of their power rests not on law but on opinion. Their discretion refers to their powers of fact-finding which the High Court cannot override. They have far wider powers than judicial tribunals to decide for themselves what they will do, or whether they will do anything at all.

The High Court cannot impose its own standards of procedure or make such a tribunal conform to the rules of evidence which usually operate in the High Court. If there is an error or defect in jurisdiction, or a vital error in procedure which needs remedying, then the High Court can exercise its control in these very exceptional cases by means of its orders of certiorari, prohibition, or mandamus.

"Administrative" tribunals cannot be compelled to state a case to the High Court, and with few exceptions are not under any obligation to give reasons for their decisions. A doctor would be dismissed on a finding of facts (Regulation 42), and he would not have the power to ask for a case to be stated, nor could he compel the Tribunal to give any reasons for its decision. Dismissal on a legal point, which would be extremely rare, might conceivably give the dismissed doctor the right to

ask for a case to be stated by the Tribunal, but only where the legal point dictated the decision of the Tribunal. How will the doctor know that, if an "administrative" tribunal need not give any reasons for its decision? Therefore in my submission there can never be a case of unlawful dismissal if you cannot challenge the fact-finding decision of an "administrative" tribunal. The right of appeal to the Courts has been taken away from the doctor in spite of Mr. Bevan's assertion in the debate on Monday, Feb. 9, 1948 (*Hansard*, p. 43). Therefore the only appeal of the doctor will be to the House of Lords made it clear what this would mean. "A doctor would be condemned to professional death for something much less than misconduct on a report of an inspector of the Ministry which would not necessarily be read by a busy Minister." The matter can be argued in another way. Unlawful dismissal implies an injury to a "right"—the right of a doctor to practise under the National Health Service Act. "Jordan" has discussed this.

"But apart from a right to have prescribed procedure followed, no one can have any rights before a tribunal acting 'administratively'; rights are outside its province; no one has a right to a favourable decision; and though incidentally the tribunal may consider points of law, such points, whatever view may be taken of them, can never dictate the decision that the tribunal must make. For the decision must be governed by policy and expediency; and though the state of the law may be a factor in policy and expediency, it can never be the governing factor; otherwise policy and expediency cease to have meaning and are only other names for justice. But the tribunal is not judicial, and so does not administer justice, it must suit itself as to how far it lets points of law enter into its policy. This is one very good reason why tribunals acting 'administratively' cannot state cases, except on points of jurisdiction or prescribed procedure. A stated case must raise a point of law that concludes the question whether the decision was right or wrong; whereas, whichever way the High Court rules on a point of substantive law, this ruling can never determine whether an 'administrative' order was right or wrong. Indeed such an order never is right or wrong, correct or incorrect."

There may be a regrettable mistake of law which the Court cannot question; but the Tribunal's mistake of law will not deprive the doctor of a legal right. It will be the "administrative" order which will deprive the doctor of his right to practise. As this order will never be "right or wrong, correct or incorrect" it follows that there never will be a legal injury to that right. And where there is no legal injury there cannot be a legal remedy.

Mr. Bevan in his speech on Feb. 9 postulated some curious doctrines. They accentuate the dangers of Ministers' powers in delegated legislation which, like Clause 35, the iniquitous penal clause, are insidiously altering the Constitutional Law of this country. He asserted that to allow the doctor the right of appeal that he had been wrongfully dismissed in the terms of his contract would completely revolutionize the relationship of the judiciary to the legislature. As a rejoinder to that assumption I quote Prof. Laski: "It is difficult to overestimate the significance of the judiciary in the modern State. The work of the Executive has become so vast, the powers delegated to it by the legislature are so wide, that the judges are, perhaps more than at any previous time, the real safeguard of personal liberty. It is only necessary to recall cases like *Coppage v. Kansas*, or *R. v. Halliday*, to realize how nearly judicial activity goes to the very heart of freedom." The Minister of Health agrees that "the courts are competent to judge the law and to construe the statutes. . . ." Since when have the judges not been competent to evaluate facts and to give decisions on matters of fact? By virtue of education, training, experience, high mental calibre, and complete impartiality they are more competent to decide these matters than a Minister. It is not suggested that such a tribunal will not be impartial, but only one member of the tribunal will not be a lawyer and he may be overruled by two non-legal members.

Another conception which should be refuted is that the relationship between the Minister and the doctors is that of employer and employees. The Law of Master and Servant does not apply. A clerk is a servant; an opera singer under contract is not. The contract between the doctor and the local Executive Council acting as agent of the Minister is in my opinion

in the nature of a partnership or quasi-partnership agreement. The limitations of space do not permit me to amplify this point.

Any Other Person

There are two other disturbing features of Clause 42 which must be stressed. The Tribunal must inquire into representations made by an Executive Council that the continued inclusion of a general medical practitioner in the list of those undertaking to provide general medical services would be prejudicial to the Service. But it may inquire in like manner if representations are made by any other person. Although the wording of the Clause is only permissive in this latter case, it is pernicious because it enables any other person to by-pass the Executive Council and go direct to the Tribunal. It is of paramount importance to remember that the Minister of National Insurance Service Act as well as his own National Insurance Act, 1946, and by-pass the local Executive Council. In this connexion would draw attention to Regulation 10 (d) (i) of the preliminary draft of the National Insurance (Unemployment and Sickness Benefit) Regulations, 1948.

By virtue of the power under (7) (b) of Clause 42 the Minister has applied subsection 5 of Section 290 of the Local Government Act, 1933, in Regulation 37 relating to the Tribunal. This gives the Tribunal power to make orders as to costs which may be made a rule of the High Court. It is not clear whether costs under this subsection may be taxed under rule 15, Order 65, Rules of the Supreme Court, nor is there any mention of a right of appeal against this award of costs. Not only is a doctor liable to professional death but he may be mulcted in onerous costs as an additional penalty.

We are enjoined to enter the Service and improve it by experience and practice. To that I would reply *Quod ab initio non valet, in tratu temporis non convalescit*. That which is bad from the beginning does not improve by length of time. Dr. William A. Robson, Professor of Administrative Law, London University, has drawn attention to "the lack of principle which has been manifested by Parliament in naming the appellate body to which a citizen must go for redress. There is no clear distinction drawn between the class of cases which are to be decided by the courts of law and that which goes for determination to one of the central departments of Government. . . . Much could be done to make the ordinary business of litigation more rapid and less expensive to the parties than at present, and it is preferable that the courts of law should be improved in these respects than that judicial functions should be conferred on administrative bodies merely in order to attain those ends."

Finally I refer to Mr. Bevan's opening words in the debate on Feb. 9, and submit for the reasons I have expressed in this contribution that the conditions under which the Minister of Health has invited the medical profession to participate in the National Health Service Act are not fully in accord with our professional freedom and dignity.

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- 1 *R. v. Woodhouse* (1906) 2 K.B. 501 at 527
- 2 *R. v. Howard* (1902) 2 K.B. 363 at 378 and at 381.
- 3 *Sharp v. Wakefield* (1891) A.C. 173 at 185; *R. v. Surrey JJ.* (1893) 52 J.P. 42.
- 4 *Boode v. Birmingham JJ.* (1891) A.C. 173 at 185; *R. v. Surrey JJ.* (1893) 52 J.P. 42.
- 5 *Lacey v. Lacey and Co.* (1851) 45 J.P. 635.
- 6 *R. v. London County Council* (1915) 1 K.B. and *R. v. Wakefield* (1891) A.C. 173 at 185.
- 7 *Gordon, D. M., Law Quarterly Review*, 1933, 49, 105.
- 8 *Wright, Rt. Hon. Lord, "Liberty and the Common Law," Cambridge Law Journal*, 1945.
- 9 *Gordon, D. M., Law Quarterly Review*, 1933, 49, 426.
- 10 *Laski, H. J., Studies in Law and Politics*, 1932, George Allen and Unwin, Ltd.

A new film-strip which has been issued recently by the Medical Unit of the Unicorn Head Film Strip Library has been prepared with the technical assistance of Dr. R. C. MacKeith and Mr. J. M. Watson. The strip, which has eighteen frames, deals with the diagnosis of threadworm infestation, and shows particularly the collection of ova by the glass pestle method and by use of adhesive "cellophane" tape. This film-strip is concerned only with diagnosis, and further information about it may be obtained from the Technical Director of the Unit at 177, The Vale, Acton London, W3.

BRITISH MEDICAL LIBRARIES

BY

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London is better provided with medical libraries than any other city in the world. There are great libraries in Edinburgh and Dublin; Manchester has an excellent medical library, and most of the other university towns are well provided for also. How far do these large collections meet the profession's demand for literature? Lord Justice Asquith (1944) wrote in *The Times* a few years ago that "County Court judges work under grave handicaps as regards law libraries." Is the provincial physician or surgeon in a like predicament? Are the existing libraries sufficiently complete and accessible, and is the service which they offer fully known to the profession at large?

The newest work in every branch of science and medicine appears first in the pages of periodicals, but subscription to more than a few of the 2,000 medical periodicals now published each year is too expensive for the private pocket, and to keep back-numbers even of those few is too space-consuming in the private house or flat. The collection and provision of periodicals has thus become the chief preoccupation of active libraries, and on libraries the reader relies who wishes to follow all the latest work and to look back over the sequence of previous work in his field of inquiry.

Two great London libraries, those of the Royal Society of Medicine and the British Medical Association, provide for their Fellows and Members throughout the country a very complete reference service, lending books or sending photographic copies when a particular book cannot reasonably be allowed out of the library, besides supplying bibliographies, translations, etc. In fairness to their subscribing membership neither of these libraries can extend its service to non-subscribers, though the Royal Society of Medicine generously allows visitors the use of its books at the library. Each of these libraries aims to amass a full collection of medical periodicals of the entire world. The Royal Society of Medicine, which already owns an unrivalled store of older medical periodicals, stated before the recent war its intention "to collect all representative medical journals from every country." Recently the British Medical Association has begun to collect all available medical periodicals from all over the world. Gathered in the first place for the work of the Association's abstracting service, they will be permanently available in the library. As these attempts at comprehensiveness reach towards their completion London will become increasingly the outstanding repository of medical literature, for it must be remembered that the national library at the British Museum also has a very wide collection of medical periodicals in many languages. The task before the authorities of other medical libraries will therefore tend to become that of taking special fields for intensive cultivation and serving a clientele specialized by its locality or interest or status, which will rely for wider study on access to the general libraries.

Outside London the great university libraries, notably those of Oxford and Cambridge, Manchester, Bristol, Edinburgh, Glasgow, and Dublin, are richly stocked. With these must be counted the fine libraries of the Royal Colleges of Physicians of Edinburgh and of Ireland and the Liverpool Medical Institution. All these libraries cater principally for the clinical specialist. They are supplemented for the general practitioner by a large number of smaller libraries, chiefly those of local medical societies, which have their prototype in the Medical Society of London. The libraries in this class are for the most part maintained for the use of each society's own members, though in some cases the library's facilities are extended to all practitioners in the district. The lesser libraries cannot offer their readers more than a simple lending service of current books, for which in many cases they rely, as do many individual doctors and students, on the subscription lending library which has been maintained for a century by Messrs. H. K. Lewis, the medical booksellers and publishers. The reference collections of these local libraries are of very varying value, and in many cases inadequately administered. Use-

ful as their service is, an insurmountable weakness lies in their not being able to offer their readers ready access to a wide range of current periodicals or of older work.

Facilities for Research Workers

This weakness is particularly felt by the research worker. For him the specialist libraries are peculiarly valuable, though of course he must rely also on the general libraries already named. At the universities, notably at Oxford, Cambridge, and Dublin, each research department maintains a small library of its own supplementing the main university collections, but in almost every case these are purely for private access by the research staff of the particular department. Similar private staff libraries are maintained at research institutions such as the Lister Institute and the Imperial Cancer Research Fund, and at the research departments of hospitals and of commercial pharmaceutical manufacturers and the like.

The most efficient research library and one of wide professional usefulness is that of the Medical Research Council at the National Institute for Medical Research at Hampstead which provides library service for all the centres of research of varying size and scope promoted by the Council up and down the country. This Government-supported library is most liberal in extending its facilities to other medical libraries by inter-library lending, thus making its resources available far beyond its immediate duty and benefiting in return by the reciprocal facilities earned. The large library at the Ministry of Health is a private staff library similar to those named above. The Medical Research Council of Ireland does not itself maintain a library, but has promoted the work and liaison of existing Irish medical libraries.

Two large special libraries in London are particularly valuable to the research worker—those of the London School of Hygiene and Tropical Medicine and the Royal College of Surgeons of England. Though both are essentially the private libraries of their institutions, whose members, staff, and students have first claim upon their resources and service, each has always been administered in a liberal spirit. The library of the Royal College of Surgeons is among the larger medical libraries in the country, rich in long series of periodicals. These are confined, with a somewhat wide interpretation, to the literature of surgery, its specialities, and the sciences ancillary to surgery. In particular the library is strong in the literature of anatomy and physiology. It is thus peculiarly well fitted to cater for postgraduate students of surgical specialities and for advanced workers in the basic sciences. Its collection of nineteenth-century books is probably, within its own field, second only to those included in the general collection of the Royal Society of Medicine; in modern books it is more strictly specialized. The library of the London School of Hygiene and Tropical Medicine has from its inception 25 years ago been closely specialized in its two chosen fields, in which it has built up first-class collections. It has always been liberal in lending books, both directly to other libraries and through the general system of inter-library loans organized by the National Central Library. The Liverpool School of Tropical Medicine also has an excellent specialized library.

The restriction of certain libraries to intensive collection of a chosen subject opens the way for the possible development of a system of mutually complementary, while fully independent, libraries. The potentialities of such a policy are of great interest among American library authorities at present, more especially with regard to the acquisition of foreign books. At home there is more concern among medical librarians to agree upon delimitation of fields before planning acquisition. If it could be agreed that everything available in a particular subject would be the special care of a certain library or libraries, the organization of information service for the whole cadre of research workers would be simplified. The time has gone by when the research worker was ploughing a lonely furrow and relying on the library resources of the institution to which he happened to have right of access. The delimitation of libraries lags behind, but without in any way giving up their individuality they are moving towards a generalization of service. A corollary of any such agreement to specialization would be the transference to each specialist library of the material in its chosen subject held by libraries now conducting general

activity to other interests. A step in this direction has lately been taken by the transference from the Royal College of Surgeons of much of its holdings in public health, both series of official reports and individual books, to the London School of Hygiene. The success of this policy depends on the willingness of libraries to lend their books to other libraries and also to admit readers from outside their own membership, for it is often quicker, at least in London, to get the reader to the book than the book to the reader. These facilities, which are of course only possible for non-subscribing libraries, are now very general practice.

There are in active existence a number of important specialized libraries of this nature, notably those of the societies and institutions on the borders of medicine, such as the Pharmaceutical Society, the Royal College of Veterinary Surgeons, and the Royal Sanitary Institute. These are already the natural resource of the worker in each particular field. But equally there are a number of unfilled gaps. There is no single library, for instance, to which an inquirer for medico-legal literature can be confidently recommended. No doubt the general medical libraries, the university libraries, and the great law libraries could between them supply all reasonable requests in this subject, but the individual inquirer would have to search those sources for himself.

Collaboration between Libraries

This is the point at which there is most need for concerted action by libraries. There is at present no means of knowing, except by direct asking at each individual address, what are the resources of the profession's libraries except in periodicals. The principal medical libraries are included in the two available union-catalogues, which record the holdings of periodicals in the country's libraries; both of them are now considerably out of date, however. The *World List of Scientific Periodicals*, 1934, includes the major institutional libraries, while the *Union Catalogue of Periodicals in University Libraries*, 1937, includes the libraries of medical schools affiliated to universities; but these two lists together are not exhaustive. A *List of Medical Libraries and Information Bureaux in the British Isles J. Docum.*, 1946, 2, 119) published by Aslib (the Association of Special Libraries) shows that there are some 150 medical libraries of varying size and type in existence here. Several projects for collaboration among them are taking shape at present. Quite recently mutual action by the librarians of five large medical libraries in London, helped by a generous grant from the Medical Research Council, has produced a card-catalogue of their holdings of current periodicals. Copies of this catalogue have been deposited at each of the libraries which co-operated in its completion—namely, the British Medical Association, London School of Hygiene, Medical Research Council, Royal College of Surgeons, and University College, London (Thane Library of medical sciences), and at other centres. It is intended to keep this catalogue regularly up to date.

The Central Medical Library Bureau, established by the Rockefeller Foundation at the Royal Society of Medicine at the end of the recent war, is still preoccupied with its first charge of helping war-scarred medical libraries on the Continent. It is at the same time compiling a union list of current periodicals in the major medical libraries of the British Isles, and its facilities for the supply of microfilm copies of medical literature that cannot be borrowed, traceable by this new union-catalogue, will simplify the present haphazard methods of inter-library lending, which have, however, worked well to the mutual advantage of many libraries and their readers through many years. The Central Bureau has generously placed modern microfilm reading-machines in the principal medical libraries of the country. Thanks to the existence of American and French union-catalogues and of excellent free microfilm services in Washington (Army Medical Library) and Paris (Faculté de Médecine and Pasteur Institute) it is already easy for any medical library to obtain from those centres copies of articles not possessed anywhere in Britain.

Even more promising but still awaiting funds for their prosecution are two schemes planned in some detail through the Library Association, the professional body of librarians. The

University and Research Section of the Library Association has worked out a scheme for surveying and making known, and thereby more readily accessible, the resources of the research libraries of the country in every subject including medicine. The second scheme is confined to medical collections. Last autumn medical librarians formed themselves into an organized group within the Library Association, which will, it is hoped, soon become a substantive section of the Association. Such an association of medical librarians was proposed by Sir William Osler at the Annual Meeting of the British Medical Association so long ago as 1909. A similar body—the Medical Library Association—had then been active in America for a decade and is to celebrate its fiftieth anniversary in May of this year. The Medical Library Association, which is international in scope and to which several British libraries belong, has done much to promote the activity and prosperity of medical libraries by its conferences and publications. Its service for the exchange of duplicate material is efficient and highly practical in placing books where they are needed. The newly formed British group of medical libraries has in preparation, but also awaiting funds for its completion, a union-catalogue of all periodicals in medical libraries throughout the British Isles. The group has already established a pool for interchange of duplicates, which is being administered by the Wellcome Historical Medical Library.

The chief demand of clinicians and students is for current literature, but the research worker ignores the work of his predecessors at the risk of overlooking undeveloped hints, of losing perspective in his attack on new problems, or even of wasting effort over work already recorded. François Magendie (1827) remarked long ago that, in turning up the authorities after making some fresh physiological observation, he had often found his complete discovery in Haller's *Physiology*, published more than a generation earlier. "I was much put out," he wrote, "and often cursed that wretched book in which I found everything, but I was consoled to realize that, since others had made discoveries before me, by persisting at work I could still find some unobserved facts."

Historical medical literature is not a mere symbol of prestige or even of proud tradition for the libraries who own it: it is the only record of previous progress. As Mr. Churchill (1944) reminded the Royal College of Physicians, "The longer you can look back the further you can look forward." The wealth of historical literature in this country is immense. The British Museum, William Hunter's library at Glasgow, the Royal College of Physicians of London, and the Wellcome Historical Medical Library are only the outstanding collections in a series probably without match in any other country. The resources of these collections, scattered over many medical libraries, both in rare early books and in the literature of the last two centuries—the period of Hunter, Jenner, Lister, and our immediate predecessors—are comparatively unexplored. Certainly they have not been cared for and developed as have the corresponding collections in America. Their value as essential tools in the humanist approach to medicine is now better realized and more attention is being paid to their upkeep and development. The possibility of co-operative cataloguing of this material is now being mooted.

Co-operative attack on the various projects outlined above ought to promote a spirit of friendly rivalry among libraries to achieve their common aim, previously pursued in too isolated units, which is to provide their readers with access to a full range of medical literature in the simplest and quickest way. One class of readers which is not adequately catered for is that of medical students. Each medical school has its library, but their book stock and administration is of varying quality, while there is in London an overall shortage of reading-room space for undergraduates. The medical schools in London are all affiliated to the University, but there is no correlation of their library services. Library provision for the teaching and research staffs of hospitals is similarly uneven. Many of the older hospitals have fine historical libraries lacking adequate care or staff; some of the newer hospitals are providing (Avery Jones, 1948) up-to-date library service for their whole-time specialists. In two or three provincial centres, notably at Manchester, hospital, medical-school, and medical-society

libraries have been combined, with marked increase of efficiency and service to the readers drawn from each group. Over the country as a whole, however, the need is not for unification but for development of individual units to the standard set by the best, through correlation of activities.

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INQUIRY INTO BOOK SHORTAGE

Though the date when printing with movable types is not known exactly, it is thought to have been just about 500 years ago—1448. The extraordinary increase in man's knowledge of his environment that has characterized the last five centuries has depended largely on the swift interchange of ideas, especially by means of printed matter; and the demand for serious books, particularly works of a scientific or technical nature, is probably greater to-day than it ever has been. Unfortunately, it cannot be satisfied in this country.

We have heard complaints from medical students and practitioners for some time that they cannot obtain enough books. In order to discover if there is indeed a shortage of medical books—"medical" implying all aspects of the science and art of medicine—we wrote to most of the leading publishers and booksellers who specialize in these books and to the librarians in charge of a number of medical libraries. We asked them certain questions; there follows a report on their replies.

Books Most in Demand

In order to find out which particular books are most required by practitioners and students our first question to librarians and booksellers asked them to name the 10 medical books most in demand. It would be invidious to publish their selection of these books, but we have amalgamated the 24 lists that we received and added up the choices for each book. Ten books were named in 6 or more replies, one book being distinguished by as many as 17 votes. These 10 books were all standard textbooks and comprised 2 textbooks of medicine, 2 of surgery, 2 of pathology, 2 of applied physiology, and 2 of anatomy.

Is the Demand Met?

Our next question to librarians and booksellers was sent also to publishers: we asked whether they could meet the demand for British medical books. Of the 20 librarians who replied none answered unequivocally that they could do so, though one said that he could supply what was wanted except for books out of print and those—a few cases—out of stock, and one that the Copyright Act of 1911 ensured his receiving one copy of all books published. Thirteen librarians said that in general they could meet the demand, with various qualifications. Some order books before they are published, because they find that books run out of print soon after publication. They are therefore unable to assess the quality of a book before ordering it. Further, if a book should prove to be popular, it is usually impossible to obtain more copies, and the demand for it cannot be satisfied. Some libraries receive preferential treatment from local booksellers, enabling them to obtain at least one copy of a new book or new edition, but they may find that one copy is insufficient to meet the demand. Most remark on the long time that elapses between ordering a book and receiving it, 6 to 12 months being mentioned and even longer in a few cases, a circumstance particularly inconvenient to a small library that does not have several of the previous editions to lend. Only one librarian said that the funds at his disposal are the limiting factor rather than the book shortage. Four librarians replied that they are unable to meet the demand because a sufficient number of books are not available. The question did not apply to one librarian, but he makes the interesting point that, owing to the shortage of British books, students are using a number of American textbooks that are unsuitable for their particular course of study.

All the 6 booksellers who answered this question said that it was impossible to meet the demand or find it extremely difficult to do so.

cult to do so, the chief reason being that their waiting-lists for a particular book, especially the more popular, normally contain more names than copies of books they receive. Reprints or new editions of standard works often take as long as two years after issue of the previous edition to appear in the bookshops, with the result that some students may have to go through the whole of a course of study without being able to obtain a requisite textbook. One of the publishers mentions in this connexion that there have been times recently when no standard work on either anatomy or physiology was available. Of the 9 publishers who answered this question 7 said that they cannot meet the demand, or cannot do so in most cases, and 2 said that they can "after delays" or "only with very great difficulty." One comments that books required by only a few workers have to give place to standard textbooks, so that books on specialized subjects are unlikely to be reprinted when they ought to be. Another points out that the increasing specialization of medicine necessitates more books being published than before the war. He adds that the demand both at home and abroad is greater than formerly, and that the difficulty in obtaining books from America enhances the demand for similar British works.

We asked booksellers and librarians what classes of books were most difficult to provide—such as standard works on medicine and surgery, students' textbooks, research monographs etc. As might be expected from the lists they sent us of these books most in demand, the majority replied that their main problem is to supply sufficient students' textbooks and standard works on medicine and surgery. Two librarians find that monographs are the hardest to obtain. One bookseller comments that the supply fluctuates between different groups of books and mentions in particular that agricultural students are this year probably worse off than medical students. One librarian states merely that it is the more popular books that are difficult to get.

Causes and Extent of Shortage

The paper available for printing books is at present controlled by a quota. The basic amount is 60% of the previous quantity, and for educational (including medical) books and/or export a further 20% is allowed. There is also a booksellers' reserve, which provides paper additional to the quota for reprinting books that in the public interest should be kept in print. In addition there is an export pool to meet *bona fide* export orders.

In order to gain some idea of the causes and extent of the shortage we asked publishers, first, what the main causes are, and, secondly, the time compared with 1938 that elapses between acceptance of a manuscript and publication of the book. Of the 9 publishers who answered the first of these questions 4 stressed the lack of paper as the main important limitation. One of these added that difficulties over binding the books also caused delay, and another mentioned shortage of labour, especially in the binding industry. One publisher said that the main cause is the shortage of labour and machinery and 2 that it is delay in binding. Two find that all these factors impede them. One of the publishers who finds that binding is the main difficulty drew attention to the grave shortage of female labour; since the war, for various reasons, women have tended to remain at home who would before have gone out to work. The cotton required is also in short supply. It would be impossible to bind large books in paper covers and would have to come from the U.S.A. The materials and skilled labour required for the illustrations that must adorn many medical books are also scarce.

Eight of the 9 publishers find that it takes two or three times as long to produce a book now as it did in 1938—for example, nine months instead of three, two years instead of nine months. The one exception says that there is not much in it for him that he can plan ahead.

Fate of Manuscripts

Arising from the problem of having to allot the necessary paper ration to produce new books, new editions, and reprints is whether publishers must reject manuscripts that they cannot publish if they had sufficient paper. We put this question to them, and of the 9 who replied to it one said that he does not

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References: *Lancet*, 1944, 247, pp. 175 and 178. *British Medical Journal*, 1945, 1, p. 50. *Pharmaceutical Journal*, 1945, 155, p. 245.

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to do so. Five stated that they must refuse some manuscripts, one of these mentioning that this selection particularly "doubtful" manuscripts likely to have a limited sale, another saying that he has to refuse manuscripts because they would be out of date by the time they could be published. The publisher does not reject any work considered suitable for publication but solves the problem by reducing the size of editions. Five said that he has not had to reject any "major" works, one that the shortage of compositors causes long delay in getting a new book set up in type, whereas reprints do not suffer so much.

Books from Abroad

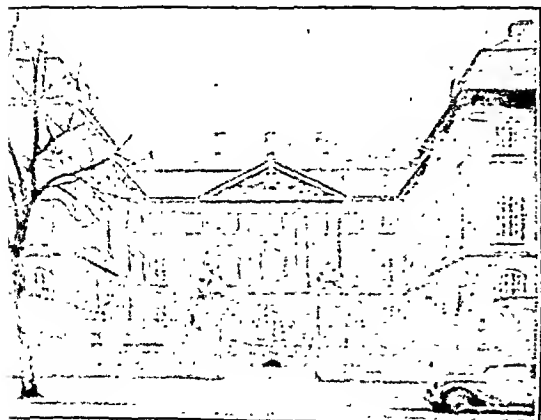
Generally, we put two questions to booksellers and librarians: the supply of foreign medical books, asking (a) whether they can obtain sufficient to meet the demand, and (b), if not, whether that is due to shortages abroad or restrictions at home. Of 19 librarians and 6 booksellers who answered the question, 6 librarians said that they have little difficulty in obtaining sufficient foreign books, or that they receive what they require, though the book may be long in coming, or that they receive only a few unimportant books. The remaining librarians all experience greater difficulty in varying degrees. The booksellers agree that they cannot obtain enough foreign books.

Generally, American books seem to be the most difficult to obtain, though some replies stress German books. The main reason given for the shortage is restrictions imposed on their export into this country. In addition the demand is greater than it was before the war, partly because of the lack of British books, and partly, so one bookseller comments, because commercial firms are ordering many more. Some replies mentioned that the shortage is aggravated by there being insufficient paper for these books in the U.S.A.

In conclusion we acknowledge with thanks the time and care given by these publishers, booksellers, and librarians on answering another questionnaire.

DANISH MEDICAL ASSOCIATION NEW HEADQUARTERS

During the war and the occupation of Denmark by the Germans the Copenhagen headquarters of the Danish Medical Association were blown up; the destruction was so great that little of value remained apart from the building site. The plan of rebuilding on this site seemed almost prohibitive, but plans for rebuilding were still far from complete, when, at the beginning of this year, a valuable property elsewhere in Copenhagen came into the market. In February this property, a photograph of which is here reproduced, was bought by the Danish Medical Association for one and a half million Danish kroner. The Association will take possession on June 1, 1948.



THE PATIENT'S CONSENT

If a medical examination is made without consent it is a technical assault, possibly an aggravated or even an indecent assault, for which the practitioner may be prosecuted in a criminal court, or a trespass for which he may be sued in a civil court. In law, apart altogether from those cases in which medical examination is required in connexion with criminal or civil proceedings, consent is necessary for the examination of a patient in the ordinary course of practice. Where there is any possibility of doubt, consent should be obtained in writing, and in all cases in the presence of disinterested witnesses. An oral acknowledgment of consent is good in law, as indeed is implied consent arising out of the relationship of doctor and patient, but to free the practitioner's mind of anxiety a written statement should be obtained if possible.

The Medical Defence Union has prepared for its members an important memorandum designed to clarify and emphasize the legal position. To obtain consent the practitioner must explain carefully to the patient the need for an examination to arrive at a diagnosis or decide on a line of treatment. No sweeping promises should be made, and any risks in the proposed procedure should not be minimized. If for psychological or other reasons it is undesirable to discuss these matters with a particular patient the information may be placed before some near relative who—preferably still in conjunction with the patient—may give the necessary sanction. The form of consent should be unequivocal, and should be wide enough to enable the practitioner to adopt any further or alternative procedure which may be found necessary. It should also include consent to the administration of an anaesthetic.

In certain cases it is impossible to obtain a valid consent. With the unconscious patient the treatment immediately necessary for the relief of his condition should be given. A parent or spouse in such circumstances may give the necessary authority, and consent for any further treatment may be obtained from the patient after his return to consciousness. A practitioner may be called upon to deal with a patient requiring immediate treatment associated with serious risks if his life is to be preserved, and the conditions may well forbid legal formalities. Here again the practitioner should consult the nearest relatives, and if any treatment more extensive and irrevocable is indicated it should be deferred if possible until full consent can be obtained. A parent or guardian may give valid consent for the treatment of a minor, but if the minor has passed the age of 16, or has reached a state of mental and physical development sufficient to enable him to appreciate what it is proposed to do, his own consent should be added. When it is suspected that a person is suffering from mental or from contagious disease and is likely to be a danger to himself and to other people and cannot or will not be moved, then a parent, a relative, a medical superintendent, a householder, or a hotelier may give authority for examination, but nothing more should be done than is reasonably necessary. The consent of a spouse is not required for the administration of treatment to the other adult partner if the latter has consented; nevertheless, the consent of the other spouse in certain cases is desirable as a further insurance. A master or mistress cannot give a valid consent for the examination or treatment of a servant, and the police cannot insist on the medical examination of a person apprehended, though a person in prison can be examined without his consent by direction of the prison authorities.

Certain model forms of consent are appended to the M.D.U. document. The principal one reads:

"I . . . of . . . hereby consent to undergo the operation of . . . the effect and nature of which has been explained to me. I also consent to such further or alternative operative measures as may be found to be necessary during the course of such operation and to the administration of a local or other anaesthetic for the purpose of the same."

Much of this may seem to be a counsel of perfection. In the ordinary way if a visit is paid to a practitioner, or a practitioner is called in, consent to a certain amount of examination is implied, and this implication is good in law. Though the requirement is now common in hospitals when operative measures are to be undertaken, written consent to examination and treatment is rarely insisted on in private practice, and

still more rarely are doctors challenged in the courts on the issue of absence of consent. That in itself is a testimony to the common sense of the general body of patients and to the tact and discretion of the members of the profession. But the Medical Defence Union is aware of the legal risks to which the doctor's calling is continually exposed, and to the trouble which the querulous or litigious patient—even though he be but one in a thousand—may cause, and it has performed a useful service in preventing practitioners from being lulled into a false sense of security.

TRAINING OF NURSES

R.C.N. COMMENTS

The Royal College of Nursing has submitted to the Minister of Health a memorandum on the Working Party's Report on the Recruitment and Training of Nurses. It opens by criticizing the Working Party for making insufficient allowance in compiling its data for the handicaps which beset the nursing profession during and after the war. In order to economize nurse-power, the Royal College recommends that a job analysis be made consisting in a study of the hours of care required by various types of patients in different stages of illness, the whole team of health workers being included in the analysis. It would then be possible to allocate nursing staff in the most suitable way.

The Royal College recommends that the hours of working be adjusted so that nurses may be attracted to continue their occupation after marriage. Methods of developing satisfactory staff relationships should be studied and the part-time worker encouraged. It regrets that the Working Party did not suggest solutions to the problem of obtaining adequate domestic help.

Training should be for three years, not the two suggested by the Working Party, but the curriculum should correspond with the Working Party's suggested basic course. Pointing out that the student of nursing cannot be free to learn as she likes, the Royal College believes that the phrase "student nurse status" ought to describe more accurately the student's place than the Working Party's phrase "student status." It believes that there is need for experiment in training and suggests the following scheme:

(1) There should be one wide basic training of two and a half years' duration, corresponding in content to the basic course proposed in the Working Party's Report, with a further six months (three years in all) spent either in general or in public health nursing.

(2) At the end of three years the candidate would have a choice of two special papers, one on public health nursing and one on hospital service.

(3) Some intending public health nurses might elect to enrich their background by obtaining the full qualification in general nursing, proceeding to public health nursing as a post-certificate course.

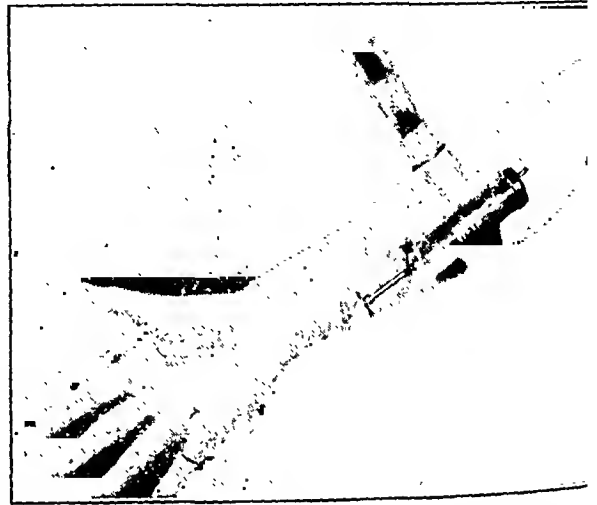
It disagrees with the Working Party's proposals for the organization of nurses' training, considering that nursing education and research should be in the hands of the profession and that responsibility for these should be delegated to the general nursing councils. It strongly opposes the proposal that the Ministry of Health should assume such duties and functions. It considers also that the general nursing councils for England and Wales, Scotland, and Northern Ireland should remain separate bodies.

U Ba Lwin, Principal of the Myoma Co-Education School, Rangoon, is in Britain under the auspices of the British Council until June to study education, teachers' organizations, school medical and dental services, and welfare work. He is visiting social clubs, institutions, W.E.A. centres, and all kinds of schools in London and the provinces. A former student of the London Day Teachers' Training College, he is an active educationist in his own country, holding many public appointments with such organizations as Health Education Committee, Burma National Teachers' Association, Burma Education Association, and the Council of National Education. Trained in scouting at Gilwell, he is now the Burma Chief Commissioner for Boy Scouts and editor of the official organ of the Boy Scouts Association—*Burma Boy*—as well as being a member of the Girl Guides' Council.

Preparations and Appliances

A TRANSPARENT "THIRD HAND"

Dr. C. F. SCURR, Registrar in Anaesthetics, Westminster Hospital, writes: The accompanying illustration shows a modification of the anaesthetist's "third hand," devised by Magill, for use in intravenous anaesthesia. It is made from an 18 in. (45 cm.) length of 1 in. (2.5 cm.) wide transparent plastic material such as is used for making belts, braces, etc.; the



ends are slipped through a short length of rubber tubing 3/4 in. (1.9 cm.) in diameter, which provides a convenient sliding adjustment.

This device possesses the following advantages: (1) Owing to its transparency, the markings of the syringe and the position of the plunger can be clearly seen at all times. (2) The material used is so flexible that it permits secure fixation of the syringe even in very oblique positions on the forearm.

Reports of Societies

STREPTOMYCIN

A discussion on "Streptomycin" took place at a meeting of the Section of Experimental Medicine of the Royal Society of Medicine on April 13, Prof. H. P. HIMSWORTH presiding. The results of clinical trials with streptomycin in pulmonary tuberculosis and in tuberculous meningitis were brought forward. Prof. CLIFFORD WILSON also introduced the subject of the use of streptomycin in certain non-tuberculous infections, but the results in this field, he said, were not yet ready for publication.

Pulmonary Tuberculosis

Dr. GEOFFREY MARSHALL said that streptomycin had been used clinically in cases of tuberculosis since 1945, but that until the latter part of 1946 was a certain limited supply made available to the Medical Research Council. Reports from America had indicated that it was of considerable value in the treatment of tuberculous meningitis and of acute military tuberculosis; inconsistent results were reported in pulmonary tuberculosis. This chronic disease with its long course and its spontaneous remissions and exacerbations was a particularly difficult condition in which to judge the effect of treatment. Nevertheless, in January, 1947, an investigation was begun in which some 55 young adults with the typical pneumonic type of tuberculosis affecting both lungs were treated with streptomycin. The results were now being analysed for publication and all that he could do was to give a very rough and rather premature indication.

employed had been 2 g. a day, given in four injections of 0.5 g. in 2.5 ml. of water, in the twenty-four

Injections were given intramuscularly; they were rather ill, though not excessively so. Less than 2 g. a day seemed sufficient, and more than that amount seemed to be toxic, doses causing haematuria and pyrexia and other untoward effects. Side effects were relatively slight. The most important of them was disturbance of vestibular function. Though streptomycin was very effective against the tubercle, as it gradually lost its effect to a large extent in pulmonary disease. After the first six or eight weeks strains were found in sputum which were resistant. The results with the patients who had pulmonary tuberculosis were not very striking, and from the literature he had read he had not expected anything very different. But the longer the trial went on the more impressed he became, because in each of the centres—in number—in which this investigation proceeded the patients treated with streptomycin seemed to show a definite advantage over certain controls. This was shown in the conversion of the sputum from positive to negative, remission of fever, and gain in weight. At the end of six months, of treated cases, 24 were improving; on the other hand 6 patients were getting worse and 5 had died.

Another group of cases with acute miliary tuberculosis of the lung without meningitis, 13 out of a total of 24 up to the time they were doing well, 6 did well for a time but had relapsed, 5 patients had died, 2 of them with meningitis, one of six weeks and the other six months after starting treatment with streptomycin. There was no doubt about the value of streptomycin in the treatment of acute miliary tuberculosis, the clearing of the x-ray picture was dramatic. In cases of tracheo-bronchial ulceration the results had been almost constantly good; healing of the ulcers was quite rapid and nearly every case complete. Streptomycin was not worth anything by inhalation; it must be given by intramuscular injection. It had also been tried out as an "umbrella" for surgical intervention in pulmonary tuberculosis. A short course of streptomycin was given before and after resections of the lung, in some cases of extra-pleural pneumothorax a protective pleurodesis was tried. The great obstacle in pulmonary disease—not other tuberculous manifestations—was streptomycin resistance. In nearly all cases resistant strains were found developing within six or eight weeks of the inception of treatment. Variations of dose-rhythm were now being tried: instead of six-hourly, 1 g. was given in one injection each day, and in other cases one week on treatment was followed by another week off treatment, and so on. Contrary to experience with sulphonamides, it did not appear necessary to maintain a special blood-level.

Tuberculous Meningitis

Dr. TREVOR MANN gave particulars of 33 cases of tuberculous meningitis treated with penicillin. In 32 cases the diagnosis was bacteriologically proved. The discovery of streptomycin, he said, had revolutionized the approach to tuberculous meningitis. Formerly little was to be gained from the early recognition of the disease, for there was no specific treatment. The great delay in the recognition of the disease occurred in general practice, where early diagnosis was often beset by many difficulties. Confirmation of the suspicious case could not be difficult in hospital, and a positive or strongly presumptive diagnosis should be made within twenty-four hours. Several schemes of streptomycin treatment had been tried. The first continuous intramuscular and intrathecal treatment was undertaken, but it was found that many patients derived considerable benefit during intermissions of treatment. A number showed marked improvement in the mental state during a rest period, during which also the anorexia and vomiting attributable to streptomycin ceased. For a short period the intrathecal route alone was used, but owing to poor results this method was abandoned in favour of a scheme of integrated intramuscular and intrathecal treatment, with a rest period of about three weeks. Each case must be treated on its merits, and at any time it might be necessary to modify the scheme to suit the needs of a particular patient. Recently a drug had been given at six-hourly intervals, but experi-

mental evidence showed that injections every twelve hours were just as effective. Treatment should be spaced so that the intrathecal injections were given approximately midway between the intramuscular ones.

One-third of the cases showed a good response to treatment; 5 showed immediate and uninterrupted improvement. Out of a total of 15 clinically advanced cases, 13 patients were dead and 2 survived. In the case of one of the survivors the outlook was uncertain; the other was certified as recovered. Out of 13 early cases 5 patients were dead, in 5 the result was uncertain, and 3 were classified as recovered. In an intermediate group of 5, 4 patients had died, but one child had recovered and was doing very well nine months after the cessation of treatment. Psychometric tests on the 5 children who were now well showed them all to be normal. Among the advanced cases 7 were moribund on admission.

Dr. J. RUBIE mentioned a group of 47 cases of tuberculous meningitis treated at another unit. Of these 19 had survived and 8 of these had been observed over a period of 200 days, the others for shorter periods. Of the 28 patients who had died, 8 were less than seven days in hospital, and 14 were under 3 years of age.

Dr. MARC DANIELS said that, as Dr. Mann had remarked, a trial had been made in certain cases of tuberculous meningitis of streptomycin by the intramuscular route alone, under the impression that given intrathecally it had an irritative effect. Alternate cases were treated in that way. During the early months of the trial it seemed that there was nothing to choose between the two series of cases, those having only intramuscular injections doing as well as the others. After the trials had been prolonged, however, it was apparent that relapses were more frequent in these cases.

Dr. D'ARCY HART said that the factor of resistance in pulmonary cases was important in two ways. It might cause a falling off in improvement under treatment, but another consideration was that an early case with a small lesion might be treated with streptomycin and success be attained, so that treatment was stopped, but later the patient might relapse and have a positive sputum, whereupon a strain absolutely resistant to streptomycin might be encountered. It was necessary to exercise great circumspection in treating very early cases.

Dr. GEOFFREY MARSHALL said that those who had brought forward these reports had been conservative and by no means optimistic in their description, but he did not want anyone to go away thinking that streptomycin was not held in very high esteem. It accomplished what no other agent was able to do in any form of tuberculous infection. They were doing all they could to stimulate the authorities to have it introduced in large quantities. Having seen patients with tuberculous meningitis die so uniformly, it was a remarkable experience to go to Dr. Mann's clinic and to see five little children who had recovered and were living normal lives. In pulmonary disease there were cases in which streptomycin tipped the scale—for example, in the type of case in which one desired to do collapse therapy but dare not. The use of streptomycin might make other measures possible. Streptomycin was of real value and it remained to work out the best way of employing it.

WELFARE OF SPASTICS

A LONDON CONFERENCE

The medical, educational, and social aspects of the problem of cerebral palsy were discussed in London on April 14 at a conference arranged by the British Council for the Welfare of Spastics, an organization affiliated with the Central Council for the Care of Cripples and the British Council for Rehabilitation. Prof. J. M. MACINTOSH, who presided, said that when this subject was first mooted its development was attended by what he might call a certain amount of Americanism and dependence upon American experience. The subject was now becoming more of a native growth, and there were signs that in future it would develop on British lines.

Prof. ALAN MONCRIEFF said that the first paper on the subject was in 1861 by W. J. Little, the founder of what was now the Royal National Orthopaedic Hospital, though Shakespeare—

a good clinical observer, among other things—put into the mouth of Gloucester in *King Richard III* an excellent description of the condition.

The strict classification by Prof. Phelps into four or five groups was not accepted completely by neurologists in this country, nor, he thought, in the States. It was not helpful to insist too much on such rigidity. When the ultimate causation of the palsy was considered it was necessary to enter a little into the realm of speculation. In some cases the cause was lack of brain cells or malformation of the brain. A certain number—it was not known how many—were associated with obstetric difficulties. This suggested that some cases might be prevented by improved obstetric care, though it would not be fair to encourage much hope in that direction; the proportion of non-preventable was likely to remain high.

Incidence

It was not known, Prof. Moncrieff continued, how many cases there were in this country. In the United States Phelps estimated that of every 100,000 children born, 7 were afflicted with cerebral palsy, that one of those 7 would die in the early months of life, and that of the remaining 6 two would be so feeble-minded as to be ineducable, and the other 4 would be capable of education in the sense of being trained to varying degrees of efficiency by special educational methods. On these figures, in a city of the size of Birmingham or Glasgow there would be between 600 and 700 children aged up to 16 who were in the educable class. That at least was the size of the problem in America; there was some reason to believe from partial surveys that the numbers might be smaller in this country.

Why was it that this problem had only lately come to the fore? To a large extent it was due to the fact that we estimated the level of intelligence by what we saw and heard of a person, and if the muscles that controlled speech were affected a child might be classified as an imbecile, and if at the same time the muscles of the face and limbs were uncontrollable he might be put down as entirely ineducable. The merit of the work of Phelps and Carlson in the States was that they showed that some children who looked like idiots could be trained. Osler said that these people were usually more or less idiots and helpless in mind and body, but he also observed that there were some in whom the brain was not profoundly affected and a greater number who were intelligent. Osler stressed the value of massage and exercises, but massage might do harm. Occupational and speech therapy should be applied. Treatment was an expensive business, but these spastic children represented an obligation from which we could not escape.

According to Phelps, with 700 such children in a city of a million population, 140 would require in-patient and 560 out-patient treatment. At the Children's Rehabilitation Institute, Maryland, for 80 in-patient children there was a staff of one teacher, 8 occupational therapists, 8 physiotherapists, some of them undergoing training, 4 trained nurses, 24 nursing aids, and 6 porters or carriers. If the children could be brought in at an earlier age certain of this staff could be withdrawn. The need in this country was for out-patient diagnostic and instructional centres, based at a hospital, where parents could also receive instruction in the exercises to be undertaken at home, and an in-patient unit in the form of a residential school equipped for long-term stay. Prof. Moncrieff was anxious that, whatever the pattern of the organization, they should concentrate on the pre-school child.

Need for Diagnostic Centres

Dr. PHILIP R. EVANS said that it was important to know the size of this problem, and it must not be assumed that Phelps's figures necessarily applied here. During the next few years there would not be enough people trained and experienced in the treatment of these children, and therefore there would have to be some selection. On humanitarian grounds alone treatment was always worth pursuing, though in the case of children severely affected it must be disappointing. Among distinguished sufferers from cerebral palsy to some degree were, apparently, Dr. Johnson and Byron. Dr. Evans then narrated three cases in detail, in one of which the treatment was unsuccessful, the child ending in a mental deficiency institution;

in another moderately successful; while the third promised well. The cases illustrated the tragedy of failure to make an early diagnosis, though it was an extraordinarily difficult diagnosis to make during the first year or eighteen months of a child's life. The problem was to discover damage to the nerve system at an early period.

Mr. GEORGE TOMLINSON, Minister of Education, who opened a later session, said that the treatment of these handicapped children was still in the experimental stage. Those engaged in this work could be assured of his support and the support of everyone in his Ministry. This session was on the educational and psychological aspects and was addressed by Dr. E. MILDRED CREAK and by Miss M. I. DUNSDON, director of research in the problems of educating spastic children, National Foundation for Educational Research. A final session dealt with the social aspect of the problem.

FENESTRATION OPERATION FOR OTOSCLEROSIS

At a meeting of the Liverpool Medical Institution on March 11 with the president, Prof. T. P. McMURRAY in the chair, Mr. JOHN MCFARLAND read a short paper on the surgical approach to the inner ear.

Mr. McFarland said that in the relief of deafness in otosclerosis a window was made in the bony lateral semicircular canal or ampulla. A tympano-meatal membranous flap was fashioned and placed over it (after Lempert). The surgical approaches for the procedure were described, the speaker favouring the incision and technique of Kettel. Two cases thus treated were shown, and in addition a woman of 31 whose hearing had considerably improved following fenestration by a different technique. A Thiersch graft was placed over the window, the edges of which were impregnated with lead to prevent osteogenesis; the mastoid wound was filled with penicillin powder and closed without drainage. The wound healed by first intention in ten days; the tympanic membrane became normal in five weeks, and the patient heard in six weeks.

In the discussion which followed, Dr. H. ZALIN said that the fenestration operation for otosclerosis provided considerable scope for variation and ingenuity in the method of approach and technique. There was a danger of over-concentration on minutiae to the exclusion of an unbiased assessment of results. The cause of otosclerosis remained unknown. The mechanism whereby fenestration improved hearing in otosclerosis was equally mysterious. A more cynical approach to the problem would do much more good than harm. Devices intended to maintain a continuously patent opening had varied from metal obturators to acrylic inserts. Enthusiastic operators quoted hundreds of cases treated with dramatic effects by one method—and then suddenly switched to a variation. The multiplicity of changes in technique shown by one surgeon alone in the past five years indicated a dissatisfaction with the results not visible in the published cases. The main difficulty was the maintenance of a small stoma in bone which tended to form new bone as part of the essential pathology of the disease. The following facts had been observed at Bootle General Hospital: (1) a post-operative improvement in hearing in a number of cases in the unoperated ear; (2) in successful cases bizarre sensations of sound had been noted; (3) increased sensitivity to pure tone was seldom accompanied by a corresponding improvement in intelligibility.

Dr. Zalin asked: Is it possible that an increase in the sensitivity of the end organ to sound is related to labyrinth trauma alone? Does the cochlea become more sensitive than before operation in the same way that a tooth becomes more sensitive when it develops a dental abscess? Will the end result be disappointing not because of inadequacy of technique but because the procedure, based as it is on so little scientific knowledge of the aetiology, is possibly doomed from the start? At the same meeting Mr. J. P. HERON read a short paper on maternal obstetric palsy, and Mr. F. C. DWYER read a paper on tenosynovitis stenosans.

Correspondence

Dr. Dain on the Plebiscite

SIR,—The speech I made at Shrewsbury last Sunday, which received much publicity in the Press, seems to have caused some misunderstanding in the profession. I should like to make it clear that I depart in no way from the careful and balanced statement issued by the Council to every doctor in the country. The Minister of Health's concessions present us with a changed situation which makes the new plebiscite necessary.

I would urge that it is the duty of every doctor to make up his own mind on the facts, and to decide whether Mr. Bevan's concessions go far enough to safeguard the essential professional freedoms of the practising doctor.—(I am, etc.,

B.M.A. House,
Tavistock Square,
London, W.C.1.

H. GUY DAIN,
Chairman of Council

Anti-Rh Serum Nomenclature

SIR,—In the annotation on "Anti-Rh Serum Nomenclature" (Feb. 28, p. 400) you discuss the recent edict of the National Institute of Health in the United States regarding the labelling of anti-Rh sera, namely to use the earlier Wiener Rh-Hr system as standard, with the corresponding Fisher-Race C-D-E notations in parentheses. You regard this decision as a "transitional compromise," implying that eventually the original notations will be abandoned in favour of the Fisher-Race system. However, this conclusion as well as the Board's own analysis fails to take into account all the available facts.^{1,2,3,4} I have therefore prepared my own analysis of the situation, and after it is printed in your journal perhaps one of the C-D-E protagonists will attempt a reply. Only by publishing all the facts and both sides of every scientific problem can we ever hope to arrive at the correct solution.

Advantages of the Rh-Hr Nomenclature

1. They have priority, having been proposed by one of the discoverers.
2. They form a coherent and unified system, which readily lends itself to extension to include newly discovered blood factors belonging to the rhesus system.
3. The genetic theory on which the notations are based is amply supported by heredity studies on a large series of families, and statistical studies on the distribution of the types in the population. On the other hand, there is no evidence against the theory.
4. The notations are simple to use in writing and orally.
5. The notations clearly separate the designations for phenotypes and genotypes, and for agglutinogens and genes, leaving no room for ambiguity.
6. The phenotypes' names clearly indicate what tests have actually been made and what reactions were obtained, without including symbols for hypothetical blood factors which have not been tested for, and for which there is no clear experimental evidence.
7. The notations clearly indicate the relationship to the original rhesus factor, and separate the Rh-Hr types from other independent systems such as the A-B-O groups and M-N types.
8. For individuals who already know and understand the four blood groups and the three M-N types, the Rh-Hr notations are easy to learn almost instantaneously.
9. The notations lend themselves readily to clinical use, since the capital R's and small r's clearly indicate which types are Rh-positive and which are Rh-negative.
10. They take advantage not only of the reciprocal relationship between the Rh and Hr factors, but also of the special clinical, serologic, and genetic position of factor Rh.
11. They do not involve any incorrect assumption of one-to-one correspondence between genes and partial antigens.
12. They are self-sufficient.
13. None of the symbols used in the Rh-Hr notations have previously been applied to other agglutinogens.
14. The notations as used by workers throughout the world are uniform.
15. Simple tables are available for the Rh-Hr types and their genetics.

16. They are the *only* notations used in most standard textbooks, encyclopaedias, dictionaries, and articles.

Supposed Disadvantages of the Rh-Hr Notations

1. That they take longer to teach. Where this seems to be so, it is merely because one must *understand* the Rh-Hr types in order to use the Rh-Hr notations intelligently, and to teach them.
2. That they have been changed several times. This is true, but none of the changes are basic or really upsetting. Moreover, one need only learn the present nomenclature to understand the subject. The changes have served to improve and streamline the nomenclature, and are no more objectionable than the changes made from year to year in order to improve the performance and appearance of automobiles. One does not have to study the entire evolution of the automobile from 1905 to date in order to learn how to drive one's 1948 model.

Supposed Advantages of the C-D-E and Rh₁-Rh₂-Rh₃ Notations

1. Many workers have the false impression that they are easier to "learn" and teach. The reason for this is that one can speak about C-D-E and Rh₁-Rh₂-Rh₃ at once, without having any real understanding of the subject. These notations therefore serve as a convenient cloak for lack of knowledge and understanding, and actually discourage any desire to acquire such an understanding.
2. They make use of a one-to-one correspondence between genes and blood factors. This supposed advantage is based on the wrong concept that such a one-to-one correspondence must exist, which is not true.
3. They are gaining more adherents. This is true only because the protagonists of this system are teaching it, and because the new regulation passed by the National Institute of Health has forcibly called these notations to the attention of workers. The C-D-E and Rh₁-Rh₂-Rh₃ notations will naturally attract some adherents, just as the Moss and Jaosky systems each gained their adherents. The resulting unnecessary confusion may take many years to clear.

Disadvantages of the C-D-E, Rh₁-Rh₂-Rh₃, and other Systems

1. They lack priority.
2. The genetic theory on which they are based is purely theoretical; there is no experimental evidence to support it, nor does it lend itself readily to experimental attack. On the other hand there is some statistical evidence based on the analysis of the distribution of the Rh-Hr types in the population that tends to refute the linkage idea.
3. The notations are cumbersome to use. For example type rh becomes small-c, small-d, small-e over small-c, small-d small-e. An error in printing in which a capital letter is substituted for a small letter or *vice versa* could prove fatal. Thus if anti-d is written instead of anti-D this would be very serious, but if anti-rh, is written instead of anti-Rh, the intention of the writer would still be obvious.
4. There is no clear separation of phenotypes and genotypes. The use of designations for "the most likely" genotype without indicating clearly all the time what is intended conveys to the reader the false impression that the actual genotype has been determined. The writings of users of these notations continually confuse genotypes with phenotypes, and it is impossible to tell from the designation used what tests have actually been made.
5. The letters C-D-E give no indication of any relationship to the rhesus system and convey instead the erroneous impression of a relationship to the A-B system of blood groups.
6. To learn the other notations suggested one must start from scratch, and all one's knowledge and understanding of the A-B-O and M-N systems is wasted.
7. The notations are too awkward for clinical use. There is no clear indication in the notations which bloods are Rh-positive and which are Rh-negative.
8. While some of the proposed systems of notations take advantage of the reciprocal relationship between the Rh and Hr factors, none takes into account the special clinical, serologic, and genetic position of the factor Rh.
9. The notations are not self-sufficient or self-explanatory. Thus users of the C-D-E notations are compelled also to use the Rh-Hr notations, as can be seen by consulting the papers of Fisher and Race who originated the C-D-E notations.
10. The symbols C and E have already been applied to other agglutinogens in human blood. The introduction of the use of these letters for agglutinogens of the rhesus type would therefore result in ambiguity.
11. There is no uniform understanding among users of the C-D-E notations as to terminology for the phenotypes. Thus blood reacting with "anti-C," "anti-D," and "anti-e" but not with "anti-E" is variously designated as CD_e, or CeD_e, or CD_e/cde, etc. Under the Rh-Hr notations, the blood would be designated

simply as Rh_h, a name which clearly indicates positive reactions with sera anti-rh', anti-Rh_h, and anti-hr', and negative reactions with anti-rh'.

12. No simple unified tables regarding the types and their heredity involving the other proposed systems of notations are available for use.

13. The C-D-E and other proposed notations are not mentioned in most standard laboratory texts, and are therefore unintelligible to the average reader.

—I am, etc.,

New York.

A. S. WIENER.

REFERENCES

- 1 Wiener A. S., "Theory and Nomenclature of the Rh Types, Subtypes, and Genotypes," *British Medical Journal*, 1946, 1, 982.
- 2 — "Rh System in the Chimpanzee," *Science*, 1946, 104, 578.
- 3 — "Nomenclature of the Rh Factors," *Lancet*, 1948, 1, 343.
- 4 — *Blood Groups and Transfusion*, 3rd edition, 1943. C. C. Thomas, Springfield, Ill.

Scepsis Scientifica

SIR,—In his interesting address Prof. Geoffrey Jefferson (Feb. 28, p. 379) asks, "Could anything be learned from the structure and workings of the brain?" From the context this seems to refer to the relations of the brain to mind. He answers the question by saying that "to this old question we have no modern answer."

The *Proceedings of the Royal Society of Edinburgh*, Section B (Biology), 1943-4, Vol. 62, Part I, p. 86, gives at least one "modern answer."—I am, etc.,

Perth.

R. J. A. BERRY.

*. The reference is to an address entitled "Some Recent Advances in the Study of the Brain as the Implement of the Mind" which was read by Prof. Berry to the Royal Society of Edinburgh on June 5, 1944.—Ed., *B.M.J.*

SIR.—I read Prof. Geoffrey Jefferson's article (Feb. 28, p. 379) with such keen appreciation and enjoyment that it seems ungrateful to suggest that the issue might have been made clearer in the final paragraphs. The use of words as an economy of thought, to which the human race owes so much, is sometimes more confusing than helpful. Prof. Jefferson writes, "There are other large fields of knowledge besides Science." The meaning of these words as they stand alone is not very clear; but the important underlying meaning, obvious from the context, is that scientific technique is suitable for the investigation of some but not all of our total experiences.

The confusion arising from the use of the term "Science," at one time in its literal sense of knowledge, and at another in its acquired sense of a definite technique (deduction combined with induction, with special emphasis on the appeal to experience), has established a sort of vicious circle. Science in its meaning of scientific technique has had dramatic triumphs in the investigation of certain fields of our total experience, such as chemistry and physics, and has given us valuable knowledge of these subjects. These great successes naturally raised hopes that Science would be equally efficient in supplying knowledge in all other fields. But if we employ a word which means by derivation "Knowledge," not only for the knowledge obtained by a special technique but also for the technique itself, it is an easy step by equating all knowledge with the special technique to prejudge the whole issue and to obscure the truth, emphasized by Prof. Jefferson, that scientific technique as a means of winning knowledge is not infallible nor even suitable in all fields of our total experience.

This belief in the total infallibility of scientific method has become firmly established in the popular mind, largely owing to the dual meaning referred to above which has become attached to the term "Science," and it is this misconception which is threatening our civilization with disaster to-day.

As scientific technique invades the higher fields of biology and psychology it is compelled willy nilly, in order to maintain its output of success, to appropriate more and more to its use those techniques such as intuition and introspection which are suitable to these higher levels, and we are sometimes surprised to realize that these higher techniques have now been quietly incorporated in the scientific method. Unfortunately the highest techniques of all, meditation and love, have not yet been officially adopted, although to the writer it would seem just as much as error of technique to attack the problems of, for instance, social psychology by the scientific method, unaided by meditation and love, as to endeavour to analyse or weigh a chemical substance by meditation and love unaided by the scientific method.

Of course there is not the slightest objection to combining all techniques, including meditation and love, under the heading of "Scientific Technique" if we wish; but we might then just as well call this all-embracing technique "Religion." This brings us back to our old friend and enemy, the use of words.—I am, etc.,

London, S.E.21.

M. H. K. KANE.

Temperature Records and Ovarian Activity

SIR,—The letter by Dr. P. M. F. Bishop (April 10, p. 706) reflects certain common misconceptions concerning the significance of temperature records in the study of infecundity. May I attempt to clarify the position within the space available for a valuable clinical method be employed without due regard for either its potentialities or its limitations? Dr. Bishop asks few questions.

Question No. 1: Does the basal temperature pattern denote whether ovulation has taken place?—The occurrence of a biphasic temperature cycle indicates that a phase of oestrogenic secretion has been followed by a phase of progesterone secretion. The rise of temperature caused by progesterone is usually, but not invariably, associated with, or follows upon, ovulation. But progesterone may be secreted without actual liberation of an ovum (e.g., in the case of retained ova or of luteal cysts), so that the rise is no absolute proof of ovulation. Conversely, ovulation may occur without luteinization, so that the absence of the typical rise in temperature may not prove the absence of ovulation. The condition of the endometrium also depends on ovarian secretion, not on ovulation itself. But the association between ovulation and a biphasic temperature curve is so high that in practice it has been used by a number of independent workers for timing of intercourse or of artificial insemination.

Question No. 2: Can it indicate exactly when ovulation takes place?—Experience with artificial insemination and with laparotomies timed in relation to the temperature cycle (cf. Greulich, W. W., Morris, E. S., and Black, M. E., *Proc. of the Conference on Problems of Human Fertility*, 1943, p. 37) show that ovulation, which of course is not necessarily an instantaneous process, tends to coincide with the thermal shift from the low to the high level. The accuracy of timing depends among other factors on the rapidity of the rise and is, therefore, less reliable in cases where the shift is of the gradual ("staircase") type.

Question No. 3: What information does it provide us to the degree of ovarian activity?—Injection of natural oestrogens tends to lower the level of the temperature. In women with anovular cycles and a high level of oestrogenic secretion (e.g., in certain cases of glandular cystic hyperplasia or ovarian cysts) the waking temperature remains permanently at or below the level characteristic for the follicular phase; injections of progesterone raise the waking temperature to the level normally prevailing during the luteal phase according to the dose given. Again, during the early phase of pregnancy when the progesterone level is high the temperature is also high. When the progesterone level falls during pregnancy (e.g., in imminent abortion, or during the fourth month of gestation) the temperature drops, but rises again in response to progesterone injections. These are but some of the facts which indicate that the actual level of the waking temperature, as well as its relative variations, reflects quantitative variations, and not only the phases, of ovarian activity.

Question No. 4: Is it likely to give more accurate information than the temperature is recorded rectally than if it is taken by mouth?—The oral temperature is apt to give occasional deceptively low readings, due to extraneous factors such as mouth-breathing, to which the rectal reading is not susceptible. This means that in any individual case the oral temperature may show a misleading value, so that the subject might miss a critical date, if I may use this expression.

Dr. Bishop also contrasts the 500 records collected at the Family and Endocrine Clinic of the Chelsea Hospital for Women during the past three years with the large number to which I refer. Perhaps there is some confusion between number of women entered and number of cycles recorded. It has been my practice to ask patients to record the waking temperature for not less than three months, and quite generally until they have reached the fourth month of pregnancy or their case has been discontinued. In one case illustrated in the original communication (*Lancet*, 1945, 2, 46), Fig. 6) 26 successive cycle records from one patient were reported, and more than 1,500 records gathered from private practice. Of course since then the work has been much extended by private and others. It is a fact long recognized that successive menstrual cycles differ from each other with respect to occurrence of ovulation, duration of luteal phase, etc., and it is quite justifiable in the treatment of infecundity to record only one cycle or even two.

cles. Continuous records are part of the proper background for the diagnosis and treatment of infecundity, also for the supervision of pregnancy in its early stages.

Concerning the statistical evaluation of the extensive data available some results have already been published (see Fig. 2 in the paper quoted; also Figs. 100 A-D inclusive, in Siegler, S. L., *Fertility in Women*, London, 1944; also Palmer, A., 1942, *Surg.ynec. Obstet.*, 75, 768). These show mean rectal readings on suitable grids. Further statistical evaluation of data will be useful in some respects, but Dr. Bishop overrates the function of statistics if he thinks that the statistical evaluation of temperature readings taken by themselves can solve such questions as to whether ovulation is denoted by any given pattern. They can only be used for this purpose when related to some different and direct indicator of ovulation such as findings at laparotomy.

I would add that my experience is not "unique," as can be readily ascertained by anyone who cares to avail himself of the extensive literature on the subject which has come into being in the last ten years.—I am, etc.,

London, W.1.

MARY BARTON.

Identification of Medical Documents

SIR.—It appears to me that Prof. Lancelot Hogben and others (April 3, p. 632) are trying to make a mountain out of a molehill. We are, presumably, on the eve of a National Health Service. If code numbers can be supplied to death certificates, why not to birth? These could be used for the medical histories.

I have been told that Records Officers have experienced difficulty in obtaining National Registration Card numbers, but after 30 years' experience of giving identification numbers to my patients I am convinced that where the Records Officer may fail the doctor never will if he is worth his salt.—I am, etc.,

Hatfield

A. GARVIE.

Treatment of Phlebothrombosis

SIR.—Mr. Hamilton Bailey's article (March 27, p. 594) is both timely and welcome, and it should serve as a stimulus to the earlier detection of phlebothrombosis. It would be a pity, however, if the impression is gained that all such cases should be treated by interruption of the vein.

Since 1944 I have been on the look-out for this condition and have performed the operation in a number of cases. I have been impressed at the number of times the condition can be spotted if one remembers to look at the legs after the fourth post-operative day. My own feeling is that the large majority of cases are best treated with anticoagulants. I have tried to confine, for my own benefit, the indications for operation as against anticoagulative therapy, and I have come to regard them as follows:

1. Where anticoagulants are not available—this was so in three of the casualties.
2. Where haemorrhage follows the use of anticoagulants. In recent case of spreading thrombosis and pulmonary infarction on 7th day following prostatectomy, profuse haemorrhage occurred on the prosthetic bed when heparin was given.
3. Where anticoagulant treatment would have to be maintained for many months and active leg movements are prohibited, as in case where phlebothrombosis develops during heart disease.
4. Where there is recurrent phlebothrombosis—e.g., in 1943 and 44 repeated small emboli with pulmonary infarction occurred at intervals of a few months in a serving soldier. Each attack was severe enough to require hospitalization. Venous interruption has given him complete relief.
5. Where there is obvious arterial disease contraindicating anti-coagulants. In one case I have seen cerebral haemorrhage follow their use.
6. Where extensive ulcerating lesions are present—e.g., ulcerative lesions from which haemorrhage is to be feared.

In the actual operative procedure I have made it a practice to expose the external iliac vein and not the femoral. There is some evidence that the collateral circulation is more efficient here than low Poupart's ligament.

I have found a glass tube of a diameter a little less than that of the external iliac at this site to be the most efficient extractor of clot. The tube must be angulated 135° at about 6 in. from the tip. A powerful suction apparatus is required, and the glass tube gently pushed up inside the vein, thus detaching the clot where it is adherent

to the intima. As the clot gradually becomes free it can be watched passing up inside the glass tube until the upper limit of attachment is reached, when it is suddenly sucked down the tube, often in one piece.

It is wise to have the patient half sitting-up during this stage of the operation, and as soon as the clot is free he should be instructed to hold his breath so that the blood flows back down the vein. Pain in the calves usually disappears within 24 hours of the operation.

I have never regretted carrying out this operation, though I have once regretted that I did not tie the opposite vein as well. At the same time I think it would be unwise if the vein was ligated in every case of deep thrombosis. In the majority of cases all that is needed is treatment with heparin and dicoumarol. The difficulty which arises is to determine the cases in which vein interruption is preferable.—I am, etc.,

Bristol, 3.

W. M. CAPPER.

Harrison's Grooves

SIR.—The article by Drs. J. Naish and H. R. E. Wallis (March 20, p. 541) on the significance of Harrison's grooves is an interesting work of research into the historical aspects of the problem. It is rather difficult, however, to agree with them in their explanation of the mode of occurrence of this clinical feature. If the ribs buckled along the line of separation of the "vertebro-sternal" from the "vertebro-chondral" ribs, such an effect would be produced maximally in cases where the intercostal muscles are strongest and the negative intrathoracic pressure most evident. In complicated pneumonia there is very little alteration in the intrathoracic negative pressure; certainly there is no increase in the elastic recoil of the lungs in this disease. If bronchiectasis followed the pneumonia a varying amount of elastic tissue will have been lost, leaving the patient with less elastic tissue than previously. In any case if one is concerned chiefly with a disproportion between the negative pressure in the thorax and overacting chest muscles, one is still met with the fact that the diaphragm helps to fix the anterior portions of the lowest ribs, whose lateral portions tend to move outwards.

I agree with Dr. R. Good (April 10, p. 707) that an analysis of the problem should include a consideration of the question of position, though it is felt that he does not sufficiently stress the significance thereof. On the other hand it is difficult to agree that feeding is a matter of much importance. Feeding *per se* affects 100% of children; Harrison's grooves are not found in more than about 10%, and in any case they develop more commonly in children after illnesses in which anorexia, and therefore a diminished food intake, are clinical features. This of course does not rule out the part played by abdominal distension whether by aerophagy or by fermentation, in the intestines of a weakened infant.

However, I think more light will be thrown upon this clinical sign by considering in greater detail the incorrect posture in which many patients are nursed during several phases of their illnesses. The so-called "upright posture" frequently consists of flexion of the head and neck, of the upper part of the chest upon the lower, of the abdomen, of the knees, yet minimal flexion of the hips. It is enforced yet concealed by the tucking in of the bedclothes, which are rendered heaviest and tightest under the chin and over the shoulders in a patient who has partly slipped down—i.e., the custom of "tidying the bed" or making the patient "comfortable."

Where the best of nursing facilities exist—and certainly in the best of children's wards—such a posture is practically unknown. In many other children's hospitals, and in more than one adult ward, if understaffed, this "decubitus *en flexion*" has been encountered with somewhat more than slight frequency. It explains why lumbar rather than sacral pads of oedema sometimes develop in patients suffering from cardiac failure who are treated in bed in this manner.

An examination of conditions obtaining in the patients' homes will support this point of view. Especially in the case of the poorer ones—from which many of the patients observed by Drs. Naish and Wallis came—and particularly where the sick child has been nursed in its parents' bed because other facilities are even less suitable, the posture described above is the usual finding. It is perpetuated when the debilitated convalescent child or one suffering from repeated attacks of asthma or recurrent mild infections is made to rest in a high and large adult's arm-chair with only his head, shoulders, and sacrum in contact with any support.

The result—as Dr. Good pointed out, displaces anteriorly and outwards the soft lower ribs by the action of the tense upper abdominal contents. It diminishes respiratory excursion and mini-

mizes the power of the abdominal muscles in the action of coughing. In this flexed position, if the rectus abdominis exerts any action at all, it tends to pull the 5th, 6th, and 7th costal cartilages *forwards* as well as *downwards*. Only when the child completely recovers from his pulmonary or other disease and is able to get about actively does the rectus abdominis, aided by the transversus thoracis, act in a truly vertical direction anatomically. But not all the child's natural and unbiased instincts are sufficient to compensate for the errors committed upon him during his periods of enfeeblement by his elders—and "betters."

Perhaps one piece of evidence to support this explanation is the fact that Harrison's grooves, although commonly found in children who have chronically infected tonsils, do not occur particularly in those who have had diphtheria or meningitis—cases nursed in bed in the supine position. Lastly, it may be mentioned that one's study of human beings is necessarily incomplete if while pursuing such a study one does not oneself also consider them in the normal habitat—namely, the home. If one did it would soon become manifest that the "upright attitude" of man, though often "assumed," is not always "true."—I am, etc.,

London, N.4.

I. H. MILNER.

Thiouracil in Toxic Goitre

SIR,—I have been tempted to enter the lists on the discussion of the value of thiouracil in thyrotoxicosis following on the paper by Drs. Harold Cookson and F. H. Staines (Nov. 15, 1947, p. 759), the letter by Mr. Geoffrey Keynes and Dr. J. W. Linnell (Dec. 13, p. 971), and the reply by Drs. Cookson and Staines (Jan. 7, p. 123). In the past 30 years I have had an extensive experience in the surgery of the thyroid gland, and since the introduction of the "thio" drugs I have used them extensively in two ways: (1) as short-term treatment in preparation for operation of nodular or, as I prefer to term them, toxic adenomatous goitres, and (2) as long-term treatment for the acute primary hyperplastic toxic goitres, practically all patients being ambulant. I would draw particular attention to these two classes, as the adenomatous and old colloid goitres with secondary thyrotoxicosis are unsuitable for long-term treatment with the prospect of cure, as they invariably relapse and, provided they are operable, should be subjected to surgical treatment.

With acute primary thyrotoxicosis, however, the position is very different—in fact just as different as the pathological condition of the glands in primary and secondary thyrotoxicosis. In my last published report on the control of thyrotoxicosis by methyl thiouracil (*Med. J. Aust.*, 1947, 2, 93) I presented a detailed and critical survey of 84 patients with long-term treatment by methyl thiouracil, which I find is the drug of choice. There were fifty patients of the acute primary type in whom treatment had been concluded for varying periods and fifteen in whom it had not been concluded. Of these, four had been subjected to operation—one because she was subsequently found to be a secondary type, one for cosmetic purposes, and two because of reactions to the drug. There were nine patients with toxic adenomatous glands who had been on long-term therapy for various reasons, and three of these had finally been brought to operation. There were ten recurrent primary cases following either operation or x-ray therapy, of whom six had their treatment concluded with satisfactory result. One was referred for further deep x-ray therapy and three were still under treatment. There were no deaths, and only in eleven cases were there any reactions which could be classed as toxic. In four of these I do not consider that the drug was an aetiological factor, but as the various troubles developed during treatment they were included. In only three cases was treatment suspended, operation being carried out in two of them and the third referred for deep x-ray.

As Mr. Keynes mentioned, surgery in expert hands carries with it a mortality of less than 1%, but this depends not only on the surgeon but on his team, as the anaesthetist plays a very important part, as do the nurses concerned in the immediate post-operative course, and I still believe the average surgeon in this field has about a 5% mortality. Surgery carries with it other than mortality risks, such as laryngeal nerve paralysis, hypoparathyroidism, and residual toxicity, and if 80% of cases are eventually restored to complete normality by surgery it is good work. In my own cases of acute primary thyrotoxicosis I now subject them all to long-term therapy with methyl thiouracil and necessary adjuvant therapy, as I have laid down, for in 87% of cases apparent cure can be obtained, and if surgery is decided on later it can be carried out with safety. My own experience

confirms that of the Lahey Clinic in that I have not had a fatality in over 300 cases of toxic goitres since preparation has been carried out with thiouracil.

Mr. Geoffrey Keynes and Dr. Linnell give a very caustic criticism of the results obtained by Drs. Cookson and Staines, and without some justification, as they compare very unfavourably with those published by other workers (possibly because only ten of the 95 cases were "smooth" goitres), but I feel that their implied contention that all cases of thyrotoxicosis should be operated on is incorrect, and even in the Lahey Clinic one can see they are departing from this rigid standard laid down in their early experience of the "thio" drugs that surgery was the only cure. I would also point out that most workers in this field experience too many technical effects, due, I consider, to too high dosages, insufficient clinical observation of the patients, adherence to a standard and not individual routine, neglect of adjuvant therapy, and persistence with long-term treatment in cases of secondary thyrotoxicosis.

In over 500 patients treated with "thio" compounds or with treatment, whether short- or long-term, I have had one case of agranulocytosis only, and less than 7% of toxic manifestations which are mainly so mild as not to interfere with treatment. The average time of treatment is about 7 months, and so far only 1% of recurrences have occurred, as contrasted with the 48% of a combined series of reports from U.S.A. and the 16% of Drs. Cookson and Staines. Dr. A. Wilson and Prof. H. P. Himsworth so far give the most encouraging results from Great Britain in the field of long-term treatment with thiouracil or methyl thiouracil, and it is hoped that other workers will publish their experiences, as it is only by free exchange of ideas and results that we can determine what is best for each individual patient. After all this is what constitutes our ultimate responsibility to the general public.

I would like to support the remark of Drs. Cookson and Staines that antithyroid drugs have established themselves as a most valuable addition to the methods of treatment of toxic goitre, and in certain types as the method of choice, and recommend it to Mr. Geoffrey Keynes and Dr. Linnell for their further unbiased consideration.—I am, etc.,

Sydney.

HUGH R. G. POATE.

Calciferol in Tuberculosis

SIR,—Although calciferol has become established as a valuable therapeutic agent in lupus vulgaris, its use in the treatment of pulmonary tuberculosis is regarded with diffidence. Literature on the subject is scanty, but the report by Macrae (*Lancet*, 1947, 1, 135) appears to justify caution with this method of therapy. He records disastrous results to two patients undergoing treatment for lupus. One had a fatal haemoptysis, the other developing active disease in the lung, which fortunately subsided after the calciferol was withheld. Neither of these patients exhibited evidence of pulmonary involvement prior to the commencement of treatment.

In the treatment of established phthisis, however, calciferol may be of value and the dangers of its administration exaggerated. Dr. R. Grenville Mathers (March 20, p. 56) observed clinical improvement in six cases of advanced pulmonary tuberculosis treated by this method. No adverse effects were noted. I have obtained similar results in ten patients, giving them weekly injections of 500,000 units for periods varying from six to twelve weeks. Moreover I have observed a greater clinical and radiological improvement when this treatment was combined with the administration of "promantol." All the cases were of the very advanced and febrile type, and progress has exceeded that which I would have expected from bed rest alone.

Results so far have led me to conclude that calciferol may become a useful adjunct to the treatment of phthisis, but the uncertainty of its action does not yet justify its application in those cases suitable for more orthodox measures. If calciferol acts by stimulating the defence mechanism of the tubercle bacillus, it may prove a more effective means of treatment when used in conjunction with chemical agents acting on the tubercle bacillus itself, such as streptomycin, sulphatone, or sodium para-aminosalicylate. The improvement seen with promantol gives support to this suggestion. Further research into the mechanism of action is necessary and it would be interesting in the meantime to hear from others who may have used this drug for the treatment of phthisis.—I am, etc.,

St. Helens, Lancs.

D. S. HALL.

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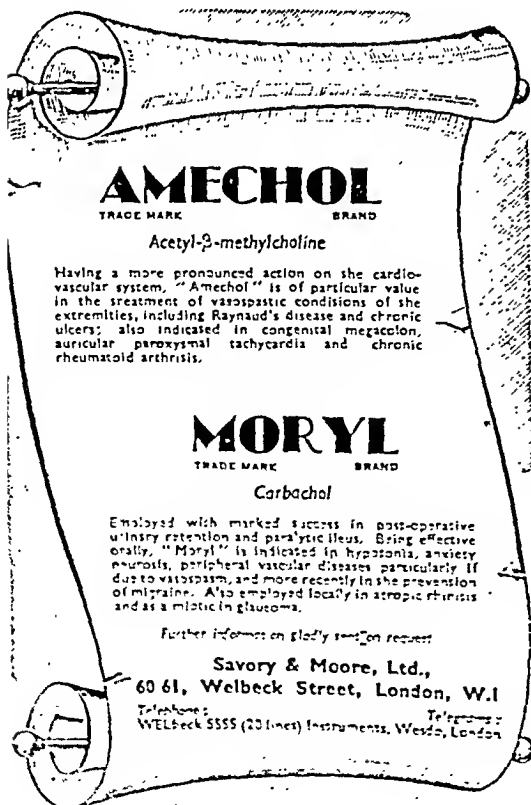
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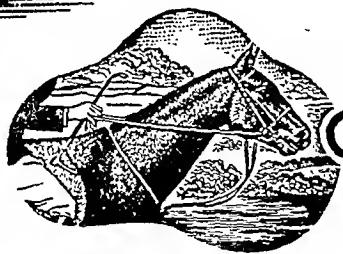
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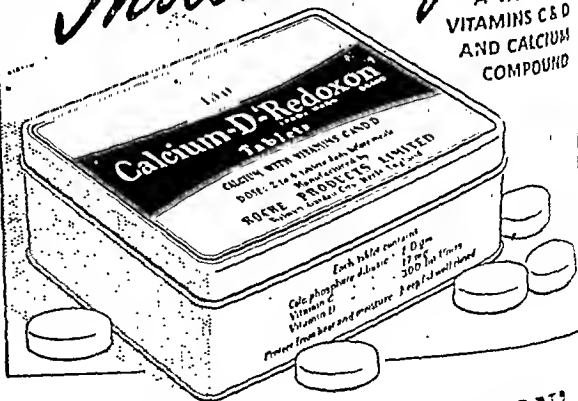
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Hospitality for Overseas Visitors

SIR.—The Empire Medical Advisory Bureau has now been up by the Council of the British Medical Association (*vide* Annual Report of Council, 1947-8, *Supplement*, April 10, p. 68). One of the aims of the Bureau is to arrange for private hospitality in doctors' houses to medical visitors from overseas, particularly those from the Dominions and Colonies. Several medical men, despite present-day difficulties of rationing (and rationing!), have expressed a desire to meet and entertain in various ways overseas postgraduate students, who are often at a loss for friendly contacts, particularly in the early stages of their stay in this country. A week-end in the country or by the sea would be a delight and refreshment to men who spend their weekdays in unaccustomed grimy cities.

May I appeal through your columns to the generously hospitable instincts of our members to help make our overseas visitors welcome in their visits "home." I shall be very glad to see doctors willing to offer hospitality to our overseas visitors for one or two days or even longer would write to me stating what they are able to offer.—I am, etc.,

Empire Medical Advisory Bureau,
B.M.A. House,
Tavistock Square,
London, W.C.1.

H. A. SANDFORD,
Medical Director.

"human approach," and in the possession of a broad general ability—that there should be a potentiality both of prestige and financial reward in general practice. There should be some criterion by which a general practitioner can be recognized as outstanding, much as a physician gains prestige from his honorary appointments or his Fellowship.

Neither the F.R.C.S. nor the M.R.C.P.—not even an M.D.—are relevant to this case. They do not judge the qualities necessary. But it should be possible to institute some diploma which could only be gained by a man who has had, say, ten years in general practice and kept up with advances in medicine, while eschewing mumbo-jumbo, rule of thumb, and quackery. If the possession of such a qualification carried a high financial reward—say, a double capitation fee—it would enormously alter the feelings of the best newly qualified men about general practice, and would attract them where they are needed, instead of their swelling the ranks of the minor specialists.

Such a diploma should not be obtainable by cram courses at hospitals; it should not involve a knowledge of the rare diseases. It would judge qualities which are difficult to test, but it could be done. Without it the G.P., in a generation of State practice, will degenerate into a filler of forms and a prescriber of placebos.—I am, etc.,

Ashted, Surrey.

W. EDWARDS.

The Minister's Assurances

SIR.—The National Marriage Guidance Council relies largely on the help and advice of the medical profession in its effort to educate the public in preparation for marriage as well as in its important work of reconciliation in the cases of broken marriages and marriages. The interest of practitioners and specialists, who can subscribe to the principles upon which the National Marriage Guidance Council bases its work, is now being cited even more urgently. Local B.M.A. Groups, at one of their meetings perhaps, would be willing to accept the services of a speaker on the medical aspects of marriage guidance, and a discussion helpful to both sides might be arranged.

The Council would be glad to arrange for talks by medical representatives of the National Marriage Guidance Council if a request for such a talk is sent to the Secretary of the Medical Committee, National Marriage Guidance Council, 79, Duke Street, London, W.1.—We are, etc.,

NOEL HARRIS,
Chairman, Medical Committee.
ETHEL DUKES,
Secretary, Medical Committee.

London, W.1.

Our net gains, then, from these "conciliatory" assurances would seem to be nil, and we are likely to lose from their possible weakening effect on some in our ranks. I am convinced that nothing short of insisting on our four cardinal points as an absolute minimum will be enough to preserve our freedom—and even those, I think, will prove to be insufficient.—I am, etc.,

Thame, Oxon.

C. H. BARBER.

A Diploma for G.P.s

SIR.—Mr. A. E. Porritt (April 10, p. 673) remarks, "The war is an underlining of the values of specialization from both prestige and the financial angles . . . to a warped perspective on the relative importance of general practice, as compared with specialization. . . . It is exceptional among recently issued applicants for resident appointments to find one in it who expresses the ultimate intention of becoming a G.P."

This tendency, which was of course in evidence long before the war, is fraught with disastrous possibilities for the future of the doctoring, and many thoughtful general practitioners are realizing that it is liable to be accelerated if and when the National Health Service comes into being. On the one hand, if hospital work is adequately paid it will be much easier to specialize and so to avoid the "drudgery of general practice" to gain a larger income than can be obtained in family practice. On the other hand, there will be no inducement for a general practitioner to rise above a certain level of mediocrity. On the contrary, the more time and trouble he gives to his cases, the fewer potential patients can he accept on his list, and the lower his income.

These scales are being heavily weighted in favour of rushed work, the doctor able to do his own lumbar punctures, bleed counts, blood sugars, capable of reading his own electrocardiograms, even of removing an appendix on occasion, will become as extinct as the dodo. The prizes will go to those with a superficial skill at diagnoses.

It seems to me very essential, if we are to preserve the best features of family practice—not only in such technical matters as I have mentioned, but, far more importantly, in an understanding of the

Constructive Scheme

SIR.—In view of the apparent impasse between our Negotiating Committee and the Ministry of Health, destructive criticism having taken place on the part of the medical profession, I consider that a constructive scheme is now called for. The following scheme is submitted to replace the medical part of the National Health Service Act:

(1) All people with salaries up to £600 per annum and their dependants should receive free general-practitioner medical service on an extension of the present national health panel service.

(2) There should be free consultant and hospital service available to all patients without financial burden who come into category (1) referred to above.

(3) A contributory insurance scheme should be inaugurated by which all people with incomes of £600-£1,200 per annum should have specialist and hospital or nursing-home treatment free from expense.

(4) The State should take over all voluntary hospitals in such districts where it is deemed desirable by the public and the board of management. (It is wrong that in a poor district the less fortunate should have less efficient treatment from their local hospital because finance cannot afford the first-class equipment available in other hospitals with larger funds at their call.)

This scheme would eliminate all the contentious points arising between the Minister of Health and medical men, and would preserve the freedom so precious to our profession.—I am, etc.,

Leicester.

FRANK T. DOLEMAN.

Committee of Those Who Accept

SIR,—I quite agree with the suggestions put forward by Dr. Edward F. Hunt (April 3, p. 660). As one who is quite prepared to work in the new Service, I do feel the B.M.A. should appoint a committee on behalf of those thousands of doctors who voted "Yes," the majority of whom are active members of the B.M.A. Besides the doctors who are already prepared to take part there are probably many waverers who at this moment are feeling a certain amount of apprehension at the request for "£100 as a first instalment."

There are many minor points to be cleared up before July 5. points such as mileage allowance and the replacement of stock and drugs used daily during surgery hours. As Dr. Hunt states, there is complete freedom of choice as to entry into the new Service, and we members of the B.M.A. feel that we have a right to be represented by a committee on a high enough level to discuss these matters of detail with the Ministry.—I am, etc.,

Staines, Middlesex

HENRY BERGH.

Doctors and Dentists

SIR,—We feel that one facet of the dispute has not received sufficient notice. We mean the position of our dental colleagues. We feel that no final settlement should be agreed which is not acceptable to the dental profession too. They are as much part of the scheme as we are, and until their just demands have been fulfilled we feel the medical profession should continue to stand out.—We are, etc.,

Chippenham, Wilts

M. H. EVANS.
A. P. HICK.

Position of Assistants

SIR,—Although assistants in general practice supported their employers loyally in the plebiscite—at the same time expressing their personal disapproval of the Act in its present form—many doubts now seem to be arising in that section of the profession. The regulations outlined in the *Journal* of April 3 (p. 652) under the heading of "Medical Services in N.H.S." can only have added to their doubts by the absence of information on their present position and the possibility of succession to a practice or partnership.

The regulations appear to allow the expansion of individual practices to a possible maximum of 6,400 units in one principal's name, should that doctor employ an assistant. The capitation fees on the extra 2,400 patients far exceed the assistant's salary (one-third of that number would cover the average present rate), and with such an inflated list personal attention from the principal, which is what the patient "signed on" for, is not possible. One appears to be forced to the conclusion that such expansion is undertaken purely for financial gain and not for better service. To add to this financial advantage a "supervision fee for training an assistant" seems quite unnecessary. I fully agree that newly qualified doctors require guidance during their introduction to general practice, but to continue the system whereby a succession of assistants may be hired to boost the principal's income is commercialized medicine at its worst.

In most practices assistants build up a certain goodwill by their own merit, and should the purchase of practices be abolished it would seem reasonable to allow them to take patients in their own names from the introduction of the new scheme. The profession fears that there may be some quiet drifting into the Bevan net, and while the assistants' position remains vague and largely unrepresented it would seem that this is the quarter from which—even if reluctantly—the drift is most likely to begin.—I am, etc.,

Birmingham

JOHN GEMMELL.

Benefits for Doctors' Wives

SIR,—I note with interest the letter from Mrs. Irene Hartley (April 3, p. 661) in which she fears she will have extra work to do when the National Health Service Act comes in because records will have to be kept of all consultations and treatments. I must say I find this argument quite incomprehensible. When the N.H.S. is enforced she will be relieved of all dispensing duties and the task of sending out and collecting bills. The

keeping of records will, like the panel records to-day, surely be her husband's job. I feel that she does not fully appreciate the tremendous importance of this matter of record keeping. Locums and assistants are frequently accused by principals of making mistakes, and losing patients, but is this surprising? One considers that in most practices they have no records at all. Soever of the previous illnesses of private or club patients I feel sure that a great many errors in diagnosis and treatment could be avoided by keeping proper records for all patients. Even the best of memories are not infallible.—I am, etc.,

Wolsanton, Staffs.

ANNE M. TOWN.

POINTS FROM LETTERS

White Bread and Peptic Ulcer

Dr. G. W. LLOYD (Thornton Heath, Surrey) writes: Peptic ulcers are found in eaters of much white bread, such as men who eat sandwiches for their midday meal. These admit they eat a lot of bread, and if one counts the number of rounds they eat in a day it is found they eat much more than the average. Eaters of wholemeal bread seem free from peptic ulcer—I have not met one. Peptic ulcers heal rapidly when on the restricted diet enforced after haemorrhage or perforation, and this restriction includes a complete abstention from bread in the early days and only a small proportion of it for some weeks. . . .

Since Sir Edward Mellanby's preliminary notice in the *BMJ* in the autumn of 1946 that white bread caused hysteria in the full pressure has been put on all cases. They have been told it would be well if they kept to wholemeal bread and promised return of symptoms if they ate white bread. The result has been a cessation of symptoms, relief from pain coming before complete healing is possible. Temporary failures have been caused by (1) eating of white flour, pastries, and cakes (one case); (2) return to white bread in a few cases because of preference—these require correction but the majority found conviction; (3) adulteration of wholemeal bread by white flour by some bakers. (This adulteration is shown by blotches of white in the general brown colour of wholemeal bread.)

Pain in Coronary Occlusion

Dr. W. H. MYERS (London, S.E.9) writes: I was called to see a case recently and witnessed the events preceding a fatal acute coronary occlusion—an event which is usually so sudden that the practitioner finds the patient has died before help or even examination is possible.

The patient was a man aged 69. He had been in pain for two hours and told me it was severe—as if there was a band in his chest preventing him from breathing. He said he felt the severe pain in the upper part of the right chest and right arm, leading question about his left arm made him assert that there was some pain there, but he continued to rub his right arm, particularly the inner side of it. While I was examining him his condition became worse and the pain more severe. The capillary refill was so prolonged that I did not see any colour in his forearm. I gave him an intravenous injection of morphine sulphate (16 mg.), atropine sulphate gr. 1/100 (0.65 mg.), and aminophylline 10 ml., slowly. The effect was dramatic. His voice failed, he uttered a blurred mumble, the eyes closed, and he apparently slept. A few minutes later the pain began to break through again, and he died in half-an-hour. At post-mortem examination the cause of death was found to be atheroma of the coronary arteries, moderate degeneration, and cardiac failure.

The unusual point of the case was the insistence of the patient that the pain was right-sided and radiated down the right arm, whereas most books suggest the radiation is left-sided.

Natural Position for Childbirth

Dr. MARY KEITH-THOMPSON (Manchester) writes: During the early part of my domiciliary midwifery practice in Northern Lancashire I came across some articles on the subject by Dr. Kathleen V. Now the squatting position is the position in which a Hindu lady usually answers to the calls of Nature. So I tried to tell them in the vernacular to sit as though they were sitting on a toilet.

My midwife assistant would put clean newspapers on the floor, place a foot apart, and a sterile sheet or towel on the floor. As soon as the head was visible the patient would be placed on the bed and delivered, in the usual position. Sometimes the patient preferred to squat on the bed. Of course this is by no means a comfortable position for a patient at full term, and she flatly refused to squat. . . .

General anaesthetics—necessary in forceps deliveries—are regarded with fear and trembling in domiciliary obstetrics. Therefore in slight disproportions this form of delivery is extremely useful.

kly Heat

r. JAMES H. SEQUEIRA (N'Gong, Kenya) writes: The correspondents who have written to you on this subject do not appear to be acquainted with the work of the late Dr. E. C. Smith, of 25. In his *Atlas of Skin Diseases in the Tropics* (Bale, Sons and Ielsson, 1932) he describes *monilia* which are found in the roofs of the vesicles which are a special feature of prickly heat. The nism has a well-developed mycelium and clusters of spores.

Dr. Smith grew the organism on Sabouraud's medium, and the cultures reproduced in volunteers the phenomenon of kly heat. . . . His research would appear to settle the question of aetiology of the affection. Warmth and moisture and probably a ble pH would provide a favourable medium for the growth of parasite, which may develop in the alimentary tract. His work l also explain the efficacy of treatment by powerful fungicides as the strong sublimate lotion (perchloride of mercury, 1 in 1) advocated by Dr. C. J. Wilson in the *Journal* of Jan. 10 76).

ny Wife

Dr. D. F. A. NEILSON (London, W.1) writes: A few days ago as listening to the commentator of a British news-reel describing telephone gadget by means of which doctors would be able to e a phonograph record made of incoming telephone messages ch were passed at a time when the telephone at their office or se might be unattended. It was described as being suitable for octor without a wife or a secretary. This epitomizes the opinion the lay public or official mind as to the "duties" of a doctor's .

ctors' Wives

rs. IRIS BROOK (London, S.E.9) writes: I would like to point to these misguided doctors' wives who are wasting their time money by joining the League of Doctors' Wives that if their bands join the Health Service a rota of duties can be arranged, rebly giving each doctor and his wife regular relief from routine ies. The present competitive system is not conducive to "good lieine." The fear of another doctor taking a patient is too often reason for single-handed practitioners being tied to their teleones or door bells. . . . As a doctor's wife of over 20 years' iding I think I know the snags and difficulties which are the lot a doctor's wife, but we were not "directed"; we chose husband's s and all entirely of our own volition. The shortage of man- woman-power is a national problem, and it would be interesting know the labour pool from which Mrs. Hartley suggests the ister of Health should direct the domestic and secretarial help every doctor entering the new service. Apart from the economics uch a scheme, there might be some objections by the "directees."

* This correspondence is now closed.—Ed., B.M.J.

w Act

Dr. A. VICTOR RUSSELL (Wolverhampton) writes: Remember that present Government, with its enormous majority, on the day r we entered the Service on the terms suggested by Lord Moran d introduce a small Bill designed to convert us into a whole- e salaried State service (and do not forget that this is still official ialist policy), and in spite of any opposition that could be offered it through all its stages in a matter of weeks or even days. us make it perfectly plain that we are not prepared to fall for olitical trick of that sort. . . . n conclusion, I should like to ask a question. Should the vernment concede all our principles, we are at the moment com- ted to entering their Service; but even assuming such wholesale ecession would there not still be chaos on the "vesting day"? there would not be one extra hospital bed, one single extra se, or any more equipment available than there is at present? is time that we thought about this and put forward a demand any new service to be introduced by stages—by evolution and y revolution. In fact, if we are wise we should stand out a completely new Act.

sonal Freedoms

Dr. ARTHUR E. CLAYTON (Dorington, Salop) writes: I believe at bottom the profession is fighting for the elemental personal free- ne of every man, woman, and child in this country, to say nothing those who come after us, and that we form a small but important or in that great front which is being mobilized not only in repute but over the world in defence of these absolute values which e any meaning to life at all. If this be so, herein is the nourish- nt for our "morale" and a clear-cut vision of where we stand we view ourselves in the mighty company of those being mar- tled in every country where genuine democracy is being upheld. may be said that this is rhetoric fancy and illusion. To me at t it is sober fact. We are facing dangerous possibilities, and I trust that the public mind should be raised above our professional ments about this and that and brought into that clearer atmo- here where the crucial issues can be clearly perceived.

Obituary

Mr. GEORGE POTTS died at his home in Maidstone on March 13 at the age of 71. He was born in Chester and educated at Edinburgh, where he qualified in 1900. He subsequently studied in London and Vienna, and took the F.R.C.S.Ed. in 1906. He went to Maidstone originally as a house-surgeon at the Ophthalmic and Aural Hospital after holding the appointment of registrar at the Central London Ear, Nose, and Throat Hospital. During the 1914-18 war he served with the R.A.M.C. and was with the Black Watch in India and the Middle East. After the war he returned to private practice in Maidstone, and was appointed honorary surgeon to the hospital there. He had consulting-rooms in London, and was also one of the ophthalmic specialists for the Ministry of Pensions. Mr. Potts was a bachelor, and was well known as a freemason and in connexion with All Saints' Church, Maidstone.

Dr. ROBERT DOUGLAS, who was medical officer of health for Moray and Nairn for over thirty years, died in the Aberdeen Royal Infirmary on March 19 at the age of 76. Robert Douglas was educated at Dallas Public School and Elgin Academy, and subsequently at Aberdeen University, where he graduated M.A. in 1893. He then went on to study medicine at Glasgow, and graduated M.B., Ch.B. in 1898. He soon became interested in public health, and particularly in school health administration, and his first public health post was as assistant medical officer of health at Reading. He took the D.P.H. at St. Andrew's in 1906 and proceeded M.D. in 1914. He became school medical officer for the Norfolk County Council and later for the West Riding County Council of Yorkshire. In 1911 he succeeded as medical officer of health for the County of Moray Dr. James A. Cameron, who continued as medical officer of health for Nairnshire. When Dr. Cameron resigned in 1918 Dr. Douglas also succeeded him at Nairn. He was, too, M.O.H. for the burghs of Grantown-on-Spey, Forres, and Burchard, and on the death of Dr. A. Robertson, of Elgin, in 1941 he also became responsible for Elgin, Lossiemouth, and Rothes. This placed him in the unusual position of being responsible on the public health side for three counties and seven burghs. Apart from his official duties, his chief interest was in local history, on which subject he was an authority. His best-known work was the *Annals of Forres*, which was published privately in 1935, but he was also the author of many booklets and articles on local matters. On the occasion of his retirement towards the end of 1941 he was presented with a cheque by a deputation from the Joint County Council Dr. Douglas is survived by two sons.

Dr. ALISON MARY HUNTER, who died on March 26, was educated at the University of Glasgow, graduating M.B., Ch.B. in 1918. She was associated with the Glasgow Royal Infirmary for over twenty years, and was also the senior gynaecologist and obstetrician at the Redlands Hospital for Women, Glasgow. She was honorary consulting gynaecologist to the Glasgow Royal Mental Hospital, and she had been the late Prof. James Hendry's assistant for a number of years before being elected F.R.C.O.G. in 1939. She succeeded Prof. Hendry as gynaecological surgeon to the Royal Infirmary in October, 1946. She was a former chairman of the Glasgow branch of the National Vigilance Society, and at the time of her death was treasurer of the Medical Women's Federation.

Dr. ROBERT MICHAEL FORDE, who died at his home in Worthing on March 27 at the age of 87, after a long illness, had spent many years in the West African medical service. Dr. Forde was a student of Queen's College, Cork, and qualified in 1885. He served in West Africa for over twenty-five years, his last post being that of P.M.O., West African Medical Staff, at Sierra Leone. He retired in 1914 and served in the R.A.M.C. with the rank of major. He was responsible for some of the early work in Gambia on trypanosomes. Dr. Forde had been an invalid for the last four years and he leaves a widow and one son.

Dr. KEITH ANTONY REGINALD HENRY died at the age of 25 on April 1. Dr. Henry was born at Birkenhead and received his early education at Lytham and at Arnold School, Blackpool. He graduated M.B., Ch.B. at Edinburgh University in December, 1945, and was engaged for some time as a locum-tenent in the Manchester and Blackpool areas of Lancashire. He had recently taken up an appointment as District

Medical Notes in Parliament

CRIMINAL JUSTICE BILL

On April 14, when the Criminal Justice Bill was considered on Report, Mr. SYDNEY SILVERMAN moved a new clause suspending for five years the sentence of death for murder and substituting imprisonment for life. Mr. HOLLIS seconded the Motion.

Mr. Hollis remarked that Mr. Bernard Shaw argued that certain murderers could be reformed, but said that doctors could certify that other people were beyond reformation and should be killed "as one would kill a mad dog." Mr. Hollis commented that Mr. Shaw had never previously expressed the smallest regard for any opinion expressed by a doctor and would not admit that a doctor was capable of telling him whether he should be vaccinated. Mr. Hollis reminded Members that the greatest of living psychologists, Dr. Jung, was of opinion that on the whole capital punishment was a slight encouragement to murder rather than a deterrent. People with perverted tendencies got an extra thrill out of feeling that in their war with society they contended for the highest of all stakes. Under the present system the criminal was offered all the thrills of risking his life and comparatively little of the danger of losing it.

Sir JOHN ANDERSON thought in what was called "constructive murder," where a person on "some felonious enterprise unwittingly caused death, the death penalty had no deterrent effect, and he doubted whether it had any in what the French called *crime passionnel*. Broadly, however, the death penalty did reinforce the protection of society and diminished the risk to which officers of the law were exposed. He called attention to the evidence of Sir Alexander Paterson to the effect that if the capital sentence were abolished the change should not make any difference to the present regime. Sir Alexander thought that ten years was a sufficient period of detention, and he thought that after that time physical and mental deterioration set in. Parliament could not get out of the difficulty by saying that prisoners who were morose and subject to gusts of passion ought to be certified insane. Lord Atkin had tried to get what were called the M'Naghten Rules extended to cover cases of murders committed by persons suffering by reason of some defect of mind from what was called ungovernable impulse, but his recommendations had not been accepted.

Mr. HALE said the unanimous testimony of governors of prisons, including the governor of Pentonville, was that the effect on the prison population of an execution was disastrous. The men suffered neurosis and moral horror intensified by their imprisonment. If the condemned man slept on the night before his execution he was usually the only person in the prison who did so.

Mr. WILSON HARRIS remarked that in 1937, 87 people died by murder and in the same year 6,633 were killed on the roads of this country. In 1947 in England and Wales there were 27 executions; in 1946 there were 30.

Mr. CHUTER EDE did not believe that public opinion in this country was in favour of the clause at this time. The rules for the granting of reprieves had been fairly applied by successive Home Secretaries. There had been no answer during the debate to the argument that, if the death penalty were abolished and a prison sentence substituted which public opinion would tolerate, it would become impossible to conduct the present service on the lines that Sir Alexander Paterson desired.

The new clause was carried by 245 to 222 and was added to the Bill.

Payment of Medical Witnesses

The Criminal Justice Bill was again considered on April 15.

On Clause 24, on remand for inquiry into the physical or mental condition, Mr. YOUNGER moved amendments relating to the payment of allowances to medical practitioners who attended a court to give evidence. These amendments were designed to ensure that allowances should be payable only when the witnesses actually attended and did not merely give evidence by means of a report. The amendments were accepted. Subsequently Mr. EDE moved a further amendment to Clause 22 to make similar provision regarding the payment of witnesses' allowances to medical practitioners who gave evidence under Clause 22 in a case where an offence was not indictable and was made under Clause 24. Mr. Ede said Clause 22 as it stood did not provide for payment of allowances to medical practitioners in such a case and it was highly desirable that there should be power to make such payment.

On Clause 4, which concerns probation orders requiring treatment for a mental condition, the Speaker declined to call an amendment by Mr. JAMES HUDSON instructing the court to

consider whether a condition of abstinence from drugs, intoxicating liquor should be attached to the probation order.

Mr. EDE moved amendments to make certain that the medical practitioner who is consulted about the mental state of an offender shall be one who is competent to guide the court. He proposed, after the word "practitioner," to insert "and to the court to be experienced in the diagnosis of mental disorders." It would be the duty of the courts to make themselves reasonably acquainted with the qualifications of the medical practitioners concerned.

Mr. JANNER said that Members who had fears about the use of medical men who would be consulted felt bound to say Mr. Ede had gone as far as he could to satisfy those fears. He hoped that Mr. Ede would later allow another medical practitioner also to be consulted. The amendment was carried as was also one proposed by Mr. YOUNGER that a report on the mental condition of a prisoner could be received in evidence without proof of the signature, qualifications, or experience of the practitioner signing it.

Mr. EDE moved to modify Clause 33 to exempt children under 14 years from this provision, and to make clear that before a court could order finger-prints to be taken a person over 14 years of age must have been taken into custody, or have been charged with an offence, and the court must consider that this was a case in which this power should be given to the police. These amendments were agreed to.

Radioactive Substances Bill

A Radioactive Substances Bill has been introduced by the Government in the House of Lords. The object of this Bill is to enable various Ministers of the Crown to make regulations controlling the manufacture, storage, supply, and use of radioactive substances, which are defined as substances "which consist of or contain any radioactive chemical element, whether natural or artificial." Only doctors and dentists, or persons acting under their direction, are to be permitted to use "irradiating apparatus" for therapeutic purposes. The health of those who have to work with radioactive substances is to be safeguarded by appropriate regulations, and steps are to be taken to ensure the safe disposal of radioactive waste products. Ministers concerned must consult an Advisory Committee which will be set up for the purpose, about the exercise of any of their functions under this Bill.

Health Centres

Mr. PLATTS-MILLS reported on April 15 that widespread anxiety had been aroused by a recent circular to local authorities discouraging any development of health centres at present time; he asked Mr. Bevan to issue further instructions making it clear that it was not his intention to discourage any initiative in the planning and setting up of new health centres.

Mr. BEVAN said there was evidently a misunderstanding. He had never wished to discourage health centres, which would be a key feature of the new Health Service. But he had pointed out the building stringencies of the moment and said that he did not, therefore, expect any widespread programme.

Grants for Postgraduate Training

On April 15 Group Captain WILCOCK asserted that a number of trained medical specialists in receipt of Government grants would terminate their appointments at hospitals before their appointed day. He asked what Mr. Bevan proposed to do to the continuation of these grants until appointments were made under the new Act.

Mr. BEVAN, in his answer, assumed that the question related to appointments under the scheme for postgraduate education for doctors released from the Forces, now held by practitioners who before joining the Forces were training to become specialists and desired to continue their training. These practitioners would continue under the National Health Service. Some of the practitioners concerned were, on account of their special circumstances, receiving grants under the Government's Education and Training Scheme. These also would continue.

Transfer of Medical Officers of Health

Mr. LIPSON on April 15 asked Mr. Bevan to postulate the transfer to county councils of medical officers of health from their staffs and offices from the new "most purposes" boroughs recommended by the Boundary Commission. A decision had been made with regard to implementing part of their report.

Mr. BEVAN replied that any transfers of staff and premises essential to transferred functions under present legislation would be made if county councils were to carry out the decision. He had given them from the appointed day.

Dr. Atso Soivio, Finnish Red Cross Hospital plastic surgeon, is in Britain until the middle of May under the auspices of the British Council. He specializes in the treatment of cleft palate and hare-lip, including speech therapy, and is here to meet British plastic surgeons and study operations.

No. 14

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended April 3.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland. *Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for:* (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland. A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	51	6	35	1	2	86	10	25	8	1
Deaths ..	—	1	1	—	—	—	2	—	—	—
Diphtheria ..	161	23	46	12	1	184	18	42	10	10
Deaths ..	3	—	1	—	—	5	—	—	—	1
Dysentery ..	188	14	38	1	—	44	6	21	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica, acute ..	1	—	1	—	—	1	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Erysipelas ..	—	—	37	9	3	—	—	37	10	2
Deaths ..	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years ..	—	—	—	31	—	—	—	—	17	—
Deaths ..	40	4	6	—	—	89	20	22	10	—
Measles* ..	10,874	1719	295	90	53	8,343	440	254	25	46
Deaths† ..	—	—	3	—	—	20	—	3	—	—
Ophthalmia neonatorum ..	72	4	22	—	—	68	4	17	—	1
Deaths ..	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever ..	1	—	1(B)	—	—	6	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal ..	764	44	3	13	7	730	55	77	4	5
Deaths (from influenza)* ..	15	2	1	—	—	27	6	4	2	1
Pneumonia, primary ..	—	—	263	27	13	—	—	129	27	—
Deaths ..	214	35	—	7	—	54	—	—	—	40
Polio-encephalitis, acute ..	4	—	—	—	—	1	1	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Polio-myelitis, acute ..	15	—	2	1	—	4	—	1	1	—
Deaths ..	4	1	—	—	—	—	—	—	—	—
Puerperal fever ..	—	1	18	—	—	—	1	14	—	2
Deaths ..	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia|| ..	123	7	12	—	—	115	6	10	—	1
Deaths ..	—	—	—	—	—	—	—	—	—	—
Relapsing fever ..	—	—	—	—	—	—	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Scarlet fever ..	1,421	108	305	46	43	995	86	155	24	33
Deaths† ..	—	—	1	—	—	1	—	—	—	—
Smallpox ..	—	—	—	—	—	2	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Typhoid fever ..	5	—	—	1	1	8	—	—	2	—
Deaths ..	—	—	—	—	—	1	—	—	—	—
Typhus fever ..	—	—	—	—	—	—	—	—	—	—
Deaths ..	—	—	—	—	—	—	—	—	—	—
Whooping-cough* ..	2,639	166	22	52	13	1,775	192	198	71	15
Deaths ..	11	1	1	1	—	13	2	5	9	2
Deaths (0-1 year) ..	344	48	33	21	20	519	78	80	62	16
Infant mortality rate (per 1,000 live births) ..	—	—	—	—	—	—	—	—	—	—
Deaths (excluding stillbirths) ..	4,777	730	620	183	103	5,301	870	690	—	151
Annual death rate (per 1,000 persons living) ..	—	—	12.5	11.4	—	—	14.3	17.9	—	—
Live births ..	8,659	1351	1191	377	259	8,536	1277	1085	—	294
Annual rate per 1,000 persons living ..	—	—	24.0	23.6	—	—	21.9	23.4	—	—
Stillbirths ..	232	26	34	—	—	285	27	33	—	—
Rate per 1,000 total births (including stillbirths) ..	—	—	28	—	—	—	30	—	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

|| Includes puerperal fever for England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* an increase was recorded in the incidence of measles 1,566, acute pneumonia 44, whooping-cough 36, and dysentery 52. There was a decrease in the notifications of scarlet fever 105.

The increased incidence of measles was concentrated in London and the surrounding counties; the largest rises were in London 294, Middlesex 194, Essex 142, Kent 129, Durham 11, Lancashire 105, and Surrey 91. Changes in the local trend of whooping-cough occurred in only a few counties; the largest were increases in Sussex 52 and Kent 35 and a decrease in Yorkshire West Riding 62.

The chief feature of the returns for diphtheria was a fall of 10 in London. The only fluctuation of any size in the incidence of scarlet fever was a decrease of 33 in Yorkshire West Riding. Only small variations occurred in the returns of acute pneumonia.

A fresh outbreak of dysentery involving 28 persons was notified in Cardiff C.B. Increases were recorded in the notifications of dysentery in Lancashire from 59 to 80 (Liverpool C.B. 24, Oldham C.B. 27) and in Yorkshire West Riding from 18 to 35 (Todmorden M.B. 15). The only other large return was London 14.

The fall in the notifications of acute poliomyelitis continued. The only administrative areas with more than one case were Lancashire, Liverpool C.B. 2, and Somerset, Bridgwater M.B. 2.

In *Scotland* there were rises in the incidence of scarlet fever 44, acute primary pneumonia 37, and cerebrospinal fever 7, and decreases were recorded for measles 74, whooping-cough 15, and dysentery 15. The increases in the notifications of cerebrospinal fever and scarlet fever were mainly due to the expansion of the city of Glasgow. Although the notifications of diphtheria remained unchanged for the whole country an increase of 13 was recorded in Glasgow.

In *Eire* increases were recorded in the returns for scarlet fever 10, whooping-cough 7, and diarrhoea and enteritis 5. There was a decrease of 9 in the notifications of measles.

In *Northern Ireland* only small changes were reported in the trends of infectious diseases.

Information for Travellers

Greece.—The following ports have been reopened to arrivals from Egypt: Piraeus, Salonika, Patras, Volo, Cavalla, Alexandropolis, Canea, Heraklion, Rhodes, Samos, Mytilene, Kalamae, and Corfu. Vaccination and surveillance are the sole measures remaining in force.

Hong Kong.—All passengers are required to produce certificates showing that they have been vaccinated against smallpox not more than three years before departure from an infected port. The certificate should show that the result of the vaccination has been observed and recorded in one of the following terms, viz.: (a) immediate reaction, reaction of immunity, immune; (b) accelerated reaction or vaccinoid; or (c) type primary vaccinia or vaccinia. A certificate of "unobserved" or "no reaction" will not be accepted. The certificate should also bear a photograph of the holder embossed or stamped with an official seal, and be signed by a medical or health officer occupying an official position in the services of a Government or Municipal Health Department.

Shanghai.—All passengers and crew disembarking at Shanghai are subject to medical inspection and are required to produce valid certificates of vaccination against smallpox not more than twelve months old, failing which they will be vaccinated if necessary, detained for surveillance.

Singapore and Federation of Malaya.—Requirements: (a) Medical inspection. (b) Vaccination certificate (International Model) not more than three years old and containing in the certificate a note of the type of reaction observed and including the dates of vaccination and observation results. The certificate is to be signed by a medical officer occupying an official position in the Government or Municipal Health Department. (c) Vaccination, possession of certificate, and surveillance up to a period of fourteen days after the arrival of the ship. (The above requirements apply to cabin passengers who are not contacts. In the case of other passengers observation is required at the Quarantine Station.)

Infectious Diseases During the First Quarter

The trends of the infectious diseases during the first quarter of this year show some interesting contrasts with previous years. The most notable of these comparisons is the entire absence of an influenza epidemic. The deaths from influenza in the large towns were about one-sixteenth of those recorded in the first quarter of 1940, the last year in which

dence. The downward trend of diphtheria continued, and notifications were the lowest recorded in a first quarter. Notifications of acute pneumonia were very low. The incidence of cerebrospinal fever declined after remaining practically constant for five years at about three times the pre-war level. Whooping-cough was unusually prevalent during this quarter. Measles was at an exceptionally high level for an inter-epidemic period.

Scarlet fever was also very prevalent. The number of notifications for the first quarters of the last five years were:

England and Wales	1944	1945	1946	1947	1948
Scarlet fever	26,962	19,163	16,952	15,527	23,348
Whooping-cough	26,141	19,780	20,033	27,922	35,034
Diphtheria	9,005	6,061	6,220	2,832	2,466
Acute pneumonia	20,278	247,435	17,652	165,895	88,489
Cerebrospinal fever	14,977	14,782	16,278	15,500	10,969
Dysentery	978	968	906	1,110	629
Enteric (typhoid and paratyphoid)	2,834	4,681	4,444	931	2,100
Enteric (typhoid and paratyphoid) in towns	111	140	138	98	103
Deaths from influenza	1,131	692	2,156	1,341	273

Week Ending April 10

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,196, whooping-cough 13, diphtheria 155, measles 11,193, acute pneumonia 703, cerebrospinal fever 36, acute poliomyelitis 14, dysentery 111, enteric 3, and typhoid 7.

Medical News

Awards for Cancer Research

Prof. Alexander Haddow and Prof. Eric Boyland have been awarded the Katherine Berkan Judd Award by the Memorial Hospital, New York. They are both in New York receiving the award, which is for outstanding contributions to elucidating the causes and treatment of cancer. Prof. Haddow is the Director of the Chester Beatty Cancer Institute at the Royal Cancer Hospital and Professor of Experimental Pathology in the University of London. He has worked on chemical carcinogens and growth inhibitors. Prof. Boyland is Professor of Biochemistry in the University of London.

Director-General of F.A.O.

Mr. Norris E. Dodd, United States Under-Secretary of Agriculture, has been elected Director-General of the Food and Agriculture Organization in succession to Sir John Boyd Orr.

National Midwives Board

At its April meeting the Central Midwives Board re-elected Mr. Arnold Walker, F.R.C.S., F.R.C.O.G., as chairman and Mr. J. P. Hedley, F.R.C.P., F.R.C.S., F.R.C.O.G., as vice-chairman for the ensuing year.

Pathology Service

A pathology service has been established for Portsmouth and Isle of Wight, the senior pathologist and adviser being Dr. E. M. Darmady. Dr. Radcliffe has been appointed pathologist. Dr. Dobson assistant pathologist. It is hoped to appoint other assistant pathologist and biochemist. The scheme is being financed by the Royal Portsmouth Hospital and includes all the hospitals of Portsmouth as well as the Royal Isle of Wight County Hospital, Ryde. The Ministry of Health has given permission to convert a building in the Portsmouth Isolation Hospital to house a bacteriology under the Public Health Service, and it is hoped that it will also undertake the hospital bacteriology.

Rockefeller Foundation

The Rockefeller Foundation is giving a donation of £9,000 for research at the Neuropsychiatric Research Centre at Whitechurch Hospital, Cardiff. The grant is designated "for research in normal pathological biochemistry of brain tissue under the direction of Dr. Derek Richter." The object of the research now being carried out in the Research Centre at Cardiff is to discover more about the working of the central nervous system in health and disease, so that this knowledge can be applied to the treatment of mental disorders. The lines of research now in progress include chemical work on the enzymes in the brain and work with radioactive tracers. Clinical research is also being carried out on problems related to schizophrenia, epilepsy, and senility.

Dr. Bernard Henry Spillbury, the former Home Office pathologist, £9,232; Dr. Herbert Stanley Jones, of Southampton, £548; Dr. Charles Veatch Knight, of Paiswick, Glas., £64,090; Dr. Henry Orr, of London, S.W.4, £25,485; and Dr. Robert Scott, of Peterborough, £24,591.

COMING EVENTS

University of Durham, Department of Surgery

Sir Heneage Ogilvie will give the third Rutherford Morrison Lecture in the Royal Victoria Infirmary, Newcastle-upon-Tyne, on Wednesday, May 5, at 5 p.m. His subject is "A Surgeon's Life."

Lecture on Laryngectomy

Dr. Jean Leroux-Robert, of Paris, will deliver a lecture on "A Modification of Laryngectomy" at the Institute of Laryngology and Otology, 330-332, Gray's Inn Road, London, W.C., on Thursday, May 6, at 3 p.m. His address will be illustrated by a cinematograph film.

N.A.P.T. Medico-Social Section

The Inaugural Meeting of the N.A.P.T. Medico-Social Section will be held on May 7 at 5 p.m. at B.M.A. House, Tavistock Square, London, W.C.1. Sir Robert Arthur Young, Vice-Chairman of Council of the N.A.P.T., will preside, and Dr. Norman Lloyd Rusby, Assistant Physician, London Hospital, and London Chest Hospital, will address the meeting on "Social Aspects of Tuberculosis." The Section is open to members of the N.A.P.T. who are professionally engaged on social work for the tuberculous, and whose names are approved for Section membership by the committee of the Section, but an invitation to the Inaugural Meeting is extended to all who are interested in this work.

Biological Standards

A meeting of the Biological Methods Group of the Society of Public Analysts and Other Analytical Chemists will be held at the Chemical Society's Rooms, Burlington House, Piccadilly, London, W., on Tuesday, May 11, at 6.30 p.m., when Dr. A. A. Miles, Head of the Standards Department of the National Institute for Medical Research, will read a paper on "Biological Standards." Visitors are welcomed at the meetings of the group and may take part in the discussion following papers.

Gastro-enterology in U.S.A.

The National Gastroenterological Association will hold its 13th Scientific Session at the Hotel Pennsylvania in New York City on June 7-10. Further details may be obtained from the Secretary of the Association, 1819, Broadway, New York, 23.

Conference in Brussels

A conference, including clinical demonstrations, will be held at Brussels on June 12-16. The National League against Tuberculosis will meet as well as the Association of Dentists of Belgium and the Belgian Society of Physical Education and Sport. Information may be obtained from Dr. L. Mayer, Faculté de Médecine, Rue de la Gendarmerie, Brussels.

SOCIETIES AND LECTURES

Monday

EDINBURGH UNIVERSITY: PHYSIOLOGY CLASSROOM.—April 26, 5 p.m. "Medicine and the Classics," by Dr. Douglas Guthrie. ROYAL SOCIETY OF ARTS, John Adam Street, Adelphi, London, W.C.—April 26, 4.30 p.m. Third Cantor Lecture on Recent Advances in Anaesthesia. "Endotracheal Anaesthesia—Local, Regional, and Spinal Anaesthesia—Intravenous Anaesthesia—Rectal Basal Narcosis—Curare—Combination or Balanced Anaesthesia—The Old and the New," by Dr. Francis T. Evans.

Tuesday

INSTITUTE OF LARYNGOLOGY AND OTOTOLOGY, 330, Gray's Inn Road, London, W.C.—April 27, 4.30 p.m. "The Surgical Treatment of Deafness," by Mr. Terence Cawthorne. UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHYSIOLOGY.—At Physiology Theatre, Gower Street, London, W.C.—April 27, 5 p.m. "Speech as the Communication of Ideas: The Sequence of Events in Speech: The Psychological Aspect of Speech," by Mr. D. B. Fry, Ph.D.

Wednesday

SOCIETY OF CHEMICAL INDUSTRY: FOOD GROUP.—At Burlington House, Piccadilly, London, W., April 28, 6.30 p.m. 17th Annual general meeting. "On the Chemistry of Coffee," by Dr. E. B. Hughes.

Thursday

EDINBURGH ROYAL INFIRMARY.—April 29, 4.30 p.m. Honyman Gillespie Lecture: "Arterial Embolism," by Prof. J. R. Learmonth.

Friday

KENT AND CANTERBURY HOSPITAL, Canterbury.—April 30, 8 p.m. Monthly clinical meeting. SURREY COUNTY MEDICAL SOCIETY.—At Redhill County Hospital, April 30, 6.30 p.m. Clinical meeting.

APPOINTMENTS

Dr. Jules Maurice Curé has been appointed a Member of the Executive Council of the Colony of Mauritius.

H. H. Cavendish Fuller, M.B., has been appointed Chief Medical Consultant to the Railway Executive.

Dr. Cavendish Fuller qualified at Edinburgh in 1912 and obtained the M.D. in 1931. He is at present chief medical officer to the Western Region at Paddington Station and will continue his duties for that region while acting as consultant to the Railway Executive.

David Harley, M.D., Allergist to Moorfields Westminster and Central Eye Hospital.

Dr. Harley works in the Inoculation Department of the Royal Institute of Medicine and Legation, London.

Mr. W. G. Senior, O.B.E., L.D.S., has been appointed to succeed Mr. H. A. Mahony, L.D.S., as Principal Dental Officer of the Ministry of Health.

Mr. Senior was appointed to the Ministry in 1947 as senior dental officer and had previously been dental secretary of the British Dental Association since 1931.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Edwards.—On April 8, 1948, at Abingdon Hospital, to Judy (née Wilkin), wife of Flight Lieutenant Jack Edwards, R.A.F.V.R., a daughter—Susan Mary.

Fenn.—On April 8, 1948, at Bullh Wells Cottage Hospital, Breconshire, to Betty, wife of Dr. C. M. Fenn, "Cerdyn," Llanwryd Wells, a daughter—Lynda Elizabeth.

Jarvis.—On April 12, 1948, at Queen Charlotte's Hospital, Hammersmith, to Anne, wife of Dr. H. Jarvis, 236, Park Street, Luton, Beds, a daughter—Ruth Sandra.

Valentine.—On March 26, 1948, at 31 (British) General Hospital, Austria, to Constance, wife of Major G. F. Valentine, R.A.M.C., a daughter—Diana St. Clair Fotheringham.

MARRIAGES

Blair—Gilbert.—On April 10, 1948, at Ness Bank Church, Inverness, Dr. Robert Alexander Blair, son of Mrs. A. L. S. Blair, 3, Elliot Place, Edinburgh, and of the late Mr. R. A. Blair, F.M.S., to Dr. May Lois Gilbert, younger daughter of Mr. and Mrs. Robert Gilbert, Belle Vue, Inverness.

Denlon—Moore.—On April 5, 1948, at St. Peter's, Vere Street, London, W., Mervyn Denlon, M.R.C.S., L.R.C.P., D.A., to Willow Gwennap Moore.

DEATHS

Creagh.—Recently, at Folkestone, Percy Nagle Creagh, L.R.C.P.&S.I. & L.M., late Deputy Commissioner of Medical Services, Ministry of Pensions.

Crompton.—On April 6, 1948, at Mayfield, Hyde Road, Gorton, Manchester, Ralph Johnson Crompton, F.R.C.S.Ed.

Davies.—On April 2, 1948, at Bedford Lodge, Whyteleafe, Surrey, Herbert Rees Davies, M.D.

Edwards.—On April 16, 1948, George Vernon Edwards, L.R.C.P.&S.Ed., L.R.F.P.S.Glas., of West Clondan, near Guildford, Surrey, aged 82.

Fisher.—On April 11, 1948, the result of an accident, Nina, the wife of R. H. W. Fisher, M.R.C.S., D.P.H., 28, Cecil Street, Lytham, Lancs, daughter of the late Dr. Washington Epps.

Frankel.—On April 10, 1948, at Colindale Hospital, London, N.W., Peter Frankel, M.D., aged 33.

Goldie.—On April 6, 1948, Eric Avery Gordon Goldie, M.B., B.Chir., A.F.C., of 190, Sheen Road, Richmond.

Hancock.—On April 11, 1948, at Stoke-on-Trent, Arthur Hancock, M.B., Ch.B.

Henry.—On April 1, 1948, Keith Anthony Reginald Henry, M.B., Ch.B.Ed., aged 25.

Houghton.—On April 6, 1948, at Lyndene, Berkhamstead, Herts, Leonard Frank Houghton, M.R.C.S., L.R.C.P.

Jones.—On April 8, 1948, at General Hospital, Aberystwyth, David William Fenwick Jones, M.B., B.S.

Kendall.—Recently, Ernest Robert Kendall, M.S., of 7, Chester Crescent, Newcastle, aged 79.

Langstaff.—On April 12, 1948, James William Langstaff, D.S.O., L.R.C.P.&S.I. and L.M., Colonel, late R.A.M.C.

Latham.—On April 4, 1948, at Brig-y-don, Llanaber, Barmouth, Arthur William Latham, M.D., late of St. Helens, aged 74.

Lawrie.—On April 1, 1948, at Edinburgh, Thomas Harcourt Lawrie, L.R.C.P., &S.Ed., late of Polmont.

MacDougall.—On April 4, 1948, at 28, Manchester Road, Southport, Donald Kerr MacDougall, M.B., Ch.B.

McInosh.—On April 5, 1948, at 35, Carlton Place, Aberdeen, James McInosh, M.D., LL.D., Professor of Pathology in University of London at Middlesex Hospital, London, W.

May.—On April 2, 1948, at Godders, Botley, Hants, Henry James May, M.B., B.Ch., aged 50.

Morment.—On April 16, 1948, at Royal Naval Hospital, Chatham, Robert Harry Morment, O.B.E., M.R.C.S., L.R.C.P., Surgeon Rear-Admiral, R.N., retired, aged 74.

Packham.—On March 31, 1948, George Packham, M.R.C.S., L.R.C.P., of The Drive, Barmouth.

Robb.—On April 3, 1948, at Charlestown, Duddingston, Edinburgh, Archibald Patterson Robb, L.R.C.P.&S.Ed.

Robertson.—On April 17, 1948, at 55, Upper Parliament Street, Liverpool, John Walter Robertson, L.R.C.P.&S.Ed., L.R.F.P.S.Glas.

Sherratt.—On April 9, 1948, at Bulawayo, Southern Rhodesia, Arnold Heston Sherratt, M.C., M.D., D.P.H.

Smith.—On April 18, 1948, at Guy's Hospital, London, S.E., David Murray Smith, M.B., B.Ch., of 56, North End House, London, W., aged 28.

Tyler.—On April 18, 1948, at Cratcliffe, Rotherham, Rotherham, George Nelson Tyler, M.B., B.Ch., aged 28.

Any Questions?

Correspondents should give their names and addresses (for publication) and include all relevant details in their questions which should be typed. We publish here a selection of questions and answers which seem to be of general interest.

Food Value of Honey

Q.—What are the nutritive properties of honey, and is any truth in the assertion that it promotes the formation of haemoglobin?

A.—Natural foodstuffs are so variable in composition that age figures may be misleading. However, according to V.L. Charley (*Chemistry and Industry*, 1947, p. 271) the following is an "average analysis" of honey: moisture 17.7%; sugar 75.0%; sucrose 2.0%; dextrin 1.5%; ash 0.18%; traces of pollen, wax, and nitrogenous matter. Other authorities give figures over a range as follows: water 8-25%; glucose 30-42%; fructose 23-39%. The sugars in honey are not absorbed and, with the exception of the small amount of sucrose, require no preliminary hydrolysis in the small intestine. Unlike starchy foods, honey does not give rise to gas in the intestine. It can be used in diets in place of glucose and cane sugar, and is preferable to the former as it is more palatable. It has been used in infant feeding, but it is slightly laxative. The statement that honey promotes the formation of haemoglobin can have no foundation as it contains none of the known haemopoietic factors and only traces of iron (0.11 mg. per ounce). Generally speaking, honey should not be regarded solely as a source, and a very attractive one, of calories. Honey is never adulterated with cane sugar, which would ruin the taste. It is often blended with invert sugar, though the blending must be declared on the label, for a mixture cannot legally be described as honey. There are considerable analytical difficulties in distinguishing between mixtures of honey containing moderate percentages of added invert sugar and pure honey. Certain by-products of the inversion process have sometimes been used; unfortunately, some of these appear to be able to make identical or similar products, thus making life difficult for the analyst. Blended honeys consist of honeys from several sources. Diluted honeys consist of pure honey plus invert sugar. However, it is almost certainly true that some reputable manufacturer of branded or unbranded honeys sometimes caters it with undeclared invert sugar. A wide range of figures has been recorded for the vitamin C content of honey, but usually of the order of 5 to 20 mg. ascorbic acid per 100 g. That even an unusually rich honey is unlikely to contribute to daily requirements, unless it is taken in exceptionally large quantities. Convincing evidence for the presence of riboflavin, or nicotinic acid in honey, at any rate in the amounts, is not available. A solitary reference to the presence of "vitamin A" in honeycomb does not justify our regarding honey as a source of the vitamin, for it is not clear whether the reference is to vitamin A or to a carotenoid, and if the latter the more likely, to the latter whether to a true vitamin or not; nor is there any distinction drawn between the comb and the honey. There appears to be no record of the presence of β -carotene in honey as such. Royal jelly, of course, contains considerable quantities of B vitamins and is particularly rich in riboflavin and pantoic acid.

Exercise in Middle Age

Q.—Is physical exercise desirable in middle age, or is it deleterious? What are the biochemical factors which strenuous exercise beneficial in youth but possibly harmful in later life?

A.—These questions cannot be answered completely. Bodily exertion of some kind, in greater or lesser amounts, appears to be instinctive from the moment of birth to the end of the whole of life, save in the case of the abnormal individual. In a state of nature the demand for physical exertion would be satisfied as instinctively as the demands for food, hunger, thirst, or cold. But, excluding such natural demands as farming, hunting, lumbering, and the like, the demand for

vilization react upon the majority of mankind so that artificial substitutes of organized exercise become necessary.

We may regard the craze for athletics and games as a step against the thwarted instinct for physical toil of a woodsman condemned to a city office or other sedentary a protest represented in the younger subject as a craving something violently competitive.

Later life the intrusion of serious interests and responsibilities tends to prohibit such activities. But, although there is great variability in application, an instinctive impulse exists in the majority of cases. What is often overlooked is the social side of exercise, the factor of recreation, the satisfaction of the play instinct. Golf, shooting, fishing, croquet, tennis, bowls, butterfly-hunting, the collection of plants, minerals, and fossils, photography, and similar outdoor games utilize in greater or less degree the exercise of living in an attractive form when walking alone would be instantly accepted as insipid or boring.

With respect to the danger of continuance into middle age the more strenuous exertion of youth, it seems to be a matter of adjustment to exercise, just as the human body can acclimatize to high altitudes, to extremes of temperature, or almost anything. And although it is unusual for the middle-aged man to persist with the exertion of his earlier days there is no reason why such continuance should be exceptional. Youth may thus be prolonged and middle age postponed, at least so far as the tissues are under consideration, not the mere passage of time. But it is the attempt to make exercise after a period of inactivity which is the usual cause of discomfort or catastrophe.

In the case of the man who through inclination, determination, or exceptional opportunity has thus extended the period of youth the danger which is generally advanced of "heart disease" with its implications has no foundation. Nature imposes a salutary restriction by the gradual immobilization of joints, automatically limiting activity to a degree well within the capacity of the cardiovascular system.

Prefrontal Leucotomy

Q.—Where can I find an account of the historical development and present technique of prefrontal leucotomy? How successful is it, and is any special post-operative treatment needed?

A.—An adequate history of the development of prefrontal leucotomy has yet to be written. Furthermore, the technique of every surgeon differs somewhat. Mr. McKissock has provided an account of his operative technique and directions for post-operative care in *J. ment. Sci.*, 1943, 89, 194, and *Lancet*, 1943, 1, 361. A very full discussion of prefrontal leucotomy by a number of experts was reported in *Proc. R. Soc. Med.*, 1946, 39, 443—this is well worth referring to. It contains a critical review on recent literature in *J. ment. Sci.*, 1941, 90, 486. A tome covering all aspects of the subject has been written by the American authorities W. Freeman and J. W. Watts (*Psycho-surgery*, Thomas, Springfield, Ill., 1941). And, finally, there is a recent summary of mental and physical results (*Prefrontal Leucotomy*, H.M. Stationery Office, 1947).

Stellate Ganglion Block for Cerebral Thrombosis

Q.—Stellate ganglion block has been performed in America for the treatment of early cases of cerebral thrombosis. Is the procedure of any value, and what literature exists on the subject?

A.—Stellate ganglion block was first used for the treatment of patients with cerebral thrombosis by Leriche and Fontaine (*Chir., Paris*, 1936, 55, 755). Mackey and Scott (*British Medical Journal*, 1938, 2, 1) reported their experiences with this method. They concluded that some initial improvement did occur provided the procedure was undertaken soon enough after the vascular accident. The degree of improvement depended largely upon the status of the other cerebral arteries. If it had any use they felt that the most favourable of cases would be one of cerebral embolism in a young person. There does not appear to have been much published about the method recently.

Pain in Phantom Foot

Q.—What is the correct treatment for severe pains in a "phantom" foot? This patient's right leg was amputated twenty years ago and the stump is apparently healthy.

A.—The problem of the painful phantom limb is one which has not been satisfactorily solved. Sensations in the lost extremity are of course experienced for a while by almost all those who have undergone amputation. Such sensations are usually painless, and tend to pass off in the course of time. Painful sensations in a phantom limb are relatively uncommon. The cause is unknown—in many cases the stump has healed rapidly and appears satisfactory on examination. Treatment is difficult and often ineffective. Measures which have been tried and which require consideration include excision of stump neuromata; division of the nerve trunks proximal to the end of the stump; and section of the appropriate posterior nerve roots. But the symptoms commonly persist in spite of these procedures. Re-amputation at a higher level is also unlikely to be successful. The management of these cases is thus distressingly difficult. It is beneficial for the patient to wear his prosthesis if it can be tolerated, and this should be encouraged.

Thiouracil in Toxic Goitre

Q.—I have read the article entitled "Thiouracil in Toxic Goitre" in the *Journal* of Nov. 15, 1947 (p. 759), and have a question to put as regards continuation of thiouracil for longer periods. Is it possible that after recovery from initial hyperthyroid symptoms the dosage of thiouracil can be gradually reduced and finally replaced with Lugol's iodine or potassium iodide for maintenance therapy? Can iodine alone, or with thiouracil, be used for prolonged maintenance therapy?

A.—It is true that after initial control of symptoms the dose of thiouracil can be reduced to 100 mg. daily or less and the patient thus maintained in good health. In a certain proportion of cases the drug can be discontinued after six months or more and symptoms do not recur. This is true of the diffuse toxic goitre of young persons, which is often a self-limiting disease; but in the middle-aged patient with a nodular goitre relapse almost always follows within four months of withholding thiouracil. The beneficial effects of iodine are of much shorter duration, and it is usual to find that there is maximal improvement 14 to 21 days after beginning treatment. It is unusual for this improvement to be maintained, and there are no *a priori* reasons for thinking that it would be effective in the manner suggested, although no record of its use in this fashion has been found.

Heart Attack After Alcoholic Excess

Q.—A patient aged 30, waking up after a bibulous night, presented an irregularly irregular pulse which persisted for twenty-four hours. The heart appears normal. There is a history of rheumatic fever, without cardiac involvement, at the age of 20. What is the prognosis, and is this kind of attack unusual? Could it occur in a normal heart?

A.—This attack was presumably due to the toxic action of alcohol on the heart, which is occasionally seen in susceptible persons. The prognosis is excellent provided that the subject avoids alcoholic excess. The signs observed can occur in a normal heart.

Incontinence of Urine in the Elderly

Q.—A patient aged 80 is suffering from incontinence of urine. Her general health is fairly good, except for slight anginal attacks. She passes large quantities of urine which contains no sugar. Is any operation of use, or is there any appliance she could wear?

A.—It is not stated whether the incontinence is due to a fistula or to a defect in the urethral sphincter mechanism. In either case there appear to be several contraindications to surgical treatment. If it can be assumed that the case is one of urethral incontinence, then it may well be due to senile atrophy of muscles and fascia in the region of the bladder-neck and urethra. A vaginal pessary is not likely to help unless the patient has a cystocele as well. Urinary infection,

nerve lesions, and other possible aetiological factors should be excluded. If all these are excluded, oestrogen in small doses should be tried; a suitable trial dose would be oestrone, 0.3 mg. thrice daily by mouth for three weeks, followed by an interval of seven to ten days, and then repeated. If too much is given it will cause uterine bleeding. A surgical appliance that might be tried is a female urinal strapped to the vulva; but apparatus of this type is rarely satisfactory. Replies to questions published in the *Journal* of Jan. 27, 1945 (p. 139), and Dec. 1, 1945 (p. 792), should also be consulted.

Cellulitis of the Nose

Q.—A patient suffers from a recurring cellulitis of the nose. It seems to arise from an infection caused by an irritation or by microscopic cracks at the margins of the nostrils. I have treated it with various ointments, including penicillin, and find that the daily application of *mg. hydr. ox. flav. dil.* is the best way to control it. The patient, 68 years old, is healthy, and has given up tobacco because the smoke made the nose worse. Can you suggest an effective cure?

A.—If the vestibular fissuring is not due to intranasal infection (ethmoiditis, etc.) or some other local focus of infection, penicillin parenterally and sulphonamide therapy by mouth should be tried after investigating the sensitivity of the organisms concerned. Small fractional doses of x rays are sometimes effective, and sulphathiazole snuff might be tried.

Döderlein's Bacillus

Q.—(a) What is Döderlein's bacillus? (b) Is it a harmless saprophyte found only in the vagina? (c) Does the fact of finding this bacillus in a vaginal smear indicate that any treatment is necessary? (d) Is it at all harmful to the male (following coitus)?

A.—(a) A species of *Lactobacillus* leading a purely saprophytic existence in the vagina of the adult woman, where the acid reaction due to the formation of lactic acid from glycogen in the vaginal epithelium favours its growth. (b) Yes. (c) No. (d) No.

Flatus in the Elderly

Q.—What is the pathology of the flatulence, and particularly flatus, which afflicts many elderly people nowadays? Is there an effective treatment?

A.—There are no essential differences between the flatulence of the elderly and that of younger persons. In both instances gastric flatulence is almost always due to swallowed air, and intestinal flatulence to gas generated locally. The latter is due either to excessive carbohydrate fermentation or to excessive protein putrefaction. The diet provided by the present rations, although sufficient safeguard from the latter, is on account of its high carbohydrate content the cause of the prevailing intestinal wind. In the elderly the affliction is more troublesome perhaps because of decreased intestinal tone. Treatment consists in reducing, so far as is possible, the consumption of bread and potatoes. Charcoal and kaolin may do much to decrease discomfort.

Spondylitis Ossificans

Q.—During a bombing raid in 1940 a policeman was trapped under falling masonry and sustained a fractured skull. He recovered from the injury, but a year later developed spondylitis ossificans, which has progressed so that his head is held at an angle of about 60 degrees to his spine. A board held that the spondylitis could not have been caused by the trauma sustained a year previously. Is this view probably correct?

A.—If this is in fact a true case of ankylosing spondylitis, as it appears to be from the description given, it is probably correct to state that the spondylitis is not related to the trauma previously sustained. Although the cause of ankylosing spondylitis is not known with any certainty, it is accepted fairly widely that it results from a low-grade infective process—a view which is supported by the usual course of the disease and by the raised blood sedimentation rate during the stage of activity. Trauma has not been shown to be a significant factor in the aetiology; indeed, in most cases of ankylosing spondylitis no definite history of major trauma is obtained.

Treatment of Amoebiasis

Q.—Would you let me have information on any recent advances in the treatment of amoebiasis?

A.—There has been little recent advance in the specific treatment of amoebiasis. Combined treatment with emetine bismuth iodide, chiniofon, and acetarsol or carbarsone remains the standard therapy usually employed in British practice for intestinal amoebiasis, while emetine hydrochloride is the specific agent used when the liver or other organs are infected. For intestinal infections "diiodoquin" is advocated; it is less easily absorbed than chiniofon, but its therapeutic superiority is doubtful. If there is much ulceration of the gut, with secondary infection, a course of penicillin and some sulphonamide compound is now commonly used in association with the specific amoebicidal treatment.

NOTES AND COMMENTS

Great Anticipations.—Mr. E. WATSON-WILLIAMS (Clifton, B.) writes: "If the nerve is successfully located . . . relief for eighteen months is to be anticipated" (April 10, p. 718). This has no meaning: the relief may be desired, or expected—it can possibly be anticipated. Even Fry's famous advertisement distinguishes "expectation" from "anticipation."

Apology.—Messrs. Menley and James, Ltd., manufacturers of Coldharbour Lane, London, S.E.5, write: Our attention has been drawn to the leaflet published by us entitled "A Symposium on the uses of 'Benzedrine.'" This contained abstracts of extracts from papers read at a meeting of the Society for the Study of Addiction, by Dr. Crichton Miller, Professor R. C. Brown, Dr. G. de M. Rudolf, amongst others, dealing with the effects of amphetamine. It is represented to us that this pamphlet was worded as to give the impression that these gentlemen were advocating the use of "benzedrine" tablets, a proprietary preparation of amphetamine sulphate manufactured and distributed by us. We regret very much if the pamphlet was so worded as to give the impression and desire to make it clear that the gentlemen in question were not consulted and had no part in the preparation and publication of this pamphlet.

INCOME TAX

Expenses

L. D. is acting as a locumtenent but will shortly be taking up appointment as house physician. He inquires as to certain travelling and other expenses.

* (a) Use of car while at the hospital for travelling to the pathological centre. A reasonable proportion of the actual expenses is allowable provided that visiting the centre is part of the work required under the service agreement with the hospital authority.

(b) Purchase of medical books and instruments. The cost of getting together a medical library is not allowable—it represents an outlay of capital. The cost of keeping it up to date is allowable provided that the maintenance of a private reference library is required under the contract of employment.

(c) L. D. should ask for the locumtenent fees to be assessed under Schedule D. In that case he can claim the cost of one journey to and from the place where the work is done and also other expenses such as any commission paid by him. But the cost of a visit home is, we fear, likely to be refused as not incurred in the work for which the fees are received.

(d) Generally the rule under Schedule E (relating to employment) is a very rigid one; to be allowable the expenses must be wholly, exclusively, and necessarily in the performance of the duties of the employment.

All communications with regard to editorial business should be addressed to the EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. Telegrams: Westcent, London. ORIGINAL ARTICLES AND LETTERS for consideration for publication are understood to be offered to the British Medical Association unless the contrary be stated.

Authors desiring REPRINTS should communicate with the PUBLISHER, B.M.A. HOUSE, TAVISTOCK SQUARE, W.C.1, on receipt of proof. Overseas should indicate on MSS. if reprints are required, as they are sent abroad.

ADVERTISEMENTS should be addressed to the ADVERTISING MANAGER, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. (Hours 9 a.m. to 5 p.m.) TELEPHONE: EUSTON 2111. TELEGRAMS: BRIMMEDIST, WESTCENT, LONDON.

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B.M.A. SCOTTISH OFFICE: 7, Drumshugh Gardens, Edinburgh.

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY APRIL 24 1948

STATEMENT BY COUNCIL

Following statement has been sent by the Council of the Medical Association to every member of the profession.

General

February plebiscite demonstrated that the profession by an overwhelming majority was opposed to the National Health Service Acts and to acceptance of service under them.

The March the Representative Body of the Association passed the following resolution:

At the Representative Body, reaffirming the whole-hearted devotion of the medical profession for a comprehensive health service available to everyone, urges that in the public interest such changes be made in the National Health Service Acts of 1946 and in the Acts as are necessary to maintain the integrity of Medicine and to prevent doctors being turned into State servants, with harmful consequences to patient and doctor alike. The Representative Body hereby expresses the hope that the Government will make it possible for the profession to co-operate by making such changes, and states its view that it is not in the best interests of the public to have Medicine for members of the profession to enter the Service unless such changes are made."

The Chairman of Council summarized the profession's position, in his speech to the Representative Body, he said: "We are ready to enter into any discussions directed to making possible for the medical profession to co-operate with the Government. If the Government can show us other ways, new ways, of saving our independence we are willing to listen."

Obviously these events had their effect on public and political opinion. Eventually the Minister, on behalf of the Government, made a statement in the House of Commons on April 7 following a meeting with representatives of the Association. Subsequently answered a series of questions put to him by the Association. It falls to the profession carefully and calmly to examine these statements in their relation to the problems on which the profession has taken its stand. We now have the new proposals. In order that the profession, in the most democratic way, determine its views and intentions on the new situation created by these statements, the Council submits the issue afresh to the profession in plebiscite form. It may be that members of the profession regard the issue as substantially unaltered; it may be that they regard proffered concessions as sufficient. In either case it is for individual members of the profession to determine their attitude on the facts before them just as they determined their attitude on the facts before them in February. Whatever action taken, those who act for the profession must have the support of the majority in a vote taken in the light of all known facts.

The first duty is to study the facts. What are the changes to what extent, if any, do they preserve the essential freedom of the profession? The more important changes are briefly summarized below, although in all cases the fuller facts should be studied. One or two points are added, though they are not covered by the Minister's answers.

Amending Legislation

It is now promised.

Whole-time Salaried Service

The profession is opposed to a whole-time salaried service. It believes that the Acts in their present form will lead sooner rather than later to a whole-time salaried service, recognizing that such a service can be introduced by regulations made under those Acts. The Government has undertaken to include in the proposed amending Bill—to be introduced when the report of the Committee now studying partnership problems is available—a provision to make it impossible for a whole-time salaried service to be introduced by regulation.

Hospital and Specialist Services

The replies of the Minister clarify the Government's interpretation and intentions on a number of points. The continuance of part-time specialists at hospitals is promised. Existing staffs of hospitals will be taken over by Regional Hospital Boards and Boards of Governors of Teaching Hospitals. In any reorganization which follows, the Boards "will offer new appointments to their staffs either in their existing or other hospitals, which they will be free to accept or refuse as they will."

The system of medical committees in hospitals is accepted. The Ministry has undertaken that Regional Hospital Boards will be advised that in the appointment of medical members of hospital management committees, the medical staff or staffs of the hospital or hospitals concerned should be invited to submit the names of suitable members of medical staffs.

Private Accommodation

Private pay-bed accommodation is promised; it will lie where it is at present, but the Minister does not commit himself to its future distribution. The Minister does not give an assurance not to take over by compulsory purchase after the appointed day any existing or new private hospital venture, but points out that already he has excluded 200 hospitals.

Freedom of Speech and Publication

The assurance of freedom of speech and publication on matters clinical, professional, and administrative is given and will be embodied in the terms of service of hospital staffs.

Regulations

The Minister does not accept the suggestion of special procedure but describes the existing procedure for ensuring that regulations do not go beyond the Acts. The Ministry has undertaken that regulations affecting medical practitioners will be the subject of consultation with the profession before they are made.

General Practice

Basic Salary

The universal basic salary is abandoned. In his statement to Parliament the Minister limited basic salary to the first three years as a principal with option to all principals. Where basic salary is paid, capitation remuneration would be reduced by one-seventh. In his reply the Minister has agreed to discuss with the profession the conditions and methods of opting, so as to meet the Association's points that basic salary should be paid only where there is need and, except in such circumstances, should not provide a means of opting for higher average remuneration per patient.

Distribution

The Minister does not agree to abandon or to suspend the distribution machinery. In practice it will be limited to those few areas specifically named by the Medical Practices Committee as sufficiently doctored. In other areas consent will be automatic. The Minister offers a special review of the usefulness of the procedure in, say, two years' time.

Goodwill

The Minister insists on the abolition of buying and selling, with compensation, adding that in all areas practitioners will be free to choose their own partners or assistants provided that, in the areas named as sufficiently doctored, permission is obtained for the entrance of new practitioners.

Appeal

The procedure remains as laid down in the Acts without an appeal to the Courts.

Other Points

The Minister has agreed to include certain other matters of detail in the amending Bill including provision for the right of Executive Councils after the initial appointment to elect their own Chairmen.

We have succeeded on some points, such as the bar on the introduction of a whole-time salaried service by regulation, and the universal basic salary. We have failed on others, such as the ownership of goodwill and the right of appeal. The task of the profession is to judge the position in the light of our gains and losses, and in relation to the essential freedoms of the profession. Bearing in mind that what we have secured falls short of what we sought, the Council's view is that while progress has been made to that end, the freedoms of the profession are not sufficiently safeguarded. Whatever your views, please vote in order that the plebiscite may faithfully represent the views of the profession and guide those whose heavy responsibility it is to act on its behalf. Meetings of the profession will be held in your area between April 21 and April 26. Please do your best to attend your local meeting.

Any general practitioner who receives an invitation from a Local Executive Council to say whether or not he will enter the Service is advised not to answer until the profession's view has been determined.

B.M.A. HOUSE, LONDON, W.C.1.

April, 1948.

THE PLEBISCITE FORM

On April 19 the British Medical Association sent out a plebiscite form to all medical practitioners. The object of the plebiscite is to ascertain the views of the profession as a whole on the question of service or no service in the light of the Minister's statement to Parliament on April 7 and his written reply to the questions addressed to him by the B.M.A. (*Journal*, April 17, p. 742). The plebiscite form is in three sections, each section expressing a choice one way or the other. The practitioner marks his choice with an X. Every member of the profession is asked to answer Section A. Consultants and specialists, general practitioners (principals and assistants), and whole-time voluntary hospital staffs are asked to answer all three sections. The questions are as follows:

- | | | |
|---|---|--|
| A | { | I approve of the National Health Service Act, 1946, in view of the modifications now proposed by the Government. |
| | | I disapprove of the National Health Service Act, 1946, notwithstanding the modifications now proposed by the Government. |
| B | { | I am in favour of accepting service under the National Health Service Act, 1946, in view of the modifications now proposed by the Government. |
| | | I am not in favour of accepting service under the National Health Service Act, 1946, notwithstanding the modifications now proposed by the Government. |
| C | { | I agree to abide by the decision of the majority and undertake not to enter the Service if the answers to Section B reveal a majority against undertaking service as defined in paragraph 4 above [of the plebiscite form] and if so advised by the British Medical Association. |
| | | I do not agree to abide by the decision of the majority if it is against accepting service as defined above in paragraph 4 [see paragraph below]. |

If in the aggregate vote under Section B the replies (consultants and specialists, general practitioners, and whole-time voluntary hospital staffs) show a majority against accepting service under the Acts and this majority includes approximately 12,000 general practitioners (out of a present total general-practitioner strength of 20,500), the Association will continue to advise the profession not to enter the Service.

How individuals vote will not be divulged.

HEARD AT HEADQUARTERS**The Doctor Shortage**

The nursing shortage is due to actual shortage of recruits, but the doctor shortage, which will become glaringly manifest and when the National Health Service gets going, is likely to be due, not to a shortage of recruits, but to the lack of means for training them. Up to now there has been no lack of eagerness on the part of young men and women to enter the medical profession. About two years ago the British Institute of Public Opinion recorded that 7.5% of parents would like their son to 'become doctors.' Under the existing educational facilities lack of means need not hinder a promising student; the trouble is the shortage of places available in the medical schools. The Medical Curriculum Committee of the B.M.A., whose report is shortly to be published, found that in many medical schools there were at least ten applicants for each vacancy. Part of this surplus is the post-war "bulge," and many applicants apply for admission to more than one school; the existing medical schools will need to be enabled to increase the annual intake or new medical schools will have to be created.

Protection of Practice

In a copy of the *Athenaeum* dated April, 1838, I found a full-column review of a German work entitled *The Moral Aspects of Medical Life*, by (an earlier) Karl Marx. The book is in the form of letters written to famous medical men of an earlier time, some of them British, praising their character and disapproving. One of them is a letter to Richard Mead, who attended Queen Anne and the early Georges, praising his action on behalf of a professional rival "who would have lain long in the Tower to which his too bold speeches against the Government had consigned him had you not approached the Minister Walpole to set him at liberty. Not satisfied with this, I handed over to him £5,000 received by you as fees for him in the interval of his imprisonment." The professional rival was John Freind, who was made F.R.C.P. on the same day as Mead. Freind, a Tory, offended Walpole and was put in prison. Mead, who was a Whig, looked after his practice and paid him 5,000 guineas (not pounds, according to the English account) on his release. The German writer says, "You gave up to him a sum for fees which in any other country would scarcely have accumulated during a long life, even when helped with governmental salaries." The story is that Mead, being called in to prescribe for the Prime Minister, refused to do so unless released Freind.

Government Training Scheme Ending

Local authorities are finding it increasingly difficult to fill vacancies in posts formerly held by medical officers under the Government scheme for postgraduate training after demobilisation. The Middlesex County Council in at least two of its hospitals has been faced with this situation. At the Middlesex County Hospital, owing to the intimation that its medical officers will not be available in the near future, it has decided to add to the staff as and when the appointments ended seven registrars and nine resident junior house officers, and at the Central Middlesex County Hospital, where some of these training appointments are due to end in the near future, five additional unestablished appointments are now to be filled.

Occupational Health in Russia

The U.S.S.R. is not usually credited with being "coming" with information, and so it ought to be particularly interesting that, since in November last the Industrial Medicine Committee of the Association (now the Occupational Health Committee) agreed to inquire of foreign embassies about occupational health in their respective countries, three have replied, and one of the three is the U.S.S.R., the others being Denmark and Switzerland.

ONE HUNDRED AND SIXTEENTH ANNUAL MEETING, CAMBRIDGE, JUNE 25 TO JULY 2, 1948

President-Elect: SIR LIONEL WHITBY, C.V.O., M.C., M.A., M.D., F.R.C.P., Regius Professor of Physic, University of Cambridge; Master of Downing College, Cambridge

SCIENTIFIC SECTIONS

led programmes of the Scientific Sections will appear in the later issue of the *Journal*, but the meetings of the sections will take place on the following days:

Medicine.—Wednesday, June 30; Thursday, July 1; and Friday, July 2.

Surgery.—Wednesday, June 30; Thursday, July 1; and Friday, July 2.

Gynaecology and Obstetrics.—Wednesday, June 30; Thursday, July 1; and Friday, July 2.

Dermatology and Venereology.—Wednesday, June 30; and Thursday, July 1.

Public Health.—Thursday, July 1; and Friday, July 2.

Diseases of the Chest.—Wednesday, June 30; and Thursday, July 1.

Occupational Health.—Thursday, July 1; and Friday, July 2.

Ophthalmology.—Thursday, July 1; and Friday, July 2.

Otorhinolaryngology.—Wednesday, June 30; and Thursday, July 1.

Physiology and Bacteriology.—Wednesday, June 30; and Thursday, July 1.

Physiology, including Biochemistry.—Wednesday, June 30; and Thursday, July 1.

Preventive Medicine.—Wednesday, June 30; and Thursday, July 1.

Physiology.—Thursday, July 1; and Friday, July 2.

Anatomy and Anthropology.—Friday, July 2.

Immunology.—Wednesday, June 30.

Neurology and Psychiatry.—Friday, July 2.

Microbiology.—Friday, July 2.

Rhino-Laryngology.—Wednesday, June 30.

Ophthalmology.—Friday, July 2.

PROVISIONAL TIME-TABLE

Friday, June 25

9.00 a.m.—A.R.M. Inquiry Office open—Large Examination Hall, Bene't Street.

10.00 a.m.—Annual Representative Meeting—Large Examination Hall, Bene't Street.

11.00 a.m.—Ladies' Club open for Registration—English Speaking Union, Trinity Street.

12.00 p.m.—L. Tours of the Colleges.

1.00 p.m.—Lunch to Overseas B.M.A. Representatives—Pitt Club.

2.00 p.m.—L. Tours of the Colleges.

3.00 p.m.—Representatives' Dinner, Dorothy Café.

Saturday, June 26

9.00 a.m.—A.R.M. Inquiry Office open—Large Examination Hall, Bene't Street.

10.00 a.m.—Annual Representative Meeting—Large Examination Hall, Bene't Street.

11.00 a.m.—Ladies' Club open—English Speaking Union, Trinity Street.

12.00 p.m.—L. Tours of the Colleges.

1.00 p.m.—Photograph of Representative Body.

2.00 p.m.—L. Tours of the Colleges.

Sunday, June 27

9.00 a.m.—Excursion to Hinchinbrook (probably limited to 200).

10.00 a.m.—Concert in Arts Theatre: Piano Recital by Pouishneff.

Monday, June 28

9.00 a.m.—Council Meeting—Small Examination Hall, Bene't Street.

10.00 a.m.—A.R.M. Inquiry Office open—Large Examination Hall, Bene't Street.

9.30 a.m.—Ladies' Club open—English Speaking Union, Trinity Street.

10.00 a.m.—Annual Representative Meeting, Large Examination Hall, Bene't Street.

10.30 a.m.—L. Tours of the Colleges.

2.00 p.m.—Reception Room open for Registration—Platform of Large Hall, Guildhall.

2.00 p.m.—L. Visit to Ely Cathedral (limited to 50).

2.30 p.m.—L. Tours of the Colleges.

8.00 p.m. onwards.—Fellows' Gardens of King's, Christ's, and Pembroke Colleges open.

Tuesday, June 29

9.00 a.m.—Official Opening of Exhibition by President-Elect—Large Hall, Guildhall.

9.00 a.m.—Reception Room open for Registration—Guildhall.

9.30 a.m.—Annual Representative Meeting—Large Examination Hall, Bene't Street.

9.30 a.m.—Ladies' Club open—English Speaking Union, Trinity Street.

10.30 a.m.—L. Tours of the Colleges.

11.00 a.m.—Pathological Museum open—Department of Pathology.

12.30 p.m.—Annual General Meeting—Large Examination Hall, Bene't Street.

3.00 p.m.—Official Religious Service—Great St. Mary's Church.*

4.30 p.m.—Vice-Chancellor's Reception—Christ's College* (limited to 500).

8.00 p.m. onwards.—Fellows' Gardens of Christ's and Pembroke Colleges open.

8.30 p.m.—Adjourned Annual General Meeting and President's Address—Senate House (limited to 1,000).

9.30 p.m.—President's Reception, Old Schools* (limited to 700).

Wednesday, June 30

9.00 a.m.—Council Meeting—Small Examination Hall, Bene't Street.

9.00 a.m.—Reception Room open for Registration—Guildhall.

9.00 a.m.—Exhibition open—Large Hall, Guildhall.

9.30 a.m.—Pathological Museum open—Department of Pathology.

9.30 a.m.—Ladies' Club open—English Speaking Union, Trinity Street.

9.30 a.m.—Notts Ladies' Challenge Cup Competition—Gog-Magog Golf Club.

10.00 a.m.—Leinster and Childe Cup Competitions—Gog-Magog Golf Club.

10.00 a.m.—Scientific Sections.

10.30 a.m.—L. Tours of the Colleges.

2.00 p.m.—Visit to Ely Cathedral (limited to 100).

2.30 p.m.—Tours of the Colleges.

2.30 p.m.—Visit to Papworth.

2.30 p.m.—Scientific Sections.

3.00 p.m.—Garden Party at Trinity College (limited to 200).

4.30 p.m.—Overseas Conference—Small Examination Hall, Bene't Street.

6.00 p.m.—Cocktail Party, Medical Women's Federation (limited to 100 members of the M.W.F.) (at home of Mrs. Mitchell, Thorndyke, Huntingdon Road, Cambridge).

8.00 p.m. onwards.—Fellows' Gardens of Christ's and Pembroke Colleges open.

8.30 p.m.—Civic Reception at the Old Schools* (limited to 500).

Thursday, July 1

9.00 a.m.—Reception Room open—Large Hall, Guildhall.

9.00 a.m.—Exhibition open—Large Hall, Guildhall.

9.30 a.m.—Pathological Museum open—Department of Pathology.

9.30 a.m.—Ladies' Club open.

10.00 a.m.—Scientific Sections.

2.30 p.m.—Visit to Papworth.

2.30 p.m.—L. Tours of the Colleges.

2.30 p.m.—Scientific Sections.

3.00 p.m.—Garden Party at Longstone Hall (limited to 200).

5.00 p.m.—Benediction at the Roman Catholic Church, Hills Road.* Address by His Eminence the Cardinal Archbishop.

7.30 p.m.—Annual Dinner—Dorothy Café (limited to 400).

8.00 p.m.—Organ Recital in King's College Chapel.

8.00 p.m. onwards.—Fellows' Gardens in Christ's, Emmanuel, and Pembroke Colleges open.

Friday, July 2

- 8.30 a.m.—Annual Breakfast of the Medical Prayer Union—Pitt Club (limited to 150).
 9.00 a.m.—Reception Room open—Guildhall.
 9.00 a.m.—Exhibition open—Guildhall.
 9.30 a.m.—Ladies' Club open—English Speaking Union, Trinity Street.
 9.30 a.m.—Pathological Museum open—Department of Pathology.
 10.00 a.m.—Scientific Sections.
 10.00 a.m.—Treasurer's Cup Competition—Gog-Magog Golf Club.
 10.30 a.m.—L. Tours of the Colleges.
 2.30 p.m.—Scientific Sections.
 2.30 p.m.—Tours of the Colleges.
 2.30 p.m.—Visit to Papworth.
 8.00 p.m.—Popular Lecture by Sir Henry Dale, O.M., G.B.E.—Large Examination Hall, Bene't Street (limited to 800).
 9.00 p.m.—Annual Dance—Dorothy Café (limited to 600).

*Academic Dress should be worn at these functions.

L.=Functions intended primarily for ladies.

ACCOMMODATION IN CAMBRIDGE

As mentioned in the *Supplement* to the *British Medical Journal* of Feb. 28 (p. 31), the lodging accommodation available in Cambridge next June is very restricted owing to the incidence of a number of functions round about the period of the Meeting.

In order that as much accommodation as possible may be at our disposal, the Cambridge Executive has booked all available space in advance. The Colleges have most generously come to our aid and have offered rooms which, with the lodgings already booked in advance, should accommodate about 2,500 persons.

The following is a brief outline of the position and the steps which should be taken by those wishing to book rooms through the Cambridge Executive.

It should be noted that, except for odd rooms falling vacant, no hotel accommodation is now available, and, except for rooms already booked by the Cambridge Executive, there are few, if any, reasonable lodgings to be had. But members are of course at liberty to make their own arrangements for accommodation.

If visitors wish the Cambridge Executive to book rooms for them, it is very important that the form on p. 109 of this issue should be completed and returned as soon as possible to the Executive Officer, Local B.M.A. Office, Guildhall, Cambridge. When rooms conforming as nearly as possible to requirements have been booked, applicants will receive a note giving particulars of the accommodation booked and the charges. A cheque for the amount indicated should be sent to the B.M.A. Office, Guildhall, Cambridge, on receipt of which the booking will be considered definite. This procedure is necessary, as it was only possible to retain the lodging space by firm booking at the end of last year. Cheques should be made payable to the British Medical Association and crossed.

Official Headquarters will be in Newnham College, which will accommodate 100 men or women—either members of the B.M.A. or their wives or other guests. All rooms are single bedrooms, and little or no bedroom service can be given. Full board will be provided and a lounge set aside for the use of members and their friends.

Other Colleges have offered accommodation as follows:

Caius	100 men
Christ's	80 men
Corpus Christi	50 men
Downing	60 men
Emmanuel	100 men
Girton	150 men or women
King's	50 men, and 20 men or women in Hostel
Jesus	100 men
Madalene	60 men
Newnham	20 women (for own members in addition to 100 stated above)
Pembroke	50 men
Peterhouse	50 men
Queens'	100 men
Trinity College	200 men
Trinity Hall	50 men
St. Catherine's	100 men
St. John's	120 men

Sidney Sussex	80 men
St. John's	200 men
Wesley House	17 men and 6 women
Westminster	35 men or women

Each College wishes preference to be given to its own members, and, in the case of Wesley House, Methodist doctors receive first priority.

The charge for all Colleges, including Newnham, is 4s. per person per day, with full board. All rooms are for men and no women can be accommodated except in Newnham, Girton, King's Hostel, Wesley House, and Westminster. In many cases, therefore, wives may have to be put up in lodgings separate from their husbands.

Rooms in lodgings in town are, in general, available for either men or women, and accommodation for approximately 750 has been reserved. Only bed and breakfast can be provided except in a few isolated cases, but arrangements have been made to reserve space in restaurants and elsewhere for lunches and dinners. The uniform charge for lodgings is 4s. per person per night, including breakfast.

Ration books or emergency cards must be brought, and meals can be provided in lodgings or Colleges without them. If visitors are going to stay in College they must bring their books, but if in lodgings emergency ration cards are necessary. Visitors are strongly advised to obtain emergency cards before leaving home, as Cambridge Food Office is overloaded in June and very great delay might occur in obtaining emergency cards here.

Towels and soap should be brought, as in the majority of cases these cannot be provided.

CAR PARKING ARRANGEMENTS

A private car park has been set aside for the use of B.M.A. members at Coe Fen (Entrance from Fen Causeway) from June 24 to July 3. Attendants will be on duty day and night and admission is free to Members displaying the B.M.A. screen label or badge.

Visiting Members are asked to park their cars as soon as they arrive in Cambridge (after depositing luggage at their lodgings) and not to use them while in Cambridge, on account of congestion of traffic and narrowness of streets.

The police ask that no cars should be brought to the Guildhall, and no parking will be allowed in the vicinity of the Guildhall except in the Market Square if space is available.

Members should therefore proceed to the Guildhall (for registration or other purposes) by taxi, by bus, or on foot.

REGULATIONS REGARDING DRESS

Academic Dress.—No hoods are to be worn during the Cambridge Meeting, as the Chancellor will not be present. Robes are to be worn at the Official Religious Service, Tuesday, June 29; the President's Address, Tuesday, June 29; the President's Reception, Tuesday, June 29; the Vice-President's Reception, Tuesday, June 29; the Mayor's Reception, Wednesday, June 30; the Roman Catholic Service, Thursday, July 1. Robes may be hired from Messrs. Ede and Ravenscroft Ltd., 93, Chancery Lane, W.C.2, and may be sent to the B.M.A. Reception Office, Large Examination Hall, Cambridge, if desired.

Evening Dress.—Evening Dress (Tails or Dinner Jacket) with Decorations should be worn at the following functions: President's Reception, Tuesday, June 29; Mayor's Reception, Wednesday, June 30; Annual Dinner, Thursday, July 1; Representatives' Dinner, Friday, June 25, and the Annual Dinner, July 2.

BADGES

Officers of Scientific Sections should inquire for Badges at the Registration Counter, Guildhall.

TICKETS

Unfortunately, owing to the austerity conditions, the numbers attending the various functions will be limited, and early application for tickets at the Registration Counter, Guildhall, is advised.

H.M. Forces Appointments

War Substantive Captain J. D. H. Bankier has relinquished his commission on account of disability and has been granted the honorary rank of Captain.

INDIAN MEDICAL SERVICE

Colonel P. Savage has retired.
Lieutenant-Colonels Sir S. S. Sokhey and H. M. Strickland to be Colonels.
Lieutenant-Colonels N. D. Puri, G. R. Oberai, V. Mahadevan, R. N. Bhandari, G. A. Khan, and I. S. Nalwa have retired.
Lieutenant-Colonel A. Ba Thaw has relinquished his commission.
Major Hoe Min Sein has relinquished his commission.

EMERGENCY COMMISSION

Major R. M. Vanreenan has relinquished his commission on being appointed to a Short Service Commission, R.A.M.C.
Captain J. G. H. Davidson to be Major.

INDIAN ARMY MEDICAL CORPS

Major M. J. Godfrey has retired.

SPECIAL LIST (EX-INDIAN ARMY)

BRITISH ARMY

Major-General W. E. R. Dimond, C.I.E., C.B.E., has retired.
Lieutenant-Colonels T. J. Davidson and A. Rosenbloom have retired and have been granted the honorary rank of Colonel.
Lieutenant-Colonels G. F. Condon and F. R. W. K. Allen have retired.
Major (War Substantive Lieutenant-Colonel) J. W. Bowden has retired and has been granted the honorary rank of Colonel.
Major (War Substantive Lieutenant-Colonel) J. Revans, M.B.E., has retired, receiving a gratuity and has been granted the honorary rank of Colonel.
Majors J. H. Cater, B. J. Doran, J. Reidy, and D. R. Nicol have retired and have been granted the honorary rank of Lieutenant-Colonel.
Major J. E. O'Donnell has retired.
Captains (War Substantive Majors) H. L. Loughran, J. L. M. Whitbread, and G. T. M. Hayes, O.B.E., M.C., have retired and have been granted the honorary rank of Lieutenant-Colonel.

Association Notices

SIR CHARLES HASTINGS CLINICAL PRIZE

The Sir Charles Hastings Clinical Prize, which consists of a certificate and a money award of 50 guineas, is again open for competition. The following are the regulations governing the award:

1. The prize is established by the Council of the British Medical Association for the promotion of systematic observation, research, and record in general practice; it includes a money award of the value of 50 guineas.
2. Any member of the Association who is engaged in general practice is eligible to compete for the prize.
3. The work submitted must include personal observations and experiences collected by the candidate in general practice, and a high order of excellence will be required. If no essay entered is of sufficient merit no award will be made. It is to be noted that candidates in their entries should confine their attention to their own observations in practice rather than to comments on previously published work on the subject, though reference to current literature should not be omitted when it bears directly on their results, their interpretations, and their conclusions.
4. Essays, or whatever form the candidate desires his work to take, must be sent to the British Medical Association House, Tavistock Square, London, W.C.1, not later than Dec. 31, 1948. The prize will be awarded at the Annual General Meeting of the Association to be held in 1949.
5. No study or essay that has been published in the medical press or elsewhere will be considered eligible for the prize, and a contribution offered in one year cannot be accepted in any subsequent year unless it includes evidence of further work. A prizewinner in any year is not eligible for a second award of the prize.
6. If any question arises in reference to the eligibility of the candidate or the admissibility of his or her essay the decision of the Council on any such point shall be final.
7. Each essay must be typewritten or printed, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto and enclosing the candidate's name and address.
8. The writer of the essay to whom the prize is awarded may, on the initiative of the Science Committee, be requested to prepare a paper on the subject for publication in the *British Medical Journal* or for presentation to the appropriate Section of the Annual Meeting of the Association.
9. Inquiries relative to the prize should be addressed to the Secretary.

KATHERINE BISHOP HARMAN PRIZE

The Council of the B.M.A. is prepared to consider an award of the Katherine Bishop Harman Prize of the value of £75 in 1948. The purpose of the prize, which was founded in 1926, is to encourage study and research directed to the diminution and avoidance of the risks to health and life that are apt to arise in pregnancy or child-bearing. It will be awarded for the best essay submitted in open competition, competitors being left free to select the subject they wish to present, provided this falls within the scope of the prize. Any medical practitioner registered in the British Medical Association is eligible to compete.

Should the Council of the Association decide that no essay submitted is of sufficient merit, the prize will not be awarded in 1948 but will be offered again in the year next following this decision and in this event the money value of the prize on the occasion of the question will be such proportion of the accumulated interest as the Council shall determine.

The decision of the Council will be final.

Each essay must be typewritten or printed in the English language, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto and enclosing the candidate's name and address. Essays must be forwarded to reach the Secretary, to whom all inquiries should be addressed, at B.M.A. House, Tavistock Square, London, W.C.1, not later than Dec. 31, 1948.

MIDDLEMORE PRIZE

The Middlemore Prize consists of a cheque for £50 and an illuminated certificate, and was founded in 1880 by the late Richard Middlemore, F.R.C.S., of Birmingham, to be awarded for the best essay or work on any subject which the Council of the British Medical Association may from time to time select in any department of ophthalmic medicine or surgery. The Council is prepared to consider the award of the prize in the year 1948 to the author of the best essay on "The Value of Orthoptics in the Treatment of Squint." Essays submitted in competition must reach the Secretary, British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1, on or before Dec. 31, 1948. Each essay must be signed with a motto and accompanied by a sealed envelope marked on the outside with the motto and containing the name and address of the author. In the event of an essay being of sufficient merit the prize will not be awarded in 1949.

PROPOSED WEST DERBYSHIRE DIVISION

Notice is hereby given by the Council to all concerned in the proposal to form a West Derbyshire Division with the following area:

The Urban Districts of Matlock, Wirksworth, Bakewell, Rural District of Bakewell; the Civil Parishes of Ashover, Derby, Lea and Holloway, and Crich.

The proposed new Division will form part of the Derbyshire Branch. Any member affected by this proposal and wishing to object thereto is requested to write to the Secretary of the Association by May 24, 1948, stating the objection and the grounds therefor.

CHARLES HILL
Secretary

GROUP OF VENEREOLOGISTS

A meeting of the recently formed Group of Venereologists will be held at B.M.A. House, Tavistock Square, London, W.C.1, on Friday, May 7, 1948, at 2 p.m.

The Group consists of all those members of the Association who are engaged predominantly in the practice of venereology. The agenda will consist of (a) the election of a President, (b) consideration of the size and constitution of the Group, and (c) a general discussion on the work of the Group.

CHARLES HILL
Secretary

Diary of Central Meetings

MAY

5. Wed. Council, 11 a.m.

Branch and Division Meetings to be Held

BIRMINGHAM: CENTRAL DIVISION.—At 154, Great Charles Street, Birmingham. Tuesday, April 27, 8.15 p.m. Clinical Meeting conducted by Dr. E. Davies Thomas.

LONDON SATURDAY MAY 1 1948

PERNICIOUS ANAEMIA OF PREGNANCY AND THE PUERPERIUM

BY

S. P. DAVIDSON, M.D., F.R.C.P.Ed.&Lond.
Professor of Medicine

R. H. GIRDWOOD, M.B., F.R.C.P.Ed.
Lecturer in Medicine

AND

J. R. CLARK, M.B., Ch.B., M.R.C.P.Ed.
Assistant in Department of Medicine

University of Edinburgh

Pernicious anaemia is an uncommon disease, and pernicious anaemia of pregnancy is much rarer still. In 521 cases of macrocytic anaemia examined by us in the past seven years only 31 were associated with pregnancy and of these only four have been seen since the introduction of folic acid. It is therefore not surprising that no report on the therapeutic value of folic acid in this type of megaloblastic anaemia has appeared in the medical literature, and that records of only four cases have been published in America—three cases by Moore (1946) and one by Moore *et al.* (1945). In all three cases folic acid was given by the parenteral route and a satisfactory response was obtained in two. We now submit records of three cases of pernicious anaemia of pregnancy and one case of pernicious anaemia that relapsed as a complication of pregnancy, all of which responded to folic acid. The haemoglobinometer used in this investigation was a Haldane instrument standardized by the Physical Laboratory.

Case 1

A woman aged 30 was admitted to our wards on 15.12.1947, on account of severe anaemia. Her first pregnancy was in December, 1944, and the second in 1946. Because of anaemia she was treated in hospital before parturition and with anahaemin for three months and gradually made a good recovery. No information was available in regard to the type or the severity of the anaemia. In 1947 she again became pregnant and was confined during hospital on Nov. 2. Twins were delivered, and a considerable amount of blood. No information was available of her blood previous to this confinement was more than the fact that her haemoglobin was 48% one month before delivery. During this month she was given 6 gr. of ferrous sulphate thrice daily and 2 ml. of anahaemin daily. Consequently on the loss of blood at parturition her haemoglobin level fell to 40%.

On admission to our wards questioning revealed that her medical history was satisfactory and that there was no history of anaemia or of diarrhoea. The patient had been abroad and had never suffered from dyspepsia, or diarrhoea. Physical examination revealed no abnormality of the tongue, finger-nails, or skin. There was no objective evidence of involvement of the nervous system. No source of blood loss was discovered. There

was no jaundice or fever. The liver, spleen, and lymph nodes were not enlarged, and no pathological features were found in any system other than the haemopoietic system. A test meal revealed free hydrochloric acid in all specimens, and the urine contained an excess of urobilinogen. Her blood count on Nov. 14 was: red cells, 1,570,000 per c.mm.; haemoglobin, 30%; colour index, 0.96; reticulocytes, 1.4%; white cells, 12,400 per c.mm. A megaloblastic bone marrow indistinguishable from that of Addisonian pernicious anaemia was found. Folic acid was given in a dosage of 20 mg. daily by mouth for 12 days, and thereafter 10 mg. daily. This resulted in a reticulo-

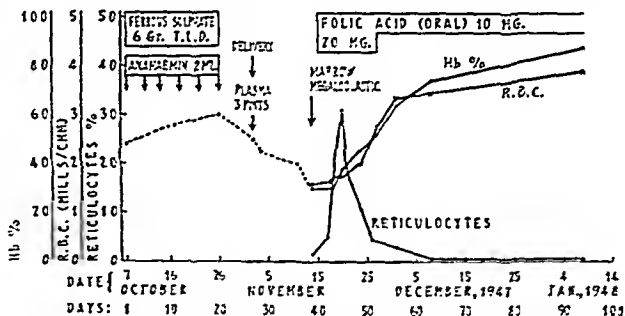


FIG. 1.—Chart of Case 1. ---- indicates counts done before we saw the patient.

cyte peak of 31% on the fifth day and an increase of red cells and haemoglobin of 2,400,000 and 58% respectively in 55 days. (Fig. 1.)

Case 2

This patient, a married woman aged 23, was admitted to the Simpson Memorial Maternity Pavilion of the Royal Infirmary, Edinburgh, on Jan. 29, 1948, with a diagnosis of pre-eclamptic toxemia because of oedema, albuminuria, and hypertension. On Feb. 7 she was delivered of a healthy full-time female child. There was no history of previous pregnancy or of miscarriages. A haemoglobin level of 60% was found the day before the baby was born.

The patient said she had always been pale, but the only serious illness she had had was diphtheria at the age of six, which was followed by a right-sided hemiplegia. There was no family history of anaemia or diarrhoea. She was pale and slightly built, had never suffered from dysphagia, dyspepsia, or diarrhoea, and had never been abroad. Her dietetic history was satisfactory. There was no enlargement of the liver, spleen, or lymph nodes. The tongue was slightly atrophic, with several

sore patches, and the finger-nails showed some ridging. There was no jaundice, and no source of blood loss was discovered. The urine contained albumin and a marked excess of urobilinogen. A test meal showed histamine-fast achlorhydria. The blood pressure was normal, and no disease was found in the cardiovascular or respiratory system. Apart from the residual signs of the hemiplegia mentioned above no abnormality of the nervous system was found.

A blood count carried out by us on Feb. 20 was as follows: red cells, 2,300,000 per c.mm.; haemoglobin, 44%; colour index, 0.9; white cells, 4,000; reticulocytes, 1.2%. The bone marrow was megaloblastic and indistinguishable from that of untreated Addisonian pernicious anaemia, despite the fact that 2 ml. of anahaemin had been given on three consecutive days before sternal biopsy was undertaken. Eight days later the blood count was slightly lower and the M.C.V. was 84 c. μ . The state of the bone marrow could not be ascertained, since the patient refused to have a second sternal puncture. The presence of an occasional megaloblast in the peripheral blood suggested that no change had occurred. Accordingly treatment with folic acid was started, a single injection of 30 mg. being given intramuscularly, followed by 10 mg. by mouth daily. This resulted in a reticulocyte peak of 26% on the fifth day, and an increase of 1,380,000 red cells and 12% haemoglobin in 18 days. At this date the colour index was 0.75, and the hypochromic appearance of the erythrocytes clearly indicated the need for supplementary iron therapy.

Case 3

A married woman aged 30 was transferred to our wards from the Simpson Memorial Maternity Pavilion on Feb. 26, 1947, on account of severe anaemia. She had given birth to a healthy son on Feb. 14 and had had no previous pregnancies. Labour had been uneventful except that there had been a moderately heavy blood loss after delivery of the placenta. There was no family history of anaemia or diarrhoea. Her appetite was good. The patient's dietetic history was satisfactory and she had never suffered from dysphagia, dyspepsia, diarrhoea, anaemia, or any serious illness. Physical examination revealed no abnormality of the heart, lungs, abdominal organs, or nervous system. There was some atrophy of the papillae of the tongue; neither koilonychia nor enlargement of lymphatic nodes was found. The blood pressure was 124/90. The urine contained a trace of albumin but no excess of urobilinogen. There was free hydrochloric acid in the gastric juice.

When we first saw the patient on Feb. 26 the blood count was: red cells, 1,800,000 per c.mm.; haemoglobin, 46%; colour index, 1.28; white cells, 6,800 per c.mm.; reticulocytes, 5.6%. The M.C.V. calculated on two occasions was 107 and 114 c. μ . The marrow was megaloblastic. The patient had been treated with 6 gr. (0.4 g.) of ferrous sulphate three times a day during pregnancy, but had never received liver by mouth or by injection. At the end of a control period of ten days the red cell count was unaltered and the reticulocyte count had fallen to 1.8%. Accordingly, 10 mg. of folic acid daily was given by mouth. She had to leave hospital on account of domestic difficulties, but continued to take the folic acid as an out-patient, reporting at regular intervals to the blood clinic for assessment of progress. A rapid improvement in her general clinical condition resulted, while a gain of 1,410,000 red cells and 10% haemoglobin occurred in 35 days. She was then given 18 gr. (1.2 g.) of ferrous sulphate daily and the blood count was restored to normal.

Case 4

This patient, an unmarried woman aged 38, was in the sixth month of pregnancy when we were asked to see her because of severe anaemia which had failed to respond to treatment with iron and various preparations of liver.

In 1940, at the age of 30, she had been admitted to the Royal Infirmary of Edinburgh suffering from severe anaemia. The following information was obtained from her case records. Before admission she had been getting increasingly pale, easily tired, and breathless, and vomiting and diarrhoea had occurred. There was oedema of the ankles, the skin had a lemon-yellow colour, and the conjunctival mucous membrane was very pale. Apart from atrophic glossitis, anaemia, and achlorhydria, no

abnormality was noted in any system. Her blood count^E April 15, 1940, was: red cells, 1,720,000 per c.mm.; haemoglobin, 45%; colour index, 1.3. Intensive treatment with parenteral liver extract was given. She received an intramuscular injection of 5 ml. of "pernaemon" daily. As the response was poor, "campolon," one ampoule daily, was sub-



FIG. 2.—Bone marrow from Case 4, showing persistence of megaloblastic erythropoiesis despite administration of 32 ml. anahaemin, 6 ml. plexan, and 3½ oz. (115 g.) of hepamino over a period of 3 weeks. (×1,400.)

stituted. The response continued to be poor, and despite this intensive treatment the gain in red cells and haemoglobin over a period of two and a half months was only 1,500,000 red cells and 25% haemoglobin. After discharge from hospital the patient continued to have injections of liver extract from her doctor, at first daily and then weekly for the next two years.

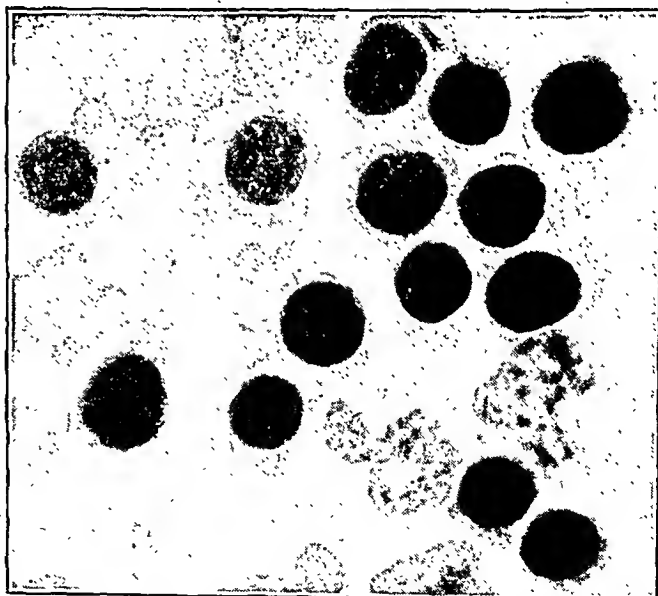


FIG. 3.—Bone marrow from Case 4, showing reversion to normoblastic erythropoiesis 36 hours after the intramuscular administration of 60 mg. of folic acid. (×1,400.)

In 1942 she had two severe reactions following the injection of liver extract. When anahaemin was substituted for the previous liver extract no reactions followed. The doctor states, however, that the patient attended for treatment irregularly and at long intervals during the next five years. Throughout this period she was pale, breathless, and easily tired, but continued working

form of a small tasteless tablet and because of the rapid clinical and haematological improvement which results even in cases refractory to parenteral liver therapy. Since the duration of treatment with folic acid is limited to a few weeks, the danger of producing subacute combined degeneration of the cord is greatly reduced as compared with Addisonian pernicious anaemia. Further time must elapse, however, before it can be stated confidently that neurological features will not occur in patients with pernicious anaemia of pregnancy receiving folic acid.

As many cases of pernicious anaemia of pregnancy are suffering from a dual deficiency of iron and the factor required for maintenance of normoblastic blood formation it is desirable that both deficiencies be corrected simultaneously. While our patients were receiving folic acid iron was deliberately withheld in order to simplify the interpretation of the therapeutic response.

(Anahaemin is a refined liver extract, and "plexan" and "campolon" are crude extracts.)

Summary

Three cases of pernicious anaemia of pregnancy and one case of Addisonian pernicious anaemia complicated by pregnancy responded excellently to treatment with folic acid. Three of the cases had failed to respond to the parenteral injection of liver extracts prior to the administration of folic acid.

We wish to thank Prof. Kellar, Dr. Fahmy, and others of our colleagues in the Simpson Memorial Maternity Pavilion of the Royal Infirmary, Edinburgh, for permission to investigate and treat the above cases.

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FOLIC ACID*

BY

JOHN F. WILKINSON, M.D., M.Sc., Ph.D.
F.R.C.P., F.R.I.C.

Hon. Physician; Director of Department of Haematology,
Royal Infirmary and University of Manchester

Idiopathic Steatorrhoea and Coeliac Disease

A number of reports have now appeared on the excellent effect of "folic acid" in the treatment of tropical sprue (Darby and Jones, 1945; Darby *et al.*, 1946a, 1946b; Spies, 1946a, 1946b; Spies *et al.*, 1946; Manson-Bahr and Clarke, 1946; Morrison and Johnston, 1947); while Davidson and Girdwood (1947) and Weir and Comfort (1947) have described their results using it on patients with non-tropical sprue, particularly those with normoblastic marrows.

*The conclusion of the lectures (abridged) given to the Section of Experimental Medicine of the Royal Society of Medicine on May 13, 1947, and to the Medical Society of London on Feb. 9, 1948.

The following four cases illustrate my results with pteroylglutamic acid is used on patients with idiopathic steatorrhoea (non-tropical sprue) and coeliac disease (Table V).

Idiopathic Steatorrhoea

The diagnostic criteria for patients with idiopathic steatorrhoea (non-tropical sprue) were: (1) a macrocytic anaemia with a megaloblastic or normoblastic marrow; (2) frequent loose, bulky, offensive stools, often yellow in colour; (3) high total fat content of stools with or without a prior fat test meal; (4) achlorhydria gastrica or normal acidity; (5) soreness or ulceration of the mouth or tongue; (6) severe loss of weight; and (7) a flat glucose-tolerance curve.

Case I.S.—A housewife aged 53 had an eight-months history of tiredness, lack of energy, palpitation, intermittent soreness of the tongue, increasing pallor, and frequent loose, bulky, offensive, yellowish stools up to eight in 24 hours. She had lost at least 3 st. (19 kg.) in weight. The bone marrow was very cellular and active, with a mixed megaloblastic (5%)–normoblastic (27%) hyperplasia. A blood count showed: R.B.C. 2,610,000; Hb, 72%; C.I., 1.33; W.B.C., 6,600 (polymorphs 73%, lymphocytes 22%, large monocytes 3%, eosinophils 2%); marked anisocytosis and poikilocytosis; reticulocytes, 3.2. Stools: total fat, 55% (split fat 83%, unsplit 17%). She was given 20 mg. of pteroylglutamic acid orally per day. There was a slight reticulocytosis (4.2% on the 8th day) and the haematological response was slow but ultimately (after 64 days) a normal R.B.C. 4,140,000, Hb 82%, C.I. 1, W.B.C. 7,100, with a normal differential white cell count. The stools rapidly improved, became formed, and ceased to be frequent, bulky, or offensive; total fat, 28% (split 84%, unsplit 16%). Clinically the patient had improved very much indeed; she was free from symptoms and was gaining weight steadily when discharged from hospital.

Case B.C.—A housewife aged 35 had had tetany intermittently since the age of 24; she had bilateral cataracts and frequent bulky offensive stools in addition to the usual general symptoms. Examination revealed achylia gastrica, a flat glucose-tolerance curve, a negative Wassermann reaction, a normal C.S.F.; serum calcium varied between 6.4 and 9.8 mg. per 100 ml., blood urea 22 mg. per 100 ml., urea clearance 85%, serum phosphorus 3.6%, plasma alkaline phosphatase 4 units; radiologically there was some generalized osteoporosis of the long bones; weight, 4 st. 12 lb. (30.84 kg.); blood pressure, 100/70. A blood count on June 27, 1946, showed: R.B.C., 3,210,000; Hb, 74%; C.I., 1.16; W.B.C., 3,600 (polymorphs 59%, lymphocytes 36%, large monocytes 4%, eosinophils 1%); anisocytosis and poikilocytosis marked; platelets, 97,000. The marrow was very active and cellular and showed a mixed megaloblastic (4.7%)–normoblastic (9.7%) hyperplasia. Stools: total fat, 41% (split fat 82%, unsplit 18%). Bacteriological examination of faeces did not disclose any abnormality.

The patient had 15 mg. of pteroylglutamic acid intramuscularly daily for 10 days without any clinical or haematological response, and was then given 1 oz. (28 g.) orally of proteolysed liver extract daily without improvement, the blood count on Aug. 9 being rather worse: R.B.C., 2,820,000; Hb, 62%; C.I., 1.11; W.B.C., 7,200. At this stage the marrow showed a normoblastic (49.25%) hyperplasia. Continued treatment with liver extract parenterally, supplemented with synthetic vitamins of the B complex, hog's stomach, etc.

TABLE V.—Idiopathic Steatorrhoea

Case	Sex	Age	Marrow	Gastric Acidity	R.B.C. $\times 10^6$	Hb %	W.B.C.	Folic Acid,
I.S.	F	53	Mbl 5% Nbl 27%	Achylia	2.61 4.14 (69)	72 82 (69)	6,600 7,100	20 mg. orally
B.C.	F	35	Mbl 4.7% Nbl 9.7% Mbl 0 Nbl 49.25%	Achylia	3.21 3.11 (14) 3.49 4.31 (32) 2.80 (187) 3.08 (201)	74 72 (14) 70 84 (32) 74 (187) 64 (201)	3,600 5,200 (14) 9,700 7,400 (32) 9,000 (187) 12,800 (201)	15 mg. [10] i.m. 50 mg. [2] i.v. 50 mg. [25] i.v. 40 mg. [187] orally
H.C.	F	27	Mbl 10.4% Nbl 10.4%	Normal	1.97 5.35 (107)	50 108 (107)	3,200 5,700	20 mg. [107] orally
J.M.	F	3	Mbl 2.25% Nbl 2.5%	Normal	3.12 3.81 (129)	63 44 (129)	4,500 4,300 (129)	5 mg. [129] orally

Reticulocytes: Case I.S. 4.3% (8); Case H.C. 25.4% (7). Nbl = Normoblasts. Mbl = Megaloblasts. () Day after beginning treatment. [] No. of days on treatment.

TABLE VI.—*Aplastic Anaemia*

Case	Sex	Age	Marrow	R.B.C. $\times 10^6$	Hb %	W.B.C.	Platelets	Folic Acid Dosage
J.S.	M	44	Aplastic	1.52 1.60 (7)	30 30 (7)	4,200 2,700 (7)	40,000 25,000 (9)	150 mg. i.v.
P.S.	M	6	"	1.37 0.85 (56)	18 20 (56)	1,800 1,400 (56)	35,000 246,000 (56)	5-100 mg. orally dai.
M.L.	F	53	"	1.08 (308) 1.38	24 (308) 26	1,800 (308) 3,800	30,000	100 mg. i.v. 20 mg. orally daily

was given to three patients with typical aplastic anaemia (see Table VI): all had aplastic marrows and all failed to show the slightest clinical or haematological responses after doses varying up to 150 mg. a day intravenously and orally. Similar negative results were noted in patients with agranulocytosis and the cases of chronic neutropenia given up to 150 mg. daily, intravenously or orally, in contradistinction to the changes noted in rats (see above), while thrombocytopenia purpura (two cases secondary to gold therapy) also resisted this treatment.

Of course, as shown above, where there is haematological response to treatment, as in pernicious anaemia and similar megalocytic anaemias, all the cellular elements of the blood benefit, so that with the red cells there is concomitant improvement in the numbers of white cells and platelets, as occurs after liver and stomach therapy.

Leukaemias

A large number of cases of acute and chronic leukaemia were given synthetic pteroylglutamic acid without benefit. Thus patients with acute myeloblastic, lymphoblastic, and monocytic leukaemias who received up to 150 mg. intravenously and 20-80 mg. orally daily did not show improvement in their haematological or in their general clinical conditions. In chronic myeloid and lymphatic leukaemias no better results were seen, but two of my old patients with pernicious anaemia who developed chronic myeloid leukaemia showed marked general improvement in the pernicious anaemia but subsequently failed to maintain it.

Patient E.O., a woman aged 40, was first seen by me in 1932, when pernicious anaemia was diagnosed: her case has been reported by my chief assistant, Dr. Woolley (1944). She remained well until 1942 when, after five years' absence, she was found to have a large spleen—6 in. (15 cm.) below the costal margin—due to a chronic myeloid leukaemia, with R.B.C., 2,680,000; Hb., 48%; C.I., 0.92; W.B.C., 85,600 (polymorphs 59.8%, lymphocytes 7.2%, large monocytes 0.4%, eosinophils 2.4%, basophils 6.6%, metamyelocytes 14%, myelocytes 9%, myeloblasts 0.6%); normoblasts 6 in 500, megakaryoblasts 8 in 500 white cells. The sternal marrow puncture showed a chronic myeloid leukaemia picture with also normoblasts 6.6% and megakaryoblasts 6.6%. She did quite well on anti-pernicious-anaemia treatment with liver extract and additional x-ray therapy, and later urethane (1-3 g. daily), but on Feb. 13, 1947, the blood count had become worse, with R.B.C., 3,720,000; Hb. 74%; C.I., 1; W.B.C., 120,500. No improvement was shown haematologically on 20-40 mg. of pteroylglutamic acid daily.

Patient G.G., a woman aged 52, was originally seen in 1940 with pernicious anaemia which responded normally to routine treatment for four years, but on Oct. 16, 1945, she returned to my clinic with a spleen 2 in. (5 cm.) below the costal margin and a blood count of R.B.C., 3,610,000; Hb. 82%; C.I., 1.12; W.B.C., 82,600 (polymorphs 54.5%, lymphocytes 9.5%, large monocytes 4.5%, eosinophils 1.5%, basophils 4.5%, myelocytes 15.5%, metamyelocytes 3.5%, myeloblasts 6.5%); nucleated red cells, 4 in 200 white cells. Marrow biopsy showed a typical chronic myeloid leukaemia with no megakaryoblasts to be seen. The patient responded very well to liver extract and urethane, but after severe haematuria she had (Feb. 15, 1947) R.B.C., 1,710,000; Hb. 34%; C.I., 1; W.B.C., 219,500; and a typical myeloid leukaemia marrow with very few megakaryoblasts and

normoblasts. She was given pteroylglutamic acid, 30 mg. orally, with improvement to April 9 (R.B.C., 3,260,000; 64%; C.I., 0.98), without any further increase subsequently. The white cell count fell to 7,900 (polymorphs 53%, lymphocytes 5.5%, monocytes 2%, eosinophils 1.5%, basophils 3%, myelocytes 24%, metamyelocytes 10%, myeloblasts 1%) following a course of tri- β -chloroethylamine hydrochloride.

Two patients with leuco-erythroblastic anaemia did show any clinical or haematological response to synthetic pteroylglutamic acid in daily doses of 20-30 mg. orally in periods up to 38 days.

Miscellaneous Blood Diseases

Synthetic pteroylglutamic acid has also failed to show any clinical or haematological improvement in many other blood conditions not having megaloblastic marrow hyperplasia, such as acute and chronic haemolytic anaemia, microcytic hypochromic anaemias, anaemias secondary to hyperthyroidism and myxoedema, toxic anaemias, etc.

Recently Farber *et al.* (1947) reported their preliminary and somewhat favourable results in the treatment of 17 cases of malignant disease with two synthetic pteroylglutamates—pteroyldiglutamic acid ("diophterin") and pteroyltriglutamic acid ("terophterin"). Apparently pteroylglutamic acid was without effect, and these observers say that there is no evidence to indicate that those substances should be used in routine therapy.

Discussion

Evidence has been accumulating as to the value of this new synthetic anti-macrocytic-anaemia constituent of the vitamin B complex. It is quite clear that in general those anaemias with megaloblastic marrows respond to pteroylglutamic acid, however administered, while those with normoblastic, aplastic, or hypoplastic marrows do not.

Thus of the megaloblastic anaemias that respond we have pernicious anaemia, possibly achrestic anaemia, and macrocytic anaemias of pellagra, sprue, idiopathic steatorrhea, pregnancy, infancy, and nutritional deficiencies. In the sprue syndrome, coeliac disease and steatorrhea the response varies in response according to the type of marrow activity; with a megaloblastic marrow the response may be good for a time, but these patients tend to relapse with the return of the loose, bulky, fatty stool. Less satisfactory results are obtained when the marrow is normoblastic, although these patients do not respond haematologically, they may show some improvement in their general functions. This has led Davidson and Girdwood to suggest that pteroylglutamic acid has two functions: to maintain normoblastic marrow action, and to control the behaviour of the alimentary tract.

The great difference between the sprue cases of American authors and those described in this country does suggest that the American patients may have had more gross nutritional deficiencies with superimposed gastro-intestinal disturbances, while the British ones are primarily due to a failure of absorption from the intestinal tract or else to a failure to utilize essential nutritional factors—in particular members of the vitamin B group.

While free folic acid itself is almost universally active in relation to bacterial growth and the relief of chick, animal, and human anaemias and certain rat leucopenias, this is not so with the so-called vitamin B₁₂ conjugates or pteroylglutamic acid conjugates. These conjugates consist essentially of pteroylglutamic acid combined with extra glutamic acid molecules to form polyglutamates, which are not universally active like the free folic or pteroylglutamic acid until the extra glutamic acid molecules have been removed by enzyme action or incubation with *Str. faecalis*. Nevertheless where they do act—as when given to rats, chicks, or monkeys suffering from *L. casei* factor, “vitamin B₁₂” deficiency, or “vitamin M” deficiency, respectively—their activities are proportional to their respective free folic acid contents.

The two crystalline polyglutamates so far examined are: (1) the vitamin B₁₂ conjugate prepared from yeast (pteroylhexaglutamyl-glutamic or pteroylheptaglutamic acid), which has no effect on the growth of *L. casei* and *Str. faecalis*, and (2) the fermentation or *L. casei* factor (pteroylglutamic acid conjugate), obtained by the extraction of certain corynebacteria residues as pteroyl-diglutamyl-glutamic (or pteroyl-triglutamic acid), which promotes the growth of *L. casei*, but is only 1/50 as active as *Str. faecalis*.

It has been suggested that patients with pernicious anaemia are able to utilize only free pteroylglutamic acid and not the polyglutamates, probably owing to the gastric deficiency (Bethell *et al.*, 1947; Heinle *et al.*, 1947), while patients with other macrocytic anaemias having normal gastric secretions could use the polyglutamates. Spies (1946a, 1946b) claims that the doses the above authors employed were too small, and he has obtained moderate haematological responses in pernicious anaemia using the natural polyglutamates and also one synthetic diglutamate. Others (e.g., Sharp *et al.*, 1947) have also obtained responses with natural conjugates. This requires further confirmation using synthetic conjugates, as it is of the greatest importance.

Chicks, dogs, rats, and monkeys apparently utilize the polyglutamates because the pteroylglutamic acid is liberated by certain enzymes present in their livers or kidneys and probably by enzymes or bacteria in their intestinal tracts. It is difficult to believe that the human organs behave so differently from these. In fact, Denko *et al.* (1946) have shown that folic acid can be synthesized in quite large amounts in the human gut.

Summary

The relationship of “folic acid” (pteroylglutamic acid) and the “folic acid conjugates” (pteroyltriglutamic and pteroylheptaglutamic acids) are considered with their effects on the haematological changes induced in chicks, rats, and monkeys.

The uses of synthetic pteroylglutamic acid in the oral and parenteral treatment of certain diseases involving the haemopoietic system in man are described.

Pteroylglutamic acid produces good haematological and clinical effects only in macrocytic anaemias with some degree of megaloblastic change in the bone marrows; it has little or no effect on patients with normoblastic marrows. Consequently the following anaemias respond to pteroylglutamic acid: pernicious anaemia; macrocytic megaloblastic anaemias of pregnancy, infancy, pellagra, sprue, steatorrhoea, and coeliac disease; nutritional macrocytic anaemias (with or without nutritional leucopenia), and possibly achrestic anaemia.

Pteroylglutamic acid acts equally well when given orally or parenterally and has no ill effects on the patient. The initial dose varies with the individual patient, but is usually 15–20 mg. a day orally, or 50–150 mg. intravenously.

In pernicious anaemia a prompt reticulocyte response is produced after the administration of pteroylglutamic acid, followed by general haematological and clinical improvement, but not

quite so well or so rapidly as with a highly potent liver extract. A maintenance treatment of 5–20 mg. daily is necessary, but after months of treatment a lower dose often shows a fall in the blood count and haemoglobin that will often respond to increased doses. Macrocytosis still tends to persist even after one to two years' treatment.

Pteroylglutamic acid is of no value in preventing the onset and progression or the development (which may be acute) of subacute combined degeneration of the cord in pernicious anaemia. For this reason it is not a satisfactory treatment for pernicious anaemia, and, since it has no advantages over present-day highly potent liver extracts or stomach preparations, it should not be given alone as routine to patients with pernicious anaemia.

Refractory macrocytic normoblastic anaemias do not respond to pteroylglutamic acid, but refractory megaloblastic anaemia may give responses.

It often relieves the symptoms of the sprue syndrome, leading to better-formed stools and some improvement in blood count, but only in the megaloblastic cases: the responses are irregular in steatorrhoea, and liver extracts may be required additionally to produce complete remissions. The response in coeliac disease may be very slow or poor; those with normoblastic marrows do not respond, since pteroylglutamic acid is effective only where megaloblastic erythropoiesis is present.

Pteroylglutamic acid has no beneficial clinical or haematological effects on hypochromic microcytic anaemias, haemolytic anaemias, refractory megalocytic anaemias with normoblastic marrows, acute and chronic leukaemias of all types, leucocythroblastic anaemia, chronic ulcerative colitis, anaemias secondary to myxoedema or hyperthyroidism, toxic or idiopathic aplastic and hypoplastic anaemias, agranulocytosis, neutropenias, and thrombocytopenic purpura, but it relieves leucopenia and thrombocytopenia when these are features of a nutritional deficiency or a megaloblastic anaemia.

There is no place in therapeutics for the “blunderbuss” preparations of pteroylglutamic acid plus iron, liver extract, etc.

Pteroylglutamic acid is not the extrinsic factor, haemopoietin (the stomach enzyme or intrinsic factor), or the liver anti-pernicious-anaemia principle, nor is it the possible “neuro-poietic” principle (anti-subacute combined degeneration of the cord). The effects of pteroylglutamic acid on haemopoiesis are discussed.

There may possibly be a separate factor in liver and hog's stomach preparations with neuropoietic properties for preventing or curing the neurological symptoms in pernicious anaemia.

The anti-pernicious-anaemia potencies of substances related to pteroylglutamic acid are considered.

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CONGENITAL MEGACOLON

RESULTS OF TREATMENT BY SPINAL ANAESTHESIA

BY

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In the milder cases of megacolon in childhood it may be that diet and medical measures will secure a sufficient action of the bowel, but where diet and drugs alike fail and frequent recourse has to be had to enemata and mechanical evacuation the need for surgical treatment is clear. Without such treatment the trouble tends to worsen, and in the more severe forms death is likely before the age of 20.

The fashion of surgical intervention has changed from time to time. In earlier days short-circuiting operations were tried and found wanting, while heroic resections of the dilated colon were attended by a high mortality even in experienced hands: 25% by Adson (1937). The mortality should certainly be lower to-day as a result of the better pre-operative preparation of the patient and his colon. There is undoubtedly a place for resection in the most severe varieties of the trouble which show no response to other forms of treatment.

The conception that megacolon is due to an achalasia—i.e., an imbalance between the sympathetic (filling) and the parasympathetic (emptying) mechanism which results in a relative inadequacy of the latter action—at once altered the outlook by suggesting an attack on the nerve supply rather than on the bowel itself. The sympathetic supply was interrupted in various places by bilateral lumbar, unilateral lumbar, presacral, and inferior mesenteric sympathectomies. On the whole, good results were obtained at small risk. But in 1935 Stabins, Morton, and Scott showed that success followed the use of a spinal anaesthetic alone. Since that date a number of successful results have been reported by various workers. These reports are open to criticism in that the follow-up period is too short. We have therefore re-examined those patients who were treated by spinal anaesthesia in the neurovascular clinic of the Manchester Royal Infirmary between the years 1938 and 1945. Cases treated within the last two years have been rejected as being too recent to be included.

The number of patients treated during the period is 17. We saw 11 of these patients during December, 1947, and obtained a detailed account of another: five were not traced. These 12 children comprised seven boys and five girls. The youngest was aged 6 months and the oldest 13 years when treated. The average age of the group was 7 years.

Technique

Apart from considerations of safety and control, the drug and method used for the spinal anaesthetic are immaterial. The point is that the effect must reach as high as the anterior roots of T.5 in order to abolish all activity in the splanchnic nerves. To make sure of this it is usual to allow the level of the anaesthesia to rise to the third thoracic segment or even higher, until tingling is felt on the inner side of the hand (T.1). The state of relaxation of the rectus abdominis is a good guide to the paralysis of the anterior roots; the muscle should be flaccid throughout so that the epigastrium bulges when the child cries or coughs.

After-treatment is important, and we have found the following regime to be satisfactory. Liquid paraffin is given daily in one dose of 1/2 oz. (14 ml.), and the enemata are administered every second day during the first week, twice during the second week, and once during the third. Enemata are then discontinued, but liquid paraffin is given in gradually reduced doses for as long as may seem necessary.

Results

The result has been classified as "good" in cases where the bowel action has become normal, "fair" when a considerable improvement has resulted but medicine is still required to maintain regular action, and "failed" when no worth-while improvement has been seen. The 12 cases are grouped as follows: good 8, fair 2, failed 2.

These cases were of a severe type and showed intractable constipation, physical under-development, "pie-crust" complexion, and mental lethargy—all features which mark the more serious forms of the disease. In the successful cases the parents have noticed that the children become much more energetic physically and much brighter mentally, often taking a better place at school. The improvement in growth, in development, and in complexion is striking to the observer. Four of the eight cured cases were treated not less than nine years before, and over this long period their bowel action has remained normal and unaltered.

Lumbar sympathectomy was done in three of the four unsatisfactory cases from one to two years after the spinal anaesthesia, but in only one of these did any further improvement result. It seems likely that cases in which a spinal anaesthetic has failed to produce improvement will also prove refractory to sympathectomy.

Discussion

The explanation of the results obtained in the megacolon of childhood from spinal anaesthesia remains a mystery, and the method must at present be regarded as purely empirical. For some reason the shock of the anaesthetic abolishes the imbalance between the sympathetic and parasympathetic supply of the colon. One can only assert that the method is simple and that it works. We believe that good results are more certain in the younger patients, and that 12 years would seem to be the upper age limit for success. The method is useless in the megacolon of adults, usually mechanical in origin, and in cases of ptosis with constipation in young women.

It is worth while to remember that in cases of megacolon the intra-abdominal scybalous mass, together with the general ill-health and malnutrition, may suggest a diagnosis of tuberculous mesenterica. In fact, of the present series no fewer than four were salvaged from sanatoria.

Finally, we must emphasize that there may be a delay of several weeks after the administration of the spinal anaesthetic before any improvement is manifest. Failure to recognize this has doubtless been the cause of the supposedly good results which some have had with the method. Later

follow-up is likely to reveal a great improvement of which there was no sign during the stay in hospital (Hawksley, 1944).

Summary

The late results of cases of megacolon treated with spinal anaesthesia from two to nine years previously are reported. Out of 12 cases eight were found to remain fully cured.

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MEGALOBlastic ANAEMIA OF PREGNANCY

REPORT OF AN UNUSUAL CASE

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In recent years considerable attention has been paid to macrocytic anaemia of pregnancy. In 1938 Stevenson reported a series of 30 cases, and since then over 80 cases have been described by other investigators in this country (Davidson, Davis, and Innes, 1942; Lescher, 1942; Miller and Studdert, 1942; Fullerton, 1943; Callender, 1944). The term "megaloblastic anaemia of pregnancy" was suggested by Davidson, Davis, and Innes (1942) to replace "pernicious anaemia of pregnancy," since many of the criteria of true Addison's anaemia were not found in their cases. Callender (1944), while emphasizing the variability of the findings in this disease, considered two necessary diagnostic features to be "the presence of true megaloblasts in the peripheral blood and the demonstration of a megaloblastic change in the bone marrow."

The case reported below presents features which we have not been able to find in the literature and which we consider make it worthy of publication.

Case Report

A primipara aged 21 was delivered on Nov. 25, 1946, of a healthy female infant at an L.C.C. hospital. There was a second-degree primary tear, which was sutured. The antenatal history was negative, except that the patient was pale throughout pregnancy and had a persistent cough. She became pyrexial on Nov. 26; sulphadiazine and penicillin were given, but pyrexia continued. The haemoglobin on the 27th was 41%. She was transferred to the North-Western Hospital puerperal sepsis unit on Nov. 29.

On admission she was very pale and had a septic second-degree tear of the perineum, with a septic and lacerated cervix, but a normally involuting uterus. The spleen was palpable. Cultures from the cervix yielded no significant growth, and urine and blood cultures were sterile. A blood count (see Table I) showed marked anaemia, and she was transfused slowly with 1 litre of blood. The blood count, however, showed no improvement after the transfusion. Sternal puncture was performed on Dec. 3. In spite of penicillin treatment (30,000 units three-hourly) pyrexia persisted and numerous small pustules developed on the wrists and arms. Later, retinal haemorrhages occurred. Intensive liver treatment was started on Dec. 13, and a further blood transfusion was given with but little effect. The patient died suddenly on Dec. 31.

Haematological Findings

The first blood count on Nov. 30 showed a profound anaemia (haemoglobin 35%), and the white blood cells were decreased, with a high proportion of immature granulocytes. As the

TABLE I

Date	R.B.C. per cmm	Hb % (100% = 14.5)	C.I.	W.B.C. per cmm	Differential %							Nucleated R.B.C. per 100 W.B.C.	Platelets
					Neut.	Eos.	Bas.	Lymph.	Mon.	Met.	Myel.	Promyel.	Mybl.
30/11/46	1,700,000	35	1	5,000	37	—	—	36	—	—	—	—	14
3/12/46	1,790,000	34	1	4,000	21	—	—	21	—	—	27	—	17
5/12/46	1,640,000	36	1.02	4,500	26	—	—	50	—	2	13	—	17
6/12/46	1,790,000	35	1	4,000	41.5	—	—	35	—	—	5	—	16
7/12/46	—	36	—	3,500	50	—	—	24	—	1.5	3.5	—	11
9/12/46	2,010,000	36	0.9	3,500	43	—	—	24	—	2	4	—	6
10/12/46	1,780,000	35	1	4,500	46	—	—	12	3	4	4	12	12
11/12/46	1,460,000	27	0.96	5,500	48	—	—	29	—	2	1	3	19
12/12/46	—	31	—	3,000	25	—	—	31	2	1	8	—	10
13/12/46	1,480,000	30	1	3,000	30	—	—	48	—	1	2	—	20
16/12/46	1,540,000	34	1	3,000	34	—	—	39	2	—	—	—	29
18/12/46	1,420,000	31	1.1	3,500	21	—	—	44	3	5	—	—	16
19/12/46	1,280,000	28	1.1	2,500	25	—	—	44	3	5	—	—	16
20/12/46	1,290,000	26	1.08	3,000	23	—	—	56	2	1	3	11	156
21/12/46	1,270,000	26	1.04	2,700	23	—	—	63	1	1	1	—	179
22/12/46	800,000	18	1.01	1,700	16	—	—	44	3	9	7	—	125
23/12/46	1,370,000	26	1.06	1,100	20	—	—	69	2	1	—	—	163
24/12/46	1,110,000	24	1	2,700	20	—	—	71	—	—	—	—	132
25/12/46	1,114,000	22	1	1,700	10	—	—	84	—	—	—	—	63
26/12/46	1,090,000	22	1	1,300	6.5	—	—	81	1	1.5	1	—	10
27/12/46	1,050,000	22	1.04	1,300	6.5	—	—	81	1	1.5	1	—	14
28/12/46	1,050,000	22	1.05	1,000	15	—	—	64	1	6	—	—	52
30/12/46	1,000,000	22	1.1	1,500	10	—	—	77	2	—	—	—	52
													63

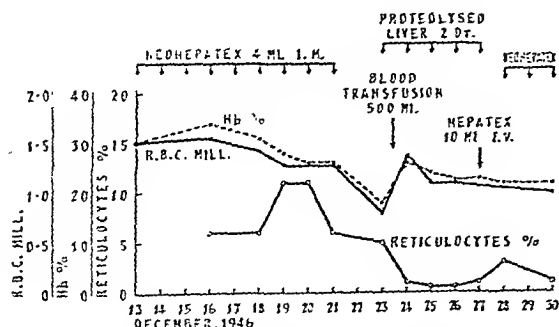
patient had sulphadiazine before admission it was thought that the drug might have depressed granulocyte production. When, however, the blood showed no improvement after transfusion and the white cells became more immature the possibility of acute leukaemia was suggested and sternal puncture was performed with the following results:

Total nucleated cells 89,000 per cmm

	N	E	B.
Polymorphs	5	—	—
Metamyelocytes	2	—	—
Myelocytes	20	—	—
Promyelocytes	7	—	—
Myeloblasts	22	—	—
Lymphocytes	5	—	—
Normoblasts, late	12	—	—
Normoblasts, intermediate	10	—	—
Normoblasts, early	2	—	—
Megaloblasts, late	8	—	—
Megaloblasts, intermediate	2	—	—
Megaloblasts, early	4	—	—
Proerythroblasts	0	—	—

Myeloid/erythroblast ratio = 1.5:1

Since these findings did not confirm the diagnosis of leukaemia, and in view of the high erythroblast ratio with the presence of megaloblasts, a tentative diagnosis of liver-deficiency anaemia with coincident failure of maturation of the granular series was made. Intramuscular injections of "neohepatex," 4 ml. daily, were given, but after seven days the reticulocytes were only 11% (i.e., about one-third of the expected response) and the red blood cells and haemoglobin showed a continuous slight fall (see Chart). Nucleated red blood cells rose from 30



per 100 white blood cells before treatment to 170 per 100 white blood cells at the peak of the reticulocyte crisis (see Table II). There was no reduction in platelets during the period of observation. After 10 days' treatment the red blood cells had fallen to 800,000 per cmm. and haemoglobin to 18%. A second transfusion of 500 ml. of blood was given, and neohepatex was replaced by proteolysed liver, 7 ml. daily by mouth (Davis and Davidson, 1944). The proteolysed liver appeared to be less effective than the neohepatex. Accordingly a single dose of

hepatex, 10 ml., was injected intramuscularly and this was followed by 4 ml. of neohepatex daily. There was no response, however, to either preparation before the sudden death of the patient.

TABLE II—Differential Nucleated Red Count

Date	Proerythroblasts	Megaloblasts	Normoblasts	Total per 100 W.B.C.
9/12/46	—	2	10	12
10/12/46	—	10	16	26
11/12/46	—	1	9	10
12/12/46	—	4	26	30
13/12/46	—	6	35	41
16/12/46	1	12	95	108
18/12/46	5	11	140	156
19/12/46	1	14	155	170
20/12/46	—	15	110	125
21/12/46	—	16	142	158
23/12/46	—	26	165	191
24/12/46	—	18	45	63
25/12/46	—	4	6	10
26/12/46	—	8	6	14
27/12/46	—	18	12	30
28/12/46	—	17	73	90
30/12/46	—	5	58	63

Post-mortem Findings

Permission for necropsy was not granted till 48 hours after death, and post-mortem change was advanced in all organs. There was caseous tuberculosis of the hilar glands and a caseous tuberculous focus, 1 cm. in diameter, in the lower lobe of the right lung. The heart muscle was thin, pale, and flabby, with a few subpericardial haemorrhages. The spleen (450 g.) was congested and friable. The liver (3,000 g.) was pale and rather greasy. The uterus showed some necrosis of the placental site but was well involuted. Apart from generalized pallor there was little of pathological importance in the other organs. The bone marrow of the sternum, ribs, and femur was a rich dark-red colour. Sections and films of sternal marrow showed an extreme cellularity, the predominant cell being of the primitive haemocytoblast variety with large numbers of megaloblasts (mostly early) and normoblasts. Granulocytes and their precursors were almost completely absent. Megakaryocytes were numerous. As the patient died unexpectedly in the evening and marrow puncture was not done till next day, the cells were somewhat degenerate.

Discussion

In the various reports of cases already quoted little mention is made of any changes in the white blood cells. Callender (1944) found a leucopenia common with "myelocytes and young forms." Other writers record low total white blood cells but give no differential counts. We have been unable to find any reference to such profound immaturity of the white blood cells in the peripheral blood in any other cases of megaloblastic anaemia of pregnancy, although myeloblasts are occasionally found in the peripheral blood in pernicious anaemia (Whitby and Britton, 1946). In our patient leucopenia was constant and the white blood cells decreased gradually from 5,000 to 1,500 per cmm. the day before death. Myelocytes,

promyelocytes, and myeloblasts formed from about 20 to 50% of the total for the first two weeks, gradually falling with the count (Table I). It has already been mentioned that the question of agranulocytosis following sulphadiazine was raised after the first count. In our experience, however, it is unusual to find early granulocytes in the peripheral blood in agranulocytosis except during recovery. Generally the polymorphs drop suddenly without warning, and no precursors reach the peripheral blood until regeneration of the marrow is taking place. In this case, also, only 8 g. of sulphadiazine had been given. The alternative suggestion of acute leukaemia appeared at first to fit the severe anaemia with myeloblasts in the peripheral blood, but sternal puncture did not confirm this. The findings of a definite megaloblastic reaction in the marrow suggested rather a deficiency of the haemopoietic principle, and it seemed probable that this was the primary abnormality and that the high proportion of myeloblasts was due to a coincident failure of maturation of the granulocytes rather than a true leukaemic change.

Although liver therapy was not begun until a late stage in the disease, the poor response to the three preparations used seems to indicate the refractory nature of the anaemia. Defective absorption from the intestine may have been partly responsible for producing the anaemia, since proteolysed liver was even less effective than neohepatex. Nutritional deficiency might also account for the failure in maturation of the granulocytes.

Summary

A case of megaloblastic anaemia of pregnancy is described.

An unusual feature was the marked immaturity of the circulating granulocytes simulating an acute myeloblastic leukaemia.

The case proved refractory to various types of liver therapy and to blood transfusion.

ADDENDUM

Since the completion of this paper, blood and sternal marrow films were referred to one of us (M.G.) from another L.C.C. hospital for diagnosis. The patient, a married woman aged 34, had been treated by her doctor for acute tonsillitis and various other complaints with 70 g. of a sulphonamide over a period of five weeks. On admission she complained of giddiness and faintness of two weeks' duration, and her blood count on Dec. 8, 1947, was: red blood cells, 1,000,000 per c.mm.; haemoglobin (Sahli), 24%; colour index, 1.2; white blood cells, 13,000 per c.mm. (neutrophil polymorphs 9%, promyelocytes 77%, myeloblasts 14%); mean cell diameter 7.8 μ ; nucleated red blood cells, 21 per 100 white blood cells (normoblasts 15, megaloblasts 6); anisocytosis + +, poikilocytosis +, polychromasia + +.

The patient was transfused with 2 pints (1.14 litres) of blood, and on Dec. 10 the sternal marrow films showed the following distribution:

Neutrophil polymorphs	..	..	..	1.5%
Metamyelocytes	..	..	..	0.0%
Myelocytes	..	..	..	0.5%
Promyelocytes	..	..	..	30.0%
Myeloblasts	..	..	..	11.0%
Lymphocytes	..	..	..	4.0%
Normoblasts, late	..	..	..	7.5%
" intermediate	..	..	..	2.5%
" early	..	..	..	0.0%
Megaloblasts, late	..	..	..	11.5%
" intermediate	..	..	..	20.0%
" early	..	..	..	9.5%
Proerythroblasts	..	..	..	2.0%

Myeloid/erythroblast ratio = 1:1.2

Since both the peripheral blood and marrow resembled the case described above the patient was treated with liver and iron but showed no reticulocyte response. After two further transfusions on Dec. 12 and 17 her red blood cells rose to 3,800,000 per c.mm. and haemoglobin to 73%. Although she was given penicillin throughout her stay in hospital she developed pneumonia on Dec. 19 with Friedländer's bacillus and *Ps. pyocyanea* in the sputum. The blood count was maintained without

further transfusion and the white cells, which had dropped to 750 per c.mm. on Dec. 20, rose to 9,000 per c.mm. on the 24th, with a much lower percentage of primitive cells. The patient died on Dec. 25. Post-mortem examination showed bronchopneumonia and an extremely cellular bone marrow. Sections showed the majority of cells to be of the red cell series and apparently megaloblastic.

The similarity between the two cases is striking. Both showed extreme anaemia with megaloblasts and primitive white cells in the peripheral blood and a megaloblastic reaction in the marrow, and both failed to respond to liver. Aetiologically, however, the two cases differed: in the first case pregnancy, and in the second the excessive dosage of sulphonamide, were apparently the main contributory factors.

We are indebted to Dr. R. D. Green, of Paddington Hospital, for the clinical notes of the second case.

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HEREDITARY OEDEMA (MILROY'S DISEASE)

BY

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Reports on a heredo-familial variety of oedema of the lower limbs were published almost simultaneously by Nonne (1891) and Milroy (1892). A few years later Meige (1899) reported a further series of cases. The condition described as hereditary oedema, or eponymously as Milroy-Nonne-Meige disease, has since been recognized as a distinct clinical entity, having been recorded by many physicians in various countries. References in British literature have, however, been relatively scanty, the only one in recent years being that of Weber and Schlüter (1937). The main features of Milroy's disease are here summarized.

Aetiology.—The disease is hereditary. Milroy's original family of 97 persons in six generations presented 22 cases. Meige reported eight cases in four generations, Hope and French (1907) 13 cases in five generations of 42 persons. Gates (1946), analysing the family described by Hope and French, considers the hereditary trait to be a Mendelian dominant, but notes that in one affected person it was transmitted through an apparently normal mother. Two unaffected mothers in the third generation of Milroy's family passed the tendency on to some of their offspring. Such a skipping of a generation is common in human dominant pedigrees. Both sexes are affected. The cause of the oedema is not known; it is not related to the usual general or local causes of oedema, such as cardiac or renal disease, venous or lymphatic obstruction. Meige postulated a "congenital malformation of trophic centres in the spinal cord," though this has never been proved. Hope and French compare the disease with other heredo-familial disorders of the vasomotor system, such as angioneurotic oedema, Raynaud's phenomenon, and urticaria, and suggest that it may be a "vasomotor neurosis." Milroy (1928), in a review of the condition.

agrees with this point of view, favouring a local cause, such as an abnormality of function of veins or lymphatics, of neurogenic origin.

Pathology.—A necropsy has not yet been recorded on a case of Milroy's disease, and the only microscopical study which appears in the literature is that of McGuire and Zeek (1932), who report the results of biopsy in a typical case. Microscopy of a portion of the skin and subcutaneous tissue showed a normal epidermis but a marked condensation of the superficial portion of the dermal papillary layer composed of fine collagen fibrils which in some places were undergoing hyalinization; oedema was more pronounced in the dermis, and this, together with an increase of collagen fibres, produced a great increase in the proportion of dermis to epidermis. There was a considerable sprinkling of lymphocytes related to the capillaries and venules. The subcutaneous tissue was also thickened, consisting of masses of oedematous fatty tissue and pools of colourless fluid not contained within definite limiting boundaries. The appearance contrasted with that of fresh necropsy material obtained from cases of cardiac and renal dropsy: in these the dermal papillae were flattened and much less obvious.

Clinical Features.—The age of onset varies in the different families recorded. In Milroy's series all but two showed oedema at birth. In one of these the oedema started at the age of 12; in the other, one swollen foot was present at birth, the other limb being normal until the age of 20, when, following an injury, it became rapidly and permanently swollen. All of Meigs's cases had their onset at puberty. In the family recorded by Hope and French (1907) oedema began in infancy, childhood, or adolescence. As each author has described a single family, differences in age of onset and other features may, as Milroy (1928) pointed out, be considered to be familial variations of an essentially identical disorder.

The oedema begins in the foot, gradually spreads up the limb, but never extends above the level of the inguinal ligament, where it is sharply demarcated; it may remain at lower levels, especially joints, for long periods. At first the oedema pits readily on pressure, though later the tissues become more indurated and thickened, and is reduced by rest with elevation of the limb. One or both limbs may be affected. There are no constitutional disturbances and the disorder is compatible with long life. Another remarkable feature of the condition is the absence of disability: in spite of grossly swollen limbs affected persons may be quite capable of a normal existence. One of Milroy's (1928) patients was a Burma missionary who wrote that he found no difficulty in tramping distances of 30 miles a day over rough mountain track. The oedema appears to be permanent, with the remarkable exception of another of the cases mentioned by Milroy (1892) (unfortunately not seen by Milroy himself). This patient was born with oedema of one foot, and at puberty developed swelling of the testicles which became sufficiently great to necessitate orchidectomy, and at the same time the swelling of the foot disappeared.

In addition to the above clinical features Hope and French (1907) described acute attacks in many of their patients in which the affected limbs suddenly became red, painful, tender, and much more swollen; there was no obvious cause for the onset or remissions of these attacks.

Treatment.—Because of the minimal symptoms there is usually no indication of any treatment other than bandaging to control the size of the limb. Among patients with oedema of the limb treated by the Kondoleon operation Sistrunk (1918) records two cases with oedema of the lower limb in which the clinical histories suggest a diagnosis of Milroy's disease; good results were obtained, and this suggests that surgery may be useful if there is serious disability.

Case Report

An apprentice engineer aged 19 was referred by Dr. Hugh Garland from his out-patient clinic at the General Infirmary at Leeds and admitted to St. James's Hospital, Leeds, complaining of swelling of his right leg and his scrotum. He had had no previous major illness. There was no history of "allergic" disease or of infection in the legs. He had never been out of this country.

Family History.—The patient was the youngest of three children. His parents were not blood relatives. His elder sister, a housewife aged 24, had noticed swelling of her right leg when she was 14. Up to the age of 20 she had worked in a factory and the swelling was then severe at the end of the day, and at its worst had extended from ankle to knee. When seen by us the left leg appeared normal, the right leg showed a pitting oedema involving the ankle and the lower third of the right calf. There was no other evidence of disease of any kind. She had had no children. The younger sister, a housewife aged 22, had no history of oedema and no abnormality on examination. She had one child, a boy aged 2, with no abnormality. The father, aged 52, had no abnormality on examination. The mother, aged 45, one of twelve siblings, though showing no abnormality of the lower limbs on examination, herself asserted that since puberty she had noticed her ankles to be swollen at the end of a day's work. No history was obtained of any oedema of the limbs in preceding generations on either side, nor was there any history of familial disease.

History of Illness.—The patient first noticed swelling of his right ankle at the age of 17, which was painless and decreased at night after rest. It had gradually and steadily increased, spreading upwards to involve the whole of the leg. He had also noticed swelling of the scrotum, which he thought had begun at about the time the leg swelling had reached the groin. He thought the condition had been stationary for the four months before admission. Despite the size of the leg there had been little interference with function and he led a normal life. He had had no acute exacerbation of the condition, nor anything suggestive of infection in the leg. It seems that puberty had not been reached until the age of 17 and had roughly coincided with the onset of the oedema. He was shaving only once a week at 19.

On examination he was a slimly built youth who looked younger than his age. There was little facial, axillary, or pubic hair. The left leg was normal. There was massive pitting oedema of the right leg, sharply limited above by the inguinal ligament and fading towards the toes, which appeared normal when first seen. The colour and temperature of the limb were normal. There were no trophic disturbances of the skin and no enlarged veins. After he had worn slippers for two days the oedema spread into the toes. The scrotum was not oedematous. There was bilateral hydrocele, left larger than right. After the hydroceles were tapped the testicles were found to be bilaterally and symmetrically enlarged, and testicular sensation was much diminished. After complete rest in bed the oedema decreased steadily, the minimum size being reached in five days; it increased to its maximum in three days when the patient was allowed up again. (See illustration.)

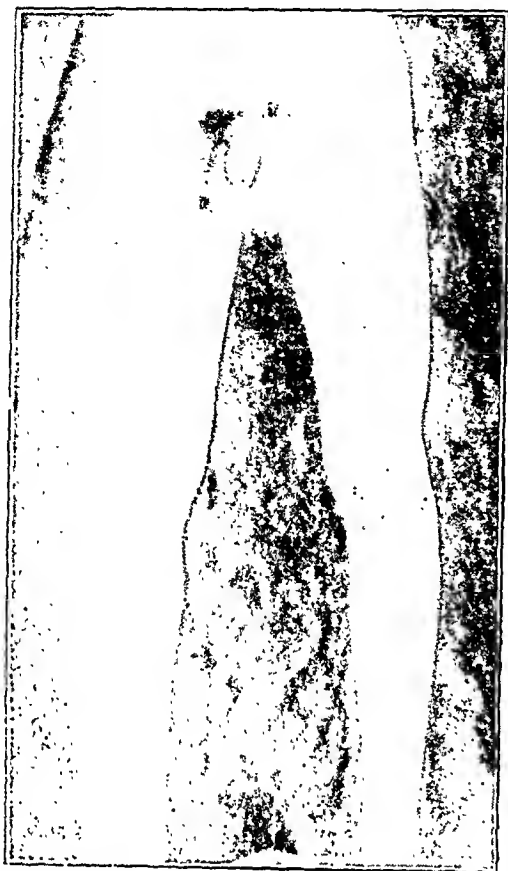
Measurements

	On Admission				After 5 Days at Rest			
	Right		Left		Right		Left	
Mid-foot ..	in. 10	cm. 25.4	in. 9	cm. 22.8	in. 8	cm. 22.3	in. 9	cm. 22.8
Ankle ..	12	31.75	9	22.8	9	22.8	9	22.8
Calf 4 in. (10 cm.) below patella ..	16	41.9	12	30.5	13	34.5	12	30.5
Mid-thigh ..	20	52.0	16	40.6	17	44.5	16	40.6

Laboratory Tests.—Haemoglobin, 108%; leucocytes, 6,500 per c.mm. (44% polymorphs, 52% lymphocytes, 4% monocytes). Blood potassium, 21.2 mg. per 100 ml.; blood urea, 19 mg. per 100 ml.; serum protein, 7.7%; chlorides (as NaCl), 0.57%; creatinine, 1.7 mg. per 100 ml.; uric acid, 4 mg. per 100 ml. Glucose-tolerance test normal. Urine: S.G. 1026, acid; no albumin, sugar, casts, or cells. Urinary chlorides, 7.4 g. in 24 hours. Fractional test meal, normal curve. Histamine

skin sensitivity test, no reaction. Radiograph of bones normal. Wassermann reaction negative.

Treatment.—The patient suffered very little disability from his oedema and was quite able to enjoy a normal life. He complained of some "tiredness" of the affected limb at the



end of the day, but despite this he would voluntarily indulge in gymnastic exercises after a full day's work. No surgical intervention was therefore advised. Firm bandaging had some effect in controlling the oedema and also gave him a feeling of support.

Discussion

Examples of unilateral or bilateral oedema of the extremities for which no obvious cause can be discovered are not infrequently encountered; cases with a clear hereditary or family history are, however, much less common, and few have been recorded in British medical literature. The question arises whether patients who display the typical oedema of one or both lower limbs as described above, but who lack the appropriate family history, should be regarded as suffering from Milroy's disease. In this connexion we note that Parkes Weber, discussing at a meeting of the Royal Society of Medicine a family of four sisters in whom oedema of the legs began between the ages of 20 and 23 (Weber and Schlüter, 1937), considered that if the other features were present a family history was not essential for the diagnosis, and for that reason preferred the eponym Nonne-Milroy's disease to the term hereditary oedema. However, the heredo-familial factor in the classical descriptions quoted above is so striking that it seems to justify a separate nomenclature for the hereditary and non-hereditary forms. In describing the aetiological factors it was noted that one unaffected person in the family reported by Hope and French (1907) and two unaffected persons in the family reported by Milroy (1892) produced affected offspring. Apart from these gaps, however, the line of inheritance is direct. It appears, therefore, that the responsible gene is transmitted as a Mendelian dominant with occa-

sional skipping of a generation. In view of this possibility of skipping, the fact that the disease has been recognized for the first time in members of a particular generation does not rule out the likelihood that it has been handed down from earlier generations, especially when it is remembered that the manifestations may be minimal, easily missed by patient and doctor. (In the families described above there was considerable case variation in the degree of oedema, and this was also found in the family reported by us.) Alternatively the condition may arise as a mutation, though this is impossible to establish.

Apart from the description by Milroy (1892) of the patient with testicular enlargement and subsequent disappearance of the oedema, we have not discovered any record of a patient who, like the one we have reported, suffered also from hydrocele and testicular abnormality. While there seemed to be definite evidence of diminished testicular function, it is not clear that there was any relation between this and the oedema, nor would it justify in itself any suggestion that an endocrine factor plays a part in the production of the oedema. Although the disorder has been recognized for over fifty years, the ultimate mechanisms responsible for the chief symptoms remain obscure.

Summary

Milroy described a hereditary form of oedema of the lower limbs for which there was no obvious cause.

This condition produces little or no disability.

A typical case, with bilateral hydrocele and delayed puberty, is described.

We wish to acknowledge our thanks to Dr. Hugh Garland, consulting physician to St. James's Hospital, and to Dr. J. A. Fraser Roberts for much helpful advice and criticism. Dr. W. McIntosh, Medical Director of Leeds Municipal General Hospitals, kindly granted permission to publish this case. Our thanks are also due to Miss C. E. Campbell for the photograph.

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TWO CASES OF PERIARTERITIS NODOSA WITH OBSERVATIONS ON AETIOLOGY, DIAGNOSIS, AND TREATMENT

BY

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Periarteritis nodosa was first described by Rokitsansky in 1852. Kussmaul in 1866 related symptomatology to clinical findings, and during the next 76 years some 350 cases of the disease were reported. Here are recorded two further cases.

Case 1

This patient, a Merchant Navy man, aged 43, was admitted to the Western Infirmary, Glasgow, on Oct. 20, 1946. He complained of an aching pain in the muscles of his back and legs, epigastric discomfort, anorexia, and loss of weight for four weeks. This had been associated with a low-grade pyrexia. He had had malaria in 1938, and in 1939 was treated for staphylococcal empyema by rib-resection and with sulphapyridine over a long period. Sulphonamides had also been administered three weeks and again three days before admission to the infirmary.

On admission the abdomen showed slight generalized distension. It was "doughy," and on palpation the epigastrium and

both lumbar regions were tender and rigid. The muscles of the legs were tender on pressure; no oedema was observed. No other physical abnormality was detected. Temperature was 99.2° F. (37.3° C.), pulse 105, and blood pressure 150/90. During the next 17 days his condition deteriorated. The temperature was intermittent, ranging from 97 to 101.5° F. (36.1 to 38.6° C.). The pulse rate varied from 80 to 115. Muscular and abdominal pains and increasing general weakness accompanied these changes. On Nov. 8, and for several days subsequently, painful subcutaneous nodules were present on the abdominal wall. One such nodule was removed for histological examination.

After Nov. 15 his general condition improved, although two further exacerbations occurred. On Nov. 22 he complained of stiffness of the neck muscles and pain in the right testicle. On Nov. 19 pain in the lower left chest and left hypochondrium was accompanied by splenic enlargement. During this time the temperature continued to range between 97 and 101° F., and the pulse rate between 70 and 120. The erythrocyte sedimentation rate varied between 37:70 and 75:106 (Westergren).

These acute manifestations subsided within a few days, and the patient continued to improve generally. On Jan. 11, 1947, he was afebrile and symptom-free, and was discharged from hospital.

Investigations in Hospital.—**Blood.**—There was no evidence of anaemia. The white cell count varied from 27,200 to 11,000 per c.mm. The highest eosinophil reading reported was 5%. On Dec. 6 the serum albumin was estimated at 4.6% and total protein at 6.4%. The Wassermann reaction was negative. **Urine.**—No abnormal constituents were found. Despite repeated investigations, tests for albumin and red blood cells were uniformly negative. **Fractional test meal.**—A normal acid curve was obtained. Blood was present in the fasting juice, and a test for occult blood in the faeces was positive. **X-ray examination.**—Radiologically the lumbar spine, gall-bladder, chest, and arms revealed no abnormal features. Barium meal and enema investigation of stomach and bowel did not disclose any evidence of disease. **Ophthalmoscopic examination** (Nov. 23).—Prof W. J. B. Riddell reported that no abnormality was detected in either fundus. **An electrocardiogram** (Nov. 23) showed slurring of QRS in leads I and III of a degree which is proof of myocardial change. **Proctoscopic examination** (Dec. 12) revealed no marked change in rectal mucosa. Excess mucus coming down from sigmoid was present; examination of this showed no abnormality. **Histology of subcutaneous nodule** (Nov. 14).—The report on the subcutaneous nodule removed from the abdominal wall was furnished by Dr. G. B. S. Roberts. It read: "The larger blood vessels show changes characteristic of periarteritis nodosa. There is fibrin present in the media and a gross collection of inflammatory cells, mainly polymorphs, in the adventitia."

Progress since Discharge from Hospital.—Since the patient was discharged from hospital (Jan. 11, 1947) three episodes of significance have occurred. (1) On Jan. 24 the patient's urine contained albumin, red blood cells, and granular casts. (2) On March 21 the patient complained of severe headaches, maximal in intensity over the vertex. On March 25 retinal haemorrhage in the left eye was reported, and on April 15 it was suggested that a further haemorrhage had occurred and that the vessel associated with this haemorrhage was raised from the retina. (3) On March 27 he complained of the passage of blood in his stools. This complaint persisted for three weeks. Further proctoscopic examination did not reveal any abnormal feature with the exception of a congested rectal mucosa. No specific pathogenic micro-organisms were isolated from a rectal swab. Bleeding time, clotting time, and blood film were within normal limits.

During this period of out-patient surveillance the condition of the myocardium improved, as shown by repeated electrocardiographic tracings. On Feb. 28 the electrocardiogram showed that slurring of QRS was not then of diagnostic significance.

Comment on Case 1.—The two main points of interest are: (1) the diagnosis was made during life, and (2) some thirteen months after discharge the patient is well enough to be in employment. The average duration of the disease

is given by Leishman (1937) as between three and four months. Some cases, however, have been known to recover.

Case 2

A housekeeper aged 52 was admitted to the Western Infirmary, Glasgow, on Dec. 13, 1946, with a complaint of pain in the chest and haemoptysis of ten days' duration and loss of weight and general weakness for some nine months.

Previous History.—She had been under investigation in a county hospital from July to November, 1946. The history and investigations covering this part of her illness were as follows. Subsequent to an influenzal illness occurring over Christmas, 1945, she experienced weakness of her legs associated with pain in legs, arms, and back of neck. No sulphonamide drugs were given at this time. Her left ankle is stated to have been swollen, and anorexia was accompanied by considerable loss of weight. Clinical examination seems to have been largely negative. "Fibrous" nodules were reported to be present in the trapezius. Blood pressure was 120/80. The temperature varied between 97 and 101.5° F. (36.1 and 38.6° C.) and the pulse rate between 80 and 120, until mid-September, 1946, when both gradually settled to average levels. This was maintained until she was discharged on Nov. 9. The erythrocyte sedimentation rate remained elevated throughout this period—July, 93:115; October, 92:120. The following investigations were carried out: (1) **Blood.**—No evidence of anaemia present. The leucocyte count varied between 5,000 and 11,500 per c.mm. The highest eosinophil reading reported was 2%. (2) **Urine.**—Reaction acid; specific gravity, 1026. Albumin, trace. On microscopic examination 8 to 11 red blood cells were present per high-power field. (3) **Fractional test meal.**—A normal free-acid curve was obtained. A test for occult blood in the faeces was positive. (4) **X-ray examination** of chest, long bones, hands, and feet, barium meal, and barium enema revealed no gross lesions.

After being discharged home on Nov. 9, 1946, the patient remained in moderately good health until three weeks before admission to the Western Infirmary. At this time she developed herpes zoster of her right chest, and after a few days haemoptysis occurred. Recurrent vomiting was complained of for six days before admission to the infirmary.

On admission the patient looked very ill and was markedly emaciated. The percussion note over the right apex was impaired, and crepitant rales were present at the right apex, right mid-zone, and left base. The abdominal reflexes were not elicited; both ankle- and knee-jerks were very active; the plantar responses were flexor. The pulse rate varied between 80 and 120, the temperature between 97 and 98° F. (36.1 and 36.7° C.). The blood pressure was 118/75. The patient is stated to have suffered from "chest trouble" in adolescence. Her mother died of "chest trouble." Her father died of rheumatic fever at the age of 27.

A blood count showed: red cells, 2,100,000 per c.mm.; haemoglobin, 47%; white cells, 8,000 per c.mm. The erythrocyte sedimentation rate was 120:150. No abnormality was detected in the urine. Tubercle bacilli were not found in the sputum. An x-ray report of the chest on Dec. 13 was: "Old calcified primary lesions in both hilar regions and in right lower lobe. Mottled opacities right upper lobe. Appearances are suggestive of active tuberculosis. There is increase in transverse diameter of the heart."

On Dec. 17, four days after admission, the patient died suddenly.

Post-mortem Report.—A necropsy carried out by Dr. George Smith in the pathology department disclosed the presence of typical lesions of periarteritis nodosa in kidneys, liver, lungs, spleen, heart, small intestines, pancreas, adrenals, and uterus. While a few of the lesions were reported to be in the healing phase of fibrosis the great majority showed acute necrotising inflammation of the vessel wall with oedema and polymorph infiltration, in which eosinophils were noteworthy. The vessels chiefly affected were the small arteries and arterioles. With the exception of a healed calcified scar at the apex of the left lung no evidence of pulmonary tuberculosis was detected. Both lungs were denser in patches than normal, but the consistency was considered to be not that of fibrosis or neoplasm.

and was due to haemorrhage. Histological examination did not disclose the presence of tuberculous lesions in the lungs. The immediate cause of death was probably the severe damage to the kidneys. The femoral vein blood urea twelve hours after death was 129 mg. per 100 ml.

Comment on Case 2.—This case was not diagnosed until a post-mortem examination had been performed. The clinical diagnosis appeared to rest between pulmonary neoplasm and pulmonary tuberculosis. The latter possibility was supported by the result of x-ray examination of the chest, to which reference has been made. The interesting points in the case are: (1) The patient was a female suffering from a rare disease in which males are affected four times as often as females. (2) Haemoptysis is not a common symptom of periarteritis nodosa. It occurred in only 1% of cases in a series reviewed by Bruce Logue and Mullins (1946). (3) In Kline and Young's (1934) three cases the difficulty in differentiating periarteritis nodosa affecting the lungs from pulmonary tuberculosis was observed. Bruce Logue and Mullins (1946), referring to this, suggest that areas of fibrosis due to small infarctions may resemble pulmonary tuberculosis radiologically. In this case the findings both on clinical and on x-ray examination were compatible with a diagnosis of pulmonary tuberculosis.

Aetiology

The cause of periarteritis nodosa is not yet definitely known. Transmission of the disease to animals has been reported by Von Haun (1920) and by Harris and Friedrichs (1922). These results do not appear to have been obtained by other workers, although Muir (1940) considers the pathological picture to be compatible with the activity of an unknown infective agent.

Ophills (1923) and Neale and Whitfield (1934) suggest that periarteritis nodosa is a manifestation of a streptococcal allergic state. Its association with rheumatic heart disease was noted by Friedberg and Cross (1934) in four of their eight cases, and they considered that the disease may result from hypersensitivity to more than one agent. This view has received the support of Anderson (1944). Eight cases of periarteritis nodosa associated with asthma and eosinophilia are reported by Rackemann and Greene (1939), and Rich (1942) records the development of periarteritis nodosa in cases which had shown evidence of hypersensitivity to serum or sulphonamides, or both. In 1943 Rich and Gregory demonstrated that the disease could be produced experimentally in rabbits by sensitizing them to foreign serum-sulphonamide complexes. In 1946 Bruce Logue and Mullins referred to a possible relationship between acute disseminated lupus erythematosus and periarteritis nodosa.

It would therefore seem that allergy plays a very considerable part in the aetiology of periarteritis nodosa, and, further, that a hypersensitive "soil" may be an essential factor in the development of the disease. In this connexion it is of interest to record that the son of Case 1 has been found to be suffering from Besnier's prurigo-eczema-asthma syndrome. Hypersensitivity to drugs of the sulphonamide series may be implicated in certain instances, and the apparently increasing incidence of the disease may be attributable to this fact. Sulphonamide drugs had been administered to Case 1 on several occasions. On the other hand, all inquiries regarding this aspect in Case 2 have been entirely negative. There can be little doubt that the disease existed before the sulphonamide era, and in some instances hypersensitivity to infective agents may be responsible.

Diagnosis

The possibility of periarteritis nodosa should be borne in mind in a case presenting multiple symptoms referable

to several systems. In Case 1 the diagnosis initially seemed to be that of pyrexia of uncertain origin, with emphasis on the possibility of enteric fever and abdominal tuberculosis. With the appearance of cutaneous nodules, periarteritis nodosa, carcinomatosis, and trichiniasis became possibilities; less probable causes in this case being bacterial endocarditis with multiple emboli, and Weber-Christian syndrome (Weber, 1925; Christian, 1928). The combination of myositis, abdominal pain, loss of weight, tachycardia, and fever, associated with cutaneous nodules, suggested periarteritis nodosa, and this was confirmed by histological examination of a nodule.

The triad of myositis, abdominal pain, and loss of weight has been referred to by Meyer and by Middleton and McCarter (1935). In a review by Bruce Logue and Mullins (1946) tachycardia and fever occurred in 87%, abdominal pain in 56%, myositis in 44%, loss of weight in 44%, and cutaneous nodules in 23% of cases.

It is regrettable that no characteristic lesions are observed on ophthalmoscopic examination, but emphasis should be placed on histological examination of cutaneous nodules in suspected cases, or in their absence success may attend muscle biopsy.

Treatment

From a review of the literature no treatment appears to have been of any value. Leishman (1937) confirms this view. Assessment of any particular treatment is difficult because of the infrequency with which the disease is diagnosed during life. Secondly, chronic forms characterized by exacerbations and remissions occur (Arkin, 1930; Macaigue and Nicaud, 1932). Lastly, Boyd (1944) emphasizes the conception of healed periarteritis nodosa with multiple chronic ischaemic lesions.

Penicillin.—As long-continued pyrexia suggested infection in Case 1, penicillin was tried, a total dosage of 4 mega units being given intramuscularly from Dec. 4 to 10. Penicillin in smaller dosage had been administered to Case 2 before admission to the Western Infirmary, Glasgow. No improvement occurred in either case during or immediately subsequent to penicillin therapy. Despite this it is possible that beneficial effects might ensue in cases in which a penicillin-sensitive micro-organism is acting as antigen. On the other hand, according to Suchecki (1946), allergic reaction to penicillin occurs in some 0.5% of cases. In such instances penicillin therapy may indeed be contraindicated.

Anti-histamine Preparations

The drugs used were β -dimethylaminoethyl benzhydryl ether hydrochloride ("benadryl") and histamine azoprotein ("lertigon"). These were employed on the basis of the histamine concept of allergy. Benadryl has histamine antagonizing properties (Loew, Kaiser, and Moore, 1945). It is thought to act by competing with histamine for a given site of action, and thus prevents the effect of histamine combination at this site. On the other hand, lertigon is said to produce antibodies which neutralize histamine before it can enter into combination at the site of action. Benadryl and lertigon are thus synergistic in action, and it would appear rational to use them concurrently.

In Case 1 benadryl was administered initially in doses of 50 mg., four times daily, and its administration coincided with a tendency of the temperature and pulse rate to return to average levels. It would appear, however, that benadryl has not been effective in preventing the retinal and alimentary tract exacerbations (March, 1947). No toxic effects have been observed; but it was noticed that a steady fall in the patient's weight ceased when the dose of benadryl was reduced. No explanation has been found for this

side-effect of benadryl, if indeed the drug was responsible for the loss of weight.

Lertigon therapy was started in May, 1947, being administered subcutaneously in increasing doses every fourth day, up to a maximum single dose of 1 ml. Subsequently the dose has been reduced to 1 ml. weekly. No toxic effects have been observed.

Since beginning this combined therapy no exacerbations of the disease process have occurred. The patient states that he feels well, his weight is stationary, and the erythrocyte sedimentation rate is within average limits. There is some evidence, however, that hypertension may be developing, possibly secondary to ischaemic renal lesions. Whilst no conclusions can be drawn from a single case, it is felt that therapy along similar lines may hold out promise for the future treatment of periarteritis nodosa, and perhaps of other conditions.

Summary

Two cases of periarteritis nodosa are reported. One case was diagnosed during life, and 16 months after admission the patient is in good health. The aetiology of the disease is reviewed. It would appear that periarteritis nodosa is an expression of an allergic state to either micro-organisms or drugs—e.g., sulphonamides.

Observations are made regarding diagnosis. Emphasis is placed on clinical diagnosis, and the importance of histological examination of cutaneous nodules or muscle tissue in any doubtful case is stressed.

The results of treatment with penicillin, benadryl and lertigon are reported. Encouraging results have followed combined benadryl and lertigon therapy in one case.

I wish to express my thanks to Dr. D. K. Adams for encouragement and advice in writing this paper, and for his permission to publish the cases. My thanks are also due to Prof. D. F. Cappell and Prof. W. J. B. Riddell for their helpful criticisms, and to various colleagues whose assistance I have acknowledged in some instances by name.

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Mr. James Griffiths, Minister of National Insurance, points out in a message he has sent to all members of the staff of his department that 700 of the 1,000 local national-insurance offices ultimately needed are already open and the necessary wide and intimate contacts with the public have already begun. He adds: "We must never forget that for the most part we shall be dealing with people who are ill or in trouble or are perplexed by some point or other. They will need not only the benefits due to them but in many cases help and advice also. There have already been many difficulties and there will be more. We are compelled to go forward in face of shortages of premises, of staff, and of equipment of every kind. Success must depend not only on the initiative and leadership of those in key positions but also on an alert and willing response from all. I have found everywhere the keenest enthusiasm and a high sense of the great social mission with which the Ministry is charged. This is going to be a soldier's battle for us and I am confident that every member of the staff, from the highest to the lowest, will do his best and not spare himself in the critical months that lie ahead of us."

Medical Memoranda

Otitis Media in Infancy

The following brief statistical survey indicates that otitis media in infancy remains a major clinical problem in a large children's hospital. It shows the results of treatment with penicillin and sulphonamides and of the surgical procedures of myringotomy and posterior drainage of the mastoid antrum.

Of 7,805 admissions to the wards of Alder Hey Children's Hospital, Liverpool, during the year 1946, 1,107 were infants under the age of 12 months. This number includes medical, surgical, and orthopaedic conditions, as well as primary aural diseases and cases of feeding error. Of these 1,107 infants 240 had an aural infection on admission; in the remaining 867 the ears appeared normal when first seen but 191 later developed otitis media or mastoiditis—a total of 431 (39%) infants with ear disease. Of these, 268 recovered and 163 (38%) died. The following surgical procedures were carried out:

Bilateral myringotomies in 227 cases (109 died)
 Unilateral " 18 " (2 " "
 Posterior drainage also " 64 " (45 ")

TABLE I—Relationship of Otitis Media to Parenteral Infections

	Recovered	Died	Total
1. Respiratory—			
Bronchitis or pneumonia with otitis media or mastoiditis	60	13 (22%)	107
Bronchitis or pneumonia without complicating aural disease	6	22 (22%)	216
2. Alimentary—			
Gastro-enteritis with otitis media or mastoiditis	112	75 (67%)	153
Gastro-enteritis without complicating aural disease	11	45 (81%)	159

* Of these 26 died within 24 hours of admission.

TABLE II—Results of Treatment of 431 Infants with Aural Disease

Treatment	Recovered	Died	Total
Penicillin alone	32	14 (30%)	46
Chemotherapy alone	105	31 (29%)	136
Both penicillin and chemotherapy (extremely ill cases)	192	164 (85%)	256
No specific treatment (includes both mild infections and those dying within a few hours of admission before treatment had begun)	29	14 (31%)	43
Total	268	163 (61%)	431

These figures are striking in that they reveal the high incidence of otitis media in infants in hospital. Barrier-nursing technique was observed in all cases whether admitted to general wards or individual cubicles. The environment seemed to have no significant bearing on the subsequent development of the disease.

Prolonged clinical observation bears out the extreme difficulty of assessing whether otitis media is primary or secondary in cases in which respiratory or alimentary infections are also present.

CONCLUSIONS

On the question of treatment it is very difficult to draw specific conclusions, one can only generalize. There is no great difference between the results of those treated with myringotomy alone and those having posterior drainage; the mortality rate in both groups is high. Posterior drainage is performed by some surgeons only when symptoms persist after repeated myringotomies, whereas others consider that posterior drainage is indicated if there is no improvement after one adequate paracentesis.

Penicillin appears to have only a small place in the treatment of otitis media in young infants—possibly because of lack of sensitivity of the infecting organism. The mortality rate is high in spite of treatment with sulphonamides, penicillin, and intravenous fluids to combat dehydration.

Thanks are due to Dr. W. E. Crosbie, medical superintendent, Alder Hey Children's Hospital, for permission to publish these figures, to Professor Norman B. Capon for his kind interest and advice, and to Dr. Margaret Rogerson for assistance.

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 Alder Hey Children's Hospital.

Reviews

GYNAECOLOGY REFRESHER

Obstetrics and Gynaecology. A Revision Course for Practitioners. By C. Scott Russell, M.B., F.R.C.S.Ed., M.R.C.O.G. With foreword by J. Chassar Moir, D.M., F.R.C.S.Ed., F.R.C.O.G. Oxford Medical Publications. (Pp. 214; 21 figures. 12s. 6d.) London: Geoffrey Cumberlege (Oxford University Press). 1947.

The author has written this book for medical men returning to civilian practice who want to revise obstetrics and gynaecology and for any others who wish to refresh their memory. It is a small volume, just large enough to slip into the pocket, yet it contains an extraordinary amount of practical and useful information covering the whole of obstetrics and as much gynaecology as the practitioner is likely to need in his everyday work. On almost every page there is evidence that the author, far from repeating merely secondhand opinions, is himself a close observer, able to transform his observations into practical conclusions and to convey these conclusions to the reader in clear and convincing form. We like the advice given in discussing the management of the second stage of labour: "In all cases the foetal heart should be listened to carefully during the half hour following the rupture of the membranes, as one of the signs of cord prolapse may be a failure of the heart rate to pick up between pains." We like too the use of the radio in uterine inertia to keep the patient cheerful, but are less sure about the value of applying the forceps in constriction ring.

Though the author has done his work well, it must be said that obstetrics is not an easy subject to master. It requires much reading and long experience. It cannot therefore be expected that a small book such as this will equip the practitioner for the practice of midwifery, and it will probably be best read in conjunction with and as a supplement to some longer textbook. If this is done it will well repay careful study. As Prof. Chassar Moir says in the foreword, "It will stimulate an interest and will encourage the reader to a fuller study of the subject."

F. J. BROWNE.

HESS IN BRITAIN

The Case of Rudolf Hess. A Problem in Diagnosis and Forensic Medicine. Edited by J. R. Rees, M.D., F.R.C.P. (Pp. 224. 12s. 6d.) London: William Heinemann. 1947.

The main problem presented by this book is whether or not Hess was suffering from a paranoid schizophrenia during his stay in England. The authors conclude, though with reserve, that he probably was. The case is obscured by evidence of a psychopathic personality and by the repeated occurrence and remission—most dramatically during his trial—of a hysterical amnesia. In this account the authors consider these side-issues to a disproportionate extent and do not adequately discuss the more fundamental question of diagnosis.

Hess flew to England on May 10, 1941, apparently quite impulsively, on the conviction that he personally had only to say a few words to the King for peace to be declared. As soon as May 22 he was saying that he was surrounded by Secret Service agents who would drive him to commit suicide or poison his food. The systematized paranoia so begun persisted ever since. Early on he believed that doors were opened and shut and motor-cycles kept running to prey on his nerves. He would not eat unless others sampled the food. From time to time he would say he could not concentrate, that his mind went blank. An interview with Lord Simon revealed that the reason given for his flight had no basis in fact. Thereafter he was worse. All the people around him were under an evil influence, hypnotic or chemical, unconscious agents in a conspiracy to do him harm. In the early hours of July 15 he dashed suddenly about a corridor, "his face one of extreme despair, his eyes staring and his hands flung over a second-floor banister, breaking it." After that shifts of nurses watched him day and night but he was still recorded as "not medico-legally insane."

In July, 1941, he came under the care of a psychiatrist with mental-hospital experience and was regarded as a characteristic mental-hospital inmate. He would lie with his fingers in his ears, smiling to himself, and when questioned would reply, "I am thinking." He hoarded odd bits of paper about the room and under the couch. In subsequent years, apart from the coming and going of amnesic states, he changed little. Auditory hallucinations were observed. He made a second attempt at suicide by plunging a bread-knife into his breast. In February, 1945, he handed in a medley of names of august personages and personal attendants under the hypnotic influence of the Jews. In October, 1945, he was transferred to Nuremberg gaol. He took with him a statement meant to be the basis of his case, a farrago of delusional material without relevance to legal or political issues. In it he says that the eyes of the people around him had a glassy look and changed from time to time, the result of an abnormal mental condition caused by a secret chemical; his food was contaminated by secretion from camels' and pigs' glands; his dictionary decayed when he touched it; his apples were injected with "hot poison." In Nuremberg gaol primary delusions were still appearing: "I will look at a piece of bread, and suddenly I feel sure it has been poisoned." Schizophrenic ambivalence was shown: asked for his signature, he would write it and immediately scratch it out, this performance being repeated several times. Nevertheless the medical commissions found him not insane but fit to plead, and the Russian physicians state a definite opinion that he was simulating and that his past paranoid illness was psychogenic. He was, however, then in an amnesic state, and the delusions had for the time receded, though they were to recur.

Hess's illness, therefore, is a chronic paranoid condition, progressive and without tendency to remission. It thus bears no resemblance to a purely psychogenic state. Hardly one of the most characteristic schizophrenic symptoms is lacking: primary delusions, systematization of delusions of a highly bizarre type, hallucinations in a clear state of consciousness, thought disorder and incoherence, affective impoverishment, and ambivalence and other gross disturbances of volition.

This analysis, when contrasted with that provided in the book, throws into relief the differences between two schools of psychiatry. Considered in the terms of a psychotherapeutic discipline, Hess's case was one of great difficulty and obscurity. Considered in the terms of a classical psychiatry, it was unambiguously schizophrenic from the beginning. The reason for the authors' doubts and hesitations is to be found in the inadequate theory by which, in common with others of their school, they were bound. They state (p. 212) that they attach relatively small importance to "diagnostic labels." In this they throw overboard a whole field of psychiatric knowledge. The making of a diagnosis of schizophrenia is not a bagatelle, but is fraught with consequences of a prognostic, therapeutic, and medico-legal kind. It was a fateful circumstance for Hess that a diagnosis of schizophrenia was reached only after several years, and after his trial was over.

ELIOT SLATER.

BASAL GANGLIA

Diseases of the Basal Ganglia and Subthalamic Nuclei. By D. Denny-Brown, M.D., Dr.Phil., F.R.C.P. Edited by Henry A. Christian, M.D., Sc.D., F.A.C.P., F.R.C.P.(Can.). (Pp. 45. 12s. 6d.) New York and London: Geoffrey Cumberlege (Oxford University Press).

This book, published as a separate monograph, is a chapter written by Prof. Denny-Brown for the *Oxford Loose-leaf Medicine*. In the earlier and more important part he has reviewed the literature on the diseases of the basal ganglia with reasoned criticism and much selection against the background of the anatomy and physiological activity of the basal grey matter.

Prof. Denny-Brown strives to show the relation of the extra-pyramidal system to that of the pyramidal, cerebellar, and sensory systems in the control of voluntary movement, and then to demonstrate in the various syndromes which he has discussed the deprivation of function caused by the lesion, and the significance of the residue. This is an admirable work of reference and a clinical exposition in the best tradition.

DENIS WILLIAMS.

TRAINING AFRICAN NURSES

African Medical Handbook. An outline of medicine and hospital practice for African nurses, orderlies and medical assistants. By Michael Gelfand, M.B., M.R.C.P. (Pp. 206, 22 figures. 15s.) Christown: The African Bookman. P.O. Box 3115.

One of the greatest medical problems of the day is how to provide medical treatment for the vast undeveloped areas of Africa. There are far too few European doctors and in many cases they cannot understand the languages of the peoples with whom they have to deal. African doctors also are lacking. Apart from inadequate facilities for medical teaching there are as yet far too few people with the requisite secondary education to enable them to benefit from Western medical training. In this dilemma an answer has been found in the provision of African dressers, nursing orderlies, and medical assistants, who in many countries have already been placed in charge of important dispensaries. Textbooks are obviously required for the teaching of the African subordinate medical and nursing staff, but although a beginning has been made in Uganda and the Belgian Congo the supply is insufficient. The writing of such books is by no means easy: they must be written clearly and simply, for many Africans have only small knowledge of English; they must be absolutely accurate for the African still firmly believes in the infallibility of the printed word; and finally they must tell exactly what the African must and must not do in all the emergencies with which he may be called upon to deal.

Dr. Gelfand comes out of the tropics with burnt colours. On the second count there is less certainty for there are many minor inaccuracies. No one can diagnose sickling of red cells by placing a drop of blood on a slide and covering it with a cover-glass however long he leaves it in 1946 when he rings the cover-glass with vaseline. Red blood cells will not be found in the urine in blackwater fever (p. 195). Blackwater fever occurs more frequently in children than in adults in West Africa (p. 77). Many of the names of diseases used are no longer current—for example: "M. fever," "catarrhal jaundice," and "climatic bubo," while the current use of "M. and B. drug" as a synonym for chlorpromazine is deprecated. Infective hepatitis is the name of a specific disease (p. 195). These, however, are minor blemishes which can be removed when a second edition is called for.

The author is at his best in describing treatment in detail from his extensive knowledge of work in a large African hospital, and the instructions in most cases are clear and concise. Some readers, however, would look askance at treating early cases of Gambian sleeping sickness with trypanamide alone. There is no mention of the use of penicillin in the treatment of tropical ulcer, and curiously enough no mention at all of such a common disease as influenza or influenzal pneumonia, though he refers to such rare complaints as mumps encephalitis and to asbestosis. In many parts of Africa carbon tetrachloride has been given up in favour of the much less toxic carbon tetrachloroethylene. A special word of praise must be given to the numerous line drawings by Mr. H. H. D. Simmonds; these will do much to lighten the African's task in grasping the main facts of the cause and cure of common diseases.

G. M. FINDLAY.

The Collected Papers of the Mayo Clinic and the Mayo Foundation, Vol. XXXVIII, 1946, edited by Dr. Richard M. Hewitt and others (W. B. Saunders, 63s.), fall into certain broad groups. There are the hardy annuals such as peptic ulcer, cancer, and peripheral vascular disease, on which there is always something, if nothing fresh, to say. Then there are the Mayo Clinic contributions to recently described or rediscovered syndromes, such as Meig's syndrome, cystic fibrosis of the pancreas, or diffuse amyloidosis with macroglossia, in which a few i's are dotted and a few t's crossed. More useful are the reviews of series of cases—e.g., a study of 31 cases of primary carcinoma of the liver or the review of 83 proved cases of multiple myeloma. Finally there are the papers on subjects which workers at the Mayo Clinic have made their own, such as the group of papers on streptomycin or Allen's report on treatment with dicoumarol. Though there is nothing exciting in these 900 pages, they are nevertheless a fair summary of recent advances in routine hospital work. Few of us would choose this as preferred reading, but few of us, again, would not find much of interest and profit if this were the only book in the house on a wet week-end.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received.]

Disputed Paternity Proceedings. By S. B. Schachin. 2nd ed. (Pp. 614. No price.) New York: Banks and Company. 1947.

A general account of the medical and legal aspects.

Clinical Ophthalmology. By H. M. Traquair, M.D., F.R.C.S. Ed. (Pp. 264. 25s.) London: Henry Kimpton. 1948.

An introduction to ophthalmology for general practitioners and students.

The Social Sciences. A case for their greater use (Pp. 26. 1s. 6d.) Prepared by the Social Science Committee of the Association of Scientific Workers, London.

A pamphlet advocating the greater use of the social sciences.

Transactions of the Medical Society of London. Vol. 64. Edited by W. E. Tanner, M.S., F.R.C.S. (Pp. 254. No price.) London: Harrison and Sons.

Papers on a wide variety of topics presented during 1944-6.

Practical Food Inspection. By C. R. A. Martin. Vol. 2. 3rd ed. (Pp. 284. 18s.) London: H. K. Lewis. 1946.

The inspection of food other than meat from animals killed in slaughterhouses.

Oxford Essays on Psychology. By William James D.M., D.Sc., F.R.C.P. (Pp. 148. 10s. 6d.) London: William Heinemann. 1947.

Lectures on general psychology delivered at Oxford.

Modern Psychiatry in Practice. By W. A. G. Webster, B.Sc., M.D., M.R.C.P. 2nd ed. (Pp. 275. 10s. 6d.) London: J. and A. Churchill. 1945.

A general introduction to the practice of psychiatry for student and practitioner.

The Universe in the Making. By J. L. R. M. Dinnage, F.R.C.S. (Pp. 174. 7s. 6d.) London: Clarendon. 1945.

A medical man's personal account of the universe.

Basic Facts of Health Education. By W. P. Kennedy, Ph.D., L.R.C.P., F.R.S. Ed. 2nd ed. (Pp. 197. 7s. 6d.) London: The Pharmaceutical Press. 1947.

A collection of short articles for pharmacists.

Voluntary Social Services since 1910. By Henry A. Moss et al. (Pp. 255. 21s.) London: Kegan Paul, Trench, Trubner. 1948.

A review of the social services in Britain.

Harmony of Nature. By L. Richmond Wheeler. (Pp. 200. 6s. 6d.) London: Edward Arnold. 1947.

The author, a biologist, elaborates his theory of "co-operation or co-existence" in nature.

The Psychology of Diet and Nutrition. By L. S. Sellings, M.D., and M. A. S. Ferraro, M.S. (Pp. 192. 8s. 6d.) London: John Lane The Bodley Head. 1947.

A simple account by a dietitian and a psychiatrist intended for dietitians and housewives.

Tuberculosis in the Commonwealth, 1947. (Pp. 328. 15s.) London: Pendragon. 1947.

The transactions of the Commonwealth and Empire Tuberculosis Conference convened by the N.A.P.T. in 1947.

Psychiatry: a Short Treatise. By W. A. O'Connor, L.M.S.S.A., D.P.M. (Pp. 380. 35s.) Bristol: John Wright. 1948.

A general introduction to psychiatry.

An Outline of the Development of Science. By Mansel Davies. (Pp. 214. 3s. 6d.) London: Watts (Thinker's Library). 1947.

A short history, with illustrations.

Clinical Endocrinology and Constitutional Medicine. By A. P. Cawadiaz, O.B.E., M.D., F.R.C.P. (Pp. 362. 42s.) London: Frederick Muller. 1947.

The author stresses the clinical aspects of endocrinology and includes a number of illustrations.

Nova et Vetera

THE AMERICAN SYDENHAM

During the present century general historians in America have begun to turn their attention towards Benjamin Rush, of Philadelphia, and have dealt with his contributions to social reform and to education. Although Rush was never a major political figure he belonged to a group of versatile individuals who helped to bring about the independence of the United States. One of the five medical men who signed the Declaration of Independence, he was also a member of the Constitutional Congress and was for many years Treasurer of the U.S. Mint. Nevertheless, as a national figure Rush has been overshadowed by such men as John Adams, Thomas Jefferson, Benjamin Thompson, and that other embodiment of eighteenth-century versatility, Benjamin Franklin. Rush, however, has never been neglected by the members of his own profession, and his position as the leading medical man of his time has not been challenged. He has been hailed as the American Sydenham and as the Father of American Psychiatry. Papers read at a special meeting of the College of Physicians of Philadelphia, held on Nov. 6, 1946, to commemorate the 200th anniversary of the birth of Rush, who was one of the founders of the College, have now been printed,¹ and these provide a valuable supplement to the full-length life by Dr. Nathan Goodman published in 1934.

The first paper in this symposium is by Dr. R. H. Shryock, who refers to the wide divergence of views concerning Rush held both by his contemporaries and by present-day writers. These range from John Coakley Lettsom's claim that Rush combined judgment and sagacity "in almost unprecedented degree" to Elisha Bartlett's acid observation that there was more "utter nonsense and unqualified absurdity" in Rush's works than in the whole compass of medical literature. According to some critics Rush's voluminous *Medical Inquiries and Observations* contain nothing of value and only serve to show how easy it is for a facile writer to build up an unmerited reputation; others regard his writings as a mine of valuable clinical records and as containing many forecasts of modern views.

Rush was of English Quaker descent, and was born in Byberry Township, Philadelphia County, in 1745. After taking his B.A. degree at Princeton in 1760 he was apprenticed for six years to Dr. John Redman, of Philadelphia. He attended the first course of lectures on anatomy given in 1762 by Dr. William Shippen the younger, a pupil of the Hunters and the friend of John Fothergill. Like so many of his compatriots Rush came to Edinburgh, where he took his M.D. in 1768, and he then studied in London and Paris. On his return to America in 1769 he was elected professor of chemistry in the College of Philadelphia. His appointment completed the medical faculty of the first medical school established in what is now the United States. In 1789 he succeeded John Morgan as professor of the theory and practice of medicine in the College of Philadelphia, and when in 1791 the University of Pennsylvania was founded Rush was appointed professor of the institutes of medicine and of clinical medicine. In 1796 he received the additional appointment of professor of the practice of physic, and he also acted as physician to the Pennsylvania Hospital. During the revolutionary war he was physician-general to the military hospitals of the Middle Department of the United States Army. He died in 1813.

Dr. Shryock deals at length with Rush's theory of pathology. The prevailing medical teaching of his day was that of Cullen, according to which diseases were minutely classified and every disease was supposed to possess an appropriate specific treatment. Rush rejected the nosological arrangement of diseases and expounded a modified form of brunonianism. He claimed that all fevers resulted from (1) a predisposing debility, (2) a remote cause, which was the immediate inciting cause, operating upon a debilitated body, to produce (3) a convulsive excitement or "crisis" action in the walls of the blood vessels. Subsequently

he declared this "convulsive action" to be the underlying feature of all apparently distinct forms of illness. Dr. Shryock points out that in certain respects Rush's views no longer seem so strange to medical thinking as they did to his contemporaries and immediate successors. "Predisposing debility" was analogous to the modern idea of lowered resistance. Stimulus (the immediate exciting cause) was conceived broadly enough to include anything which would be listed to-day as an external aetiological factor.

Rush was certainly the ablest American clinician of his time. He described cholera infantum (1773) and gave one of the earliest accounts of dengue (1780). He wrote a valuable pamphlet on the hygiene of troops (1797), and his accounts of the North American Indians (1774 and 1778) and of the German inhabitants of Pennsylvania are among the earliest American contributions to anthropology. The original bent of his mind is shown in his inquiries into the effects of alcohol on the mind, into focal sepsis, and into the use of arsenic in cancer. His *Medical Inquiries and Observations upon the Diseases of the Mind* (1812) is the earliest systematic American treatise on the subject. One of Rush's most famous writings is his account of the Philadelphia epidemic of yellow fever in 1793. Rush took a leading part in fighting this epidemic, and incurred the hatred of his fellow citizens by proclaiming that the fever was the result of filth in the streets and not an importation. His treatment consisted mainly in venesection and purgation, low temperature in the sick-room, and the application of cold water both within and without. He gave purgatives in enormous doses—a powder of 10 gr. of calomel and 15 gr. of jalap administered not once but repeatedly. As a blood-letter Rush was a veritable Sangrado. He did not hesitate to remove a quart at a time and to repeat this procedure two or three times within forty-eight or seventy-two hours. "Bleeding," he wrote, "should be repeated while the symptoms which first indicated it continue, should it be until four-fifths of the blood contained in the body are drawn away." Rush claimed that many more patients with yellow fever recovered under his treatment than under the older use of wine, blisters, and bark. Dr. Philip Syng Physick ascribed his own recovery from yellow fever to his treatment by Rush with the removal of 76 oz. of blood by 22 bleedings in ten days. Rush's claims were hotly contested by William Cobbett and by many of his medical colleagues.

In the second paper in this symposium Prof. O. H. Perry Pepper deals with "Benjamin Rush's theories on blood-letting after one hundred and fifty years." Rush found indications for bleeding not only in the pulse but also in the appearance of the blood in the bleeding-bowl. He was especially impressed by blood covered with a buffy coat. This blood was termed "sizy," and the more sizy the blood the more clear the indication for bleeding, according to Rush. Prof. Pepper points out that Rush was partly right in using the thickness of the size as an indication of the presence of an inflammatory process, and he gives an interesting account of the growth of knowledge concerning the significance of the sedimentation rate. What Rush did not know was that anaemia of itself increased the sedimentation rate and, of course, the siziness of the blood. Each blood-letting therefore paved the way for another, for each removal of blood made the patient more and more anaemic.

Appended to these two lectures is a list of "Benjamin Rush's apprenticed students," taken by Mr. James E. Gibson from a notebook in the Rush Manuscript Collection in the Ridgway Library, Philadelphia. This list contains the names of 135 apprentices who lived with the Rush family and in near-by lodgings between 1770 and 1812. Rush selected his apprentices with care; the majority were the sons of personal friends or were recommended by his old students. In 1776 each pupil paid a fee of 100 guineas.

Wellcome Historical Medical Library.

W. J. BISHOP.

The Royal College of Nursing will hold a conference from May 31 to June 2 in order to discuss design, equipment, and administration. Tickets in the first place will be allocated through the branches and sections of the College and through affiliated associations. Any remaining tickets, for which the fee is one guinea, may be obtained on application to the Conference Secretary, Royal College of Nursing, Henrietta Place, Cavendish Square, London, W.1.

¹ *Trans. Soc. Hist. Phila.* 1946, 14, 113, 121, 127.

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YES AND NO

The result of the fourth plebiscite to be held by the British Medical Association will be known soon after this issue of the *Journal* is published. If the majority of consultants and specialists, general practitioners, and those working whole-time in voluntary hospitals vote against accepting service, and if this majority includes approximately 13,000 general practitioners, the B.M.A. will continue to advise the medical profession not to enter the National Health Service on July 5. The corollary of this is that if the majority as stated is not secured the B.M.A. will not offer this advice. Should the majority be in favour of accepting service in view of the changed situation resulting from Mr. Bevan's concessions, the Representative Body may consider it wise to urge the minority to enter the new Service so that the majority may have a fair chance of giving the public at least some of the benefits that have been so extravagantly promised it. The facilities for a comprehensive medical service for all will not be available on July 5, and a disappointed public will look for a scapegoat. There will probably be some men who on grounds of conscience will not enter a State medical service. They demand the respect always accorded in this country to the objector who is conscientious. If as a profession we behave with dignity and show tolerance to those who differ we shall avoid the bitterness attending the introduction of the National Health Insurance Act of 1911. If as medical men and women we fall out among ourselves we shall lose the strength of unity which was so dramatically demonstrated when Mr. Bevan's intransigence provoked an overwhelming vote of no confidence in the National Health Service Act in the form in which it was before the profession in January of this year. Mr. Bevan and the Government were compelled by the plebiscite of February to introduce an Amending Act which in December last Mr. Bevan refused even to contemplate. We believe that this is the first time any section of the community has been successful in persuading the Government to modify an Act already on the Statute Book, an Act, moreover, endorsed by a Parliamentary majority in the ill-starred and unprecedented debate in the House of Commons on Feb. 9.

The plebiscite of February taught us one thing, and that is that when medical men and women are convinced that their professional and intellectual freedom is threatened they can unite to good effect. If the present plebiscite does not produce a result similar to that held in February it may

be argued that conviction is now lacking. That Mr. Bevan has made concessions was acknowledged by Dr. H. Guy Dain, the Chairman of Council, in a letter published in last week's *Journal*. The B.M.A. Council considered that these concessions had not sufficiently safeguarded the freedoms of the profession. Public opinion, a powerful force not to be lightly disregarded, inclines to the opposite point of view. This opposite point of view is shared by many responsible medical men whose opinions command respect. For example, at a meeting held by consultants in B.M.A. House last week, an account of which appears elsewhere, Sir Reginald Watson-Jones, who had openly declared his opposition to the Act before the Minister had made his concessions, advised those present to accept service in view of the changed situation.

It is possible that the present plebiscite will show an almost equal division of opinion on whether or not to enter the Service. If this happens the medical profession will be in a dilemma. In that event we shall be faced with the paradox that when Mr. Bevan tried by opposition to split the profession he failed, and that now by making concessions in a conciliatory manner he has succeeded in dividing us. If approximately half those who vote are prepared to enter the Service, then Mr. Bevan may well believe that he has enough medical men with which to operate it on July 5. But neither Mr. Bevan, nor the medical profession, nor the British public will be able to look upon this situation with anything but dismay. At all costs we must strive to preserve our unity and agree to differ, if differ we must, in a spirit of tolerance. The forces that bind medical men together are much stronger than those that tend to separate them. We must, too, remind ourselves that the B.M.A. has declared its "whole-hearted desire" for a comprehensive medical service available to everyone in Britain. The Representative Body voted in favour of "the 100" issue. These two things added together mean a national medical service. What matters to the medical man working in this service is his freedom to apply the art and science of Medicine according to his training and his conscience, and his freedom to express his opinion by voice and pen on all aspects of professional life, including the administration of the service in which he works. We have always held that these freedoms and free choice of doctor could not be maintained in a full-salaried State medical service. The promised Amending Act would seem to be a sufficient safeguard against the introduction of a full-salaried service under the National Health Service Acts of 1946 and 1947. Mr. Bevan has agreed to include in the terms of contract his assurance that freedom of opinion on all aspects of professional life will be safeguarded. Those who think these are not sufficient must determine "as reasonable people"—to quote Dr. Dain's words—what other safeguards are necessary and endeavour to obtain them. The Edinburgh Division of the B.M.A. on Sunday reminded us, too, of the need for "warning the public that the full range of service will not be available for many years to come." On this point the public has been misled by ill-informed publicists, and it will need repeated correction.

THE MEGALOBlastic ANAEMIAS

In no branch of medicine has factual knowledge accumulated more rapidly in recent years than on the subject of the anaemias. This has been accompanied by a reorientation of ideas, preoccupation with cytology having been replaced by an interest in metabolic, chemical, and nutritional factors underlying haemopoiesis. The initial stimulus was provided by Minot and Murphy's¹ demonstration that patients with Addisonian pernicious anaemia could be restored to health by the addition of liver to their diets. Peabody had already shown that in this disorder there was a proliferation of primitive erythroblasts in the bone-marrow and that this megaloblastic hyperplasia gave place to a normoblastic haemopoiesis when remission occurred. Sternal puncture has demonstrated that there is a group of anaemias to which this megaloblastic change in the bone-marrow is common.

Although the megaloblast has long provided haematologists with material for acrimonious argument, the appearance of megaloblastic hyperplasia is so typical that it can be recognized by the tyro. All agree on the appearances, but interpretation is still debated. Peabody suggested that an arrest of maturation was the underlying fault, and owing to the confusion caused by the varied meanings imputed to the term megaloblast it was for long believed that the cells of the bone-marrow in pernicious anaemia were erythroblasts of an immature type which existed in normal marrow in scanty numbers. It is now generally accepted that the megaloblast is a pathological erythroblast which is seen, with rare exceptions, only in the marrow of patients with the anaemias now under discussion. "Maturation arrest" cannot describe this change because such cells do not represent a stage in normal maturation. It is still uncertain whether the reversion to normoblastic erythropoiesis which accompanies remission entails a rapid maturation of megaloblasts to form megalocytes, or whether a megaloblast can be transformed into a normoblast of the same maturity. Confusion has been increased recently by claims to recognize cells intermediate between normoblasts and megaloblasts, and if their existence is accepted such transformation must be granted. Mallarmé² has called the megaloblast a normoblast suffering from a nutritional deficiency, and it may be that grades of deficiency exist.

The anaemias which share this characteristic bone-marrow change may be spoken of, as Davidson and Davis³ have suggested, as the megaloblastic anaemias. The main members of the group are Addisonian pernicious anaemia, pernicious anaemia of *Diphyllobothrium latum* infestation, pernicious anaemia of pregnancy, nutritional megalocytic anaemia, the megaloblastic anaemias of infancy and childhood, the megaloblastic anaemia accompanying steatorrhoea, and certain refractory megalocytic anaemias. It is rational to seek for these various disorders a common cause, and Castle's hypothesis seemed to provide this. However difficulties arose when it was found that different members of the group responded differently to treatment with liver preparations, which *ex hypothesi* should have

been fully effective in all. The preparations generally in use can be classed as refined extracts for injection, crude extracts for injection, and proteolysed liver for administration by mouth. Addisonian pernicious anaemia and that due to the broad tapeworm respond adequately to all of these. Pernicious anaemia differs from others of the group in its association with degeneration of nervous tissues, from which danger adequate dosage with liver protects the patient. Von Bonsdorff⁴ has suggested that pernicious tapeworm anaemia is due to the inhibition of the interaction of the intrinsic and extrinsic factors, which occurs only when the worm is sufficiently high in the intestine. In the other anaemias of this type response to refined liver extracts is absent or indifferent. Crude extracts are effective in some, while in others proteolysed liver is apparently the only useful preparation. In this group Davidson⁵ would place idiopathic refractory megaloblastic anaemia, which appears to be the condition described by Israels and Wilkinson as achrestic anaemia. Watson and Castle⁶ have been able to separate two varieties of nutritional megaloblastic anaemia, one responding to refined extracts and the other to crude extracts or yeast.

Matters had reached this degree of confusion and complexity when the discovery of folic acid was announced. The steps which led to the isolation and later to the synthesis of this substance are recounted in Dr. J. F. Wilkinson's papers, the second of which appears in this number of the *Journal*. He and others have shown that it is effective in all forms of megaloblastosis of the bone-marrow. How completely efficacious it may be is not yet agreed, because there is some evidence that satisfactory blood levels are not always maintained. In the steatorrhoeas, in which a mixed megaloblastic-normoblastic hyperplasia is common, he finds it effective in proportion to the degree of megaloblastosis. The problem has now become how to fit folic acid into the aetiological puzzle. Since all megaloblastic marrows become normoblastic under the influence of folic acid it seems likely that this substance is itself the essential missing factor. Refined liver extracts, effective in pernicious anaemia, are virtually devoid of folic acid, and Davidson⁵ has suggested that they act by liberating folic acid from the inert conjugated form in which it exists in the diet. The other megaloblastic anaemias he regards as due to a failure of supply of conjugated folic acid, since purified liver extract is ineffective in them. A paper by Prof. Davidson and others, describing the successful treatment with folic acid of three cases of pernicious anaemia of pregnancy which did not respond to injections of liver extract, appears elsewhere in this issue. Davidson's hypothesis does not fully explain the failure of folic acid treatment in some cases, nor the persistence of megalocytosis noted by Wilkinson, and he suggests a third factor may be present in proteolysed liver. Jacobson's⁷ observation that when folic acid is incubated with xanthopterase its haemopoietic activity is greatly increased indicates that the final solution may be more complicated. The most recent development in this field is the preparation of red pigments

¹ *J. Biol. Chem.*, 1926, **87**, 470.

² *Brit. J. Haem.*, **3**, 133.

³ *Communication to International Physiological Congress*, Oxford, 1947.

⁴ *Brit. J. Haem.*, **3**, 61.

⁵ *Blood*, 1948, **3**, 107.

⁶ *Amer. J. med. Sci.*, 1946, **211**, 513.

⁷ *Communication to International Physiological Congress*, Oxford, 1947.

⁸ Smith, E. Lester, *Nature, Lond.*, 1948, **161**, 638.

⁹ *Blood*, 1948, **3**, 63.

(described as differing forms of the classical liver factor) from ox liver or proteolysed liver extracts which are reported to be effective in cases of pernicious anaemia and subacute combined degeneration in doses equivalent to some 20 µg. daily (possibly only 2.5 µg.).⁸

In pernicious anaemia folic acid has a greater theoretical than practical importance. Like others, Wilkinson has found that while controlling the anaemia it has no effect on the subacute combined degeneration of the cord. There are several reports which suggest that it increases the rapidity of onset of nervous symptoms. Ross, Belding, and Paegel⁹ consider that it may interfere with the metabolism of L-glutamic acid in the nervous system. Whatever the explanation, folic acid is a dangerous drug in pernicious anaemia, and the treatment of choice remains the injection of a potent liver extract. The place for folic acid is in the treatment of the other megaloblastic anaemias, which are often refractory to liver and in which changes in the nervous system do not occur.

THE NEW "B.P."

The publication, with effect from September next, of another *British Pharmacopoeia* is a noteworthy event. The new issue is the seventh of its series to appear under the auspices of the General Medical Council. The first was published in 1864 and the sixth in 1932. In normal times an interval of ten years is considered reasonable; the prolongation to the sixteen years separating the current and the forthcoming issues is due to war and post-war restrictions and frustrations. The issue of seven Addenda, six of them in wartime, has bridged the interval.

For the origin of the *Pharmacopoeia* it is necessary to go back to the reign of James I. The Royal College of Physicians of London issued the first *London Pharmacopoeia* in 1618; similar publications made their appearance in Edinburgh in 1699 and in Dublin in 1807, and all three continued through various editions down to the middle of the nineteenth century. The preparations contained in these three formularies, however, were not all uniform in strength, and in view of the confusions which arose occasion was taken in the Medical Act, 1858, which set up the General Medical Council, to ordain that the Council should publish under its direction "a Book containing a list of medicines and compounds, and the manner of preparing them, together with the true weights and measures by which they are to be prepared and mixed, and containing such other matter and things relating thereto as the General Medical Council shall think fit. . . ."

The new volume in its familiar red cover bearing the royal coat of arms and announcing itself as issued "by authority" (complete in every respect except the price, which has yet to be fixed by the Treasury) is larger than its predecessor, running to not far short of a thousand pages. The Pharmacopoeia Commission, which has carried through the long and arduous work of preparation, is a body consisting of ten members under the chairmanship of Prof. J. A. Gunn. Three of the members, including Prof. Gunn, were on the Commission which prepared the B.P. 1932, and the secretary, Dr. C. H. Hampshire, has

acted in that capacity for both issues. The task has been more laborious and exacting than has attended any previous issue, not excepting even the first, but the Commission has been assisted by many experts and counsellors, including a clinical committee of over twenty members, and eight other committees, some of them with several subcommittees. In a preface to the work the Pharmacopoeia Committee of the G.M.C., which has undertaken a general supervision, pays a high tribute to the Commission for its unsparing efforts to bring the publication up to the utmost possible level of completeness and accuracy.

The task of those engaged in compiling the *Pharmacopoeia* is continuous. The ink is hardly dry upon one publication before the work on the next is begun. The publication therefore cannot be, and never aspires to be, up to date. The vast amount of experiment in devising suitable formulae and assessing the value of new preparations forbids. The use of pharmaceutical products by the medical profession is subject to constant change. It is not only ephemeral preparations which have their day and cease to be, but drugs of high reputation and dependability have their periods of popularity and decline. New drugs make their appearance and are for a time acclaimed, and then experience shows that they do not quite fulfil expectations, and they recede into the background or are superseded by some preparation for which similar or greater claims are made. The enterprise of pharmacists, the experiments of laboratory workers, the eagerness of clinicians present a situation which, excellent as it is from the point of view of medical and pharmaceutical progress, offers obvious difficulties to the compilers of an official and authoritative publication who have to look, not to the immediate summer, but to five or ten years ahead. It may well happen that when a new *Pharmacopoeia* is published some preparation may be on the crest of its wave of usefulness and finds no mention at all, while another which has been virtually discarded may be the subject of the usual monographs.

The changes introduced into the new *Pharmacopoeia* are not so many as might be expected in view of the great progress which has taken place in the laboratories, but it must be remembered that the comparison is not with the 1932 issue but with that issue together with, and as modified by, the several Addenda subsequently brought out, the last of which appeared in 1945. Ever since a Colonial and Indian Addendum was issued at the beginning of this century an endeavour has been made to ensure that the *Pharmacopoeia* shall be suitable for the whole of the British Commonwealth; but only preparations in general use throughout the Empire are included, not the various substances which have had but a local favour.

It would be an interesting exercise to take all the seven *Pharmacopoeias* and trace through them the enlarging history of modern pharmacy. Probably the most impressive thing which would appear as the result of such a review would be the large accessions of knowledge which have widened the boundaries of pharmaceutical science and the ever-increasing precision of testing and analysis. One has only to reflect upon the extensions in therapeutics which have followed the introduction of hormones, vaccines, sera, vitamins. In this latest *Pharmacopoeia*, for example, it has been necessary to enter upon an entire reassessment of

the value of the drugs which have appeared as a result of the developments in chemotherapy. With all this the definitions have continually become more exact and the tests more stringent; new instruments and methods have been introduced; and the standards by which a substance can be regarded as having an adequate therapeutic value have been raised. Some years ago the *Fédération Internationale Pharmaceutique* laid down a formidable list of subjects which should have a place in the studies of the pharmaceutical student. It included analytical and biological, physiological and pathological chemistry, chemical and galenical pharmacy, pharmacognosy, micrography, toxicology, microbiology, crystallography, and disinfection, and that did not exhaust the list, which ran on into general hygiene and public health legislation. Then from time to time, as new and authoritative *Pharmacopoeias* come forward, the pharmacist must readjust his knowledge and his practice, finding as he does that the composition and character of the drugs and galenicals to which he has been accustomed are affected by the requirements of the new issue which replace those of the old.

A complaint has been made against recent issues of the *Pharmacopoeia*—a complaint which may possibly be levelled against the new one—that they have been constructed not so much for the retail pharmacist as for the large manufacturing laboratory, since it is only the latter which has the resources to perform all the tests set out in 200 recondite pages of the appendix in the new issue. But that, of course, does not apply to the large numbers of injections, solutions, pills, ointments, and other articles and preparations which are the subject of a very large proportion of the monographs, and which are not beyond the capacity of any retail pharmacy properly equipped. One of the striking features of this new compilation is the introduction of as many as fifty-seven new injections; the current *B.P.* includes only half a dozen. In the earlier edition also there was only one tablet preparation (glyceryl trinitrate); in the 1948 edition eighteen tablet preparations are included. Another change is the elimination of all the fresh infusions, the prescription of which has continued to decline, and in the new issue the principle of preparing infusions from concentrated preparations is fully recognized.

One rises from a preliminary study of the new compilation with an increased respect—perhaps an increased sympathy—for the pharmacist, the practitioner's loyal and painstaking ally, and a renewed appreciation of the skill and care which invariably go to the testing of drugs and the dispensing of prescriptions.

CONGENITAL MEGACOLON

Into the colon from above there comes a constant flow of intestinal contents. If there is not a corresponding evacuation from below, these contents accumulate and the bowel must enlarge to contain them. Accumulation of faeces in a grossly dilated bowel occurs in two quite distinct conditions. In the first, seen typically in neglected children or those with congenital malformations of the anus, the bowel over the struggle and loses the reflex to empty itself which should be produced by distension. The resulting mass of faeces may be enormous, and semi-fluid matter is forced past it to produce a distressing overflow diarrhoea.

The treatment, however, is simple and (given co-operation by those in charge of the child) satisfactory. In the second variety, on the contrary, the bowel is not indolent but makes violent efforts to evacuate its contents, efforts which are thwarted in some way or other which is far from being fully understood. The result is the picture described by Hirschsprung, with huge waves of visible peristalsis, vast discharges of gas and faeces at varying intervals, and a gross hypertrophy of the muscular wall of the bowel suggestively similar to that seen in the stomach behind a hypertrophic stenosis of the pylorus. This group can itself be subdivided into two distinct clinical types. In the first the stasis, though obstinate and distressing, is neither very dangerous nor intractable. It responds to a careful regimen, to excision of loops of bowel, to sympathectomy, and for some mysterious reason to the high spinal anaesthesia of which Prof. E. D. Telford and Mr. H. A. Haxton give such an encouraging account elsewhere in this issue. In the other type, however, all these methods of treatment fail. Affected children are pitiable creatures, grossly deformed by an enormous belly, passing from crisis to crisis of obstruction till a final one results in death. There must be some essential difference between the two categories, and a thorough comparison of x-ray and clinical observations should help to solve the problem. The work of Munro Cameron upon the absence of ganglia in low segments of the bowel in certain cases may provide a clue to the answer.

SEDIMENT IN THE STOMACH

An intricate study of the cytology of the gastric juice has recently been undertaken by Tomenius.¹ Early in his investigation he found that the sediment of resting juice obtained in the usual way was valueless for cytological study. Cells which reached the gastric juice, either by active diapedesis through the mucosa or by desquamation from the surface epithelium, were rapidly altered by the hydrochloric acid. Further damage was caused by the swallowed saliva or by regurgitation of the duodenal contents. As a result stained preparations consisted largely of amorphous material in which the remnants of cells could be identified with difficulty.

It was found that digestion of the cells by hydrochloric acid could be prevented by the administration of an isotonic solution of sodium bicarbonate by the continuous-drip process. To give this solution and to aspirate the saliva and prevent duodenal regurgitation Tomenius devised a stomach tube the lumen of which was divided into two. This tube reached only to the lower end of the oesophagus, and while saliva could be aspirated through one half isotonic sodium bicarbonate solution could be instilled through the other. In addition each division of the main tube contained a smaller tube. The first was a stomach tube for the recovery of the gastric contents, and the second extended to the duodenum so that continuous suction could be maintained and regurgitation prevented.

After preliminary investigation of the cells found in the saliva and the duodenal contents stained smears made from the material aspirated from the stomachs of normal individuals were studied. In these it was found that the sediment was scanty and cellular elements in it rare. Material was also obtained from 48 patients suffering from various complaints, including peptic ulceration, gastritis, carcinoma ventriculi, pernicious anaemia, and leukaemia. Normal smears were seen in cases of gastritis with achlorhydria,

¹ Tomenius, J. H., *Acta med. scand.*, Suppl., 1947, 189.

² Papanicolaou, G. N., *J. Amer. med. Ass.*, 1946, 131, 372.

gastric and duodenal ulcers without gastritis, and carcinoma of the cardia or pylorus. Abnormal sediment was obtained from patients with gastritis where acid secretion was present, and with advanced carcinomas of the body of the stomach even when associated with achlorhydria. In all these cases leucocytes were greatly increased, and in the smears obtained from the patients with cancer many red cells were present. No neoplastic cells were seen, which is in contrast to the work of Papanicolaou.²

The investigation carried out by Tomenius is a model for its thoroughness and shows up the errors which are likely to occur when gastric sediment is obtained by less careful methods. The lessons to be learnt from it are, however, few. Gastritis is now diagnosed more frequently abroad than in this country, but much more experience with this painstaking procedure is required before the finding of an abnormal gastric sediment can be accepted as evidence of the existence of the condition.

THE TOXICITY OF AGENIZED FLOUR

The latest work in this country on agene-treated flour was described in an annotation recently in these columns.¹ Keen interest in the subject has also been shown in the U.S.A., where Sir Edward Mellanby's observation that agenized flour caused hysteria in dogs supplied the necessary clue to workers who had already suspected that certain processed wheat products were a frequent cause of this abnormality. In two extensive investigations they have now fully confirmed Mellanby's conclusions, and have made progress in a study on the effect of agenized flour upon other animals and upon the human subject.

At Chicago a team headed by Silver² gave dogs a diet which was adequate in proteins, vitamins, and other nutrients, but which contained 70% of the heavily agenized white flour. Neurological disorders developed within a week, with symptoms which varied in each animal but which usually included ataxia, weakness, and typical epileptiform fits. When electroencephalographs were recorded daily a cerebral dysrhythmia indistinguishable from that of human epilepsy appeared within 48-72 hours after the start of the agenized diet. Monkeys developed asynergy, weakness, and tremors, sometimes accompanied by cerebral dysrhythmia. In cats ataxia was the most prominent feature. An abnormal accumulation of reddish pigment, presumably a porphyrin, appeared around the head, eyes, and nose of rats fed on agenized whole-wheat flour. As observed in this country, the toxic agent was found to be formed from the protein of the wheat, particularly from the gliadin fraction, while casein and lactalbumin also became toxic when treated with agene. Intravenous infusions of mixtures of synthetic amino-acids which had been so treated caused seizures in dogs, but the only individual acids with this effect were cysteine and cystine. In the previous annotation reference was made to the work of Moran³ in this country, who has also suggested that the toxic agent may be formed by the action of agene on amino-acids containing sulphur.

Elvehjem and his colleagues⁴ at Madison have shown that unbleached wheat, irrespective of variety, does not cause hysteria in dogs. When agenized flour was included as 84% of the diet the times which elapsed before the appearance of hysteria varied according to the concentration of agene which had been used. Thus when 1 cwt. of flour was treated with 1 g. of agene fits occurred after 13-39

days, whereas with 20 g. of agene fits were observed after only 2-5 days. On the other hand when flour treated with 1.2 g. of agene per cwt., which is about the level used commercially, was given to dogs as 30% of their food, which represents about the proportion of flour in the average human diet in the U.S.A., they remained free from hysteria over a period of 12 weeks. In studies of the blood of affected animals no biochemical abnormalities could be detected. In agreement with previous findings improving agents other than agene (NCl_3) did not cause flour to become toxic. Agenized flour was found to retain its toxic properties even after storage for several months. Investigation of the various fractions of agenized flour gave support to the view that the toxic agent is in the gliadin fraction, and not in the carbohydrate or lipid fractions. No ill effects were observed when agenized flour was fed to rats, guinea-pigs, or chicks; cats had convulsive seizures, while monkeys developed abnormal electro-encephalographic patterns without obvious hysteria. In preliminary experiments on 5 human subjects, aged 6-15 years, wheat products treated with 3-20 g. of agene per cwt. were given in amounts of 70-105 g. daily for 2-4 weeks, but no electroencephalographic abnormalities or symptoms resembling hysteria were observed.

Official recognition of the danger of agene as an improver for flour may be implied from the publication of a letter from F. G. Boudreau, Chairman of the Food and Nutrition Board of the U.S.A. National Research Council, to Dr. P. B. Dunbar, Commissioner of Food and Drugs. Recommendations are made that research on the nature of the toxic agent and its effects should be intensified, that plans for industrial plant using chlorine and chlorine dioxide, or other "improvers," should be prepared, while in the meantime the use of agene should be reduced to the minimum necessary for the type of flour which has to be treated. More rigid restrictions are not at present contemplated, since it is considered that a too drastic interference with familiar baking practices might well aggravate the present food crisis.

ERYTHROBLASTOSIS AND KERNICTERUS

The problem of erythroblastosis foetalis continues to become more complex. The theory of Rh sensitivity as first outlined by Levine⁵ has suffered so many modifications at the hands of the serologists that the facts of the matter have become dim owing to a mushroom growth of literature and a confused nomenclature. In the case of kernicterus, for example, it is now accepted that this encephalopathy results from incompatibility between an Rh-negative mother and an Rh-positive baby, with the consequent production of anti-Rh factors which pass from mother to foetus. Apart from the immediate risk to life, permanent damage to the central nervous system, causing spasticity, athetosis, or mental defect, is a frequent result of kernicterus, which is recognized morphologically by the staining of the basal nuclei of the brain with bile pigment, with a consequent degeneration of nerve cells.

A recent paper by Wiener and Brody⁶ seems to show that the matter is not quite so straightforward as most clinicians had hoped. Aware of apparent discrepancies, they have investigated kernicterus from both the laboratory and clinical standpoint, and in so doing have arrived at a new conception of the disease. They conclude that the clinical manifestations of erythroblastosis depend upon the quality as well as the quantity of abnormal bodies in the maternal

¹ British Medical Journal, 1948, 1, 330.

² J. Amer. med. Ass., 1947, 135, 757.

³ Nature, Lond., 1948, 161, 126.

⁴ J. Amer. med. Ass., 1947, 135, 760.

⁵ Amer. J. Obstet. Gynec., 1941, 42, 525.

⁶ Amer. J. ment. Def., 1946, 51, 1.

⁷ J. Pediatr., 1946, 29, 462.

serum; and that erythroblastosis foetalis comprises three rather than one major disease syndrome, depending on the type of antibody. These subdivisions are termed icterus gravis neonatorum, congenital haemolytic disease, and icterus praecox—the first two being of major importance. Icterus gravis neonatorum is thought to be due to bivalent antibodies (agglutinins) present in the maternal serum. Because of their size they are normally unable to pass through the placenta, but are “milked” into the foetal circulation by the uterine contractions at birth. The infant is normal at birth but develops jaundice and toxæmia shortly afterwards. In vessels where the circulation is sluggish agglutination takes place and thrombi form—the nature of the signs depending on the location of the latter. The liver is almost invariably affected. Erythroblastæmia is due to thrombi in the bone marrow, not necessarily accompanied by anaemia, and kernicterus is the outcome of a blockage of vessels in the brain. When similar symptoms occasionally occur as a result of univalent antibodies it may be because the infant is dehydrated, with consequent premature formation of X-protein and co-glutination. Other cases may rarely occur as a result of AB or Hr sensitization. Transfusion is useless in this group.

The second group—congenital haemolytic disease—is, Wiener and Brody state, caused by univalent Rh antibodies which because of their smallness pass into the foetal circulation during pregnancy and produce “coating” and rapid breakdown of the foetal red cells, thus causing a progressive anaemia and, in severe cases, stillbirth and hydrops foetalis. In this group the foetal antibody titre more closely approximates to that of the mother, and the severity of the disease corresponds to the height of the maternal titre. Kernicterus is not a common sequel, and, if they recover, the infants usually develop normally. Transfusion with Rh-negative blood of a suitable group is the best treatment.

In the third group—icterus praecox—maternal *alpha* or *beta* antibodies act as lethal agents on the red cells of infants with an incompatible blood group, a pathological extension of what has often been termed the “physiological” icterus of the newborn. Typical cases develop a greater or less degree of jaundice in a few days and clear up spontaneously.

In effect Wiener and Brody distinguish between bivalent and univalent antibodies produced as a result of sensitization of an Rh-negative mother by an Rh-positive foetus. They consider that the bivalent antibodies may as a result of thrombosis cause jaundice, erythroblastæmia without anaemia, and kernicterus, though in any one case all three conditions may not be present. The univalent antibody on the other hand causes haemolysis of the foetal red cells, jaundice, and anaemia, and in this group alone is transfusion of any value. From the practical standpoint they claim that by differentiating these two types of rhesus antibody in the mother the chances of kernicterus occurring in any given case can be foreseen even before birth.

This new theory receives striking confirmation from the work of V. C. Vaughan,¹ who studied erythroblastosis foetalis and the incidence of kernicterus in 72 infants. He confirmed the fact that cases of kernicterus tended not to develop gross anaemia and that indeed anaemia was sometimes conspicuous by its absence. While refusing to commit himself regarding the actual pathology and the serological mechanism of the condition, he agrees with Wiener and Brody that transfusion with Rh-negative blood is useless for this type of erythroblastosis, and is even inclined to advocate the trial of Rh-positive transfusion as a “challenge” for antibody transferred to the foetus during

Clearly no final conclusion has been reached, but these findings are important, and they serve as another example of the need for backing laboratory hypotheses by clinical observations.

PROTEIN DEPLETION AND RESISTANCE TO INFECTION

Does an inadequate diet adversely affect the capacity to respond to artificial immunization? This question is of topical importance, and in answer to it recent observations of Wissler² are of interest. He compared the response of groups of rabbits on a normal diet to two intravenous injections of a pneumococcal vaccine with that of groups kept for a long period on a diet containing one-seventh to one-fourteenth the amount of protein. Type I pneumococcus was chosen because rabbits are highly susceptible to this organism but can normally be readily immunized against it. The resistance of the animals to the intradermal injection of an infecting dose of pneumococci was tested six days after the last dose of vaccine.

The rabbits on the low-protein, low-calorie diet were lighter than the controls, lost hair and fat, and sometimes had ascites and hydrothorax; they were anaemic and had low serum-protein levels, due to deficiency of the albumin fraction; the total leucocyte count was unchanged, but there was some increase of granulocytes and decrease of lymphocytes. The average agglutinin response of groups of young and adult rabbits on the defective diet was much lower than in the normal group. In the former groups only 1 out of 13 adults and 2 out of 14 young animals survived the challenging dose, as compared with 6 out of 10 and 17 out of 19 in the corresponding control groups. The survival times of non-immunized rabbits of the various groups did not differ significantly. There was excellent correlation between a certain level of agglutinins and survival. The protein-depleted animals had only a small rise in the granulocyte count and a steep fall in serum-protein concentration during infection. In the rabbits with low resistance the skin lesion was spreading and oedematous, and, in contrast to the findings in adequately immunized animals, scanty interstitial agglutination and phagocytosis of the pneumococci were observed in it.

Similar results were obtained in a series of experiments with rats in which the infecting dose was adjusted according to body weight. When the quantity of food eaten was equalized in the low-protein and control groups the agglutinin response in the two did not differ, but the relative survival rates were similar to those obtained with rabbits. Unlike rabbits, rats possess some degree of natural resistance to pneumococcal infection, which was largely lost during protein-depletion. Mouse-protection studies failed to reveal any circulating antibody to explain this resistance, the loss of which could be counteracted by passive immunization sufficient to raise the agglutinin titre to the level usually obtained by active immunization of rats on the control diet. As with rabbits, the degree of natural and acquired resistance was related to the effectiveness of phagocytosis.

Under the conditions of these experiments it was much more difficult to produce resistance to infection by artificial immunization in animals kept on a grossly protein-deficient diet than in normal animals. This ineffective resistance was associated with a poorer humoral antibody response and probably with an impaired production of leucocytes following infection.

NATIONAL HEALTH SERVICE ACT, 1946

POSITION OF CONSULTANTS AND SPECIALISTS*

OPINION BY COUNSEL

I have been asked to advise as to the position of consultants and specialists (hereafter called specialists) under the National Health Service Act, taking into account the questions submitted to the Minister by the B.M.A. and the replies of the Minister thereto.

The duty rests upon the Minister to provide the services of specialists at a hospital, health centre or clinic, or, if necessary on medical grounds, at the home of the patient. (Under Section 3.) The position of specialists under the Act is uncertain and in my view unsatisfactory, inasmuch as their rights and obligations are largely left to be determined by Regulations to be made by the Minister. (Sections 68 and 14.) No Regulations dealing with provision of specialist services under the Act have yet been made, and until such Regulations are made and published it is not possible to form any opinion whether specialists will be offered fair and equitable treatment under the Act.

I suggest that a request should be made to the Minister to consult the London Consultants Liaison Committee before he makes any Regulations as to specialist services under the Act.

1. Specialists Holding Appointments at Hospitals Immediately Before the Appointed Day

There is a marked distinction between the provisions of the Act as to general medical practitioners who wish to provide general medical services under the Act and specialists who hold an appointment at a hospital on the appointed day and who wish to provide specialist services under the Act.

Every medical practitioner who is engaged in medical practice (otherwise than as a paid assistant) is entitled under the Act, as of right, to have his name included in the list of medical practitioners undertaking to provide general medical services in his area if he makes an application at any time before the appointed day. (Section 34, Subsection 1.) There is no provision in the Act giving a similar right to a specialist holding an appointment at a hospital on the appointed day.

It is enacted by Section 68 that Regulations shall provide for the transfer and compensation of certain officers therein specified. Until, therefore, the Regulations are made, the position of specialists holding appointments at hospitals and particularly of honorary specialists is uncertain.

I interpret Section 68 (1) as meaning that, under the Regulations when made, all specialists (except possibly honorary officers) holding appointments, whether part-time or whole-time, at a transferred hospital immediately before the appointed day will be transferred in the case of a non-teaching hospital to the Regional Hospital Board, and in the case of a teaching hospital to the Board of Governors. I am not quite sure, however, whether the words "employed solely or mainly at or for the purposes of a hospital" are intended to cover a part-time appointment.

There is no provision in the Act which guarantees to specialists (whether whole-time or part-time) that, on transfer, they will be employed on terms and conditions and in circumstances not less advantageous than were applicable to their existing appointment at the date of the transfer.

There is no provision in the Act which would prevent the Regional Hospital Board or the Board of Governors from terminating the appointment of a specialist, after transfer, on short notice, or from compelling such specialist to relinquish his appointment by reason of his being required to perform duties which were not analogous with or which were an unreasonable addition to those which he was required to perform immediately before he was transferred.

There is no provision in the Act entitling the specialist (except some in whole-time employment) whose appointment is so terminated or relinquished to compensation for loss.

*Issued by the subcommittee of the London Consultants Liaison Committee: Lord Horder (Chairman); Sir Reginald Watson-Jones; Dr. Geoffrey Bourne; Mr. A. Lawrence Abel; Mr. Eric Steeler (Secretary).

The answer of the Minister to Question 6 shows that he contemplates that on the appointed day the existing staffs of hospitals will be taken over by the Regional Hospital Boards or the Boards of Teaching Hospitals. It is not quite clear from the answer whether "staffs" includes part-time specialists or honorary specialists. It is clear, however, from the answer that the Regional Hospital Board and the Board of Governors of Teaching Hospitals will be expected by the Minister to review the services of their regions and to offer new appointments to their staffs either in their existing or in other hospitals.

On transfer, therefore, a specialist will merely hold a temporary appointment until he is offered a new appointment at the same or another hospital on such terms and conditions as the Board determine (subject to any Regulation made by the Minister).

In my opinion neither the provisions of the Act nor the answer of the Minister can be regarded as satisfactory or as affording such reasonable protection as specialists now holding appointments at hospitals can fairly claim.

I advise that every effort should be made to obtain in the Amending Act provisions similar to Sections 58, 59, and 60 of the Health Services Bill (Northern Ireland).

"Section 58. (1) All officers employed immediately before the appointed day solely or mainly at or for the purposes of any hospital transferred to the Authority under Section 23 of this Act shall on that day become by virtue of this section officers of the Authority.

"Provided that the foregoing provisions of this section shall not apply to:

(a) any person who has attained the age of 65 years on the day immediately preceding the appointed day;

(b) any person who elects in the prescribed manner that they shall not apply to him.

(c) honorary officers.

"(2) An officer of any hospital who by virtue of the foregoing provisions of this section, becomes an officer of the Authority shall be employed by the Authority on terms and conditions (including conditions as to superannuation benefits) and in circumstances not less advantageous than were applicable to his employment with that hospital:

(a) on the twenty-first day of March, 1946, or

(b) where such officer was not employed by the hospital on that date, on the day on which he entered that employment.

"(3) Where, in any case to which paragraph (a) of the last preceding subsection applies, the terms and conditions applicable to the employment become, after the date specified in the said paragraph, more advantageous to the officer by reason of any increase of salary or other additional benefit, the Ministry may, if it thinks fit, direct that the right to that increase or benefit shall be included among the terms and conditions on which the officer is employed by the Authority; and where such a direction is given with respect to any officer the provisions of the last preceding subsection shall in relation to that officer have effect subject to the said direction."

"Section 60, Subsection (2). Subject to the provisions of this section, every officer employed by the Authority or the Board:

(a) who became such an officer by virtue of the provisions of Section 58 of this Act; and

(b) who within five years of becoming such an officer:

(i) relinquishes office by reason of his having been required to perform duties which are not analogous with or which are an unreasonable addition to those which he was required to perform immediately before he became such an officer;

(ii) from any cause other than misconduct or incapacity or his having attained the age of 65 years is removed from or required to relinquish office;

shall be deemed, unless the contrary is shown, to have suffered a direct pecuniary loss in consequence of this Act, and shall be entitled to compensation under this Act for that loss. Compensation under this subsection shall be payable by the body by whom the officer was employed as part of the expenses of the Authority or the Board as the case may be."

I also advise a definition of the words "officers employed." (Section 68 of the Act.)

SPECIALISTS HOLDING "HONORARY" APPOINTMENTS IMMEDIATELY BEFORE THE APPOINTED DAY

As I have pointed out, the Regulations as to transfer which will be made by the Minister under Section 68 may contain exceptions and conditions in the case of honorary officers.

I gather, however, from the Minister's answer to Question 6 (though it is not quite clear) that specialists holding honorary appointments will be transferred to and become officers of the Regional Hospital Board if they consent to such transfer.

It appears from such an answer that they will then be offered a new appointment at their existing or other hospitals which (the new appointment) they will be free to accept or refuse. I apprehend that the terms and conditions of service will be similar to those applicable to a paid appointment except as to the emoluments.

It might, for example, happen that a specialist holding an appointment at Bristol be offered an appointment at Truro because of redundancy at Bristol. If, however, the new appointment were refused, it appears that the specialist would not be allowed to retain his existing appointment, and he might not be offered any alternative appointment.

In my opinion the safeguards which I have suggested with regard to whole- or part-time paid specialists should also apply to existing honorary specialists.

Another question which requires consideration is the possibility that in the course of time Regional Hospital Boards or Boards of Governors might tend to appoint more whole-time specialists and fewer part-time specialists until the majority or possibly the whole of such appointments were whole-time.

I cannot find anything in the Act which would preclude the Boards from adopting this course if they were or became minded to do so.

On the other hand, the Minister in several of his answers states that he anticipates that consultant and specialist appointments at hospitals should in most cases be part-time. He also states that if any Regulations are made under Section 66 he will exclude from them any provision of universal whole-time specialist services.

I advise that the specialists should ensure that the Amending Act implements the Minister's promise that hospital appointments for specialist staff will usually be part-time, so that the specialist service cannot become a whole-time service by Regulation.

COMPENSATION

The only persons who are entitled under the Act to be paid compensation are the persons specified in Section 68 (e) and 68 (1) (f). One of the essential qualifications is whole-time employment.

The right to compensation, however, is not conferred by an express clause in the Act itself, but will be governed by Regulations which are to be made by the Minister and which may contain exceptions or conditions. (Section 68.)

Moreover, the Act is silent as to the method of making a claim, the person or body by whom the claim is to be determined, the procedure for determining a claim, and to the right of appeal on fact or on law. Presumably the Minister proposes to provide for all these matters by Regulation.

I advise that the right to compensation should be conferred expressly by a separate clause in the Amending Act, and that this clause should contain provisions as to the determination of such claims by a Claims Tribunal and regulating the procedure upon the lines of Section 60 and the Sixth Schedule to the Irish Bill.

Inasmuch as the ordinary part-time specialist, honorary or paid, is not entitled to compensation, it is essential that he should be assured of security of tenure of his office with its attendant facilities.

2. Appointment of Specialists to Hospitals

In the event of a vacancy for a specialist at a hospital after the appointed day, the appointment will be made by the Regional Hospital Board in the case of a non-teaching hospital, and by the Board of Governors in the case of a teaching

hospital from persons selected by an Advisory Appointments Committee. (Section 14.)

The Minister, however, has power to determine by Regulation what classes of medical officers shall be appointed. (Section 14.)

The Advisory Appointments Committee will be established under Regulations and will consist (1) in the case of a non-teaching hospital of persons nominated by the Regional Hospital Board and the Hospital Management Committee of the hospital affected, and (2) in the case of a teaching hospital of persons nominated by the Board of Governors and the University with which the hospital is associated.

The representatives of the medical profession will be in a minority upon the Regional Hospital Board and the Hospital Management Committee.

There is therefore no guarantee that, on the occasion of a vacancy at a hospital, any specialists of the class of specialists concerned will be members of the Advisory Appointments Committee. Also there is nothing in the Act that obliges the Appointments Committee to consult the existing staff before making any selection for a new appointment.

I advise that the Act should be amended so as to provide: (a) that in the case of an appointment involving specialist services the Advisory Appointments Committee should include a specialist or specialists nominated by any organization which appears to the Regional Hospital Board or Board of Governors to be representative of the class of specialists concerned; (b) that before making their selection the Advisory Appointments Committee should consider any recommendations made by the specialists then holding appointments at the hospital affected.

3. Legal Rights of a Specialist on Appointment to a Hospital

On appointment to a hospital the specialist becomes an officer of the Regional Hospital Board or of a Board of Governors. His remuneration and conditions of service will be fixed by the appropriate Board, subject to Regulations made by the Minister. Presumably the specialist will be required to enter into a contract with the Board laid down by the Minister. The specialist's rights will depend on and be defined by that contract.

I advise that the Minister should be asked to state the terms of the contract, and in particular its duration, the rights of the Board to terminate it, and the grounds upon which the same may be terminated.

I advise that following the present practice the engagement should be until the attainment of an agreed age, terminated only for misconduct or incapacity.

I advise that the Minister should be asked to provide in an Amending Act that the specialist should have the right to appeal to a Tribunal comparable to that under Section 42, with an ultimate right of appeal to the High Court.

I have considered the latter half of the Minister's reply to Question 6, but in my view it does not provide adequate protection. Of course, if there is a breach of contract the specialist would have his remedy at law. If, however, the contract provides that it may be terminated by the Board by notice of a specified length, the Board could lawfully terminate the contract at the expiration of such notice without assigning any reason. Neither the Medical Committee nor a Whitley organization could, in my view, provide an adequate remedy against a capricious determination of the contract by the Board.

SPECIALISTS PROVIDING SPECIALIST SERVICES AT A LOCAL HEALTH CENTRE, CLINIC, OR AT THE HOME OF A PATIENT (SECTION 21, SUBSECTION 2)

It is not clear whether the "staff" whom a local health authority are required to provide at a Health Centre for specialist services will be employed by the local health authority or by the Regional Hospital Board or Board of Governors. Moreover the Act does not clearly indicate the person or body by whom a specialist will be employed for the purpose of providing specialist services at a clinic or at the home of the patient. Possibly the intention of the Minister is that all such specialists shall be employed by the Board of a hospital, but it is desirable that the position should be made clear.

4. Preservation of Existing Pay-beds in Hospitals

There is no obligation under the Act upon the Minister to preserve existing pay-beds in hospitals. Under Section 5 he may do so if, having regard to his duty to provide hospital and specialist services, he is satisfied it is reasonable. The Minister may allow any medical practitioner whether honorary or paid on the staff of a hospital providing hospital and specialist services to treat his private patients at that hospital or at any such other hospital and may make available such special accommodation. In this event the patient pays the cost of the special accommodation and the fees to the specialist not exceeding the maximum fee prescribed by Regulations.

In his answer to Question 2 the Minister says that private pay-bed accommodation is promised under the scheme and expressly provided for in the Act, and that it is to be assumed that at the outset of the scheme it will lie where it is at present, but the Minister cannot tie himself to an exact future distribution now. The Minister adds that the continuance of part-time specialists at hospitals accords with the intention of the scheme and there will therefore be facilities for them.

The existence of private pay-beds at hospitals is of fundamental importance to specialists, and I advise that a clause should be inserted in the Amending Act similar to Section 29 (2) (f) and 29 (2) (g) of the Irish Bill ensuring the preservation of such accommodation where it exists.

It is possible that after the appointed day the hospital accommodation will be found to be inadequate to meet the demand for non-paying beds and it is in my view likely that, notwithstanding the intentions of the Minister and of the scheme, the existing pay-beds may be utilized to meet the demand for non-paying beds. The Minister could shelter himself under the opening words of Section 5 if he found himself constrained to take this course.

I advise that the Amending Act should include a provision on the lines of Section 21 (4) of the Irish Act so as to make it clear that a hospital is entitled to establish new pay-beds.

5. Retention and/or Establishment of Medical Committees in Transferred Hospitals

Though there is power under Section 12 to appoint Medical Committees in hospitals subject to Regulations and directions given by the Minister, there is no express provision in the Act for the appointment of such Committees. It is clear, however, from the Minister's answer to Question 4 that he entirely agrees with the system of Medical Committees in hospitals and has expressed his view to Regional Hospital Boards and Hospital Management Committees and asked that every encouragement and facility should be given to this system.

Under the Act the medical staff of a teaching hospital has the right to nominate not more than one-fifth of the Board of Governors. No similar right is accorded to the staffs in the case of a non-teaching hospital or group of hospitals to nominate members to the Hospital Management Committee.

The Act merely provides that the Regional Hospital Board shall consult the medical staff and appoint some members of the Hospital Management Committee without being bound to accept their nominees. This might result in there being no representatives of the medical staff on the Hospital Management Committee.

I advise that the medical staffs of non-teaching hospitals should be accorded the same rights of nomination as have the medical staffs of teaching hospitals.

6. Acquisition of Land (Section 58)

The power of the Minister and of a local authority to acquire land compulsorily includes the power to acquire a hospital or clinic or nursing-home carried on for profit.

I advise that Section 58, Subsections (1) and (2), should be amended so as to exclude a "hospital" carried on for profit as is contained in the Irish Bill. (Section 67 (1).)

7. Freedom of Speech and Publication

By his answer to Question 5 the Minister states that the assurances already given cover complete freedom to publish views on the organization and administration of the Service as

well as on clinical matters without obtaining any prior consent to do so. I understand that the Minister has declared his intention to incorporate a clause to this effect into the contracts of medical practitioners who undertake to provide any services under the Act. This is an important matter upon which the profession as a whole should come to a decision.

If the assurance of the Minister is implemented by a suitable provision in the contract of each medical practitioner (whether providing specialist or general medical services) he will for all practical purposes be as well protected as if there was a clause in the Act.

The prejudice which a medical practitioner would be most likely to suffer as a result of his public criticism of the Service would be that his contract might be terminated by the body which employs him. If the contract contains an appropriate clause (as promised by the Minister) public criticism of the Service could not be construed as misconduct which would entitle the employing body to dismiss summarily the medical practitioner. It is possible that the employing body might as a result of such criticism seek to terminate the contract of a medical practitioner without disclosing the real grounds for terminating the contract. This, however, might happen whether there is a clause in the Act or not.

I have already made some suggestions for the protection of specialists against a capricious determination of their contracts. The profession must decide whether they are prepared to rely upon the repeated assurances of the Minister on this question, knowing that there is no provision to this effect in the Act or in the Regulations published up to date.

Regulations (Section 75)

One of the most unsatisfactory features of the Act is that many of the important matters arising under it are not enacted in the body of the Act, but are left to be governed by Regulations. The Minister has very wide powers to make Regulations, and is not under any statutory obligation to consult the medical profession before he makes such Regulations.

I have already pointed out that the rights and obligations of specialists will be almost exclusively determined by or in accordance with Regulations.

I have considered the Minister's answer to Question 7. It is quite true that Regulations have certain advantages where flexibility is required. On the other hand they might equally be used to reduce as well as to increase the capitation fee of general medical practitioners or the emoluments of specialists, or to impose upon them more onerous duties or unfavourable conditions of service. Moreover, as Regulations may be modified or repealed by the Minister, where the existing rights of individuals are affected by the Act, they enjoy greater protection if the Act contains specific clauses defining those rights. I have already indicated some instances.

As to the Minister's power to make Regulations, I think that possibly the College of Physicians had in mind Section 1 of the Rules Publication Act, 1893. The application of this section to Regulations made under this Act is expressly excluded. (Section 73 (5).)

Under Section 1 of the Rules Publication Act, 1893, a Minister is required (*inter alia*) to give forty days' notice in the *London Gazette* of his intention to make Regulations. Any public body may inspect the draft Regulations and the Minister is required to consider the written representation of any public body interested before he makes the Regulations.

I advise that the Minister should be approached with a view to securing an amendment which provides that Section 1 of the Rules Publication Act, 1893 (or a suitable modification thereof), should apply to Regulations made by the Minister in future.

The Royal Colleges and the B.M.A. should be included in the definition of "public body" so as to enable them to inspect the draft Rules and to have the right of making representations.

Under the present procedure in Parliament, Regulations are seldom debated or submitted to detailed examination by the House unless the Special Committee recommends that the special attention of Members should be drawn to them.

Under this Act the power of the Minister is so wide and the area over which the power extends is so large that it is difficult to imagine any Regulation which could go beyond the scope of the Act.

SPECIALISTS AND THE NEW SERVICE

LONDON MEETING

A meeting of consultants and specialists of London and the Home Counties, summoned by the Marylebone Division of the British Medical Association, was held in the Great Hall, Tavistock Square, on April 22. The purpose was to consider the present position in view of the recent conversations with the Minister. There was an attendance of over 200. Mr. A. M. A. Moore presided.

The Recent Conversations

Lord Horder, who was one of the deputation to Mr. Bevan on April 12, said that it was a very friendly interview up to a certain point. The Minister was extremely conciliatory, obviously anxious that doctors should enter the Service, but his answers to a number of the questions (which Lord Horder thought not too well chosen) were evasive, and at the end it did not appear that the main position had changed materially. Certain small points were conceded, but always when it came to fundamentals—that is to say, the terrifically powerful position the Minister maintained in respect of a comprehensive service—the answer was in the negative. He himself would have liked more attention paid to the last question of all put to the Minister—namely, whether he agreed that the appointment of members of the profession to administrative and other bodies should be in consultation and agreement with representative bodies of the profession. The answer was that the Minister was ready to consult, but constitutionally the decision was his. At the conclusion of the questions the Minister asked Dr. Dain whether he would now be prepared to advise the profession to enter the Service. Dr. Dain wisely declined the invitation to give an immediate answer, and said that this was a sum in arithmetic and that he must take time to add it all up. The dictator then made himself obvious, and suggested that the blame for delay must be laid at the door of the B.M.A. and not at his own.

Since then there had been an "extraordinary hustle" over the second plebiscite. It was rather beating the air to discuss anything that evening except the position of specialists (a generic word for both specialists and consultants). General practitioners would make up their own minds in the plebiscite now being taken, but there remained a definite interest for the specialist apart altogether from the general practitioner. In his own view the general practitioner's freedom had not been safeguarded; he was being outwitted by political manœuvring. But as for the specialist, his position was as yet wholly undefined. The Act gave the Minister power to set up a specialist service in or out of hospital, but the terms of contract were not known. Therefore, although they would vote in the plebiscite—he would vote in the same way as he had done before, the position being in his judgment not virtually changed—he thought they had also to look at their own house and see if it was in order.

It was highly desirable (Lord Horder continued) that as soon as possible specialists should have a policy either to do something or to refrain from doing something until their knowledge of where they stood was more complete. He suggested that they should say to the Minister, "You have so far laid down no conditions of service in or out of hospital." He himself would stand very strongly for the availability of the specialist for domiciliary purposes if the doctor in charge of the case wanted help. But in or out of hospital the position was still entirely indefinite.

Lord Horder went on to refer to the setting up of the London Consultants Liaison Committee, whose first task it had been to discover where, legally, specialists stood under the Act. The opinion of Mr. Cecil Havers, K.C., had been sought, and copies of this opinion, fresh from the printer, had been distributed among those attending the meeting. Lord Horder urged that no contract be signed and no payment accepted until there was an agreed policy between a representative body of specialists and the Minister. (Applause.)

Mr. Naughton Morgan said that the overwhelming vote against the Act as shown in the last plebiscite was not a vote against the details of the Act were too complicated and

abstruse for most of them to follow—but it was a vote of conscience against what had been done. He drew attention to one statement by Mr. Cecil Havers in the opinion just mentioned:

The position of specialists under the Act is uncertain and, in my view, unsatisfactory, inasmuch as their rights and obligations are largely left to be determined by Regulations to be made by the Minister.

Until Regulations dealing with the provision of specialist services were made and published it was not possible to form any opinion whether specialists would be offered fair and equitable treatment under the Act.

Dr. E. C. Warner regretted that they had conceded the position with regard to the administration of voluntary hospitals. A scheme might have been worked out on a very different basis. Why should not the large hospitals have been placed in a similar position with regard to grants to that which obtained in the medical schools? They might have been given a State grant and allowed to administer it in their own way without hordes of officials being appointed to see how it was spent. The scheme of the University Grants Committee might have been applied in a larger sense. The Service came into operation in ten weeks' time, and yet specialists had not been given one word of help as to the nature of the scheme under which they had to work. Many things had to be clarified. Was it going to be possible for a consultant outside the Service to use hospital beds at all even in the private wards? Another point was that, on transfer, as Mr. Havers said, a specialist would merely hold a temporary appointment until he was offered a new one at the same or another hospital on such terms and conditions as the Regional Hospital Board determined. The Minister seemed to have adopted a more conciliatory attitude towards general practitioners than towards specialists. The speaker was anxious that they should not sell their birthright and the interests of their patients for a scheme over which they had no control whatever. Until they knew what the conditions of service were going to be, he did not feel that he could vote in the present plebiscite differently from the way in which he voted in the last.

Legal Opinion

Mr. Lawrence Abel reminded the meeting that, very largely due to the efforts of their chairman, Mr. A. M. A. Moore, a democratic scheme for the representation of all consultants and specialists had been brought forward and approved by the Council of the British Medical Association. He then gave a review of Mr. Cecil Havers's opinion which the London Liaison Committee had obtained. One point made by Mr. Havers was that every effort should be made to obtain in the Amending Act provisions similar to certain sections of the Northern Ireland Act, whereby every consultant, like every general practitioner, had the right to enter the Service if he wished. Mr. Havers also advised that specialists should ensure that the Amending Act implemented the Minister's promise that hospital appointments for specialist staff would usually be part-time, so that the specialist service could not become a whole-time service by regulation. Again, inasmuch as the ordinary part-time consultant (honorary or paid) was not entitled to compensation, Mr. Havers advised that it was essential he should be assured of security of tenure of his office with existing facilities. As to the legal rights of a specialist on appointment to a hospital, Mr. Havers advised that the Minister be asked to state the terms of the contract, and in particular its duration, the rights of the Board to terminate it, and the grounds upon which it might be terminated; that, following the present practice, the engagement should be until the attainment of an agreed age, terminable only for misconduct or incapacity, and that the Minister should be asked to provide in the Amending Act that the specialist should have the right to a tribunal comparable to that under Section 42 of the Act, with an ultimate right of appeal to the High Court. A clause should be inserted, as in the Irish Act, ensuring the preservation of private pay-bed accommodation where it existed, and a provision to make it clear that a hospital was entitled to establish new pay-beds. Mr. Havers was also of opinion that the medical staffs of non-teaching hospitals should be accorded the same rights of nomination to the Board of Governors as the staffs of teaching

hospitals possessed. There were several other points in this very useful opinion, many thousands of copies of which were being distributed.

A Change of View

Sir Reginald Watson-Jones said that since they last met in that hall an event had happened upon which it was difficult to speak but impossible to be silent. His meditations had led him to a certain conclusion. For two years he had persisted relentlessly and without faltering in his opposition to the National Health Service Act, which, he had believed, threatened the freedom of medicine. At a dinner over which he presided, when Mr. Attlee and Mr. Bevan were guests, he had declared: "I will not be a Civil Servant." During those two years he had spoken at meetings of the Council of the Royal College of Surgeons, sometimes in a majority, sometimes in a minority, once at least in a minority of one. Finally he had been and still was a trustee of the Independence Fund. With that background, if the conclusion at which he had arrived was that they should now accept service under the new Act, he trusted it would be accepted that he was no quivering, or one afraid of being in a minority, or one who, before he spoke, considered his personal advantage.

What was it for which they had been fighting, and how far had they succeeded? They had been fighting for the freedom of medicine, professional freedom, freedom from bureaucratic control, freedom to speak and publish and criticize, freedom for the pioneer, freedom for private practice alongside nationalized service. How far in the promise of an Amending Act had they succeeded? They had succeeded in that there would now be medical committees for every hospital: the medical committees of teaching hospitals would nominate their own representatives on governing boards, and although it was different with the non-teaching hospitals he believed that their representatives would be appointed too. They had succeeded in the matter of freedom of speech and publication, relating to administrative as well as clinical matters. They had the promise of an Amending Act to ensure that a whole-time State salaried service would not be brought in by Regulation. Their freedom was no longer threatened.

On what points had they failed? They had failed in securing the exclusion of the power of compulsory purchase of hospitals and nursing-homes carried on for profit. He would have liked to see a provision such as had been introduced in the Irish Bill making such acquisition impossible, but he could not agree with those who said that this compulsory acquisition would be a way of destroying private practice. Such destruction would not come about by acquiring the building but by acquiring the surgeon. They had failed in another matter. Staff appointments would be made not by medical but by appointments committees: but was that an important principle, or was it one on which they might have two views? They had failed to secure a firm promise of security of tenure of a surgeon in his present post. But he wondered whether that was an object which they could expect to achieve.

He submitted that the points on which they had succeeded were points of principle, and the points on which they had failed were points of detail. Two months ago when the consultants and specialists held a meeting in that hall they were considering fundamentals. Fundamental principles had been challenged, and the plebiscite, with its 94% "No" vote, was the answer. They were now considering debatable details.

"We have won a most resounding victory. From the lack of enthusiasm here to-night I begin to wonder whether that is true. But the most important point is that we have demonstrated that the profession when united can alter the decision of a Minister and a Government. I agree with what Mr. David Eccles, M.P., says in *The Times* this morning: 'The doctors have learned the secret of this power [the power of a united profession] and if they use it wisely and do not throw it away by splitting on unpopular issues they can stand up to this Minister and any of his successors.'

"Our duty now is twofold—first, to say that we acknowledge the concessions which have been made and accept the assurances, and secondly, and no less important, to watch every Regulation that is issued and to see in fact that these promises are implemented."

The speaker quoted a passage from Edmund Burke, and added: "We have achieved a victory which has determined our liberty; let us now achieve the order without which that victory means nothing."

Stipulations before Agreement

Dr. Geoffrey Evans said that it was a pyrrhic victory which had been won. He recalled that in 1929, when he was honorary secretary of the London Voluntary Hospitals Committee, pains were taken to secure for voluntary hospitals an equal status with municipal hospitals, and after conversations with Mr. Neville Chamberlain, then Minister of Health, a clause was inserted in the Local Government Act, 1929, that if there were extensions of beds in municipal hospitals they should be made in consultation with voluntary hospitals and vice versa, so that the hospital service of London might go forward in a co-ordinated manner. But when the Act was passed it was found that the clauses inserted had a legal interpretation which was not what the Minister nor they themselves had intended. They must suppose that the Minister of Health had good intentions, but he thought it ominous that eleven weeks before the Service was due to begin specialists were in ignorance as to their position. He felt that they should withhold service until what they required was in writing, and that in writing they should secure the position set out by Mr. Havers with regard to specialists holding honorary appointments immediately before the appointed day, the preservation of existing pay-beds in hospitals, the rights of nomination by medical staffs of non-teaching as of teaching hospitals, and freedom of speech and publication.

Mr. Dickson Wright said he was unable to see that the Minister had offered them anything of real value in these new conversations. It was not possible for the Minister to give the assurances asked of him. There were already a large number of whole-time people in the Service, and there was nothing to prevent a Minister increasing the whole-timers to the detriment of the part-timers, until perhaps he had ninety-nine of the former to one of the other, when he could still say that he had not gone back on his word. The voluntary hospitals could well have carried on. It was not fair to say that they had failed. The truth was that the Government had ruined them by Regulations and finance and undermined their subscription income. He did not think medical committees of the slightest value if they did not elect members of the staff: they merely became grouching bodies.

Dr. Geoffrey Bourns said he respected everything about Sir Reginald Watson-Jones except his credulity. No politician could go further than the first few steps of his career unless he learned how to change with the wind. Supposing the Service came into operation, people would soon be asking: "Where are the specialists whom we are told we could call in? Where are the health centres?" There would not be enough specialists to go round, and by Regulation the Minister would say to many of the part-time people: "Your contracts will be terminated in a month's time," and at the end of that month these "displaced persons" would be offered new whole-time jobs in other hospitals. The "spreading" was socialist policy, but a time would come when the spreading would prove too thin.

Mr. N. Ross Smith declared that their own safeguard was to have the principles they had fought for incorporated in the Act itself. He believed Lord Horder was right in suggesting that this move of the Minister was nothing more than a piece of political tactics. Sir Stanford Cade, while complimenting Sir Reginald Watson-Jones on his courage, said that in his belief this great "victory" was wholly a mockery. None of them were fighting for the potential pay that the Spens Committee might vote, but for their professional freedom, which he did not believe could be preserved under the existing Act without amendments to meet all the points brought forward by Lord Horder and others. If it was possible for the House of Commons in 24 hours to postpone the death penalty for five years, surely this Service could be postponed for a little beyond July 5.

Dr. G. J. Sophian said that what Mr. Bevan wanted was that they should surrender their arms whereby they defended themselves against his machinations. Mr. Jennings Marshall supported the view that they should decline to have anything to do with this Act until their own position was clearly stated. Mr. Lyle Cameron said that the previous day he had met someone just returned from Italy who had told him that the

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resistance which the British doctors were putting up against regimentation was a point made by the winning side in the Italian elections.

Sir Reginald Watson-Jones, in reply to a question whether he would abide by the decision of the majority of the profession, said that he had been and still was a trustee of the Independence Fund, and if the majority of the profession did not enter the Service of course he would abide by that majority. (Applause.) His earlier observations were not the result of "credulity" but were based on an estimate of how best to make tactical use of their strength.

Lord Horder moved the following resolution:

That this meeting advises specialists not to enter into any contract under the National Health Service Acts until conditions of service have been agreed with the Minister.

This was carried by 196 votes to 1; there were 9 abstentions.

ACCIDENTAL SYPHILIS

BY

R. R. WILLCOX, M.B., B.S.

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"The first step, in order that we should understand syphilis, is to recognize that it is by no means necessarily a venereal disease."—Sir Jonathan Hutchinson.

Syphilitic chancres are genital in 95% of cases, and the majority of the other 5% arise in or around the mouth, many of these lesions being acquired through predominantly sexual acts. Not more than 50 examples of non-sexual accidental infection were found in over 35,000 syphilitic patients examined (Moore, 1944). The effect of such modern statistics and of the observed behaviour of the organism outside the body is that towels, bedding, cooking utensils, drinking-vessels, pipes, and the like are now far less often blamed for spreading the disease: in this connexion glass-blowing was once considered a dangerous occupation. It is realized that for the spirochaete to remain viable for transmission the presence of moisture is necessary. In 1878 Lane wrote: "I believe, also, the use of public water-closets at railway stations, hotels, and clubs may be a not very infrequent cause." Since that time this convenient conception of the lavatory seat has fallen into almost complete disrepute, and any such excuse offered by the patient is, perhaps not openly, derided by the clinician; yet there would seem to be no reason why transfer of moist matter should not occasionally occur by this means. It is, however, universally agreed that sexual-intercourse is by far the most frequent cause and that kissing, albeit innocent, takes second place.

An example of infection by kissing was seen in the Army. A youth contracted a lip chancre on Christmas Day, when he was on sentry duty at the periphery of a remote camp in Scotland, and subsequently passed the disease in a similar manner to his fiancée. Schamberg reported oral transmission to seven young girls from one man in a kissing game (Stokes *et al.*, 1944), and there is no doubt that the larger the number of secondary syphilis the greater the danger of such infections, but with modern methods of diagnosis and treatment this danger is becoming minimized.

Chancres have been reported on almost every part of the body: digital chancres in dental surgeons, gynaecologists, midwives, and oto-rhino-laryngologists, and conjunctival varieties, are examples. Lane mentioned the case of an unhappy surgeon who had the misfortune to contract a digital chancre from an obstetrical case and was later forced to pay heavy damages for passing on the disease during another confinement. Recently I saw a primary lesion in the left axilla, and though no explanation could be found as to its presence the patient showed no suspicion.

Extragenital infection was once much more common, and if we think that syphilis and yaws are caused by the same organism, and that the former has developed from the latter,

is correct, then it must be admitted that syphilis was originally entirely extragenital, being spread by contact and possibly even by flies. Intermediate forms, in which infection still occurs predominantly by this means, exist to-day as bejel, pinta, and "irkinja"—Australian boomerang leg (Hudson, 1946).

Such intermediate forms have been reported as outbreaks in North-Western Europe. In 1694 a disease called "sibbens" raged in the West of Scotland, and blame for this was placed on Cromwell's army. It was spread not only by coition but also by contact—kissing and suckling, and through drinking-vessels and utensils. Oral lesions were as prominent as genital manifestations, but it must be borne in mind that a woman with a primary sore on the cervix might show the first obvious symptoms in the mouth. Children were also affected, many possibly by suckling. "Radesyge," "the foul disease" of Norway and Scandinavia of the eighteenth century, the spread of which was aided by the fuel-saving custom of "bundling," was believed to have been of a similar nature, as were "Amboyna pimple" of the Moluccas and "Schlerlievo" of the Adriatic coast during the nineteenth century.

In those times mercury was the only effective means of treatment, and this was often delayed until the appearance of secondary signs, so that a diagnosis of "confirmed lues" could be made. This delay, the less-advanced views concerning the advisability of bathing, and the practice of allowing wet-nurses to assist in the suckling of children were the predisposing causes of spread of the infection. In 1752, at Nerac in France, some 40 women and children, in addition to numerous male consorts, were infected as a result of transmission by wet-nurses after one had contracted a nipple chancre from a congenital syphilitic infant.

Syphilis has been inoculated deliberately "by the physician on numerous occasions. Hunter's unfortunate experiment in 1767 is perhaps the most famous; but that of Bell, who in 1792 published an account of his failure to transfer syphilis to three medical students smeared subreptitiously with gonococcal pus and his subsequent success with two students when syphilitic matter was applied, deserves fuller mention. Wallace, in 1835, infected five healthy persons with matter from a secondary syphilitic, and thus proved that this stage of the disease was indeed infectious—a fact which Hunter and Ricord, as a result of more cautious lukewarm experiments confined to those already infected, had previously erroneously denied. Similar experiments also proved the infectivity of blood, and the prophylactic action of mercury was vividly demonstrated by the human experiments of Metchnikoff.

Apart from these calculated performances, the medical profession has been responsible for its fair share of the spread of extragenital infections. Cupping, as part of the ritual of celebration of St. Luke's Day, accounted for 180 cases at Brno, in Moravia, in 1578; though cynics will suggest some other feature of the celebrations as the most likely cause. In Hunter's time cases arose after transplanting teeth—a practice then in vogue. If the transfer was made too soon, or from a living person, a chancre occasionally developed after an appropriate interval in the socket of the recipient.

Vaccination was another great source of infection, and by employing the arm-to-arm technique the presence of an infectious syphilitic infant early in the chain might have serious results. Lancereaux (1868) referred to 351 persons known to have been inoculated with tainted serum; of these 258 contracted the disease. In 1870 Hutchinson published a series in which 10 out of 12 children were affected, and two years later a further series showing 15 possible infections out of 26. In one series of 46 most of the children, with their mothers—not to mention the fathers—became afflicted, and there were 19 deaths among the children. To-day this kind of tragedy is almost unknown, and the possibility is scarcely taught to the rising generation of medical students, though the textbooks used by our fathers contained tables of differential diagnoses concerning vaccinal syphilis. I have seen a primary yaw develop in a vaccination site, but it is to be hoped that the two infections were not acquired simultaneously.

Eustachian catheterization was another cause, and at a meeting in Paris in 1861 13 cases due to this procedure were reported. In more recent times blood transfusion has occasionally been a means of transmission, even during the incubation period of

the disease (Moore, 1944). Tattooing also has produced an occasional case. Hutchinson (1905) published a startling photograph of three chancres developing in the forearm over a tattoo mark of the Crucifixion. The Jewish rite of circumcision has also produced oral lesions in the rabbi, and the spitting of disinfectants has caused the reverse at a precocious age in the subject. Murrell and Gray (1947) described five cases of acquired syphilis in children at Edinburgh and those of two adults who contracted extragenital lesions as a result of fondling a congenital syphilitic infant. One child, prone to sucking things, was said to have found a condom in the park—a mode of infection also cited by Stokes.

The rather flimsy excuse for writing this article has been the recent experience of a lip chancre in a young woman obtained from her fiancé, who apparently had also obtained the infection by innocent means, though this is by no means completely proved.

The woman, a virgin aged 25, had had a chancre on the upper lip for nearly four months before she was referred for treatment, by which time she showed well-marked secondary signs of rash, adenitis, condylomata about the anus, and mucous patches on the vulva and lower lip. *Treponema pallidum* was recovered from the condylomata, and the serology was strongly positive. She denied any history of intercourse, though she had recently warmly welcomed her fiancé after his return from the Far East. He gave a history of intercourse in Java just over twelve months before, but two months later a serological test gave negative results. He was now well and no signs were detected. The serology both Wassermann and Kahn, proved strongly positive, and detailed questioning revealed that ten months previously he had struck a man in the teeth with his fist and had broken the skin. This wound went septic, and though dressed at hospital with frequent antiseptics it refused to heal for six weeks, the turning-point being the application of penicillin cream in the fourth week. A well-marked cicatrix on the knuckle of the right hand was shown in evidence, and the epirochlear gland on that side was just palpable. I had previously seen and her patient from the same area who had been infected by a bite on his chest from a native.

These examples are cited to show: (1) that non-sexual transmission is no great rarity; (2) that there is no reason for not giving the benefit of the doubt to persons with a positive serology who deny all history of previous genital disease or of sexual intercourse; and (3) that the possibility of extragenital infection—yes, even the water-closet seat—should be accepted at least in women and not conceded as a favour with the tongue in the cheek.

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were chosen, so far as possible, to provide a random sample from selected areas. Visits were also made to a few selected pharmacies giving a comprehensive service of the highest class, and to pricing bureaux. No inquiries were made into dispensing done under contract with doctors, dispensing done for institutions such as hospitals and infirmaries, and "counter prescribing." The four pharmacists in the Working Party were divided into two teams, each team containing one representative of England and Wales, and one of Scotland. A trial tour was made initially in Devon and Cornwall. A questionnaire was also sent to certain pharmacies not visited.

Formularies and Standardization

The Working Party points out that it is generally claimed that there is less use of formularies in Scotland than in England and Wales, and broadly speaking it substantiates this claim so far as mixtures are concerned. It found that of the National Health Insurance prescriptions for mixtures dispensed during July, 1947, 83.1% in England were based on national and B.P.C. formularies against only 3.5% in Scotland. In Scotland medical men are more inclined to use repeatedly what are virtually their own formulae, and there were 18.9% of such repeated prescriptions. Non-identical mixtures comprised 16.9% in England and 77.6% in Scotland. The corresponding figures for privately prescribed non-identical mixtures were 53.4% in England and 91.7% in Scotland. There was in fact a much less frequent use of formularies in the case of private prescribing, and a corresponding increase in non-identical formulae, than in the case of N.H.I. prescribing.

In the case of ointments, creams, and pastes those prescribed according to formulary were 93% in England, 95.8% in Wales, and 71.2% in Scotland; these according to non-identical formulae, 7% in England, 4.2% in Wales, and 17.9% in Scotland. In addition, 10.9% in Scotland were prescribed according to doctors' own formulae. The report points out that, as opposed to the practice in regard to mixtures, most formulary ointments are bought from wholesale houses in the form in which they are dispensed. There is no appreciable divergence of practice where tablets are concerned, for they also are bought wholesale. These three groups of medicaments comprise about 65% of the total prescriptions. Proprietary preparations account for another 5%, and the remaining 30% consists of miscellaneous articles such as glandular preparations, liniments, appliances, and so on.

Ingredients and Prescriptions

It was found that in Scotland the number of doses per mixture is, on the average, higher than in England and the volume of the mixture smaller. In England ten- or eight-ounce bottles, containing tablespoon doses, are most commonly prescribed, whereas in Scotland the standard is a six-ounce bottle containing dessertspoon doses. There is no evidence that there are more ingredients in a Scottish than in an English prescription; indeed the figures indicate that on an average there are fewer ingredients in a Scottish prescription for both mixtures and ointments.

Stock mixtures are more popular in England than in Wales or Scotland, the average number kept in the English pharmacies visited being 13.6, in the Welsh 2.3, and in the Scottish 2.6. Two mixtures almost universally kept in stock were compound acid mixture of bismuth with pepsin, B.P.C., and compound bismuth mixture with pepsin, B.P.C. Practically all stock mixtures used in England, apart from these two, are compounded on the premises by the pharmacist or his staff. Concentrated mixtures bought from wholesale houses are rarely used.

The Working Party, commenting on this difference of opinion about the desirability of using stock mixtures, points out that the Scottish attitude is that each prescription should be regarded as a thing apart, since it is prescribed for a particular patient. This involves more work and may lessen the monetary reward. The English pharmacist, on the other hand, would probably argue that there must be small errors in dispensing the individual prescription and that these are greatly reduced by dispensing from a stock mixture. He might add that he uses up the stock mixture in a day or two so that it does not become stale. He therefore saves his own and his customer's time.

REPORT ON DISPENSING

In 1947 the Minister of Health and the Secretary of State for Scotland set up a Working Party "to investigate the differences in the work of pharmacists in England and Scotland in the dispensing and supplying of medicines and appliances, with particular reference to the position likely to arise under the National Health Service." The Working Party also included Wales in its survey. Its composition was as follows: W. Penman, F.I.A. (Chairman); D. A. Bryan, M.P.S.; G. H. M. Graham, M.P.S.; A. A. Meldrum, M.P.S.; and J. Shields, M.P.S. Associated with it was a steering committee, of which Mr. Penman was the chairman, composed of officials of the Ministry of Health and of the Department of Health for Scotland, the Secretary of the National Pharmaceutical Union, and a representative of the Pharmaceutical Standing Committee (Scotland).

The Chairman decided how many and which pharmacies should be visited. The number selected was 300, of which 215 were in England, 25 in Wales, and 60 in Scotland. They

* The report will be published by H.M.S.O.

Quality of Pharmacies

The Working Party classified the 300 small pharmacies into "poor," "satisfactory," and "good." Only one or two of the "poor" could be described as "bad." The "good" were establishments "not necessarily large, but of a definitely high class."

In England there were 2.3% poor, 90.7% satisfactory, 7% good; in Wales 8.3% poor, 83.4% satisfactory, 8.3% good; in Scotland 5% poor, 78.3% satisfactory, 16.7% good. The report shows that the standard is high and that the Working Party held the unanimous opinion that no exception could be taken to the system in either England and Wales or Scotland, and adds that it would be a mistake to compel either section of opinion to work on the lines of the other.

Doctors and Pharmacists

In England about 80% of the doctors do their own dispensing for private patients, whereas in Scotland only about 12% do so. The Working Party comments that under the National Health Service Scottish pharmacists will not have any appreciable increase in the total volume of dispensing because of reduction in private dispensing, while English pharmacists will have considerably more dispensing.

The Working Party next investigated the variation between the three countries in the respective proportions of N.H.I. and private dispensing by pharmacists. It found that in England and Wales combined N.H.I. dispensing amounted to about 77% and private to 23%; in Scotland the figures were 35% and 65%.

Information was obtained on the ability of pharmacies to cope with the increased business likely under the National Health Service. The Working Party concludes that (a) in about 80 to 90% of cases in England and 65 to 75% in Scotland it will be necessary to enlarge the *dispensaries*, but (b) only in about 10 to 15% of cases in England and under 5% in Scotland will it be necessary to enlarge the *premises*. The expense of preparing for the National Health Service will therefore fall more heavily on English than on Scottish pharmacists. Wales is in a worse position than both. The Working Party concludes that in most cases extra staff will be required for the extra dispensing, but they need not consist entirely of qualified or trained dispensers.

Remuneration

The Working Party considers that "certain differences of practice" between the countries are established and likely to continue under the National Health Service. It therefore considered whether these differences justified the continuance of differences in remuneration. It indicates, however, that in general no differences in remuneration exist at present, and it has therefore devised a uniform tariff embodying the following features:

(1) Where the work involved is the same, the fee should be the same. If the work is more onerous or more responsible than other work, the fee should be larger for that work, wherever it is performed.

(2) A suitable uniform definition of what is an ingredient.

(3) A built-up basic price for small quantities of drugs, the same as, or similar in effect to, the present Scottish device.

(4) When a built-up basic price is impossible or unsuitable, a uniform percentage on the wholesale price, but not necessarily the same percentage for every class of dispensing.

(5) Treatment of refund of purchase tax on a uniform basis.

(6) Suitable arrangements for payment for containers.

(7) A uniform but elastic scale of dispensing fees. The dispensing fee should consist of a comparatively small constant or universal fee, to which should be added a further sum depending upon the number of doses in some cases, or the number of ingredients, or a combination of the number of ingredients and doses. In the case of ointments, a quantity factor would have to be introduced.

It concludes that a basic fee could be determined which could be applied to a very wide range of prescriptions, and that this could be adjusted for mixtures, ointments, tablets, capsules, etc. Certain pharmacies provide services such as special analytical work, special analyses, and the supply of surgical instruments and apparatus. The Working Party considers that for the National Health Service pharmacists should be remunerated for these services.

THE SEVENTH BRITISH PHARMACOPOEIA

MANY CHANGES

The General Medical Council is publishing the new *British Pharmacopoeia* with effect from Sept. 1, 1948, when this issue will supersede previous issues for all purposes. This volume of over 900 pages is the seventh of its series. The first "Book containing a list of medicines and compounds," to quote the Medical Act, appeared in 1864. A second was published in 1867, and an Addendum in 1874. The third appeared in 1885, and a further Addendum in 1890. The fourth was issued in 1898, and a Colonial and Indian Addendum in 1900. The fifth was brought out in 1914, and the longest interval—eighteen years—elapsed before the sixth was published in 1932. In 1933 the Pharmacopoeia Commission, which was charged with the preparation of the volume, was reconstituted; an Addendum was published in 1936, and the Commission proceeded to prepare a new *Pharmacopoeia* with a view to its publication in 1942, in accordance with the principle that ten years should be regarded as a reasonable interval between successive issues. It was also expected that the middle of each ten-year period would coincide with the revision of the *American Pharmacopoeia*. The war, however, delayed publication, but between 1940 and 1945 six further Addenda were brought out.

Pharmacopoeia Commission

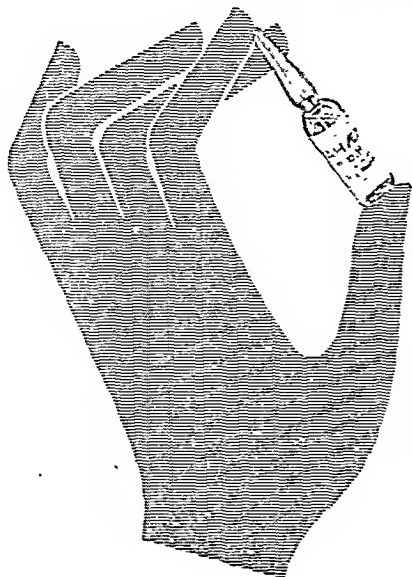
The Pharmacopoeia Commission has had as its chairman Prof. J. A. Gunn, who succeeded the late Dr. A. P. Beddard in 1939. The other members were Mr. R. R. Bennett, Prof. H. Berry, Prof. O. L. V. S. de Wesselow, Prof. D. M. Dunlop, Sir Percival Hartley, Mr. B. F. Howard, Dr. D. Hunter, Prof. W. H. Linnell, and Mr. T. Tickle, with Dr. C. H. Hampshire as secretary. Prof. Gunn, Mr. Bennett, and Mr. Tickle were members of the Commission which prepared the 1932 volume. The Commission was assisted by 12 committees. The Clinical Committee had as its chairman Prof. de Wesselow, and among its members were Sir Ernest Rock Carling, Sir Francis Fraser, Sir A. M. H. Gray, Sir P. H. Manson-Bahr, Prof. J. A. Ryle, Sir C. P. Symonds, and Prof. L. J. Witts. Other committees were concerned with pharmacology, biological products, pharmacy and pharmacognosy, general and pharmaceutical chemistry, also with vitamins, ointment bases, nomenclature, and doses. Acknowledgment is made of valuable assistance and suggestions from medical and pharmaceutical authorities, including the Royal Colleges and Corporations, the Royal Society of Medicine, the British Medical Association, the Pharmaceutical Society, and other bodies in this country and in the Dominions and Colonies.

Newly Included Monographs

The number of monographs in the new *Pharmacopoeia*, each dealing with a separate preparation, is about 800, and there are 24 appendices describing the various tests, determinations, and assays. The number of articles and preparations which have been included in this *Pharmacopoeia* and do not appear in that of 1932 as amended by the Addenda and notices in the Official Gazette is 155. Among these are 57 injections, 18 tablets, 10 vaccines, and 9 sex hormones. The new injections include those of adrenaline, antimony and potassium tartrate, antimony and sodium tartrate, apomorphine hydrochloride, bismuth and sodium tartrate, caffeine and sodium benzoate, dextrose, digoxin, emetine hydrochloride, heparin, morphine and atropine, neoarsphenamine, hydnoctarpus oil, progesterone, sodium bicarbonate, sodium sulphadiazine, sulpharsphenamine, sodium sulphathiazole, and tryparsamide, among others.

Compressed tablets have been dealt with on the same lines as in the Addendum published in 1945. The new tablets include those of acetylsalicylic acid with phenacetin, digitalis, digoxin, ergot, methyltestosterone, methylthiouracil, and thiouracil. The vaccines added include those for acne, cholera, dysentery (Flexner), whooping-cough, and plague, a staphylococcal vaccine, and "vaccinum tuberculinum."

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logical actions similar to those of natural hormones are included. While the purity of most of these can be determined by chemical and physical tests, biological methods are necessary for the assay of others and appropriate methods are described.

Other newly introduced monographs are concerned with benzyl alcohol, brilliant green, calamine, calchicine, dicoumarol, emulsion of liquid paraffin, ergotamine tartrate, dry extract of hamamelidis, heparin, dry lemon peel, neostigmin bromide, picrotoxin, potassium chloride, saccharin, tri- and tetra-chlorethylene, thiouracil, and zinc peroxide. A few suppositories are new to the B.P.—namely, those of cocaine, of bismuth subgallate, of hamamelidis, and of the last-named with zinc oxide.

Since the prescribing of fresh infusions in medical practice has continued to decline, the principle of preparing infusions from concentrated preparations has received full recognition. The monographs in this section include those on infusions of orange peel, senna, clove, calumba, quassia, senega, and one or two others. The arrangement of formulae for ointments and creams has been extended by the inclusion of certain newer cases, the formulae being designed to provide bases of different types.

Penicillin and Its Preparations

The sections relating to penicillin and its preparations comply with the regulations made under the Therapeutic Substances Act, and are in accord with the state of knowledge at the time the *Pharmacopoeia* was completed. Although the existence of different penicillins was known, the International Conference on Penicillin, which was called in 1944 by the Permanent Commission on Biological Standards of the Health Organization of the League of Nations, recorded its opinion that as a temporary measure it was desirable and possible to adopt as an international standard a pure preparation of sodium salt of penicillin II (or G), and to define an international unit in terms thereof. Advances in knowledge continue to be made relating to the different kinds of penicillin, the conditions under which they are produced in culture, their biological properties, and the possibilities of their application in medicine. When reliable and practicable methods for the estimation of different penicillins are devised and reference standards for their assay are adopted by international agreement it may be expected that due recognition will be given to these advances.

Vitamins A, B, C, and D, with appropriate methods for assay, are included. Of the vitamin B complex the constituents aneurin hydrochloride, riboflavin, nicotinic acid, and nicotinamide are described. So far as possible these substances are controlled by chemical and physical tests, but biological assays are described where necessary.

Some new antitoxins and vaccines have been added, as has protamine zinc insulin. The methods of preparing tinctures follow the general principles of the last volume, but no new tinctures are introduced. The description of methods of preparing sterilized materials for parenteral injection has been revised and extended. The sterilization methods described are designed to cover the preparation of such materials on either a large or a small scale.

Deletions and Changes

As many as 145 monographs which appeared in the 1932 B.P., or its Addenda, have been deleted from the new *Pharmacopoeia*. These include in the first place 17 tinctures, among them those of asafetida, concentrated capsicum, cinchona, krameria, concentrated quassia, and quillaiae. The four plasters given in the 1932 edition also disappear—namely, those of belladonna, cantharidin, colophony, and lead. Other deletions are ammonium carbonate (now represented by ammonium bicarbonate), acetone, dilute hydrocyanic acid, dehydrated alcohol, amylocaine hydrochloride, cinchona, copaiba, iron and quinine citrate, glycerin of alum, guaiacol, effervescent sodium sulphate, strophanthin, and trinitrophenol.

The deletions, as has been stated, include all the fresh infusions, also a number of injections—iron, mercury, and sodium morrhuate, among others—and certain of the solutions, such as strong solution of ammonia, solution of arsenious and mercuric iodides, solution of irradiated ergosterol, solution of glyceryl trinitrate, simple solution of iodide, and blistering

liquid. Some oils disappear, including those of Siberian fur and of sandalwood; also pills of aloe and asafetida and of aloe and iron; certain of the syrups—ferrous iodide, ferrous phosphate with quinine and strychnine, and ferrous phosphate with strychnine—and tablets of hexamine and of sulphapyridine, with others. Three sera are deleted—the anti-dysenteric serum (Shiga) and the anti-pneumococcus I and II. Finally some crude drugs appear no more, such as buchu, copaiba, jalap, linseed, and lobelia.

A few changes in name are made. For example, scammony resin becomes resin of ipomoea, and g-strophanthin becomes ouabain. In a few articles and preparations there are certain changes in composition, and in still fewer cases changes in strength. The most important of these last is in the solution of hydrogen peroxide, which is now to contain officially 5 to 7% w/v of H₂O₂, instead of between 2.5 and 3.5% corresponding to about twenty times instead of about ten times its volume of available oxygen.

Tests and Descriptions

The requirements of this *Pharmacopoeia* have been made to correspond, wherever possible, with the provisions of the international agreement made in 1930 for the unification of the pharmacopoeial formulae for potent drugs. It has not, however, been considered advisable as a general principle to adopt the practice of weighing liquids as well as solids. With few exceptions, liquids are measured by volume and not by weight, a practice more convenient both to prescribers and to pharmacists.

The monographs are set out with great clarity and precision. The custom has been continued of giving at the head of each monograph the Latin title. The American example of using English titles has not been adopted. The title is followed by the customary abbreviation and by the English title, this last not necessarily a literal translation. One change may be noted. The statements under the heading of "Characters" in the case of substances of known and definite chemical composition were formerly intended to be "descriptive of such physical and sensory properties of the substance as might be of importance for the medical practitioner and dispenser." In future, however, these statements are to be considered as constituting an integral part of the official standard. One of the General Notices states—

All statements contained in the monographs, with the exception of chemical formulae given at the beginning of the monographs, constitute standards for the official substances. A chemical substance, crude drug, or preparation is not of pharmacopoeial quality unless it complies with all the requirements stated.

The arrangement of the monographs has been improved: graphic chemical formulae are provided, and the tests are set out under appropriate side-headings. In the case of a chemical substance there is first given the permissible but not obligatory method of preparation, followed by the percentage purity, the description, solubility, identification, various physical standards where these apply, the limit tests, and finally the assay. In the monographs describing crude drugs the first paragraph states the biological source, and the description is given where necessary under the headings "macroscopical" and "microscopical."

The doses mentioned in the *Pharmacopoeia* are not authoritatively enjoined as binding upon prescribers. They are intended simply for general guidance, and represent, unless otherwise stated, the average range of quantities which are generally regarded as suitable for adults when administered by mouth. The doses are expressed both in the metric system and in the imperial system, and attention is drawn to the fact that the relation between the metric and the imperial doses of a given preparation as set forth in the test is of only approximate equivalence.

For all processes, chemical or pharmaceutical, the metric system of weights and measures is employed. One alteration is the replacement of the abbreviation "mil." as a short designation for millilitre by the term "ml." Weights are given in milligrammes, contracted throughout to "mg.," or in grammes, contracted to "g.," in tests and formulae and to "G.," in doses.

The work is being published for the General Medical Council by Constable and Co., Ltd., but the price has still to be announced.

Correspondence

Gesture of Peace

SIR.—Mr. Bevan has made a gesture of peace. How are we to respond? At first he spoke rather as a dictator, somewhat offensively and insolently, and rightly we objected, claiming that in the interests of the public we must retain our freedom. Now Mr. Bevan has conceded the major point at issue. He has sacrificed in the national interest the point his party had repeatedly stated to be part of its programme. On our side should we not meet him by conceding minor points of difference that remain and trusting the Parliaments and Governments we elect to deal fairly and reasonably?—I am, etc.,

Bromstead, Surrey

HERBERT CAIGER.

Minimum Requirements

SIR.—We may all welcome the improved atmosphere consequent upon Mr. Bevan's gesture regarding the salary question, but many of us are still perturbed by other points which have not been satisfactorily settled. It is difficult to see how a simple plebiscite could possibly express the detailed views of the profession on those points still at issue. I venture to put my own views, held for some time, and which I feel are minimum requirements to satisfy our difficulties in agreeing to enter the Service.

(1) I have always opposed the insistence on the right of appeal to the courts against dismissal, since such action could be ruinously expensive in time, money, and reputation to the doctor concerned. Far preferable is the right of appeal to the Tribunal envisaged in the Act, provided that such a Tribunal were appointed by the Lord Chancellor and in no way by the employing authority.

(2) The retention of goodwill of practices is not a question of finance but has as its fundamental object the freedom of the profession. Unfortunately this issue has become a matter of emotion rather than good sense and the public and all political parties appear equally opposed to its retention. In view of this I feel that doctors might give up the goodwill of practices provided that the Act were amended to safeguard certain essential freedoms and to facilitate partnership and group practice arrangements.

(a) A doctor must have the right to select at his own discretion a partner, assistant, or locum tenens on terms mutually agreed.

(b) The payment of adequate compensation at the time for that proportion of a practice income transferred to an incoming partner.

(c) The payment of adequate compensation on death, retirement, or removal from one area to another.

(d) The removal from the Act of the power of negative direction, since the closing of certain areas to new entrants would nullify the freedoms envisaged in the foregoing clauses.

The points expressed in this letter could in no way diminish the objectives of the National Health Service Act but if conceded might well achieve the good will of the medical profession. Anything less than a whole-hearted co-operation by the doctors would be a disaster to the Health Service envisaged for the nation.—I am, etc.,

Trenton

R. D. ROWLANDS.

A Bad Service

SIR.—Once again the Presidents of the Royal Colleges, failing to learn from the unhappy results of their previous intervention, have superseded the Negotiating Committee in its dealings with the Minister. They have given to the public the erroneous impression that they are armed with a mandate from the whole profession. The positive result of this is that the Minister has scored the "face-saving" opening for which he has been waiting in order to make a concession to the doctors. He has given way on one principle only among those upon which we have been firm stand. The song and dance which has resulted in this has given points to the negative result of this second stab at the Act. If we continue to decline to work the Service we shall incur a bad press and incur the hostility of our patients.

In point of fact we are very little further advanced towards the achievement of our minimum standard than we were before. This remains a bad service from the point of view of the public. Even if we doctors agree to work it, where are the nurses, the hospital beds, the health centres? From the doctors' standpoint where are the secretaries and receptionists needed to replace our hard-worked wives, who rightly have no intention of acting as unpaid slaves for the Minister? In what way does our remuneration coincide with the recommendations of the Spens Committee? Will the Government pay us rent for the use of our surgery accommodation, having postponed indefinitely the building of the promised health centres? Why should we not retain the ownership of our practices? Take that away and our incentive to keenness and enthusiasm goes with it. These and several other points require a satisfactory answer before we should agree to enter the Service. Meanwhile, let us hope that the Presidents have not damaged our case irreparably with the public. Here, indeed, is an urgent job for the Public Relations Officer.

By all means let us have our service; but let it be one which the country in its present dire straits can afford. Let it be introduced a step at a time until we have the first-class service which we all desire. And meanwhile let our Negotiating Committee stand firm at the line upon which they received the mandate of the profession at the recent plebiscite.—I am, etc.,

East Horsley, Surrey.

BASIL S. GRANT.

Special Procedure

SIR.—From the general practice standpoint I should not be happy to see Regulations "vetted" by a Parliamentary Committee. We as a profession know far more about the N.H.S. Act than 20 Parliamentarians who are, or should be, interested in all the Acts they have framed. In addition to this we can realize at once the effect of a regulation on practice. The I.A.C. or its successor is the best body to "vet" new regulations as they affect general practice. A renewed assurance that regulations affecting general practice should be sent to the Association's Committee within whose terms of reference they naturally fall, and a similar assurance for consultants, would in my view meet the case without any further committees.—I am, etc.,

Solihull, Warwicks.

ARTHUR BEAUCHAMP.

Ownership of Goodwill

SIR.—Mr. Bevan's latest "concessions" are a clever move designed to split the profession. Actually he has given away very little, and there is nothing to prevent his introducing a Bill at any time to make the Service a whole-time salaried one in spite of all his assurances. To my mind, the ownership of our goodwill is the essential thing; if we lose that, we have nothing.

There are those among us who strongly believe that within ten years there will be so many of the public dissatisfied with the National Health Service that a considerable number of doctors will be leaving the Service to do private work only. I feel also that a great many doctors will be sadly disillusioned over their compensation when it comes to be worked out. Some members of our profession who have already had experience of Government contract service know how the doctors' work will be interfered with right, left, and centre by non-medical people.

Let us stick solidly by the B.M.A. no matter what the result of the plebiscite, and have faith in our patients and the public: we can trust them more than the politicians. United we stand, divided we fall. Don't let us ever forget that. There will be much work for the B.M.A. to do during the next few months no matter how the plebiscite goes, and we must have unity if we are to achieve anything of lasting value.—I am, etc.,

Burton-on-Trent.

J. R. SALMOND.

Cat-and-Mouse Game

SIR.—Whatever the outcome of the plebiscite now being conducted, I feel, and I am sure many feel as I do, that the action of the Council of the B.M.A. merits very severe condemnation.

Mr. Bevan had hardly regained his breath after his speech in the House of Commons on the National Health Service when the B.M.A. Council seemed to have developed hysteria and summoned an emergency meeting, and it was not long after that

their chosen spokesmen were waiting, cap in hand as it were, to see what tit-bits they could extract from the Minister. Why the hurry on their part? The Minister knew our terms and he was not prepared to yield and defiantly stated that the Health Service would start on the appointed day whatever our feelings. We as a profession had expressed in no uncertain terms our unwillingness to accept service under the Act as it then stood at the time of the last plebiscite, and the Council of the B.M.A. had undertaken to respect the vote of the profession. It therefore had no authority from the profession to meet the Minister and reopen the subject. By doing so the Council, in my opinion, has committed a serious breach of faith, and furthermore the profession has been held up to ridicule and our case has been weakened.

I am a staunch supporter, Sir, of all the principles for which the B.M.A. has been fighting, but at the same time I can recognize and condemn weakness; and it is not likely that I, or those who feel as I do, will be prepared to part with £100 for the privilege of standing outside the arena to watch this "cat-and-mouse" game. It's got to be all or nothing, and unless we adopt this attitude it is worthless making a mock attempt to fight for principles.

The eyes of the rest of the world are focused on us. Medicine throughout the universe will either sink or swim according to the strength of our efforts in this struggle. We try to pride ourselves on being the "guiding-star" in the field of medicine, but we cannot uphold this reputation unless we make a very determined and unflinching stand in the interests of a profession which throughout the ages has had the confidence of man. If we have not the courage to do this on our own behalf, let us do it on behalf of the man and woman who trust us to protect their lives and interests.—I am, etc.

London, W.1

E. S. FENNEL.

Unsolved Problems

SIR.—Ownership of the Family Doctor's Practice.—The Socialist Party have declared their determination to abolish the right of a doctor to own his practice and are determined to buy him out at great public expense. Their spokesmen have given three reasons for this, two of which are untrue, the third quite irrelevant. (1) "In no other country do doctors buy and sell the goodwill which they have built up in their practice." This is untrue. In many countries, including Belgium and Holland, the introduction to an accumulated practice is by purchase. (2) "Even the Conservative Party would not agree to the retention of the right to sell goodwill." The Conservative Party have never published any policy to this effect. Indeed, in a "property-owning Democracy" doctors should be encouraged to own their own practices. (3) "With doctors remunerated by public funds it would be unthinkable for a practice to be sold." This is quite irrelevant, as the patients would be accumulated as personal patients of the doctor.

What then is the system the Socialists have invented to replace the old pattern of natural supply and demand? It is this: that committee rule will prevail and doctors will be prevented from going into areas which are "over-doctored." This is a fantastic solution, as it cannot rectify the main difficulty which it is supposed to correct—i.e., that a few areas are in fact under-doctored.

Doctors cannot in any case go into adequately doctored areas and make a living without (1) buying a part or whole of a practice, or (2) securing a salary as an assistant, or (3) spending any capital they have at their command in building up a practice. No doctor would buy a practice in an under-doctored area, for there he would "squat" and build one up quickly. And how doctors in the new Service will be appointed to the best or least desirable practices no one knows. In this "paper" service the essential details are quite unworkable and unworkable.

The Doctor's House.—This is another unsolved problem. The outgoing doctor not being allowed to sell his practice, it is highly improbable that the incoming doctor will succeed to the house and surgery, for if he sold his house at the present market value to another doctor at a price deemed to include sale of goodwill he could be fined or imprisoned, or both, under Sect. 34, N.H.S. Act, 1946. Obviously a non-medical purchaser must be found and the house lost to medical practice. Where will

the incoming doctor get a house in these days of acute housing shortage?

Mr. Aneurin Bevan has thought that the doctors' "unease and restlessness" could be banished by some minor adjustment in the payments of basic salary and capitation fee. How little does he grasp the deep objection of the medical profession to being forced either into a State medical service or a whole-time State salaried service. Tradition and experience attach doctors to their patients. It will be increasingly difficult to be loyal to their patients with State interference at every level by daily increasing highly paid bureaucrats.—We are, etc.

London, W.1.

E. T. WRIGHT.
G. H. ROSSDALE.

Events in Czechoslovakia

SIR.—I am sure we all feel saddened and disturbed about the turn of events in Czechoslovakia and their reflection in the boycott by the British of the centenary celebrations of the Charles University, but we do want our friends in that country, especially in Prague, to realize our real sentiments of good will and regard towards them. Possibly the *British Medical Journal* may be a means of communication that can take the place of so many avenues that are closed. Those of us who were to receive honorary degrees or to act as official representatives of universities or other learned bodies were bitterly disappointed to have to deny ourselves the privilege of attending as an act of homage to so ancient a seat of learning. To have done so would have been to condone the new stifling regime with its suppressions and frustrations. There is also another reason which I have not seen mentioned: to have been present and to have warmly recognized our friends would have been natural but might have brought suspicion or official disapproval upon them, while studied neglect on our part as a policy of safety might have been misunderstood and might have offended them deeply. In the dilemma it seemed best from all points of view to stay away, much as it was to be regretted.—I am, etc.

Taplow Bucks.

G. GREY TURNER.

Medical Photography

SIR.—Most workers in the laboratories and other ancillary departments of hospitals would agree that Dr. Ffrangcon Roberts (March 13, p. 485) has not in any way exaggerated the increasing demands on their services, nor minimized the relatively little contribution to the beneficial treatment of the patients which such demands have produced. I have recorded elsewhere (*Brit. J. Radiol.*, 1945, 18, 249) the main abuses of radiology, but apparently only inordinate boasting of his specialty by the expert (which will the more readily bring it into disrepute) can achieve any appreciable effect.

Though, as Dr. Roberts has shown, there has been a general increase in the demands for some years, since the end of the fighting of World War II, and more particularly since the Minister of Health announced his intention of taking over the hospitals, the full-time personnel and the expenditure of the larger hospitals, aided by their priorities, have increased considerably, but nothing to what they would have done had the services, goods, accommodation, and funds been more readily available.

With 42 years' experience in medical photography I do not share Dr. R. G. W. Ollerenshaw's views (March 27, p. 618) on it. "Doing it the hard way," as I could show, we were able to make as good illustrations 40 years ago as we can to-day, and I doubt very much whether the present facilities which permit of easier production will do any more than excite extravagant expenditure of material and time. True, much of the medical photography in the past was done at the expense of the interested clinician—a very useful corrective which I see no excuse in departing from.

Dr. Ollerenshaw admits that "it is quite certain that the demands of teachers for the products of the department are wellnigh overwhelming in spite of expansion," but is not this claim "for teaching purposes" being overdone? Have we not excellent illustrations in the literature of all the more common conditions? The rarities, though most interesting, are infinite, but of little use for teaching purposes. We have the optical facilities for projecting or reproducing any illustrations. He states that improvement in the standard of pictorial and line work submitted to the journals for publication is much needed. But surely in these days of high quality production this is a reflection on the efficiency of the editorial boards.

I find in present case histories, and indeed in the literature, illustrations which are not wanting in quality, but their legends and descriptions sometimes are lacking in accuracy, apparently because the condition illustrated is ill-understood. Included in a large number of cases in a series, illustrations of conditions are recorded which are not of the series, and often it is this erroneously included illustration which is chosen for resemblance by other writers adding to the series. Very few of the multitudinous photographs possessed by those who have shown enthusiasm for medical photography are put to any general use. Good as they are and interesting to the particular observer, he is given little chance of using them, and, as photographs are made to show the features the interested observer wishes, only he may appreciate their value and what they were made to show. It is said that the photograph cannot lie, but those who understand their possibilities, even with the cinema, know that a very false impression can be created, though it was neither designed nor wished.

How many of the teaching cinema films indicate to the student the difficulties of their productions, quite apart from the photography? The film may appear to indicate a skill, dexterity, or result far different from the actual. The very simplicity of a procedure in skilled hands may entice the novice to try his hand. With such education and practice the novice in sculpture would not be allowed to maltreat a piece of marble.

Medical photography results in the accumulation of material which can be of little material value. Like the snapshots of the amateur they become so numerous as time goes on that they fill every available space, and only removal or death secures their destruction. While writing this letter I have received a hospital report which records under this heading: "It is interesting to make comparison with previous years:

1945	..	1,119	negatives	..	..	4,506	prints
1946	..	3,360	"	..	..	6,996	"
1947	..	4,958	"	..	..	10,652	"

What a magnificent increase! For what?—I am, etc.,

Letchworth, Birmingham

JAMES F. BRAILSFORD.

Health of Students

SIR.—Dr. Emily A. C. Wilson (April 10, p. 708) was puzzled by the conclusion in my article (March 13, p. 490) on "The Health of 407 New Students" with regard to previous dental treatment: "It seems probable that financial considerations had prevented some of the students from the poorer social groups from obtaining dental treatment."

It would not be correct to assume, as I think Dr. Wilson does, that students entering a university in October, 1946, had all had free dental inspection and treatment offered them in their secondary schools. In the report of the Chief Medical Officer of the Ministry of Education for the year 1939-45¹ it is stated that "under the Education Act of 1921, relatively little was done to provide dental treatment for secondary school pupils." The Education Act of 1944, which was not implemented until April, 1945, obliges local authorities to provide dental treatment facilities for secondary school children, but owing to the call-up of school dental officers during the war, which in some areas amounted to half the dental staff, there are still secondary schools which have not yet been visited.

Mr. Sidney Pappworth (April 3, p. 663) finds it difficult to believe that 16% of the Sheffield freshmen had postural defects of the spine, yet Parnell² found an incidence of 28% in a group of Oxford students. In asking for controls he perhaps misunderstood the purpose of my survey, which was to describe the health of a group of university students with a view to discovering the health needs of this group. No attempt was made to show that their state of health differed from that of non-students of a similar age, and therefore no control series was necessary.

Dr. L. J. Kelleher (March 27, p. 617) objects to my psychiatric terminology. The term "marked introversion" conveys, I believe, to the ordinary medical reader the type of person meant, and "nervous breakdown" referred to a recent history of this condition, as the text of the article indicates. It would have been better, I think, for a non-psychiatrist to have attempted to translate this expression into an "accepted psychiatric syndrome." The students were not subjected to the Rorschach or other psychiatric tests. As Dr. Kelleher's article (March 13, p. 504) states, special mental tests have been tried in one university in the United Kingdom, but were discontinued as it was found that they failed to justify the additional organization, work, and expense. The placing in charge of a student health scheme certainly is not the province of a psychiatrist in the diagnosis and treatment of mental ill-health, which, as you state,

are not rare. He also needs the help of an orthopaedic surgeon, oto-rhino-laryngologist, dermatologist, and other specialists for the treatment of established illness in students. In the University of Sheffield students' health service we have been fortunate in receiving much valued help of this kind from the consultant staffs of the Royal Sheffield Infirmary and Hospital.

Those who have not themselves had the opportunity of carrying out routine health examinations on unselected population groups are often surprised at the high incidence of defects and disorders reported in surveys of this sort. Morris,³ for example, examined 1,592 workers in a Midlands corporation and found that 7% had a major disorder, and that minor disorders such as "bad teeth, dyspepsia, hernia, chronic bronchitis, defects of hearing and vision, anaemia, varicose veins, and deformed feet were legion." Pearse and Crocker⁴ found that of the members of the Peckham Health Centre only 4% of the women and 14% of the men could be classed as free from disorder. Parnell's findings in examining a group of university students included 33% with myopia, 32% with skin lesions, 15% with ear, nose, and throat conditions, and 13% with minor anxieties. At routine health examinations illnesses such as hypochromic anaemia and pulmonary tuberculosis can be detected at an early and usually curable stage. At the same time deviations from the average, such as symptomless flat foot or transient systolic hypertension, are discovered, the significance of which is not yet fully understood. By following up individuals showing deviations of this sort it should be possible to determine which signs can be regarded as normal variations and which constitute the earliest evidence of disabling illness such as essential hypertension, peptic ulcer, and neurotic or psychotic breakdown. Possibilities in the prevention of the development of these illnesses might then emerge.—I am, etc.,

University of Sheffield.

JOHN PEMBERTON.

REFERENCES

- ¹ *The Health of the School Child*. London: H.M.S.O. 1947.
- ² *Lancet*, 1947, 2, 939.
- ³ *Ibid.*, 1941, 1, 51.
- ⁴ *The Peckham Experiment*. London. 1944.

Disk Lesions and Osteopathy

SIR.—Dr. James Cyriax (April 17, p. 754) has completely missed the point of my letter in reply to Dr. Craig and Mr. Lipmann-Kessel's letter. It was not my intention to draw an analogy between the osteopathic theory and protrusion of an intervertebral disk. Quite the contrary.

In order to make my point clear let me quote more extensively from Dr. Craig and Mr. Lipmann-Kessel's letter. They said, "It is generally accepted that on clinical evidence alone the level of a lumbar spine disk lesion cannot be confidently predicted. It may be that the present conception of sciatic pain as the result of root compression is responsible for this difficulty, and if it were regarded as a deep segmental pain due to joint disturbance this difficulty might be resolved. Over-simplified views of the pain mechanism in this condition are liable to follow a mechanical interpretation of the functions of the central nervous system."

While not denying that gross protrusion of an intervertebral disk accounts for a small proportion of cases of sciatica this broad conception of the probable underlying pathology not only of the majority of cases of sciatica but of many other conditions as well is exactly what has been suggested by the osteopaths for many years now. I repeat, in my opinion there is more truth in the osteopathic conception that has hitherto been admitted by the orthodox medical profession.

Many of Andrew Taylor Still's contentions have and will continue to be modified in the light of progressive knowledge but this in no way detracts from his great contribution to medical progress. Certainly the modern conception of circulation differs considerably from that enunciated by Harvey, but he is nevertheless universally acclaimed the discoverer of the circulation of the blood.—I am, etc.,

London, W.1.

GEORGE MACDONALD.

Intra-abdominal and Intrauterine Pressures

SIR.—In his interesting dissertation on the mechanics of egg laying (March 27, p. 585) Prof. H. A. Harris accepts the calculation by Houghton¹ of the maximum human intrauterine pressure during parturition. This reverend scientist was not, however, always near the mark with his calculations, as is shown by his figure for the maximum intra-abdominal pressure. From

measurements of the thickness of the muscles in the abdominal wall, the curvature of the linea alba, and the absolute muscle force, or maximum force per unit of cross section of the fibres, he arrived at the impressively exact figure of 32.926 lb. per sq. in. (1702 mm. Hg). The figure for the absolute muscle force which he used was 102.55 lb. per sq. in. (7.21 kg. sq. cm.), and this is nearly double my own figure,² which took into consideration many more factors.

Allowing for this discrepancy, however, Haughton's figure for the intra-abdominal pressure would still be many times greater than the systolic blood pressure. If this were actually the case the blood flow in the lower limbs would cease completely during periods of high abdominal tension. But a simple observation that the pulses at the ankles are still present during severe abdominal straining indicates that the intra-abdominal pressure must be less than the systolic pressure. This is confirmed by measurements which I made some years ago by introducing a balloon, connected to a manometer, through the opened sac of an inguinal hernia exposed under local anaesthesia, and then with a swab pressed firmly over the inguinal canal encouraging the patient to strain down with maximum effort. The best two readings in six cases were 75 and 80 mm. of Hg, and there was no doubt that these young men were trying hard. Barcroft and Mullen³ have shown that the tension within a voluntary muscle at maximum effort can be high enough to stop its blood flow, but from the above readings it is apparent that the maximum intra-abdominal pressure is well below the normal systolic level.

It seems likely that this applies also to the maximum intra-uterine pressure, since a pressure greater than systolic levels would cut off the flow of maternal blood through the placenta and would arrest the foetal circulation. The figure of 3.4 lb. per sq. in. arrived at in Haughton's calculations is therefore likely to be well above the actual maximum pressure. His work illustrates well the fallacies which may result from inductive reasoning applied to body functions—the only way to get at the truth is to “try the experiment”—I am, etc.

Manchester

H. A. HAXTON.

REFERENCES

- ¹ Haughton, S. (1873) *Principles of Animal Mechanics*, London.
- ² Haxton, H. A. (1944) *J. Physiol.* 103, 267.
- ³ Barcroft, H., and Mullen, J. L. F. (1939) *Ibid.*, 97, 17.

Prompt Publication

SIR,—I have always had the greatest admiration for the department of the B.M.A. which is responsible for the publication of the specialist quarterly journals, but recently this department has quite excelled itself. In the issue of the *Journal of Neurology, Neurosurgery, and Psychiatry* dated November, 1947, there appears a long and valuable article which was received at the editorial office on Nov. 29, 1947. Such an achievement demands and must receive the warmest congratulations. As the journal cannot be expected merely to rest on its laurels in the future and must like all of us “raise its sights” I suppose that we can confidently look forward to the time when it will be publishing articles some months before they are written.—I am, etc.

London W.1.

SAMSON WRIGHT.

The Problem of Caries

SIR,—Your annotation (April 10, p. 697) on this subject requires some clarification and correction. Does the writer maintain that caries does not, or that it need not, involve decalcification, or merely that it is not purely and simply decalcification? Or does he mean that proteolysis may or does precede decalcification either in enamel or dentine? What conception is it that recent work has shown to be untrue, and what decalcification hypothesis is it that Dr. P. Pincus has “shattered” with his earlier work?

The chemico-parasitic theory was not originally deduced from a “belief,” but from observation of now well-known facts, and it has since been amply confirmed by nearly all the work that has been done on the aetiology and prevention of caries. Frisbie's theory, which you refer to, depends on his observation¹ that some alteration of enamel occurs while its natural surface, and the surface of ground sections, is still “essentially hard in the physical sense.” Examination by means of instru-

ments may or may not reveal a roughened or irregular surface.” This vaguely described observation seems to be his only reason for supposing that no decalcification had occurred. However, Applebaum² has shown that carious enamel becomes radiolucent to Grenz rays before its surface continuity is lost and while it is still hard enough for the preparation of ground sections. This clearly indicates that decalcification has begun at that very early stage.

The earlier paper of Pincus,³ which is cited, does not specifically describe any destruction of the hard part of the enamel but merely some alteration in the surface of teeth which seem from the illustrations to be still covered with Nasmyth's membrane or the remnant of the enamel organ. It is not stated how long the teeth had been erupted or whether they had erupted at all. No sections are described or illustrated, and the author only claims that the appearance suggests that “some of the enamel was disintegrated.” Few would agree with him, unless by “some of the enamel” he means only the organic matter lying on or at the surface of newly erupted or unerupted enamel. He makes no claim to have shattered any hypothesis, and the real value of his work as dental research is, I suggest, that after years of painstaking effort he has not been able to produce anything resembling caries in the absence of acid or acidogenic bacteria. Artificial or *in vitro* caries with acid-forming bacteria has of course been known for many years.

Perhaps the writer of the annotation was misled by the statement of Dr. Pincus, in his discussion of caries, that dentine is 25% organic matter. Enamel, where caries usually begins, has a much lower content—usually reckoned as about 2%. It has long been realized that proteolysis is an essential part of dentine caries, but there is still nothing to suggest that it is essential or important in the caries of enamel.

A glance at any number of the *Journal of Dental Research* will show that the theories of Pincus and Frisbie are not as your annotator suggests widely accepted by research workers in the U.S.A., and his own views go even beyond the unorthodox theories of those two workers. The last paragraph of the annotation is also very puzzling. Why does caries occur at stagnation areas if stagnation areas are caused by caries? Surely it would be better if comment in the *Journal* on Pincus's theory was made from a more orthodox or impartial viewpoint, or at least that such extreme and obscure theories should not be presented as though they were generally accepted?—I am, etc.

London, N.W.6

R. B. D. STOCKER.

REFERENCES

- ¹ *J. dent. Res.*, 1947, 26, 181.
- ² *Dental Cosmos*, 1935, 77, 931.
- ³ *Brit. dent. J.*, 1937, 63, 511.

SIR,—I read with interest and some surprise in the annotation (April 10, p. 697) on this subject that “many dental research workers still refer to dental caries as a process of decalcification”; that “recent work . . . indicates that this conception is far from the truth”; and that “it is on such lines that much of the research work on caries is now being done in the U.S.A.”

I have just returned from a five-and-a-half-months tour of research centres in New York, Ann Arbor, Mich., Rochester, N.Y., Minneapolis, Indianapolis, and others, for the express purpose of discovering the views of the research workers upon dental caries and its prevention. My impression is that the conclusions of the overwhelming majority of these men are diametrically opposed to the views expressed in your annotation, and that notwithstanding much research upon proteolysis.

I quote the findings of that large body of research workers known as the “Michigan Workshop,” whose 25th meeting was held from Sept. 8–13, 1947, as published in the *Journal of the American Dental Association* (1948, 36, 4): “Dental caries is a disease of the calcified tissues of the teeth. It is caused by acid resulting from the action of micro-organisms on carbohydrates, is characterized by a decalcification of the inorganic portions, and is accompanied or followed by a disintegration of the organic substance of the tooth.”

Fosdick, Professor of Chemistry at the North Western University, states in the *New York Journal of Dentistry* (1947, 17, 55), “Recent research in dental caries has primarily emphasized the early position of Miller and Black, in that the condition is an acid decalcification of the inorganic structure of the teeth accompanied or followed by a putrefaction of the organic portions.”

Volker, in the *Journal of the New Jersey State Dental Society* (September, 1947), says, “In conclusion it may be reiterated that our present knowledge of dental caries supports the view that we are

dealing with an environmental process in which three factors, retained fermentable carbohydrates, acidogenic bacteria, and the enamel surface play the leading roles."

It is true that certain writers, notably Prof. Gottlieb, believe that proteolysis is of major importance in the initiation of dental caries, but it is my experience that these men find few sympathizers among the research workers in the U.S.A.

Dr. Pincus's interesting and valuable contribution in your same issue throws further light on the role of proteolysis in the progressive increase of a cavity when once formed. As one interested in the prevention of dental disease, the question as to whether the primary breach in the enamel of the tooth is due to proteolytic or acid-forming organisms is of far more than academic interest.—I am, etc.,

London, S.E.1.

GILBERT J. PARFITT.

Aluminium Pneumoconiosis

SIR.—In the annotation (March 13, p. 506) you have a comment on aluminium pneumoconiosis. This write-up is very interesting. I would like, however, to correct a rather doubtful statement made therein. The article states, "The Canadian investigators think that the disease may be a form of silicosis caused by vaporized silica." Just what your authority for this statement is, is difficult to see. We have always been conscious that, in the presence of so much silica, silica as a possible cause or contributing cause of the condition found in the abrasive workers could not be overlooked. We do not, however, feel that this is modified silicosis. We incline to the opinion that the disease is produced by the extremely heavy exposure to alumina. It is realized that as yet we have not complete evidence that this opinion is correct. Some experimental work is being done which may resolve the problem.

It would be interesting if you canvass the situation in regard to an aluminium plant in Sweden. Dr. Sven Forssman, Professor of Industrial Hygiene, State Institute of Public Health, Tomtebodavägen (near Stockholm), Sweden, showed me two lantern slides from films prepared on men who had been employed in the plant concerned. The lung changes exhibited by these slides were very similar to those found in our abrasive workers.—I am, etc.,

Director of Industrial Health,
Department of Health,
Toronto, Ontario.

A. R. RIDDELL.

Medicine and the Arts

SIR, Prof Geoffrey Jefferson is too sweeping. In the course of a reply (April 10, p. 705) to a scientific correspondent he makes a brief excursion into the arts, and in half-a-dozen lines disposes of Elizabethan prose and the writers of long poems. He writes, "The art of tight and lucid compression of thinking was unknown in Bacon's day." Surely Bacon, on the contrary, was the earliest English exponent of the aphorism, the essence of which is conciseness. In his *Advancement of Learning* he distinguishes two methods of writing, by formal discourse or by aphorism. One method or the other was to be adopted—they could hardly be combined—and therefore he practised both. The difficulty of reconciling comprehensiveness with brevity is an old one.

From prose to poetry, and the professor's faith in Baudelaire's dictum, "Long poems were written by those who had not the talent to compose short ones." This can hardly be dismissed with a smile as an exaggeration, because it is not the exaggeration of a truth. Rather is it a Gallic *bon mot*, not to be taken too literally; perhaps Baudelaire was a better poet than critic. Be that as it may, the English Muse refutes him wherever the pages are turned, even in Lancashire. One example will serve to counter Baudelaire's thrust and display a master's mastery of both forms, the long and the short—that is, a short poem "The Poppy" with its opening stanza,

"Summer set lin to Earth's besom bare,
And left the flush'd print in a poppy there;
Like a vawn of fire from the grass it came,
And the fanning wind puff'd it to flapping flame."

The poet is Francis Thompson, one-time student of the Manchester Medical School (1877-83), who was capable, too, of a master's mastery in his long poem, "The Hound of Heaven"—I am, etc.,

F. G. RALPHS.

Bone Conduction in Otosclerosis

SIR.—It is interesting to note the contradictory opinions expressed by the commentators on my letter printed in the *Journal* of March 20 (p. 569). Mr. R. Scott Stevenson (March 27, p. 618), quoting the work of Tumarkin, refers to "the myth of increased bone conduction" in otosclerosis. Mr. R. R. Woods (April 17, p. 754), while referring to the genuine improvement of bone conduction which occurs in the operated ear (after the fenestration operation), goes on to say that he has never seen the hearing of the unoperated ear altered in any way, either for air or bone conduction; indeed, he says it is inconceivable that an operation on one ear could affect the working of the opposite one. Mr. E. R. Garnett Passe (April 17, p. 754) writes, "It has been known for some time now that improvement to hearing by both air and bone conduction occurs in the unoperated ear in a certain number of cases, but this improvement is never permanent."

The case I referred to illustrated the fact that increase in air and bone conduction can occur in the unoperated ear, and I made no claim whatsoever to a permanent result for this case. In February, 1947, Mr. Passe published in the *Lancet* the results of one hundred fenestration operations done by the Lempert technique since August, 1945. With an equal operative experience to this number over the last two years, and with an operative technique which the results substantiate, I hope I can give equally well what he and Mr. Scott Stevenson call a "careful, sober, and dispassionate estimation of end-results."—I am, etc.,

London, W.1.

W. H. B. MAGAURAN.

Transfusion Reactions

SIR.—Dr. John Wallace and Mr. R. D. Richards in their article (April 3, p. 640) on transfusion reactions describe cases in which venous spasm interfered with infusion of red cells. I have seen a reaction to infusion closely resembling the case described in detail in the article, where venous spasm also seemed to be the cause. Other evidence, however, suggests a different explanation. The recipient was a healthy nurse belonging to Group A. She was given 500 ml. of Group O blood in order to estimate survival of the donor's red cells in a normal person. Venipuncture was performed apparently satisfactorily, and the infusion ran quite freely. Some thirty minutes after the transfusion began the recipient complained of a little aching in the arm, and when nearly 400 ml. had run in the pain became more severe. It was now noticed that there was acute tenderness and swelling localized to the biceps. The infusion, however, was still running quite freely, but was stopped in view of the discomfort.

In estimating the survival of the Group O blood, using the method described by Ashby in 1919, as modified by Dacie and Mollison in 1943, it was found that no increase in the number of inagglutinable cells (Group O cells) had occurred after the transfusion was stopped. From this it was inferred that none of the infused cells had reached the general circulation. Swelling of the biceps was followed by discoloration of the skin of the lower arm and upper forearm. Full recovery of function in the arm and subsidence of the swelling took place in about ten days.

From these observations it seems likely that the blood was infused into the intramuscular spaces in the biceps due to the intravenous needle passing through the vein into the muscle, and that venous spasm was not the true explanation of the reaction.—I am, etc.,

Manchester.

W. K. STEVENSON MOORE.

A Case of White Asphyxia

SIR.—It is still no exaggeration to say that many theatres in the country are not equipped for this emergency and, what is more, there is much scepticism regarding the efficacy of cardiac massage. Various claims have been made as to the period of cardiac arrest from which recovery has taken place, but the average time limit is five minutes. The central nervous system can tolerate total arrest for three minutes ten seconds, and, even then there is some permanent alteration in psychic behaviour.

On Dec. 18, 1944, a man aged 68 underwent partial cystectomy under light spinal "nupercaine" and light general anaesthesia. While the abdominal wound was being closed the anaesthetist reported that the patient had stopped breathing. On examination his was a typical case of white asphyxia. By the time cardiac massage was started through an upper abdominal incision three to four minutes must have elapsed. He was given nikethamide, and artificial respiration was commenced at the same time. Cardiac massage had been carried out for about two minutes when the heart started beating again. Some adrenaline was injected into the heart muscle. The patient was returned to the ward, and by slow drip one pint (568 ml.) of blood was given, along with an intramuscular injection of suprarenal cortex extract. The patient was still in deep coma at 9 p.m. The night nurse reported: "Patient seems to be semi-conscious, but is very dazed." In the morning to my great surprise he was semi-conscious and irrational. He was restless for a few days, and from Jan. 1, 1945, his condition improved. On Jan. 3 he was fully conscious, but on the 4th he again became restless, and was not able to pass urine. Two stitches were removed from the suprapubic wound and a large blood clot taken away. Next day, as he did not improve, the suprapubic wound was reopened under local analgesia and intravenous "pentothal," a blood clot removed, the bladder washed out, and a suprapubic drain put in. Progress was satisfactory until Jan. 12, when the upper abdominal wound burst open, with protrusion of omentum. Under local and regional analgesia the abdominal wall was resutured. Progress was uneventful, and he was discharged fit, passing urine normally. He was sent to see Dr. F. M. R. Walsh and Dr. Parkinson. Both reported no organic changes as a result of the asphyxia. When last seen he was fit and active.

The unusual features of this case are that the patient was able to stand two further surgical manipulations under pentothal and local analgesia so soon after his recovery. Though I have seen further examples of cardiac arrest which have not turned out so favourably I have become a firm believer in this life-saving measure. My own view is that for the measure to be more uniformly successful one must start the massage as promptly as feasible and in perfect confidence.

I wish to thank Mr. Harold Dodd for permission to publish this case.—I am, etc.,

Swames General and Eye Hospital

SUNDRAM PILLAI.

POINTS FROM LETTERS

Prickly Heat

Colonel T. C. RUSSELL ARCHER, late R.A.M.C., writes: Correspondence on the treatment of prickly heat has prompted me to forward the undermentioned formula for my colleagues in tropical practice: Salicylic acid, 3 parts; perchloride of mercury, 0.1 part; industrial methylated spirit to 100 parts. This formula was used by me with considerable success when serving with the West African Expeditionary Force in the Far East, but on reflection I feel it would be much improved by the addition of 70% alcohol in place of methylated spirits.

The Design of Bed-pans

"Professional Victim" writes: Having recently undergone a major operation I was much interested in Mr. Malcolm Donaldson's letter (March 27, p. 618) on the above subject. A doctor who had been wounded wrote to the *British Medical Journal* about it during the war. He pointed out that the bed-pan hinders defaecation by pressing the buttocks together. The lavatory seat, on the other hand, helps it by separating them and putting the anus on the stretch. . . . A bed-pan of a shape approximating to the lavatory seat might be clumsy for the nurses, but I believe it would reduce the discomfort of our patients enough to be worth the extra trouble involved.

Herpes Zoster and Chicken-pox

Dr. ERNEST SOYSA (Colombo, Ceylon) writes: The following cases may be of interest in reference to Dr. C. C. H. Chavasse's observations (Feb. 14, p. 318) on the association of herpes zoster and chicken-pox. On Jan. 19, 1949, a mother aged 40 took her daughter aged 13 to a doctor in whose household there had been several cases of chicken-pox during the preceding three months. On Jan. 28 the mother complained of pain in the right eye and supra-orbital region. The next day a few small vesicles appeared above the right eyebrow. By Feb. 1 a severe herpetic rash had spread over the right supra-orbital region, with acute frontal neuralgia, swelling, itching, laceration, and vomiting. The condition began to improve after a week. The pain subsided gradually, and the herpes cleared up leaving severe scarring of the right side of the forehead. On Feb. 14

the patient's daughter developed an attack of chicken-pox which was mild and subsided within ten days, leaving little scarring. On March 1 a maidservant who had looked after the last two patients also fell ill with chicken-pox and made an uneventful recovery.

Clothing Coupons for Colostomy

Mr. J. C. GOLIGHER (London, W.1) writes: It is not perhaps generally appreciated in the medical profession that additional clothing coupons may be claimed by patients with colostomies or ileostomies in order to cover the purchase of a suitable belt and the extra underwear, bed linen, etc., made necessary by their condition. . . . Patients should write to the Board of Trade (Invalid and Medical Section), 91, Victoria Street, S.W.1, and ask for Form P.C.128, on which the application should be made. A supporting medical certificate from the doctor or surgeon is also necessary. In completing the form it is important to state that the application is made in respect of both an appliance and extra clothing, otherwise only three coupons, just sufficient to buy a belt, will be sent. If the need for additional clothing is also mentioned, the allowance granted is 30 coupons. This is, of course, a yearly allocation and a fresh application should be made annually.

Sweet Urine Containers

Dr. P. E. FITZPATRICK (Belfast) writes: Dr. W. E. McCulloch's point (March 27, p. 610) interested me greatly, for it shows how a doctor can be completely taken in. About a year ago I had a patient who had been complaining of various nervous symptoms—paraesthesia, polyuria, etc.—and on clinical examination I could find no signs of any organic disease. As is my custom I asked for a specimen of morning urine, and I was extremely surprised to find it was full of glucose. Accordingly I referred my patient to a specialist for a blood-sugar estimation, etc., and imagine my surprise when I was informed that the blood sugar was normal and the urine was free from sugar. I did a further test and this time the urine was sugar-free. Accordingly I made a successful search for the bottle which contained the original sample (three days later), and examined it again. It showed glucose — + + —. Fortunately the label of the chemist was on the bottle with the code marking. I inquired of the chemist what had been in the bottle and he was able to inform me "glycerine and honey." Fortunately I had not informed my patient about the glycosuria, and she is now completely well, with no symptoms. The moral, I think, is obvious.

Asthma and the Inhaler

Dr. DENIS DOOLEY (London, W.C.2) writes: May I endorse the remarks of Dr. A. W. Pater-on (March 20, p. 573)? For a long time I have prescribed a bronchodylone type of inhalant for patients with asthma and am highly satisfied with the results. I suggest that the damage to the cilia as mentioned by Dr. Clement Francis (Jan. 10, p. 76) is caused by the acid in some of these inhalants. The preparation I prescribe is practically neutral, and the results in some cases are quite remarkable. . . .

p-Aminobenzoic Acid for Prurigo

Dr. DAVID S. CLARK (Yeovil, Som.) writes: I feel that the following case might be of some interest. I have a patient, a male aged 40, who has suffered every summer for the last eight or ten years from a form of prurigo aestivalis that has manifested itself as an itchy maculo-papular rash on any part of his body that has been exposed to the summer sun. The size and persistence of the spots vary with the intensity and length of the exposure, but half an hour's insolation has always been enough to produce the rash. By protecting the affected part from further sunlight and the use of local soothing remedies the rash has usually cleared in two or three weeks. On my advice he has been in the habit of avoiding sunlight as completely as possible, but at Easter this year his hands were exposed to the sun for over an hour. This provoked the usual rash. On this occasion I gave him no local treatment, but as a trial prescribed 200 mg. of p-aminobenzoic acid daily. For the first time in his memory the rash cleared within 48 hours. He has been taking this preparation regularly since and is now able to spend considerable periods in direct sunlight without suffering any ill effects.

Ante-partum Haemorrhage

Dr. TIM BOLAND (Sheffield) writes: In your report (April 17, p. 748) of the Edinburgh Obstetrical Society's meeting, Dr. R. de Soldenhoff advocated "the vaginal pack for certain emergency cases of ante-partum haemorrhage." Surely all obstetricians of repute are by now agreed that the vaginal pack has no place in the treatment of cases of ante-partum haemorrhage, whether emergencies or not. Any attempt to revive this shock-causing and septic procedure must be condemned.

Obituary

THE TRAGEDY OF MOUNT SCOPUS

We record with deep regret the deaths on April 13 of Dr. Doljansky, director of cancer research in the Hebrew University, Jerusalem; Dr. Yassky, director of the Hadassah medical service and deputy administrator of the cancer research department; Dr. Dostrovsky, physician at the University Hospital; Prof. Bonaventura, director of the psychology department; Dr. Ben-David, secretary of the medical faculty; and Mr. Cassuto, assistant in the department of bacteriology. They were killed in an Arab attack on a convoy of the university staff, including doctors, nurses, and patients, travelling from the city of Jerusalem to Mount Scopus. Dr. Freiman, lecturer in Jewish law, Dr. Klar, lecturer in philology, and others in the convoy were also killed.

Prof. Enzo Joseph Bonaventura was born in 1891 at Pisa. He attended the University of Florence, took his doctorate in philosophy there, and then studied experimental psychology. In 1915 he was appointed assistant in the Institute of Psychology, and from 1923 to 1938 was professor of psychology. From 1924 to 1938 he was also professor of child psychology. In 1939 he was appointed professor of psychology at the Hebrew University, Jerusalem.

Dr. Leonid Doljansky was born at Ekaterinoslav, Russia, in 1898. He took his doctorate of medicine at Berlin University in 1925 and then did research at the Kaiser-Wilhelm Institute for Biology until 1928. From then until 1931 he conducted the Laboratory for Experimental Cytology at the Pasteur Institute, Paris. He then returned to Berlin University as an assistant in the Institute of Pathology. From 1933 until 1935 he carried out research at the Carlsberg Fondets Biologiske Institut at Copenhagen. In 1935 he was appointed head of the department of experimental pathology in the cancer research laboratories at the Hebrew University.

Dr. Arven Dostrovsky was born in 1887 at Cairo, in Russia, and attended the Universities of Vienna and Basle, taking his doctorate of medicine at Basle in 1915. He spent a year as house physician at Basle University Children's Hospital and then went to Petrograd, as it was then called, to study skin and venereal diseases. From 1917 to 1918 he served as assistant at the skin hospitals of Dvinsk and Minsk, and from 1918 to 1920 as voluntary assistant at the Glavze Institute for skin and venereal diseases at Odessa. In 1920 he was appointed head of the department of skin and venereal diseases at the Rothschild Hadassah Hospital at Jerusalem, and in 1938 lecturer in dermatology and venerology in the Hebrew University.

Prof. Simon Wright contributes the following note: The Hebrew University and the University-Hadassah Hospital have suffered a grave blow as a result of many members of their staff having been killed by Arabs while going up in convoy to their place of work. I was invited two years ago by the University to go to Jerusalem to advise on the plans for the establishment of an undergraduate school of medicine. The University Hospital was completed just before the outbreak of war and is a fine, well-equipped building of some 400 beds doing first-class work. The Ratnoff Building alongside it houses the research and routine departments serving the hospital, such as those for pathology, biochemistry, hormone, and cancer research. Full facilities were thus available for the clinical part of the course. A good deal of postgraduate instruction in clinical and laboratory subjects was given during the war, and many R.A.M.C. officers enjoyed the facilities provided by the University for them. To complete the undergraduate school it was necessary to expand the existing departments of anatomy, chemistry, and biology, and to build new institutes for physiology, pharmacology, and pharmacology. In addition the department of instruction and examination had to be established.

During my stay in Jerusalem I came into intimate contact with many of the members of the staff, so many of whom were of Jewish origin. I had been the head of the Hadassah Hospital in Palestine and had been responsible for building up in the country a network of hospitals,

clinics, and specialist services of all kinds, which served faithfully not only the Jewish community but many Arabs also. Yassky had been the driving force responsible for building the Jerusalem Hospital, and he was chairman of the planning committee which was dealing with the medical school extensions. He was a man of great vigour of mind and body, and had an imagination restrained only by a keen sense of the practical. He is quite irreplaceable, for there is no one in Jerusalem with as complete a command as he had of the problems and their solution. The Biological Institute was started recently under his direction, and the building operations had continued in spite of the disturbances.

Dr. Ben-David, the secretary of the medical school, was a scholarly, patient, wise, and conscientious administrator who had made a special study of the problems of medical education and was particularly impressed with the Goodenough Report. He had to get agreement from a staff who had come from many lands and had brought with them their own university tradition, which each naturally wished the Hebrew University to follow. I had been in constant touch with him since my visit. His personality and knowledge will be sadly missed.

Dr. Doljansky was a first-class investigator in the field of cancer research and tissue culture. He belonged to the sensitive, artistic class of investigators. His laboratory was beautifully designed and arranged and appealed to the eye as well as to the mind. His technical skill was outstanding. His contributions to knowledge were numerous and distinguished. He had latterly acted as Dean of the Prefecture of Medicine. With the death of Yassky, Ben-David, and Doljansky the medical school has simultaneously lost almost the whole of its leadership. I fear that the opening of the medical school to students, which had been planned for October of this year, will inevitably be delayed. No one knows what new disasters may yet befall Jerusalem in the coming months, but all friends of the Hebrew University will pray that it will survive to carry on its beneficent work for science and learning.

G. T. CALTHROP, M.D., D.M.R.E.

Dr. G. T. Calthrop died at his home at Luffenhall, near Stevenage, on April 14, at the age of 57. Gordon Thomas Calthrop was educated at Trent and Emmanuel College, Cambridge, graduating B.A. with honours in 1915. From there he went to the London Hospital, where he took the conjoint qualification in 1918, and the Cambridge M.B., B.Ch. the following year. After serving as house-physician at the London Hospital and as resident medical officer at the City of London Chest Hospital, during which time he took his D.P.H., Calthrop entered the service of the P. & O. as ship surgeon. His choice of a career was largely influenced by his physical disability, the result of a rheumatic carditis. It was at this time that Calthrop first became interested in radiology. He installed in his ship at his own expense a portable radiographic outfit. Possessed of a keen intellect, he found that his life at sea severely limited his activities, and in 1930 he decided to specialize in radiology.

Proceeding M.D. in 1930, Calthrop threw himself with zest into the study of radiology, and in 1932 he took the D.M.R.E. After a period in Germany under Albrecht and Berg, he started a private practice which increased at a remarkable rate on account of his superb technical skill and his high diagnostic ability. He rapidly gained hospital appointments, becoming radiologist to the Radium Institute, the Princess Beatrice Hospital, the Charterhouse Clinic for Rheumatism, and the Royal Free Hospital. Between his hospital work and his large private practice he undoubtedly overtaxed his limited physical capacity, and early in 1940 he was compelled to retire. To a person of Calthrop's temperament it was not easy to bow to the inevitable, and after a year's rest he came back to private and hospital practice against medical advice. To his friends, how he contrived to carry on until finally compelled to retire suddenly in 1946 will ever be a matter for amazement and admiration. Calthrop did not write much, but it was mainly due to his efforts that the Berg technique for the examination of the gastro-intestinal tract was introduced and popularized in this country. He is survived by a widow and a young son.

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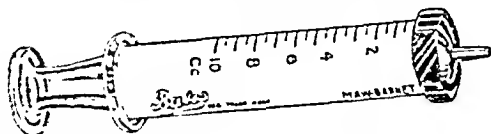
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PURE FLUID **MAGNESIA**

Dr. ARTHUR THOMAS TODD-WHITE died on March 14 at Woodford at the age of 78. The son of William White, historian, he was born at Sheffield in 1869. A student at Guy's Hospital, he qualified M.R.C.S., L.R.C.P. in 1893. He was clinical assistant at Guy's and later house-surgeon at the Lancaster Infirmary before taking up general practice in Lewisham and then in Leytonstone in 1898. While in practice he undertook the duties of clinical assistant at the Golden Square Hospital. He retired in 1946. The last of the old school in the area, he never really adjusted himself to this mechanical age, and he would dwell with obvious pleasure on the more leisurely and spacious days when, as a medical student, he voyaged to Australia in a sailing ship. He will be remembered for his many local activities. He was medical officer to the Post Office, divisional surgeon of the St. John Ambulance Brigade, and medical officer to the Clarnico Fire Brigade. In 1909 he established a scientific and military club for boys, and during the 1914-18 war he was one of the founders of the National Volunteer Reserve and later commanded the 3rd Essex Volunteer Battalion. For many years an active member of the British Medical Association, he was at one time honorary secretary and later chairman of the South-west Essex Division. In 1909 he published a paper in the *Guy's Hospital Gazette* advocating the appointment of a Minister of Public Health, and a later paper published in 1913 under the title "A National Medical Service" anticipated the National Health Service Act of 1946. Beloved by his patients, his wide interests in such varied subjects as geology, archaeology, ornithology, and philately assured him a wide circle of friends. He had outlived many who held him in high esteem, but to those that are left his death will be a sad loss. He leaves a widow, a daughter, and two sons. The daughter and the eldest son are members of the medical profession. The youngest son, Squadron-Leader R. N. Todd-White, was killed in 1943.

Dr. AILEEN MARION SETON POLLOCK, who died suddenly on March 29, had been a student at the London School of Medicine for Women and at St. Mary's Hospital. She qualified in 1927, and joined the staff of the Ludhiana Women's Christian Medical College in the Punjab two years later. On her first furlough in 1935 she took the F.R.C.S. Ed. By 1940 she had been appointed medical superintendent of the Ludhiana Hospital, and two years later she succeeded Dame Edith Brown as principal of the College. Dr. Pollock was well known in Scotland and in India for her work in connexion with medical education in the missionary field.

Dr. ARCHIBALD PATERSON ROBB died on April 3 after a short illness at the early age of 54. Born and educated in Glasgow, he qualified in 1918 in time to take a wartime commission in the Royal Navy. His bent was always towards psychiatry, and before entering general practice he was deputy superintendent at Gartloch Mental Hospital. In 1921 he settled in Edinburgh and carried on an ever increasing practice in the Merchiston district. For him, as for many others, the war years meant extra heavy burdens which he cheerfully undertook, adding to his other duties that of medical officer of a Home Guard battalion. There is little doubt that these hard years took their toll of his health, and some three years ago he had a warning that his strength was being unduly taxed. Some fifteen months ago he retired from practice, but still had sufficient vigour to continue his work on pension boards as consultant psychiatrist and on National Service boards. Dr. Robb had been a member of the B.M.A. since 1923, and was a representative at the Annual Representative Meeting in Dublin in 1933 and in London in 1935. He was chairman of the Edinburgh Division in 1945-6, and served on the I.A.S.C. (Scotland) 1933-4 and 1936-8, and also on the Public Medical Services Subcommittee 1936-7. He was medical secretary of the Edinburgh Panel Committee for ten years. He allowed himself little time for recreation, but the social side of life appealed to him, and whether as host or guest he was happy and anxious to share his happiness. He was able to enjoy only for a brief period his semi-retirement to the village of Duddington. He is survived by a widow and one son.—A. F. W. M.

Mr. HAROLD ROUND died on April 10 at his home in Edgbaston after a long illness. He was born in February, 1878, at Handsworth, and was educated at Aston Grammar School and Birmingham University, after being apprenticed to the late Mr. John Turner. He obtained the L.D.S. in 1900, the B.D.S. of Birmingham in 1901, and in 1902 was one of the first to be awarded the M.D.S. degree for his thesis on fractures of the jaw. He practised in Birmingham, and during the first world war, in collaboration with the late Prof. Billington and the late Mr. Arthur Parrott, was in charge of the jaw centre at the 1st Southern General Hospital. He held a similar post at

Barnsley Hall, Bromsgrove, during the second world war. In 1919 he was appointed honorary dental surgeon to the Queen's Hospital, and when this amalgamated with the General Hospital to form the Birmingham United Hospital he transferred to the Queen Elizabeth Hospital. He was a past president of the Central Counties Branch of the British Dental Association and of the Odontological Section of the Royal Society of Medicine. He was the founder, and twice president, of the Odontological Section of the Birmingham Medical Institute. As recently as last year he became one of the foundation fellows in dental surgery of the Royal College of Surgeons. "H.R." as he was known by his colleagues, was a man of strong principles and firm convictions. He was held in the greatest affection by his friends. He was conscientious to a fault, sparing neither his time nor his skill in the service of his many patients. The writer was closely associated with him for over forty years, and in common with all his colleagues held him in the highest esteem both as a man and an outstanding member of his profession. He was always unhurried, and nothing counted except the work in hand. Nothing would suffice but the very best. He has been known to give up a well-earned holiday because a dental colleague fractured his jaw and sought his aid—a kindness that was only to be expected from him. Harold Round married Miss F. C. Tate, who died last year. Their only son, Dr. J. H. B. Round, died on active service in Palestine. He is survived by two daughters, to whom the greatest sympathy will be extended by his colleagues, patients, and many friends.—R. A. B.

Dr. Catherine Harrower writes. Through the death of Dr. Alison Mary Hunter a great and irreplaceable loss has been sustained, not only by the medical profession, but also by wide sections of the community which she served. Outside her professional duties she did much public work directed towards the welfare of women and children. As chairman of the National Vigilance Society she continued work in which her mother had already established a tradition. Throughout the months of her final illness Dr. Hunter never ceased to take a lively interest in the world outside her sick-room, and many were the personal and professional problems brought by her friends and colleagues for the sure illumination of her keen intellect. Alison Hunter will long be remembered by her many patients and friends for her loyalty, her compassion, and her unflinching readiness to put self aside in rendering help when called upon at any hour of day or night. She loved children and animals and all weak or suffering creatures, and her gallantry during a life of almost incessant hard work, followed by a long and trying illness, will remain an inspiration to all who knew her.

Medico-Legal

"ALKALOSIS" AND THE EFFECTS OF ALCOHOL

At Cambridge recently a defendant who was charged with driving a motor-car while under the influence of drink unsuccessfully pleaded illness as a defence in a case which occupied the court of Cambridgeshire Quarter Sessions, under the chairmanship of Mr. Gerald Howard, for two days—Jan. 30 and 31. The defendant admitted that he had taken some alcoholic drink on the evening in question, but he contended that it was quite insufficient, in a man of his constitution and habits, to affect his driving, and that his condition when arrested was due not to alcohol but to an excess of alkali which he had been taking for digestive trouble.

Dr. Alexander Brown, of Linton, who had been called in by the police to examine the defendant shortly after he was brought to the station, said that he came to the conclusion that the defendant was under the influence of drink. His speech was slurred, his gait unsteady, his pulse rate was 120, and his breath smelt strongly of alcohol. The Romberg test was positive. He was by turns truculent and jocose, and walked about the police station singing snatches of song. In cross-examination Dr. Brown said that he did not test his pupillary reaction, or his knee-jerks, or look at his tongue, or take a specimen of his urine. He was unaware that the defendant had had a duodenal ulcer or that some years ago he had undergone a short-circuiting operation. He had not complained of feeling unwell. The defending counsel asked whether Dr. Brown had considered that the defendant might be suffering not from alcoholism but from alkalosis.

Dr. Brown said that he had not had that condition specifically in mind, but he thought that for alkalosis to simulate alcoholism in its symptoms so large a quantity of alkali would have to be taken that almost no person could take it. He had never seen a case of alkalosis in general practice.

Dr. James Dundas Simpson, of Cambridge, who was called by the defence, said that his attendance had been requested by the defendant at the police station, where he arrived two hours after Dr. Brown had completed his examination. By then the defendant did not appear to be particularly the worse for drink, and the Romberg test was negative. Dr. Simpson's first impression was that drink was the only explanation of the defendant's conduct, and had he not subsequently obtained further information his conclusion would have been the same as Dr. Brown's. He learned later that this man, who had been a patient of his eighteen months previously for duodenal trouble, had been taking, not by his advice, large quantities of a proprietary alkali preparation. On the day of his arrest, according to his story, feeling unwell, he had consumed almost an entire bottle of this substance. His symptoms were consistent with alkalosis. Dr. Simpson had had one other case of alkalosis. This was a man on whom a gastro-enterostomy had been performed, and whose habit it had been for years to take large quantities of bicarbonate of soda. On one occasion he was picked up in a state of collapse, and proved to be quite uncoordinated; he staggered in his gait, was irrational in his speech, was incontinent, and showed such changes in his mentality that anyone observing him, and unaware of the facts, would have judged him to be a drunken man. Dr. Simpson did not suppose that any doctor in this country had any large experience of alkalosis, but it was a possible diagnosis which was tucked away in the mind. The cumulative effect of large quantities of soluble alkali absorbed into the blood stream might lead to a breakdown, either slow or sudden, liable to be precipitated by a chill or other factor. Chemical tests for alkalosis required very sensitive apparatus and were impracticable in an examination such as this at a police station. Many chronic dyspeptics, against their doctor's advice and without his knowledge, consumed much-advertised preparations in order to obtain relief from intestinal pain and discomfort, and the danger of poisoning by alkalis was not to be disregarded.

After a long hearing the jury returned a verdict of guilty on the main charge, and the accused was fined £50. On a second charge, that of driving a motor-car in a manner dangerous to the public, he was also found guilty and fined £1. He was disqualified from holding a driving licence for one year.

Appeal Dismissed

The defendant's appeal against his conviction was heard on April 19. The substantial ground of the appeal was that the evidence given by Dr. Alexander Brown, who was called in by the police, was inadmissible. Mr. Justice Humphreys, giving the judgment of the Court, said that the appellant had been seen driving on the wrong side of the road and without lights, and that on examination by the police he appeared to be drunk. They took him to a police station, and there the ordinary procedure was carried out. Following an order circulated to police stations years ago a police doctor was sent for. This doctor told the appellant that he could have his own doctor. The appellant said that he had never had a doctor in his life. The police doctor then examined the appellant and certified him to be in an alcoholic state and unfit to drive. This evidence was said to be inadmissible. The appellant had not wished to be examined, but kept singing and was awkward. The doctor had eventually persuaded him, saying that an examination might be to his advantage. The doctor had behaved perfectly reasonably. The law which excluded evidence of a confession extracted by means of a promise or threat had nothing to do with this case and the appeal would be dismissed.

Counsel for the appellant had referred to the recent Scottish case of *Perd v. Nixon* (1948) in which the conviction in a similar case had been quashed. The Lord Advocate had then suggested that in all such cases the police doctor was acting on the word of the police. Mr. Justice Humphreys mentioned that fact. Their Lordships did not agree that that was

The Times, April 20.

true in England. The evidence of a police doctor should be accepted in the same way as the evidence of any other professional man. It must be presumed that he came before the Court with the desire to assist it and with no other desire.

Universities and Colleges

UNIVERSITY OF LONDON

The Academic Postgraduate Certificate in Public Health has been awarded to D. Coueslant, T. H. Elias, W. K. Laing, and D. N. Phukan, all of the London School of Hygiene and Tropical Medicine.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

The otolaryngology lecture course which was to have been held at the College from April 26 to May 12, has been cancelled.

SOCIETY OF APOTHECARIES OF LONDON

Prof. E. C. Dodds, F.R.S., Master, presided at a recent meeting of the Court of Assistants, when the resignation of Dr. Cyril H. T. Hott was received with great regret.

The Court considered the present position with regard to the National Health Service and it was resolved to forward a resolution to the British Medical Association expressing the hope that further negotiation between the Minister of Health and the profession would be made possible.

The following were appointed as representatives of the Society: Dr. J. Prescott Hedley, on the Central Midwives Board, and Dr. Frank Howitt at the International Congress on Physical Education, Recreation, and Rehabilitation.

The Gilson Scholarship in Pathology was awarded to Alan C. Thackray, M.D.

It was announced that on July 7 the Society's gold medal in therapeutics will be presented to Sir Lionel Whitby, M.D., F.R.C.P., Regius Professor of Physic in the University of Cambridge.

Authority was given for the Society's Coat of Arms to be incorporated in a memorial window at Westminster Hospital to the late Sir Stanley Woodwork.

Sir Frederick Michael Wells, Lord Mayor of London, was admitted to the Freedom of the Society, the first occasion, it is believed, on which the Lord Mayor of London has been admitted to the Freedom of a City Company during his year of office.

It was resolved that a course of ten lectures on modern therapeutics be delivered in the Great Hall in the autumn.

The Diploma in Industrial Health was granted to A. M. Critchley, D. Fowler, V. O. B. Gartside, A. French, R. Swinburn, and S. A. Underwood.

The Diploma of L.M.S.S.A. was granted to E. F. Jofes, L. T. Al-Badri, M. K. A. El Banhawy, C. F. M. Fisher, W. L. M. Garsia, D. J. Sheerboom, I. F. Dajani, S. K. A. D. J. Bernhardt, E. L. Gilbert, C. K. Cumming, P. C. J. Nicholl, C. H. J. Van Aswegen, M. P. Coplans, and M. J. Bhavnani.

Medical Notes in Parliament

Manor House Hospital

On April 22 Mr. GAMMANS inquired for what reason the Manor House Hospital and the Manor House Clinic, Hampstead, were to be exempted from the National Health Service.

Mr. BEVAN replied that it appeared to him that their transfer was not required for the purpose of providing hospital and specialist services under the Act.

Imported Books

Mr. SWINGLER on April 22 invited the President of the Board of Trade to make a further statement about imports of learned, scientific, and technical books.

Mr. HAROLD WILSON replied that he had been going into this question. He had always been aware of the strength of the case for increasing imports of the classes of books mentioned, although he had to balance this against the exchange position. He was now able to tell the House that learned, scientific, and technical books could, as from April 1, be imported at twice the present rate, thus raising the annual import quota to 200% by value of the pre-war level.

(The need for this increase in the quota allowed to importers was discussed in a leading article in our last issue—p. 793.)

No 15

Last Panel Cheques -- Mr. BESAN, in reply on April 22 to Sir ERNEST GRAHAM-LITTLE said that the payments an insurance doctor would receive for the period Jan 1 to July 4, 1948, would be based on the average of the number of persons on his list on Jan 1 and April 1.

Discussion of Table

In Northern Ireland increases were reported in the notifications of diphtheria 9 and whooping-cough 11, while a decrease of 9 was recorded for scarlet fever and for measles. Measles and whooping-cough reflect the trends of these diseases in Belfast C.B., while the changes in the incidence of diphtheria and scarlet fever were due to the experience of the country areas.

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,290, whooping-cough 3,888, diphtheria 136, measles 9,681, acute pneumonia 639, cerebrospinal fever 47, acute poliomyelitis 19, dysentery 110, paratyphoid 7, and typhoid 9.

are for: (a) The 126 great towns in *England and Wales* (excluding London) (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in *Ire*. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

- * Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.
- † Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.
- ‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.
- § The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.
- || Includes mumps fever for England and Wales and Eire.

Medical News

Papers for the Cambridge Meeting

The reading Opening Papers in the Scientific Sections of the B.M.A. Annual Meeting at Cambridge in June are reminded that their papers, with full summaries, should have been in the hands of the Editor of the *British Medical Journal* on May 1, so that arrangements can be made for the printing of the summaries. Will those who have not yet sent in their papers kindly do so at the earliest opportunity.

Government Reception

The Government held a reception on April 21 at the General Register Office, Somerset House, in honour of the members of the Canadian and United States Delegations concerned with Medical Nomenclature and Statistics. Mr. Aneurin Bevan, the Minister of Health, and Mrs. Bevan received the guests.

Society of Chiropodists

The Society of Chiropodists held a successful Annual Convention in London on April 22, 23, and 24. At a dinner at the Savoy Hotel on Friday, April 23, the many guests were received by the President, Mr. John H. Hanby, who is instructor in chiropody at Guy's Hospital. Sir Heneage Ogilvie proposed the toast of the Society and described the cordial relations between the Society and the Royal College of Surgeons. In his reply Mr. Hanby referred to the importance of chiropody in connexion with the care of school children and in industry. Mr. Charles Challen, M.P., proposed the toast of the medical profession and Sir Alfred Webb-Johnson, P.R.C.S., replied.

Hogarth Centre

The radiotherapeutic centre at the Nottingham General Hospital has been renamed the Hogarth Centre in recognition of the outstanding services of Mr. R. G. Hogarth, who has attained his 80th birthday, in treating cancer. The announcement was made by the Duke of Portland at the annual meeting of the Notts Council of the British Empire Cancer Campaign recently.

Gift to Royal College of Physicians

The British Red Cross and St. John War Organization has given £20,000 to the Royal College of Physicians in recognition of the services rendered to it by the medical profession during the war. It will be used to develop the library, particularly to help students of the history of medicine.

New Journal of Plastic Surgery

The first number of the *British Journal of Plastic Surgery* has been published by the British Association of Plastic Surgeons under the editorship of Mr. A. B. Wallace, of Edinburgh University. It is particularly well produced, the illustrations being remarkably clear. This number contains articles on "Plastic Surgery in the Training of Surgeons," by Mr. Paterson Ross, "Congenital Absence of the Penis," by Sir Harold Gillies, "Deformities of the Male Urethra," by Sir Archibald McIndoe, and other papers by Mr. Rainsford Mowlem, Mr. James B. Cuthbert, Mr. F. T. Moore, and Mr. M. C. Oldfield.

Dentists Request Interview with Minister

The Dental Consultative Committee has asked the Minister of Health for an interview, and also that he consider incorporating amendments in the N.H.S. Act. It requests an Amending Bill to prevent the formation of a whole-time salaried service by Regulation as well as other possible amendments.

National Insurance

After July 5 those medical practitioners on the lists of Executive Councils under the N.H.S. Acts will be classed as self-employed persons for the purposes of paying insurance contributions under the National Insurance Act, 1946 (Preliminary Draft of the National Insurance (Classification) Regulations, 1948).

History of Medicine

At the inaugural meeting of the Scottish Society of the History of Medicine, held on April 23 in the hall of the Royal College of Surgeons of Edinburgh, Dr. H. J. C. Gibson read a paper on "The Early Days of the Dundee Royal Infirmary," of which institution he is now the superintendent. He said that the Infirmary originated as a dispensary which was founded in 1735 and reorganized in 1782 as the hospital of the parish. He was assisted in his philanthropic work by Mr. Stewart, surgeon, and by Sir Alexander Douglas, Bt., president of the Infirmary in 1782. The cost of the original building was £10,000, and for the purchase of surgical instruments, "the most complete and the best of the kind" came from the Government. The building was in poor condition when they travelled from a distance

or had met with dangerous accidents, when they were admitted at any time. The decision on eligibility for admission rested with the Weekly Board. A maintenance charge of 3s. 6d. per week was payable by the Governor who had recommended the patient. Dr. Gibson traced the history of the hospital from those early days to the building of the new Infirmary in 1855, by which time it had become, as it still remains, one of the chief voluntary hospitals of Scotland, serving the needs of patients from Angus, East Fife, and Perthshire.

At the close of his address the speaker was thanked by Dr. W. D. D. Small, President of the Royal College of Physicians of Edinburgh.

Dr. Douglas Guthrie, who has been elected President of the Society, explained that it was founded to create and extend interest in the history of medicine throughout Scotland. The Hon. Secretary, Dr. H. P. Tait, 137, Colinton Road, Edinburgh, will be glad to hear from any who are interested. At the second meeting, to be held in June, Dr. John Ritchie will address the Society on "Quarantine for Plague in the Sixteenth and Seventeenth Centuries."

COMING EVENTS

"Darkness into Daylight"

An exhibition to mark 100 years of research and achievement in electric lighting, entitled "Darkness into Daylight," opens to-day (Friday, April 30), at 10 a.m., at the Science Museum, South Kensington, London, S.W., and will remain open until the end of September. The hours of admission are 10 a.m. to 6 p.m. on week days and 2.30 p.m. to 6 p.m. on Sundays.

Westminster Hospital Ladies' Association

The annual meeting of the Westminster Hospital Ladies' Association will be held in the Queen Mary Nurses' Home of the hospital (entrance in Page Street), on Wednesday, May 5, at 3 p.m., when Emeritus Prof. Winifred Cullis will give an address and the house governor will speak on "The Future Outlook."

Centenary of First Public Health Act

The Corporation of London has arranged a dinner to be held in the Guildhall Library on Friday, May 7, at 6.45 p.m. for 7.15 p.m. to commemorate the centenary of the first Public Health Act.

French Refresher Course

A course devoted to recent advances in medicine will be held on May 21 to 23 at the Clinique Propédeutique of the Broussais Hospital, 96, Rue Didot, Paris. Further information may be obtained from Prof. Jean Hamburger, 29, Boulevard de Courcelles, Paris VIIIe.

Physical Medicine

The British Association of Physical Medicine announces that its Belgian counterpart, La Société Belge de Physiothérapie, has arranged for an International Meeting of Medical Electronics to be held in conjunction with the Journées Médicales in Brussels from June 13 to 16. The object of the meeting is to bring together medical men and physicists and enable them to exchange views on subjects within the following fields: (1) General physics in relation to its application to medicine; (2) photo-biological and electro-biological principles of direct importance to medicine; (3) medical electrology with special reference to diagnosis and treatment; (4) equipment and dosimetry. Those wishing to attend or to make scientific contributions are asked to communicate with Dr. L. Konings, Rue Vilain XIV, 43, Bruxelles, Belgium.

SOCIETIES AND LECTURES

Monday

EDINBURGH UNIVERSITY: PHYSIOLOGY CLASSROOM.—May 3, 5 p.m. "Medicine and Philosophy," by Dr. Douglas Guthrie.

INSTITUTE OF LARYNGOLOGY AND OTOTOLOGY, 330, Gray's Inn Road, London, W.C.—May 3, 2.30 p.m. "Facial Paralysis. Bell's and other Palsies. Nerve Grafts. Nerve Anastomosis," by Miss D. J. Collier.

LIVERPOOL PSYCHIATRIC CLINIC.—At Town Hall, Liverpool, May 3, 3 p.m. Annual meeting. "New Pathways in Psychiatry," by Prof. H. V. Dicks, M.D., M.R.C.P.

WESTMINSTER HOSPITAL SCHOOL OF MEDICINE: MEYERSTEIN LECTURE THEATRE, Horseferry Road, S.W.—May 3, 5.30 p.m. Clinicopathological demonstration. Discussion: "Emphysema."

Tuesday

EDINBURGH POSTGRADUATE BOARD FOR MEDICINE.—At Edinburgh Royal Infirmary, May 4, 5 p.m. "Salt and Water Parallelism," by Prof. Kerpel-Fronius.

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—May 4, 5 p.m. "Dermatophytes," by Dr. I. Muende.

LONDON ASSOCIATION OF THE MEDICAL WOMEN'S FEDERATION.—At B.M.A. House, Tavistock Square, London, W.C., May 4, 8.30 p.m. Social meeting.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHYSIOLOGY.—At Physiology Theatre, Gower Street, London, W.C., May 4, 5 p.m. "The Physiological Aspect of Speech," by Mr. D. B. Fry, Ph.D.

Wednesday

GLASGOW UNIVERSITY: DEPARTMENT OF OPHTHALMOLOGY.—May 5, 8 p.m. "The Growth of Ocular Vessels," by Dr. J. C. Michaelson.
ROYAL SOCIETY OF ARTS, John Adam Street, Adelphi, London, W.C.—May 5, 2.30 p.m. Pope Memorial Lecture: "Recent Advances in Stereochemistry," by Mr. F. G. Mann, D.Sc., F.R.S.

Thursday

EDINBURGH ROYAL INFIRMARY.—May 6, 4.30 p.m. Honyman Gillespie Lecture: "The Experimental and Clinical Use of Anti-Histamine Drugs," by Dr. R. B. Hunter.

FACULTY OF HOMOEOPATHY.—At London Homoeopathic Hospital, Great Ormond Street, London, W.C., May 6, 5 p.m. "The Evolution of Clinical Pathology," by Dr. William Briggs.

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—May 6, 5 p.m. "The Seborrhoeic Eruptions," by Dr. B. Russell.

INSTITUTE OF LARYNGOLOGY AND OTOTOLOGY, 330, Gray's Inn Road, London, W.C.—May 6, 3 p.m. "A Modification of Laryngectomy," by Dr. Jean Leroux-Robert (Paris). Illustrated by a cinematograph film. 5.30 p.m. "Diseases of the Antrum of Dental Origin," by Mr. J. Angell James.

LONDON JEWISH HOSPITAL MEDICAL SOCIETY.—At London Jewish Hospital, Stepney Green, E., May 6, 3 p.m. "Medical Statistics," by Dr. J. Bronowski.

ROYAL PHOTOGRAPHIC SOCIETY.—At 16, Prince's Gate, London, S.W. May 6, 7 p.m. "Photomicrography" Lecture by Mr. F. J. Pitcock, F.R.P.S.

Saturday

INSTITUTE OF LARYNGOLOGY AND OTOTOLOGY, 330, Gray's Inn Road, London, W.C.—May 8, 11 a.m. "Modern Temporal Bone Surgery. The Philosophy of Its Evolution," by Dr. Julius Lempert (New York).

APPOINTMENTS

Percival V. Pritchard, M.D., F.R.C.P.Ed., F.R.F.P.S., has been appointed to the Northern Ireland General Health Services Board.

CHRISTIE, THOMAS, M.D., Medical Officer, H.M. Prison, Holloway.

MARTIN, K. W., M.D., B.S., F.R.C.S., Resident Surgical Officer and Surgical Registrar, Werthing Hospital.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Bard.—On April 14, 1948, at Queen Mary Hospital, Hong Kong, to Sophie Bard, M.R.C.S., L.R.C.P., wife of Dr. S. M. Bard, a daughter.

Brewerton.—On April 5, 1948, at 9, Lancaster Grove, London, N.W., to Sylvia, wife of Dr. R. Brewerton, a daughter—Jane Elizabeth.

Nelson.—On April 15, 1948, at Salisbury General Infirmary, to Albertine (née Van Calk), wife of Maurice P. Nelson, M.R.C.S., L.R.C.P., a son—Robert Francis.

Williams.—On April 20, 1948, at Queen's Clinic, London, S.W., to Lois Carol (née Schaefer), formerly of Evansville, Indiana, wife of Dr. A. H. Williams, a son—Stephen Joseph.

DEATHS

Bruntles.—On April 18, 1948, Oswald Bruntles, L.R.C.P.S. Ed., L.R.F.P.S. Glas., of 75, Denmark Villas, Hove, Sussex, aged 68.

Clarke.—On April 18, 1948, at 2, Wood Villas, Clifton Road, Preswiche, Lancs, Maude Patricia Smart Clarke, M.B., B.Cn.

Cuthbert.—On April 24, 1948, at Hindhead, Surrey, Margaret Jane Modie Cuthbert, M.B., Ch.B.

Fleming.—On April 10, 1948, Thomas Loudon Fleming, M.B., Ch.B., aged 60.

Forre.—On April 19, 1948, at Boscombe Hospital, George Raynton Forre, M.R.C.S., L.R.C.P., of Handley, Dorset, aged 76.

Gardiner.—Recently, John Percival Gardiner, M.B., Ch.B. Ed., of Pendine, near Penzance, Cornwall.

Gleghrie.—On April 15, 1948, Norman William Gleghrie, M.B., Ch.B. of The Hall, Blorwich, Staffs.

Glass.—On April 21, 1948, at The Shering, Grantown-on-Spey, Alexander Gibb Glass, M.D. Ed., formerly M.O.H., Farnworth, and late of Bolton, Lancs.

Goddard.—On April 20, 1948, Gerald Hamilton Goddard, D.S.O., M.R.C.S., L.R.C.P., Lieutenant-Colonel, R.A.M.C.

Grapel.—On April 20, 1948, Francis Gaspar Grapel, M.R.C.S., L.R.C.P.

Guttmann.—On April 25, 1948, Eric Guttmann, L.R.C.P.S. Ed., L.R.F.P.S. Glas., of Maudsley Hospital, London, S.E., aged 52.

Hill.—On April 14, 1948, at 21, Mapdala Road, Nottingham, Philip Keith Hill, M.R.C.S., L.R.C.P., aged 65.

Lidderdale.—On April 20, 1948, at Cheltenham General Hospital, William Guy Lidderdale, M.B., B.S., of Shillington, Hitchin, Herts.

Marlin.—On April 19, 1948, at Hove, Mary Edith Marlin, L.R.C.P.S. Ed., L.R.F.P.S. Glas., aged 72.

Newport.—On April 19, 1948, Alexander Charles William Newport, C.V.O., M.R.C.S., L.R.C.P., Surgeon Captain, R.N., retired, of 17, Cousins Grove, Southsea.

Temple.—On April 19, 1948, at Knockdolian, Comrie, Perthshire, Charles Dunbar Temple, M.B., C.M. Glas., aged 85.

Thomson.—On April 16, 1948, at Derbyshire Royal Infirmary, George Thomson, M.B., C.M.

Williams-Walker.—On April 22, 1948, at 56, Anderton Park Road, Moseley, Alfred Williams-Walker, M.D., M.R.C.P.

Wrigley.—On April 26, 1948, at a Huddersfield Hospital, Kenneth Graham Wrigley, L.M.S.S.A., aged 53.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Normal Blood-pressure Readings

Q.—What do you consider to be the normal systolic, diastolic readings for adults under 50, aged 50 to 65, and over 65 years of age? It appears to me that, according to the tables of insurance companies, the majority of patients over 50 have hypertension. Textbooks advise prohibition of alcohol and drastic reduction in salt for patients suffering from arteriosclerosis or hypertension. Is there anything to be gained by compelling patients over 65, with hardening of arteries and/or some rise in blood pressure, to forgo the pleasure of using salt and alcohol as their inclination suggests? Is there not some risk in depriving patients of salt over a long period?

A.—This reply deals not with casual but with basal readings—i.e., those found at repeated examinations under resting conditions. The upper limits of normal pressure for adults at various ages are: below 50, 150/90 mm. Hg; between 50 and 65, 155/95 mm. Hg; and over 65, 160/95 mm. Hg. Pressures above the last figure represent hypertension at any age, although slight excesses are of less and less significance in later ages. For life assurance examinations the blood pressure is best registered after a few minutes' recumbency, the lowest of two or three recordings being taken. The type of case described in the last half of the question does not require prohibition of alcohol or drastic salt restriction, although both articles should be kept well within moderate limits. The degree of salt restriction obtainable by avoidance of salt in cooking and at table is without risk even over a long period.

Animal Ringworm in Farm Workers

Q.—Recently I have had several cases of animal ringworm in farm workers. Is there more than one kind of animal ringworm, and does it affect all persons in the same way, as the lesions appear to differ? Liquor iodi fortis, ung. hydrarg ammon. co., and ung. iodi B.P. have all been tried without much success. Is treatment by x rays of any value?

A.—Animal ringworm may be of many types, both small-spore and large-spore, but most of the cattle ringworm infections are of the large-spore ectothrix variety. The small-spore varieties produce very little more inflammation on the skin than does the ordinary human small-spore infection, but large-spore infections produce varying degrees of inflammatory reaction, with redness, vesication, and pustulation right up to the type of lesion described as kerion, with great swelling, oedema, and congestion, and a follicular pustular reaction over the area involved. The fierce reaction is a natural response to the foreign invasion, and is part of the mechanism of cure. The introduction of local treatment will sometimes precipitate such a pustular reaction. The most effective local applications are ung. dihydran B.P. and the following paint, fomentations often being necessary:

B	Hyd. perchlor.	..	..	..	..	40
	Brilliant Green	..	..	..	..	10
	Spirit	..	..	..	..	ad 100%
	Make a paint.					

X rays are of no value in the treatment of ringworm infections in these cases.

Discoloration of Adrenaline Solutions

Q.—What changes cause the discoloration of solutions containing adrenaline? How do these changes affect the physiological action of the drug? Should the solution be acid to prevent discoloration? What substances are used to prevent deterioration?

A.—The darkening in colour of a solution of adrenaline is caused by the gradual decomposition of the adrenaline hydro-

chloride in it; this naturally reduces the activity of the solution, and it eventually becomes inert. It is necessary to have the solution slightly acid, in the first place because adrenaline itself is only very sparingly soluble in water and must be converted to the hydrochloride or another salt, and secondly because it is more stable in somewhat acid solution. Various substances may be used to prevent or retard the decomposition of adrenaline. Sodium metabisulphite in a concentration of 1 in 1,000 is the chemical favoured at present, but other antioxidants are useful, and glycine in a concentration of 1 in 500 is also effective.

Thorotrast and Sarcoma Formation

Q.—Is there any evidence that the intravenous injection of "thorotrast" may lead to sarcoma formation at a later date?

A.—Yes. Several authors, including G. Roussy, C. Oberling, and M. Guérin (*Bull. Acad. Méd., Paris*, 1934, 112, 809), have shown that the injection of thorium dioxide may produce sarcoma in experimental animals, and especially in the rat. More recently H. E. MacMahon, A. S. Murphy, and M. I. Bates (*Amer. J. Path.*, 1947, 23, 585) have provided evidence which, although derived from a single case, nevertheless indicates that thorotrast may also act as a sarcomagenic agent in man. The patient had been given thorotrast intravenously for visualization of the liver, and by this means it was possible to make an accurate diagnosis of hepatic syphilis with gumma. Following specific therapy the patient made a clinical recovery. After sudden death twelve years later, necropsy confirmed the diagnosis of syphilis and in addition revealed fatal haemorrhage from a sarcoma of the liver, with widespread irradiation injury chiefly affecting the liver and the haemopoietic system.

Introduction of Cholera into Egypt

Q. How did cholera get to Egypt last September?

A.—Despite the fullest inquiry and investigation by the Egyptian Government the source and mode of introduction of cholera into Egypt last September were not discovered. It seemed likely that infection had been occurring before the first cases were recognized in an Egyptian village on Sept. 22, 1947. The infection presumably came from one of the endemic regions in India, from which in the past there were three possible routes to Egypt: (1) the long land route through Afghanistan and Iran—nowadays most unlikely; (2) by the Persian Gulf to Irak and on to Syria and the Mediterranean; (3) by the Red Sea direct to Egypt. To these must nowadays be added the air routes from India via Egypt and Arabia. In spite of rumours and allegations there was no evidence to suggest that the Royal Air Force or the British Army was responsible for last year's introduction of cholera into Egypt.

Antrochoanal Polypi

Q. Are antrochoanal polypi usually associated with anosmia? In a case in which the antra have been cleared the anosmia persists. What treatment is advised?

A.—Antrochoanal polypi are not, as a rule, associated with anosmia. They are almost invariably unilateral, and to cause anosmia mechanically must be large enough to block both choanae completely. If the ethmoids are clear probably no further treatment will help.

Renal Rickets

Q. A woman 28 years old suffered from rickets at the age of 14 years, and is now a typical "rickety dwarf." At the age of 28 is there any possible hope of straightening the bones or the feet by operation?

A. If this patient is suffering from ordinary rickets due to lack of vitamin D there is no reason at all why the legs should not be straightened by osteotomies. The age of onset, however, and the fact that she is a dwarf strongly suggest that she may have "renal rickets." In these patients kidney function is impaired, and an anæsthetic or an operation will often precipitate a fatal uræmia. Therefore, before any decision is made to operate, renal function should be thoroughly

Penicillin for Actinomycosis

Q.—What is the recommended dose of penicillin for actinomycosis?

A.—The dose of penicillin should be large and should be continued for a long time: 250,000 units every six hours or 500,000 twice in the 24 hours would be about the dose necessary for a severe infection of thorax or abdomen. Half that dose would probably suffice for a face or neck infection. The drug must be administered for a month or two continuously. When given in concentrated form the injections are not too painful, but procaine hydrochloride should be put in the syringe in order to diminish the discomfort.

NOTES AND COMMENTS

Liquid Paraffin for Cooking.—Mr. P. ROCHE, Editor of *The Retail Chemist*, writes: Although the answer to the inquiry made under this heading (April 17, p. 769) recommends that "its use [liquid paraffin] as a substitute for vegetable oils in salad creams and cooked products generally should be prohibited by law," it does not indicate that there is still in operation a Government Order which deals with this very point. I refer to the Control of Petroleum Order, 1944, S.R. & O. 1944, No. 171, which says in effect that no person shall use any liquid paraffin (B.P.), except for medicinal purposes, except when having a licence to do so. Obviously any general member of the public using this substance for the purposes you mention is breaking the law, and, although one can assume that it has been contravened time and time again, I doubt whether an offender has yet been charged, although the Order has been in force now for over four years. This seems to be another instance where the multiplicity of Orders precludes their being effectively enforced, presumably because of the lack of inspectors. Even if there were sufficient, which heaven forbid, it would not be easy to see that every housewife used liquid paraffin for medicinal purposes only, particularly when she can buy it with no questions asked. The matter takes on another serious aspect when supplies have reached the fixed price stores and yet the dispensing chemist has not been able to obtain sufficient to meet prescription requirements. Would it not be better, therefore, if the channel of distribution is limited to that of the chemist, who can at least obtain a verbal acknowledgment that the liquid paraffin he sells is going to be used for "medicinal purposes" only?

Killing Habits of Leopards.—A correspondent in W. Africa writes: Under "Any Questions?" (March 13, p. 530) you answer a question about leopards. I think I can help in answer to (d). Some years ago a woman was brought into hospital with a cut head. On inquiry I found that a leopard had jumped at her and had given her one blow with its paw—claws extended. She had a small puncture just above the middle of one clavicle, a clean cut through the ear and right across the scalp to the other ear, and two quite clean cuts parallel to this one and about two inches in front and behind it. They were about four or five inches long. As far as I could make out the puncture in the neck was made by the fifth claw, the main cut by the middle claw, and the other two by the index and ring fingers (if leopards have such things). The woman was almost scalped, and was shocked. She had not lost much blood. Cleaning with flavine and suturing were followed by rapid healing. It appeared that the leopard had been disturbed by the woman and had given her a pat in self-defence. There was no suggestion of "leopard men" in that area. The cuts were very clean.

Corrections

The name of the Medical Director of the Empire Medical Advisory Bureau was misspelt in our issue of April 24 (p. 809). It should be Dr. H. A. Sandiford.

In the letter by Dr. I. H. Milner (April 24, p. 807, line 10) the word "complicated" should be "uncomplicated."

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Atiology, Westcent, London*. ORIGINAL ARTICLES AND LETTERS forwarded or publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Authors desiring REPRINTS should communicate with the Publishing Manager, B.M.A. House, Tavistock Square, W.C.1, on receipt of proofs. Authors overseas should indicate on MSS. if reprints are required, as proofs are not sent abroad. ADVERTISEMENTS should be addressed to the Advertisement Manager, B.M.A. House, Tavistock Square, London, W.C.1 (hours 9 a.m. to 5 p.m.). TELEPHONE: EUSTON 2111. TELEGRAMS: *Britmedads, Westcent, London*. MEMBERS' SUBSCRIPTIONS should be sent to the SECRETARY of the Association, TELEPHONE: EUSTON 2111. TELEGRAMS: *Medisecra, Westcent, London*. B.M.A. SCOTTISH OFFICE: 7, Drumshough Gardens, Edinburgh.

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY MAY 1 1948

MEDICINE AT CAMBRIDGE

BY

C. H. WHITLE, M.D., F.R.C.P.

We publish below some notes on the University of Cambridge and the Medical School which may be of interest to members of the Association attending the Meeting.

The town of Cambridge probably owes its origin and importance to its strategic position as a fort (Castle Hill) guarding the crossing of the river over or through which lay the main line of communication between the Midlands and the Eastern Counties. To the north below this crossing were the relatively impassable Fens, though the river was navigable and Cambridge, until quite recent times, a port in daily communication with the sea via King's Lynn and the Wash. There is plenty of evidence that even before the twelfth century monasteries existed in or near the present site of the town. St. Rhadegunds was a nunnery standing where Jesus College now stands, and there are still remains of the old buildings. Of Barnwell Priory little is left, but the delightful Lepers' Chapel with some well-preserved Norman work marks the site, close by the bridge where the Newmarket Road crosses the railway a mile out of the town.

It seems more than likely that the monasteries were the centres of study and teaching in the neighbourhood for several centuries, and so it was that the place was gradually sought out as a seat of learning. A "grammar school" may well have preceded the appearance of the colleges, but there is no doubt that the collegiate system proper was started by Hugh de Balsham in 1284 when he founded St. Peter's College, now Peterhouse. There followed Michael House (1324) and King's Hall (1337), both later absorbed into Trinity College, the former to become part of the kitchens. Then came in fairly rapid sequence Clare Hall (1326), Pembroke Hall (1347), Gonville Hall (1348), Trinity Hall (1350), and Corpus Christi College (1352). Nearly a century elapsed before the foundation of King's College (1441), and Queens' College (1448), the latter in the plural because it was founded by two queens—Margaret of Anjou, wife of Henry VI, and Elizabeth Widwife, wife of Edward IV. There followed St. Catharine's (1475), Jesus (1496), St. John's (1511), Magdalene (1542), Trinity College (1546), Emmanuel (1584), and Sidney Sussex (1594). There is another long gap, over two hundred years, before Downing College (1800), and then follow the two women's colleges, Girton (1872) and Newnham (1875), and finally Ridley Hall (1881) and Selwyn (1882).

The older colleges are of great interest by reason of both their history and their buildings. Queens' has its early association with Erasmus (1510), after whom are named the turret and rooms below on the south side of the college; it has also the serene and mellow beauty of the Cloister Court. There is King's Chapel, in which the grandeur of the perpendicular style, especially the windows and fan vaulting, and the glory of the stained glass are unsurpassed anywhere in the world. There is Trinity with its spacious Great Court; and the gentler but no less loveliness of its two smaller neighbours, Trinity Hall and Clare. There is St. John's with its dark Tudor brick, its cobbled courts, and its wide vista over the "Backs"; Magdalene with its smaller courts and more intimate charm, and its Pepysian Library. Other colleges, though they lack the

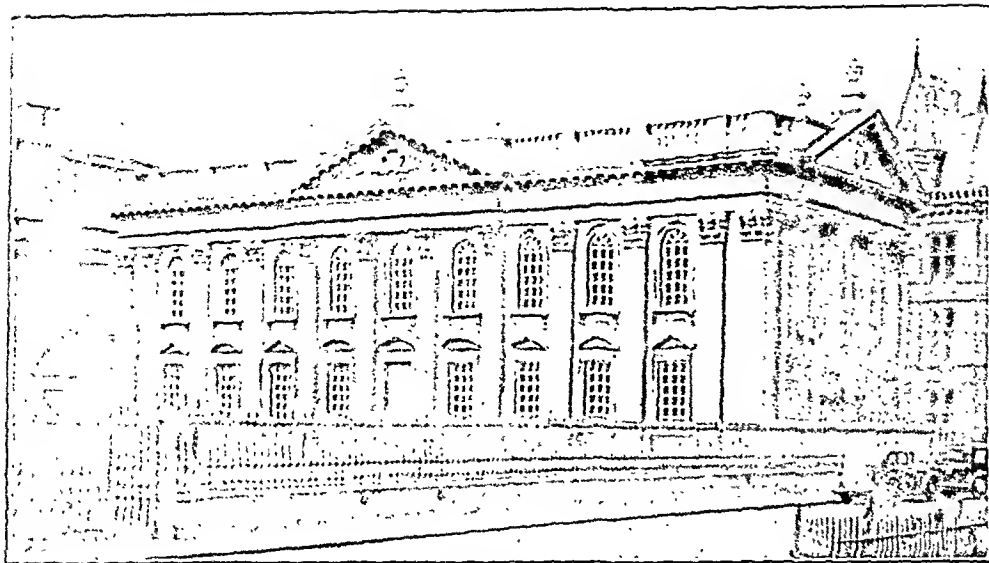
unique setting which the river with its lawns and trees can give, have other features of equal interest both historical and architectural. Christ's has its delightful courts and its memories of John Milton (1625), whose mulberry tree is still standing—with the help and support fitting to one of ripe years. Emmanuel nourished John Harvard, the founder of the American university. There is a fine new court, by Stokes and Drysdale, and behind the older part of the college lie beautiful gardens with lakes and, in the Fellows' Garden, a swimming-bath, the water being originally brought via Hobson's conduits from the Gogs, the chalk hills near by. These conduits are an unusual and attractive feature of the town, flowing as they do down the main thoroughfares of St. Andrews Street and Trumpington Street. The name derives from Thomas Hobson, one-time Mayor of Cambridge, whose "choice"—of a horse in the first instance—gave rise to the phrase. When horses were the only means of transport he kept a large number for hire, but such was his prosperity he could and did dictate to his customers which mount they should ride: they were never allowed to choose—hence "Hobson's choice". His portrait hangs in the Guildhall. Downing College, with which the Downing Chair of Medicine was founded, is noteworthy for its open spacious grounds and its uniform classical style of building, a feature possibly less pleasing to the modern eye than it was to its designers. There is much of interest to be found in the other colleges, but space does not permit their mention here.

Medical Teaching

The University was recognized in 1318 by a Papal Bull (Pope John XXII), and faculties of divinity, law, and medicine were instituted probably soon after this. In 1421 "Scolles of Fyisk" of some repute were known to exist, because in that year a petition was made to Parliament urging the restriction of practice to those who had graduated in the faculty in their respective universities. It was also then enacted that no woman should be allowed to practise physic—an idea that has been an unconscionable time a-dying, for it was not till over five hundred years later, 1947, that women were admitted to full degrees at Cambridge.

The first M.D. was recorded in 1460; M.B. in 1466. In the sixteenth century there were many M.D.s and M.B.s as well as M.L.s, the latter taken as a qualifying examination. Early in the century Linacre's influence is apparent, for it was at his suggestion that Henry VIII founded the Royal College of Physicians (1518) in London, and in Cambridge the Linacre lectureship at St. John's College. This college was for a long time the chosen training ground for physicians, but towards the middle of the century the fellows were wont to take their duties lightly, and the lectureship came to be regarded as a sinecure. Regius Chairs in Physic, as well as in Divinity, Civil Law, Hebrew, and Greek, were founded in 1540 by Henry VIII, but in spite of this medicine did not prosper for some years. Most of the teaching in physic consisted in expounding the works of Hippocrates, Galen, and Aristaeus. The experimental method was unknown until the eighteenth century, and it was not until much later that our present methods of teaching and examining were begun. From 1570 onwards medical students were no longer required to take Arts before starting their medical course, but even so they usually spent seven years on the M.B. and another five years on the M.D. courses.

The seventeenth century, marked by corruption, sinecures, and poverty of ideas, was followed by some revival of intellectual activity. In 1705 Viganì set up a chemical laboratory



Senate House

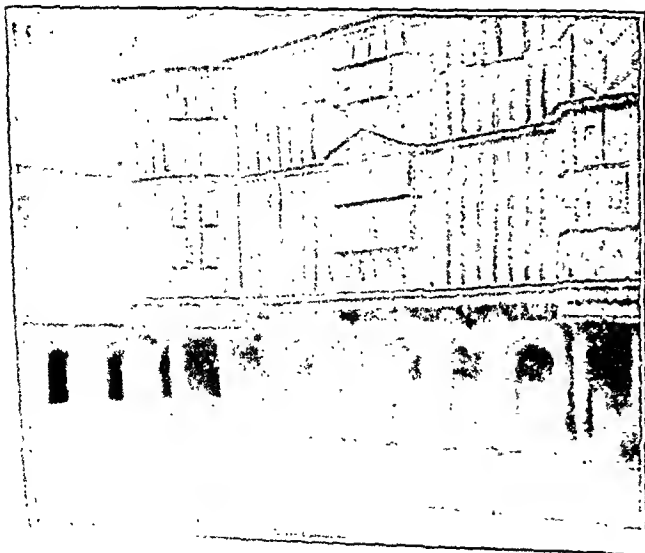
[University Cameras

in Trinity College, and Stephen Hales used this laboratory later for experimental physiology—probably the first physiological laboratory. The health and vitality of the medical school from then on seem closely tied to the growth and development of natural science in the University, especially chemistry, physics, and physiology. Chairs were founded in anatomy, botany, and experimental physiology. In 1734 or thereabouts William Heberden the elder was giving the Linacre Lectures in the anatomy school.

In 1819 lectures on special and general pathology and clinical medicine were started, and from then onwards a period of two years' attendance at a hospital away from Cambridge was required before a candidate could sit the final M.B. This was increased in 1841 to three years, which followed three years' study at Cambridge. In 1842 the practical clinical examination was introduced into the final M.B., and towards the end of the century there were many outward signs of the great increase in size and importance of the school. New chairs were created in physiology (Michael Foster), pathology (C. S. Roy), surgery (George Humphry); and lectureships in botany (Francis Darwin), animal morphology (Adam Sedgwick), physiology (W. H. Gaskell, J. N. Langley, and Sheridan Lee), medicine (Donald McAlister), surgery (G. E. Wherry), midwifery (R. N. Ingle), and medical jurisprudence. This wave of new posts in medical sciences was a clear bid for a full clinical teaching school—probably originating in the mind of Humphry—but many of them were suppressed later and the plan was not allowed to mature.

Queens' College

[University Cameras



There were at one time two chairs in medicine, the Regius Professorship and the Downing Professorship. The latter was founded about 1800 with the founding of the college of that name, which was at first intended exclusively for the study of medicine and law. But the chair was suspended on the death of Bradbury in 1930 after his thirty-six years' tenure of the office. The first holder was Busick Harwood, who was a Fellow of the Royal Society and much interested in blood transfusion, which he demonstrated on animals. He was evidently something of a wit and there are several instances recorded. Once on being greeted by Sir Isaac Pennington, the Regius Professor, with, "Good morning,

ing, Sir B-U-sick?" he immediately retaliated with, "Sir I-sic? I never was better in my life!" They were both keen musicians and often played duets together, hence the rhyme:

"Sir Busick, Sir Isaac,
It would make you and I sick,
Sir Isaac, Sir Busick,
To list to your music."

Professors of Medicine

The first of the twenty-two regius professors was John Blyth, appointed in 1540. Of the earlier holders of the Chair* Francis Glisson (1636) was the most distinguished and is the best known to posterity. He was also President of the Royal College of Physicians and a Fellow of the Royal Society. It was about this time that William Harvey, who had studied at Caius College, Cambridge, but had been engaged in experimental research elsewhere, published his revolutionary findings on the circulation of the blood (1628). Glisson was one of the first of Harvey's contemporaries to accept his views, but like many another of his predecessors and successors he spent much of his time out of Cambridge. He studied and wrote a great deal, and it was his *Anatomy of the Liver* that left his name to us in "Glisson's capsule," though his work on muscle irritability marked an even more important advance in the field of physiology. He was a fellow of Caius, a college which superseded St. John's as a centre of medical interests. At least seven other regius professors were either scholars or fellows of Caius.

The next outstanding figure in the Chair of Physic did not appear till much later. George Paget (1839 onwards), whose bust is in the Hospital, together with George Humphry and Michael Foster, was largely responsible for the train of events which raised the medical school to its present prosperity and fame. The tradition was further enhanced by his distinguished successors, Clifford Allbutt, Humphry Rolleston, and Langdon-Brown. Though no longer with us in the flesh, they are much more than names to hundreds still alive who benefited from their example, their teaching, and their personal friendship.

Allbutt was the first physician practising outside Cambridge to be invited to the Chair. He was shortly after elected a Professorial Fellow of Caius College, at which he had previously been a Scholar and from which he had graduated. His work on cardiovascular disease, visceral neuroses, and many other subjects is well known and forms the foundation of our knowledge in these fields. He also invented the present form of clinical thermometer—a great advance on the 10-inch weapon used for the purpose up to that time. There is a portrait of Allbutt by Orpen in the Fitzwilliam Museum, subscribed for by the medical profession and presented at the last annual meeting of the B.M.A. to be held in Cambridge, in 1920. It is an interesting study, but lacks the warmth and kindliness which

*A point of interest, not generally known, is that there is an actual chair handed down to each new occupant of the post. This chair is now in the Master's Lodge, Downing College, for the use of the present Regius Professor, Sir Lionel Whitby.

HEARD AT HEADQUARTERS

"Prescribed Disease"

The Ministry of National Insurance proposes that when a claim for benefit under the National Insurance (Industrial Injuries) Act is made by a workman on the ground that he is suffering from a "prescribed disease" the claim shall be referred to a practitioner for examination and report. The Ministry is drawing up a list of practitioners to be called upon to undertake these examinations, using at the outset the services of examining surgeons appointed under the Factories Acts. In appropriate cases a consultant will be associated. B.M.A. representatives with representatives of the Association of Certifying Factory Surgeons are in conversation with the Ministry on the fees to be paid for such examinations.

The Aged and Infirm

The Association's Report on the Care and Treatment of the Elderly and Infirm has been widely circulated (incidentally to every member of Parliament), and both its formal and its popular editions have been welcomed. The Committee, however, has not ceased its work, and it is reassembling, after almost a year's intermission, to consider how to further its previous recommendations. One of the reports which it has before it is an excellent document prepared by a committee of the Liberal Party, which will come before the party conference at Blackpool this month. One member of the B.M.A. Committee, Lord Amulree, is also a member of the committee which prepared the Liberal Party report. The Committee has also a report by one of its members, Dr. E. B. Brooke, on the place of the out-patient department in caring for old people. Dr. Brooke believes that an important part could be played by the out-patient department in any co-ordinated scheme. With the help of the almoners and the department of physical medicine, and a transport organization, it would not only assist the old people but would lessen the strain on hospital beds.

Income Tax Deductions

Possibly income tax inspectors are not as indulgent on this side of the Atlantic as they are on the other, but here is a list of items which a medical journal in the U.S.A. publishes as the major income tax deductions which the Government allows doctors: amounts paid for preparation of tax returns and estimates and auditing generally; motor-car costs; bad debts; business expenses; club subscriptions if necessary to maintain professional contacts; expenses incurred in collecting professional accounts; contributions (up to 15% of gross income) to charitable, educational, scientific, and other organizations; cost of travel to and from conventions, and subsistence; depreciation on professional property; entertainment costs incurred to benefit practice; equipment, such as books, instruments, etc.; gifts, if made to benefit practice (such as candy, cigars, flowers); interest on loans and mortgages; insurance premiums; journals; litigation expenses in connexion with practice; licence fees, medical or driving; losses not covered by insurance; maintenance cost of surgery; medical society subscriptions; moving expenses; rent for professional quarters; repairs; salaries to secretaries and other employees; dressings, drugs, x-rays, etc.; office supplies; certain taxes (other than income tax itself); and telephone and telegraph costs. It looks as if, instead of any tax being payable when all these deductions have been made, the income tax authorities will have to make a handsome contribution to the doctor.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union.

Municipal Councils.—Fulham, Hackney, Poplar, Tottenham, Tottenham and Waltham. *County Councils.*—Dartford, Radcliffe (limited), Waltham, Waltham. *Other Authorities.*—Denton, Droylsden, Houghton-le-Spring, Huddersfield, Portlough, Redditch (restricted to certain employees), Telford, Walsley, Walsley and Walsley.

Correspondence

Welsh Association of Hospital M.O.s

SIR.—An association of full-time hospital medical officers has been formed within the Welsh Region as the result of the following considerations.

In the past the interests of hospital medical officers have been the concern of the Society of Medical Officers of Health, the Association of Medical Superintendents, and the Association of Municipal Specialists, acting through the British Medical Association. The impending separation of medical officers of health from hospital activities makes opportune the formation of a directly representative association to promote the interests of full-time hospital medical officers and to be available within the region for consultation in all aspects of hospital practice. The Association is called the Association of Hospital Medical Officers (Welsh Region), and membership is open to medical superintendents, consultants and specialists, and medical officers of registrar grade and above. Associate membership is open to junior medical officers of hospitals.

It is hoped that other regions will form similar associations and that these will ultimately amalgamate to form a national body having a recognized status within the British Medical Association. The Secretary will be pleased to hear from regions where similar activities are contemplated or are actually in being.—I am, etc.,

East Glamorgan County Hospital,
Church Village, Pontypridd.

P. T. BRAY.
Secretary

Petrol Ration

SIR.—It is to be hoped that the Association will protest against the proposed cut in the allowance of "essential" petrol to counteract the basic ration. This is the more necessary as our recent applications have been drastically cut, presumably because the superior persons employed by the Ministry of Fuel regard us as rogues and vagabonds and not worth a tinker's cuss.—I am, etc.,

H. E. GIBSON.

H.M. Forces Appointments

ARMY

Major-General N. Cantlie, C.B., M.C., K.H.P., late R.A.M.C., to be Lieutenant-General.

Colonels (Temporary Major-Generals) F. Harris, C.B.E., M.C., K.H.S., and K. A. M. Tomory, O.B.E., and Colonels O. C. Link, A. E. Richmond, C.B.E., K.H.S., T. Young, O.B.E., F. R. H. Mollan, O.B.E., M.C., D. Fettes, O.B.E., K.H.S., T. Menzies, O.B.E., H. T. Findlay, and J. Bennet, K.H.P., late R.A.M.C., to be Brigadiers.

Colonel (Temporary Major-General) J. J. Magner, M.C., late R.A.M.C., to be Major-General.

Colonel S. Smith, late R.A.M.C., has retired on retired pay. Colonel J. T. Simson, retired, re-employed, late R.A.M.C., on ceasing to be employed has reverted to retired pay.

Lieutenant-Colonels E. P. N. Creagh, G. E. MacAlevey, C.B.E., D.S.O., M.C., C. P. Chambers, and V. J. Perez, O.B.E., from R.A.M.C., to be Colonels.

ROYAL ARMY MEDICAL CORPS

Major H. M. Alexander having attained the age limit for retirement is retained on the Active List (Supernumerary).

Captains H. Foster, J. Duguid, and J. N. Threlfall to be Majors. Captain T. C. R. Archer, from Short Service Commission, to be Captain, retaining his present seniority.

Short Service Commission.—Lieutenant A. W. Morrow, from Emergency Commission, to be Lieutenant.

REGULAR ARMY RESERVE OF OFFICERS

ROYAL ARMY MEDICAL CORPS

Major S. H. Smith, M.C., having exceeded the age limit of liability to recall, has ceased to belong to the Reserve of Officers.

Captain (Brevet Major) B. Malaher, having exceeded the age limit of liability to recall, has ceased to belong to the Reserve of Officers on account of disability.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

Major S. W. Barber has been granted the acting rank of Lieutenant-Colonel.

Captain (War Substantive Lieutenant-Colonel) J. L. Lovibond to be Major.

Captains (War Substantive Majors) F. V. Allen, O.B.E., W. H. Valentine (from R.A.R.O.), S. S. Chessier, and F. J. Fowler to be Majors.

Captains A. Wilcox, A. H. M. Richards, T. MacGregor-Gibson, J. MacM. Macfie, and N. H. H. Longton to be Majors.

Lieutenants (War Substantive Majors) G. Y. Feggetter and H. J. Groot, from Emergency Commissions, to be Captains, and have been granted the acting rank of Lieutenant-Colonel.

Lieutenants (War Substantive Captains) J. R. Macintyre and D. T. Rowlands, from Emergency Commissions, to be Captains, and have been granted the acting rank of Major.

Lieutenants (War Substantive Captains) S. A. Bower, M. A. Watson, G. R. Cubitt, A. H. Bulleid, D. E. Marmion, G. H. Sanderson, W. J. Atkinson, E. J. Williams, G. V. Cole, H. J. Gilbert, A. A. Pow, R. B. Raffle, G. H. A. Robinson, R. McI. Archibald, and J. G. A. Gilruith, from Emergency Commissions, to be Captains.

Lieutenant (War Substantive Captain) C. D. Rigg to be Captain

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Substantive Major A. A. G. Lewis has relinquished his commission on account of disability and has been granted the honorary rank of Lieutenant-Colonel.

War Substantive Captain E. C. Fernandes has relinquished his commission and has been granted the honorary rank of Major.

War Substantive Captains M. Singh and G. A. Sharpe have relinquished their commissions and have been granted the honorary rank of Captain.

Lieutenant T. J. Anthony to be Captain

R. A. Roberts to be Lieutenant

WOMEN'S FORCES

EMPLOYED WITH THE R.A.M.C.

Captain M. D. Cameron has relinquished her commission on account of disability and has been granted the honorary rank of Captain.

ROYAL AIR FORCE

Air Commodore P. C. Livingston, C.B., C.B.E., A.F.C., to be Air Vice-Marshal.

Group Captain P. A. Hall has reverted to the retired list retaining the rank of Air Commodore.

Group Captain G. H. H. Maxwell has retired.

Wing Commanders J. Magner, R. G. Freeman, and P. B. L. Potter, O.B.E., to be Group Captains (Substantive).

Squadron-Leaders R. D. Bruce, A. B. Marshall, F. V. MacLaine, R. C. O'Grady, S. Paul, R. L. Scott, and E. B. Harvey to be Wing Commanders (Substantive).

To be Squadron-Leaders: J. W. H. R. Cran, D. Stevenson, M.B.E., J. C. Bowe, and D. W. Boatman.

To be Flight-Lieutenants: M. Alms, G. Ansell, G. R. Carr, K. N. V. Palmer, B. H. Pickard, R. D. Poole, H. Wainslead, J. A. Wheeler-Bennett, J. A. Cooney, C. J. W. Soutar, E. S. Odbert, A. E. Carter, L. Wolman, and P. J. Macnamara.

Flight-Lieutenants (Substantive) R. Mortimer and D. Stevenson, M.B.E., have relinquished the war substantive rank of Squadron-Leader.

Flying Officer P. D. Sutton, M.B.E., to be Flight-Lieutenant

To be Flying Officers: T. C. L. Brown and seconded to the Hospital of St. Cross, Rugby; A. R. P. Calder and seconded to St. Thomas's Hospital.

To be Flying Officers: J. W. Baker, R. E. Blakey, C. I. Cooling, J. G. Hamilton, M. J. Hargrave, T. K. Lamballe, F. I. Locke, R. G. C. MacLaren, R. J. Smith, P. J. Banks, D. O. Davies, I. D. Findlay, J. J. Fingard, G. W. Korn, R. J. Moylan-Jones, T. N. Riley, P. Satlin, and R. J. Whitwell.

ROYAL AUXILIARY AIR FORCE

D. Turner to be Flight-Lieutenant in the reconstituted R.A.A.F.

ROYAL AIR FORCE VOLUNTEER RESERVE

Flight-Lieutenants R. N. Houlton and D. H. Fowler have resigned their commissions retaining the rank of Squadron-Leader.

Flight-Lieutenant W. E. Robinson has relinquished his commission on account of medical unfitness for Air Force service retaining his rank.

D. W. James to be War Substantive Flight-Lieutenant.

Flying Officers H. M. Kent, G. N. Beck, A. W. Halfhide, D. P. Howarth, H. E. M. Kay, D. M. Kerslake, C. Melver, J. K. Oates, A. T. Richardson, G. P. Paddle, F. W. R. Seward, D. W. Stuart, T. F. Waters, R. R. Davis, A. J. Fouracre, N. L. Gilburn, J. Hearty, M. S. Hughes, G. A. S. Lloyd, W. Lyons, P. Mackenzie, R. W. Watson, and D. Watson, to be Flight-Lieutenants (Substantive).

The notification concerning E. S. Odbert in a Supplement to the London Gazette dated Jan. 20, p. 500, col. 2, has been cancelled.

The notification concerning J. McA. Taggart in a Supplement to the London Gazette dated Jan. 27, p. 656, col. 1, should have read J. McA. Taggart.

The notification concerning J. W. Moffitt in a Supplement to the London Gazette dated Feb. 17, p. 1119, col. 1, should have read J. W. R. Moffitt.

The notification concerning G. I. Tewfik in a Supplement to the London Gazette dated Jan. 27, p. 656, col. 1, has been cancelled.

Flying Officers G. I. Tewfik and L. W. Oxenham have relinquished their commissions on account of medical unfitness for Air Force service, retaining their rank.

WOMEN'S FORCES

EMPLOYED WITH THE MEDICAL BRANCH OF THE R.A.F.

Flying Officers J. H. Kelly and M. A. McGrath to be Flight-Lieutenants.

The following have been granted the substantive rank of Flight-Lieutenant: E. C. Baird, B. D. Lee, M. E. McClelland, E. M. McKechnie, E. M. I. Milne, L. G. Moore, M. Robertson, E. M. D. M. Scott, M. E. G. Sherwell, and E. D. L. Simpson.

B.M.A. LIBRARY

The following books have been added to the Library.

Altenburg, E.: Genetics. 1945.

Bach, T. F. (Editor): Arthritis and Related Conditions. 1947.

Bankoff, G.: The Conquest of Brain Mysteries. 1947.

Carr, M. W.: Dentistry, and agency of health service. 1946.

Coope, R.: Diseases of the Chest. Second edition. 1943.

Daley, R., and Miller, H. G. (Editors): Progress in Clinical Medicine. 1943.

Das, K.: Clinical Methods in Surgery. 1947.

Dearden, H.: Creation's Heir. 1947.

Denny-Brown, D.: Handbook of Neurological Examination and Case Recording. 1946.

Donaldson, J. K.: Surgical Disorders of the Chest. Second edition. 1947.

Gifford, S. R.: Handbook of Ocular Therapeutics. Fourth edition revised by D. Vail. 1947.

Gilberg, A.: Eskimo Doctor. 1948.

Graves, C.: The Story of St. Thomas's, 1106-1947. 1947.

Hale-White, W.: Materia Medica. Twenty-seventh edition revised by A. H. Douthwaite. 1947.

Harris, D. T.: Practical Histology for Medical Students. Fourth edition. 1947.

Hill, H.: Pasteurization. Second edition. 1947.

Ikin, A. E., and Oates, G. E.: A General Course in Hygiene. Third edition revised by H. A. Nathan. 1947.

Keller, L.: Índice Bibliográfico de Lepria. Vol. 2. 1947.

Knudsen, K. A.: Textbook of Gymnastics. Second edition, vol. 1. 1947.

Lewin, P.: The Foot and Ankle. Third edition. 1947.

Lickley, J. D.: An Introduction to Gastro-enterology. 1947.

McAllister, J. B.: Ethics, with special application to the nursing profession. 1947.

McCormick, C. O.: Textbook on Pathology of Labor, the Puerperium and the Newborn. Second edition. 1947.

Neustatter, W. L.: Modern Psychiatry in Practice. Second edition. 1948.

New York Academy of Medicine: Medicine in the Changing Order. 1947.

Parsons, Sir J. H., and Duke-Elder, Sir S.: Diseases of the Eye. Eleventh edition. 1948.

Peterson, D., and Smith, J. F.: Modern Methods of Feeding in Infancy and Childhood. Ninth edition. 1947.

Romanis, W. H. C., and Mitchiner, P. H.: Science and Practice of Surgery. Eighth edition, two vols. 1948.

Ryle, J. A.: The Natural History of Disease. Second edition. 1948.

Sammarino, E. S.: Tratado Practico de Hemoterapia. 1947.

Sante, L. R.: Manual of Roentgenological Technique. Fourteenth edition. 1947.

Sante, L. R.: Principles of Roentgenological Interpretation. Seventh edition. 1947.

Selinger, E.: Office Treatment of the Eye. 1947.

Smith, E. A.: A Manual on Dental Metallurgy. Sixth edition. 1947.

Smitskamp, H.: A Neuro-vascular Syndrome Related to Vitamin Deficiency. 1947.

Sioke, J. E.: Secretarial Practice and Office Administration for Hospitals. 1947.

Stokvis, B.: Psychologie der Suggestie en Autosuggestie. 1947.

Tetau, J.: Homöopathie. Second edition revised by L. A. Rousseau and H. Deroche. 1947.

Tredgold, A. F.: Textbook of Mental Deficiency (Amentia). Seventh edition. 1947.

Troup, W. A.: Therapeutic Uses of Infra-red Rays. Fourth edition. 1947.

Vallejo, E. A.: Disfunciones Motoras del Estomago. 1947.

RETURN TO PRACTICE

The Central Medical War Committee announces that Dr. Clifford G. Parsons, F.R.C.P., has resumed civilian practice at 89, Harborne Road, Edgbaston, Birmingham.

Association Notices

SIR CHARLES HASTINGS CLINICAL PRIZE

The Sir Charles Hastings Clinical Prize, which consists of a certificate and a money award of 50 guineas, is again open for competition. The following are the regulations governing the award:

1. The prize is established by the Council of the British Medical Association for the promotion of systematic observation, research, and record in general practice; it includes a money award of the value of 50 guineas.

2. Any member of the Association who is engaged in general practice is eligible to compete for the prize.

3. The work submitted must include personal observations and experiences collected by the candidate in general practice, and a high order of excellence will be required. If no essay entered is of sufficient merit no award will be made. It is to be noted that candidates in their entries should confine their attention to their own observations in practice rather than to comments on previously published work on the subject, though reference to current literature should not be omitted when it bears directly on their results, their interpretations, and their conclusions.

4. Essays, or whatever form the candidate desires his work to take, must be sent to the British Medical Association House, Tavistock Square, London, W.C.1, not later than Dec. 31, 1948. The prize will be awarded at the Annual General Meeting of the Association to be held in 1949.

5. No study or essay that has been published in the medical press or elsewhere will be considered eligible for the prize, and a contribution offered in one year cannot be accepted in any subsequent year unless it includes evidence of further work. A prize-winner in any year is not eligible for a second award of the prize.

6. If any question arises in reference to the eligibility of the candidate or the admissibility of his or her essay the decision of the Council on any such point shall be final.

Each essay must be typewritten or printed, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto, and enclosing the candidate's name and address.

The writer of the essay to whom the prize is awarded may, on the initiative of the Science Committee, be requested to prepare a paper on the subject for publication in the *British Medical Journal* or for presentation to the appropriate Section of the Annual Meeting of the Association.

Inquiries relative to the prize should be addressed to the Secretary, British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1.

KATHERINE BISHOP HARMAN PRIZE

The Council of the B.M.A. is prepared to consider an award of the Katherine Bishop Harman Prize of the value of £75 in 1949. The purpose of the prize, which was founded in 1926, is to encourage study and research directed to the diminution and avoidance of the risks to health and life that are apt to arise in pregnancy and child-bearing. It will be awarded for the best essay submitted in open competition, competitors being left free to select the work they wish to present, provided this falls within the scope of the prize. Any medical practitioner registered in the British Empire is eligible to compete.

Should the Council of the Association decide that no essay submitted is of sufficient merit, the prize will not be awarded in 1949, but will be offered again in the year next following this decision, and in this event the money value of the prize on the occasion in question will be such proportion of the accumulated income as the Council shall determine.

The decision of the Council will be final.

The essay must be typewritten or printed in the English language, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto and enclosing the candidate's name and address. Essays must be forwarded so as to reach the Secretary, to whom all inquiries should be addressed, B.M.A. House, Tavistock Square, London, W.C.1, not later than Dec. 31, 1948.

MIDDLEMORE PRIZE

The Middlemore Prize consists of a cheque for £50 and an engraved certificate, and was founded in 1890 by the late Mr. J. H. Middlemore, F.R.C.S., of Birmingham, to be awarded to the author of any work on any subject which the Council of the Association may from time to time select in connection with the study of medicine or surgery. The Council of the Association has decided that the prize in the year 1949 shall be awarded for work on "The Value of Orthopaedics in

the Treatment of Squint." Essays submitted in competition must reach the Secretary, British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1, on or before Dec. 31, 1948. Each essay must be signed with a motto and accompanied by a sealed envelope marked on the outside with the motto and containing the name and address of the author. In the event of no essay being of sufficient merit the prize will not be awarded in 1949.

PRIZES FOR NURSES

The Council of the British Medical Association is prepared to consider the first award in 1948 of three prizes each of the value of 20 guineas for the best essay and three prizes each of the value of 10 guineas for the second best essay submitted in open competition by each of the following categories of nurses: (i) Pupil nurses; (ii) State registered nurses working in a hospital; (iii) State registered nurses not working in a hospital—i.e., district nurses, private nurses, etc.

The subjects of the essays for 1948 shall be: Category (i) "Suggested Improvements in the Methods of Training Nurses"; Category (ii) "Nursing the Patient, not the Disease: the Nurse-Patient Relationship"; Category (iii) "Difficulties of Nursing in the Patient's own Home and their Solution."

The purpose of these prizes is the promotion of systematic observation among nurses. In awarding the prizes due regard will be given to evidence of personal observation. No essay that has previously appeared in the medical press or elsewhere will be considered eligible for a prize. Nurses who are undergoing a course of training at a hospital are eligible to compete under category (i); nurses registered by the General Nursing Council are eligible to compete under categories (ii) and (iii). If any question arises in reference to the eligibility of a candidate or the admissibility of his or her essay, the decision of the Council of the British Medical Association shall be final. Should the Council decide that no essay entered is of sufficient merit, no award shall be made. Each essay must be typewritten or legibly written, must be unsigned, and have attached to it a sealed envelope containing the name and address of the candidate and the category into which he or she falls. Essays must be forwarded so as to reach the Secretary of the British Medical Association not later than May 31, 1948. Inquiries about the prizes should be addressed to the Secretary, British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1.

CHARLES HILL,
Secretary.

GROUP OF VENEREOLOGISTS

A meeting of the recently formed Group of Venereologists will be held at B.M.A. House, Tavistock Square, London, W.C.1, on Friday, May 7, 1948, at 2 p.m.

The Group consists of all those members of the Association who are engaged predominantly in the practice of venereology. The agenda will consist of (a) the election of a chairman; (b) consideration of the size and constitution of the Group Committee; and (c) a general discussion on the work of the Group.

CHARLES HILL,
Secretary.

Diary of Central Meetings

MAY

5. Wed. Council, 11 a.m.

Branch and Division Meetings to be Held

METROPOLITAN COUNTIES BRANCH.—At B.M.A. House, Tavistock Square, London, W.C., Tuesday, June 1, 2.30 p.m. Ninetieth Annual General Meeting. Agenda: Report of Branch Council for 1947-8; report of Branch representatives on Central Council, 1947-8; election of officers for 1948-9; address by incoming President.

Meetings of Branches and Divisions

COVENTRY DIVISION

A joint meeting of the Coventry and the Nuneaton and Tamworth Divisions was held in the Coventry and Warwickshire Hospital on April 13. The meeting was the occasion of a visit to the Divisions of the Clinical and Pathological Section of the B.M.A., Birmingham Branch. Cases were demonstrated by Prof. A. P. Thomson, Prof. K. D. Wilkinson, Mr. Hugh Donovan, Mr. J. L. Collis, and Mr. Nisbett, to all of whom an enthusiastic vote of thanks was approved on the motion of Dr. Murray Bladon, of Coventry, seconded by Dr. Procter, of Atherstone.

The address of the North-west Metropolitan Regional Hospital Board is 11a, Portland Place, London, W.1 (Tel.: Museum 9575/9).

BRITISH MEDICAL JOURNAL

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HISTAMINE*

BY

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(From the Department of Pharmacology, University of Edinburgh)

Histamine has attracted much attention because it has dramatic pharmacological effects in very small doses and because it is widely distributed in animal tissues. These two fundamental facts were clearly established by Dale and his colleagues between 1910 and 1927. This early work has often been reviewed (Feldberg and Schilf, 1930; Gaddum, 1936, etc.) and will only be briefly summarized now.

Pharmacological Actions

Histamine causes contraction of most plain muscle. This effect is particularly marked if the muscle comes from a guinea-pig: and this animal provides various preparations which can be used to detect histamine in concentrations down to about 10^{-7} or 10^{-8} . If a high concentration is left in contact with the muscle the contraction is not maintained. The muscle relaxes, although still in contact with histamine; even after the solution has been changed the muscle remains for a time insensitive to further applications of histamine though still sensitive to other drugs.

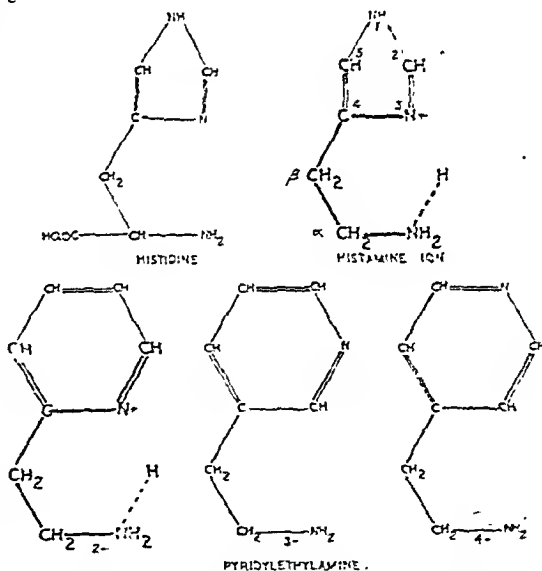
The contraction of plain muscle is well shown in isolated preparations and also when histamine is injected intravenously. In some species of animals large doses kill by this action, but the form of death varies, probably owing to differences in the distribution of the plain muscle. Guinea-pigs are killed by the action of histamine on the bronchi; rabbits by its action on the pulmonary arteries; and dogs by its action on the hepatic veins.

In some animals, including cats and men, histamine has a powerful action on the capillaries, which dilate. This is well shown by injecting histamine into skin, when it produces the well-known triple response which is called urticaria because of its resemblance to the effects produced by the sting of a nettle. The simple explanation of this resemblance has recently been discovered by Emmelin and Feldberg (1947), who find that nettle-stings actually contain histamine in a concentration of about 0.1% together with acetylcholine in a concentration of 1%. The urticaria is due to the histamine, and the pain is due to the two drugs acting together. The intradermal injection of either of them alone is painless.

When large doses of histamine are injected intravenously in cats the capillaries dilate so much that the blood pressure falls to very low levels, and so much plasma leaks out that the blood becomes very concentrated. These changes are the cause of death in cats. Histamine thus causes a form of shock which has much in common with shock due to other causes. The enthusiasts concluded that

shock was always due to the release of histamine, but they were certainly wrong; there are many kinds of shock.

When histamine is injected subcutaneously, so that it is slowly absorbed, the mucous membrane of the stomach secretes large quantities of acid juice poor in enzymes. The use of this fact as a test of gastric function is the main clinical application of histamine. Histamine also stimulates the lacrimal glands, the salivary glands, the pancreas, and the glands of the intestine, but not the sweat glands.



Histamine is a base (β -iminazoleylethylamine) which can be obtained from histidine by decarboxylation. It is soluble in water and ethyl alcohol, but not in ether. It can be extracted from alkaline watery solutions by various solvents such as amyl alcohol and re-extracted from the amyl alcohol with acid. It is extremely stable in acid solution. When titrated with acids it shows two dissociation constants corresponding to pH 5.9 and pH 9.7 (Levy, 1935). Under physiological conditions it therefore behaves as a univalent cation. According to Niemann and Hays (1942) the structure of this cation is as shown above. Ionization is associated with the uptake of a proton attached to the amine group by means of a hydrogen bond (shown by dotted line) and chelation occurs, which means that an unstable ring is formed.

*A special lecture given at the University of London on Feb. 20.

Histamine may be adsorbed in two different ways (see diagram). Adsorption on charcoal is increased when the solution is alkaline; this is presumably because charcoal adsorbs the free base (Phelps and Peters, 1929). On the

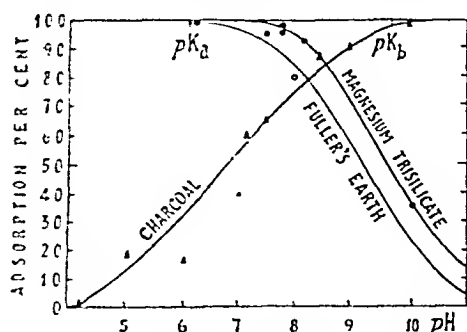


Diagram showing adsorption of histamine. In alkaline solutions adsorption on charcoal is increased, but adsorption on fuller's earth or magnesium trisilicate is decreased.

other hand, adsorption on fuller's earth or magnesium trisilicate is increased when the solution is acid; this is presumably because these substances adsorb histamine ions in exchange for other cations.

Several workers have studied the pharmacological activity of methylhistamines. Vartiainen (1935) found that if one methyl group is attached to the amino-nitrogen the resulting compound is more active than histamine in some tests and less active in others. If two methyl groups are attached to this group the compound still has histamine activity, but is less active. If three methyl groups are attached the compound becomes a quaternary base which acts like nicotine and has no histamine activity. Alles, Wisegarver, and Shull (1942) studied the compound formed by attaching a methyl group in position α . This compound has very little histamine activity; the most interesting thing about it is that it is not attacked by the enzyme histaminase (or diaminoxidase). They point out that this effect is similar to that of attaching a methyl group in the corresponding position in sympathomimetic amines, which are thus protected against aminoxidase.

There are three possible pyridylethylamines, depending on the position of the side-chain in the pyridine ring. The compound whose formula is shown above (2-pyridylethylamine) has effects like those of histamine and is almost as active. It is therefore suggested that the essential group for histamine activity is that shown above [$\text{CH}_2\text{NC}(\text{CH}_3)_2$]. The other two pyridylethylamines do not contain this group and do not act like histamine. Their pharmacological effects are like those of sympathomimetic amines, whose essential structure is phenylethylamine. In these compounds the pyridine ring behaves as if it were a benzene ring (Walter, Hunt, and Fosbinder, 1941; Niemann and Hays, 1942).

Antihistamines

(Bovet and Walther, 1944; Feinberg, 1946; Jew, 1947). It has long been known that many of the pharmacological effects of adrenaline are opposed to those of histamine. These two substances act as physiological antagonists, and the others as such. The injection of histamine releases adrenaline and, according to Staub (1937), the injection of adrenaline releases histamine. He found that, when 0.2 mg. of adrenaline was injected intravenously in man in nine cases, the plasma histamine rose from 10 to 50 mg. per litre. This work seems to confirm a theory put forward by Dale, who thought

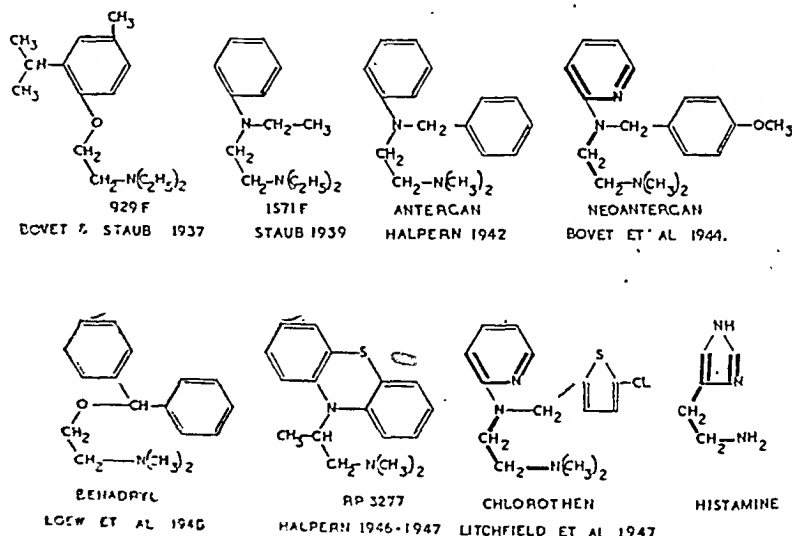
that the vasodilator effect of small doses of adrenaline might be due to release of histamine. Experiments which appeared to show that adrenaline did release histamine from the lungs turned out to be inconclusive (Dale and Richards, 1927), but the work of Staub supports the theory on which the experiments were based.

Another class of substance which is opposed to histamine comprises the substances that destroy it. Formaldehyde (Kendall, 1927) destroys histamine *in vitro* and may oppose its actions on an isolated organ. According to Garan (1938) CO_2 has a similar action, possibly due to the formation of a carbamino compound. Nitrites also destroy histamine *in vitro* (Gaddum and Schild, 1934). There is no evidence that they do this *in vivo*; if there were, it might explain the fact that nitrites inhibit smooth muscle. The enzyme histaminase is presumably the main factor which does destroy histamine in the body; but it seems to be ineffective when injected, and it is difficult to see how it can possibly be effective by the mouth (cf. Feinberg, 1946).

It is possible to immunize the body against histamine by injecting an antigen prepared by coupling histamine to a protein (cf. Feinberg, 1946). This discovery would have made more sense than it did if it had not been overshadowed by the discovery of drugs which probably act as competitive antagonists, combining with the tissues in the same way as histamine and keeping the histamine off.

Perhaps the first competitive antagonist that should be considered is histamine itself. Its power of desensitizing tissues to its own action has already been mentioned. In the search for other antihistamines Edlbacher, Jucker, and Baur (1937) tested most of the amino-acids and found that histidine, arginine, and cysteine had some effect on high concentrations. It seems natural that histidine should act in this way as its molecule differs from that of histamine only by the presence of a carboxyl group. The molecule of arginine can be drawn to look like that of histamine, but it is not so easy to suggest why cysteine should act in this way.

The discovery of the really potent antihistamines is mainly due to Bovet and his colleagues in the Pasteur Institute in Paris. This laboratory had been interested for some years in a series of drugs with an action antagonistic to adrenaline (Bovet, 1943). The molecules of adrenaline and its allies contain phenylethylamine. The anti-adrenalines studied in Paris were tertiary amines containing phenoxyethylamine. The introduction of oxygen between the benzene ring and the side-chain, together with the attachment of alkyl groups to the amino-nitrogen, seemed to convert drugs which acted like adrenaline into drugs which opposed adrenaline. Ungar, Parrot, and Bovet (1937) found that some of these drugs also acted against histamine. The first of the new antihistamines to attract attention was 929F, or thymoxyethyldiethylamine (Bovet and Staub, 1937). The more active drugs discovered later were mostly modifications of this original substance. The formulae of some of these substances are here shown.



In 1571F (Staub, 1939) the oxygen in 929F is replaced by NC_2H_5 and thymol by phenol. In "antergan" (Halpern, 1942) the NC_2H_5 is replaced by $\text{N}(\text{CH}_2\text{C}_6\text{H}_5)_2$ and the diethylamine group is replaced by dimethylamine. In "neantergan" (Bovet *et al.*, 1944) the benzene ring is replaced by pyridine, and a methoxy group appears. This interesting drug is also known as pyranisamine or "anthisan." "Pyribenzamine" has just the same molecule as neantergan except for the absence of the methoxy group.

A large number of other antihistamines have been synthesized in the last few years, including benadryl, "antistin," chlorothen, RP 3277, hetramine, and others, but neantergan appears to be more active and specific than most of the other antihistamines which have been discovered more recently.

Various theories have been advanced to explain the action of these drugs, but the most probable is that they act by competition, blocking up the sites of action of histamine. The results of quantitative studies of the antagonism are compatible with this view. The slope of the logarithm of the dose-effect curve appears to be unaltered by antihistamines (Schild, 1947b). The antagonism between benadryl and histamine seems to be simple (Wells *et al.*, 1945). Halpern and Mauric (1946) have studied the antagonism between antergan and histamine and got more complex curves, but their results can be fitted by a formula of the type proposed by A. J. Clark (1937) to express the relationship in the case of other drugs which are thought to act by competition.

Bovet believes that not only the antihistamines but anti-adrenals such as phenoxymethyldiethylamine act in this way. It has been objected (Loew, 1947) that the molecules of antihistamines are so different from those of histamine and from one another that they would not be expected to combine with the same groups in tissues. The manner in which the above formulae are drawn represents an attempt to answer to this objection. It has already been concluded from the study of the pyridylethylamines that the essential pharmacodynamic group of histamine is the skeleton shown in thick lines in its formula. Neantergan contains this skeleton, but the two parts of it are separated by a nitrogen atom with other groups attached to it. This separation of the side-chain from the ring is comparable with the similar separation in the molecules of the synthetic anti-adrenals. It is noteworthy that the nitrogen in the ring in neantergan is in the same position as it is in histamine. Several other powerful antihistamines, such as pyribenzamine, hetramine, and chlorothen, contain a nitrogen in the same position. Some of the other molecules do not fit into this picture quite so well, but none of them are so widely different from neantergan as to disprove the theory of competitive antagonism. This is not, however, the only possible theory.

These antihistamines appear to antagonize all the actions of histamine, with the notable exception of its action on the gastric juice, which is little, if at all, affected. Their activities have been measured in various ways, the most satisfactory being probably that proposed by Schild (1947a), according to which the activity is expressed in terms of the pA_{50} —the negative logarithm of the molar concentration which is just sufficient to make the tissue half as sensitive to histamine as it was before. Using guinea-pig's intestine, Schild measured the pA_{50} for neantergan, benadryl, pethidine, and atropine acting against both histamine and acetylcholine. Reuse (1948) has confirmed Schild's results for neantergan and also obtained estimates for antergan, antistin, and RP 3277. These results agree with those of other workers obtained by different methods in showing the outstanding activity and specificity of neantergan. Most of the antihistamines are fairly powerful antagonists for acetylcholine; many of them have a local anaesthetic effect and mixed effects on the central nervous system, which is depressed in man but excited in most other animals (Loew, 1947).

Other substances found to have some antihistamine action include peptamines containing histamine (Rocha e Silva, 1943), iminazole (Morris and Dragstedt, 1945), picrotoxin (Anrep *et al.*, 1939), and nicotinamide (Halpern and Dainow, 1944).

Antihistamines can provide evidence for or against theories which attribute physiological changes to the liberation of histamine. Such evidence is of real value only when one of the

more specific drugs such as neantergan is used. Experiments of this type support the view that many of the phenomena of anaphylaxis are due to the release of histamine. On the other hand, benadryl has been found ineffective in protecting animals against trypsin (cf. Loew, 1947). This does not invalidate the evidence that trypsin liberates histamine, but does suggest that its actions are not all due to the release of histamine.

The Estimation of Histamine

Practically all our knowledge of the behaviour of histamine in the body is based upon biological assays. Colorimetric methods have been devised, but they have been found to be comparatively laborious, insensitive, and unspecific. In the early work histamine was generally detected by its effect on the cat's blood pressure, but the favourite test to-day depends on the guinea-pig's intestine. Other suitable tissues are the guinea-pig's uterus or bronchi, the hen's rectal caecum, and the human skin. In all such tests the extract of the tissue is compared with a solution of histamine and the doses adjusted until the two solutions cause equal effects. For really accurate assays the size of the effects can be measured and the result calculated statistically (Schild, 1942).

Crude tissue extracts contain many pharmacologically active substances besides histamine, and when such extracts are used the result means very little. At one time it was customary to use such extracts and to speak vaguely of histamine-like substances. The introduction of improved pharmacological techniques has made these tests more specific, and if proper precautions are taken it is now possible to be reasonably certain that the result of an assay does give an estimate of the concentration of histamine itself.

In order to do this it is necessary to subject the extract to chemical or physical procedures which remove or destroy all other substances that would affect the test. The estimation is thus comparable with a colorimetric estimation in which tissues are ashed or extracted before the final test is applied. In a method which Barsoum and I (1935a) devised in Cairo for the assay of histamine the tissue is minced and extracted with trichloroacetic acid, which precipitates the proteins. The trichloroacetic acid is removed from the extract with ether, and strong hydrochloric acid is then added and the mixture boiled for 1½ hours. This destroys other substances, and generally gives a pharmacologically pure solution after the HCl has been evaporated off. This extract is tested in comparison with histamine on guinea-pig's ileum. We found that when the concentration of histamine was very low there was enough potassium in this final solution to interfere with the test, so we devised a technique involving alcoholic extraction to get rid of this potassium when necessary. Code (1937a) improved this method by the discovery that extraction with ether was unnecessary because the HCl destroyed the trichloroacetic acid. Since then various other methods of extracting histamine for pharmacological tests have been used (cf. Minard, 1940; McIntire *et al.*, 1947).

By such methods it is generally possible to obtain pharmacologically pure extracts, but until confirmatory tests are made it is unsafe to assume that this result has been achieved. The best confirmatory test is to make parallel quantitative assays. The extract is compared quantitatively with histamine by several different methods. If all the results agree quantitatively it is probable that they give an estimate of histamine (cf. Chang and Gaddum, 1933). Histamine can be distinguished from N-methyl histamine in this way; the methods used so far would not distinguish it from N-dimethyl-histamine.

The effects of antihistamines can also be used in evidence, provided that the experiment is properly designed

Large amounts of antihistamines will desensitize tissues not only to histamine but also to other substances such as acetylcholine and potassium. The effect of antihistamines is therefore convincing only when they antagonize extracts in the same concentrations that they antagonize histamine. One sound way of arranging the experiment is to obtain a series of equal responses of the guinea-pig's gut with the extract and with histamine given in alternate doses. A small concentration of neoantergan is then added to the bath for a minute and the alternate dosing continued. The result is that the response to histamine is greatly depressed or abolished and then gradually recovers as successive doses are given. If the active principle in the extract is histamine its effects will be depressed to the same extent and for the same time as the effects of the standard solution of histamine. This type of test can be used to distinguish histamine from many substances, but Schild (1947b) has shown that it does not distinguish histamine from N-methyl-histamine, although these two substances can be differentiated by the method of parallel quantitative assays. This result suggests that antagonists can be used to distinguish between drugs acting at different sites in tissues but not between two drugs which act at the same site.

Evidence for the identification of histamine in extracts can also be obtained by exposing the extracts to various solvents, and destructive agents such as histaminase; but it must be remembered that this enzyme has not been prepared in the pure state, and that preparations containing it may contain other enzymes as well. Evidence depending on the use of this enzyme is not conclusive by itself.

Behaviour of Histamine in the Body

It seems likely that the histamine in the body is derived originally from histidine by decarboxylation. Histidine is one of the essential amino-acids, and it is generally supposed that the iminazole group which it contains is not synthesized in the animal body but absorbed from the intestine. Histidine may be converted into histamine by bacteria either in the food before it is eaten or possibly in the intestine. When animal tissues are eaten they also often contain histamine derived from the animal. Histamine is absorbed by the mucous membrane in the mouth, but most absorption occurs in the ileum. However, large doses may be eaten with surprisingly little effect, for reasons to be discussed later.

Histamine may also be formed from histidine in the body by the enzyme histidine decarboxylase (see Blaschko, 1945), which is present in the liver and kidneys of certain small animals. It is not known what proportion of the histamine normally present in the body is derived from this source and what proportion is absorbed from the intestine, but the fact that histidine decarboxylase appears to be absent in many species of animal suggests that it does not play an important part in providing the body with histamine.

Numerous estimates have been made of the amounts of histamine in animal tissues, with varying results (Feldberg and Schiff, 1930; Gaddum, 1936; Rocha e Silva, 1946; etc.). There are usually particularly large amounts in the lungs and skin, but most tissues may contain quite large amounts in some species at some times. The blood has attracted particular attention because it is easy to obtain successive samples of it. Most of the blood histamine is in the cells. The plasma usually contains so little that it is difficult to estimate it, but some does seem to be there in a pharmacologically active form. Emmelin (1945), for example, took pairs of guinea-pigs of which one normally had a high concentration of histamine in its plasma and the other a low concentration. When he established a cross-reaction between two such guinea-pigs bronchoconstriction occurred in the animal with an initial low plasma

histamine and not in the other animal. This experiment seems to show that the concentration in the plasma does play a part in regulating the normal functions of the body. Code (1937b) came to the conclusion that most of the blood histamine is in the granulocyte cells. This view was confirmed by the fact that in myeloid leukaemia when the number of granulocyte cells was very high the blood histamine reached astronomical proportions. Later work suggests that this is not true of all species of animal and that most of the histamine in rabbit's blood is in the platelets (Minard, 1940). In any case, estimations of total blood histamine are often difficult to interpret; a fall of blood histamine may be due to the disappearance or destruction of histamine-containing cells.

Observations on the blood histamine are also complicated by the fact that when histamine is liberated into the blood by one organ it may be rapidly absorbed, destroyed, or excreted by another. Anaphylaxis in rabbits causes a fall in the histamine content of the lungs, spleen, and blood, and it is not known what happens to the histamine in these circumstances. The injection of histamine itself in rabbits has been found to cause a fall in the blood histamine apparently due to the loss of leucocytes or platelets (Rose and Browne, 1941). Such observations help to explain why estimations of histamine in the blood have not led to as rapid advances in the study of histamine as seemed possible at one time.

It has long been obvious that the histamine in the tissues cannot all be free; something prevents it acting under normal conditions. If all the histamine in a cat's lungs were liberated it would kill the cat. The methods generally used for the estimation of histamine do not estimate free active histamine but only the total amount that can be extracted from the tissues. When tissues are ground up in saline part of the histamine is released, but part of it appears to be bound to cellular debris, from which it can be released by procedures, such as heat, which coagulate the proteins (Trethewie, 1938).

When histamine is injected intravenously most of it disappears from the blood within a minute or two and is taken up by the tissues and particularly by the kidney (Rose and Browne, 1938; and cf. Emmelin, 1945). Various alkaloids disappear from the blood equally quickly. It is unlikely that this phenomenon is entirely due to the combination of the drug with the specific receptors on which it acts. It is thus probable that histamine can combine with tissues in at least two ways, one of which is specific and produces pharmacological effects, and the other of which is unspecific and merely removes the drug from the blood. According to Phelps (1935) the pharmacological effects depend on the combination of free histamine base with the tissues, and according to Rocha e Silva (1946) the unspecific combination of histamine with the tissues depends on a mechanism which will be discussed later. But first consider the factors which release histamine from the tissues.

Release of Histamine from Tissues

A number of different methods have been used to study this question. Lewis (1927) showed that various injurious agents produced effects which could be attributed to the release of histamine or something like histamine. The best-known of these effects is the local triple response produced in the skin by intradermal injections, but Lewis and his co-workers also observed other effects such as vasodilatation in the skin of the face which could be attributed to the release of histamine into the general circulation (Lewis and Harmer, 1927). Various other similar methods have been used; for example, the released histamine has been detected by its effect on the gastric juice (Kalk, 1929;

Ungar, 1935; Feldberg and Holmes, 1941) and on the blood pressure (McIntosh and Paton, 1947).

In some experiments the evidence has been the demonstration of a general rise of the histamine content of the circulating blood (Dragstedt and Mead, 1936) or of the blood coming from one particular organ (Anrep and Barsoum, 1935) or in the lymph (Dragstedt and Gebauer-Füllnegg, 1932). The release of histamine can also be demonstrated in tissues such as guinea-pig's lungs perfused with salt solutions (Bartosch, Feldberg, and Nagel, 1932) or by diffusion from tissues suspended in salt solutions (Schild, 1939) or from blood cells into plasma (Katz, 1940). Another possible method, to be discussed later, depends on estimating histamine in the urine.

The factors which control the release of histamine have recently been reviewed by Kellaway (1947), and it will therefore be unnecessary to discuss all the details here.

Histamine is liberated by trypsin, and this fact has been made the basis of an interesting theory regarding the way in which histamine combines with tissues. Rocha e Silva (1946) showed that crystalline trypsin liberates histamine from lungs or from blood cells. It has been shown by Bergmann that crystalline trypsin is a much more specific enzyme than had been supposed, and that it acts on the peptide links formed by the carboxyl groups of the basic amino-acids lysine and arginine. Rocha e Silva therefore suggests that the amine group in histamine combines with the carboxyl groups in these two acids, which themselves presumably form part of protein molecules in the tissues. In support of this very definite theory he finds that chymotrypsin, which attacks the carboxyl group of aromatic amino-acids, does not liberate histamine from cells. On the other hand, papain, which contains a mixture of proteolytic enzymes, does liberate histamine (Rocha e Silva and Andrade, 1943). There is evidence that proteolytic enzymes are liberated or activated in various forms of injury. This is one mechanism by which histamine may be released.

Rocha e Silva (1946) has suggested a theory of how this happens. It is well known that histamine is released in anaphylactic shock, together with other substances such as heparin (Feldberg, 1941; Dragstedt, 1941; Rose, 1947). At the same time leucocytes and platelets disappear from the blood. Rocha e Silva found that both peptone and extracts of ascaris caused similar effects in dogs, and obtained microscopical evidence that the leucocytes and the platelets were retained in the liver. He believes that these cells liberate or activate trypsin, or some similar enzyme, in the tissues and that this trypsin then liberates both histamine and heparin. Such experiments are complicated by the fact that heparin antagonizes the action of trypsin (Rocha e Silva, 1945).

A large number of other substances are known to liberate histamine, and it is clear that they do not all act in the same way. The effects of various forms of injury have been studied in detail by Feldberg, Kellaway, and their co-workers in Australia (Kellaway, 1947), who found that a number of different irritant poisons had various effects in common. The poisons studied included snake venoms, bee venom, peptone, toxins from *staphylococcus* and *Clostridium welchii*, and mercuric chloride. All these poisons caused a liberation of histamine, and some of them the liberation of other substances as well. For example, cobra venom also liberated adenosine compounds, which inhibit most smooth muscle, and a substance which causes a slow contraction of guinea-pig's isolated intestine and is known simply as the "slow-reacting substance." Another important substance liberated by cobra venom is lysolecithin, which is formed from lecithin by an enzyme. This

substance is itself destructive of cells, causing haemolysis and the release of proteins, pigments, histamine, and small amounts of the slow-reacting substance (Feldberg and Kellaway, 1938). Some, at least, of the release of histamine by cobra venom must be the secondary result of the formation of lysolecithin.

Histamine is also liberated by various substances which do not produce obvious injury. For example, Alam *et al.* (1939) showed that curare liberates histamine, and this fact has been confirmed in experiments with tubocurarine (Schild and Gregory, 1947; Grob *et al.*, 1947). McIntosh and Paton (1947) have also found that stilbamidine and a series of other diamidines as well as diamines and diguanidines also release histamine in the body.

In most of the experiments discussed so far there was no question of any new formation of histamine. The appearance of histamine in the fluids in contact with tissues has often been shown to be accompanied by a disappearance of similar amounts of histamine from the tissues themselves. The work of Dekanski (1945) suggests that some other mechanism may play a part in the effects of the exposure of tissues to high temperatures. In the hope of following the fate of histamine liberated by injury he made extracts of whole mice. Anaesthetized mice were immersed in water at 60° C. for 10 or 30 seconds. During the first hour after this treatment the total amount of histamine which could be extracted from the whole body rose from an average value of 216 µg. per mouse to about double this value. The main site of this new formation of histamine appeared to be the skin, but it is not known from what precursors the histamine was formed.

The Fate of Histamine

Histamine is destroyed by some bacteria and also by the enzyme histaminase which is present in the body (Best, 1929). According to Zeller (1938, 1941) this same enzyme also destroys various diamines, such as putrescine and cadaverine, and should therefore be called diaminoxidase. The enzyme is inhibited by cyanide and acts by oxidation. One atom of oxygen is absorbed and one molecule of ammonia is formed when one molecule of histamine is destroyed by the purified enzyme; H_2O_2 is formed and the iminazole ring is destroyed. The most sensitive method of estimating the amount of enzyme in a solution depends on adding histamine and following its destruction by pharmacological tests. Other methods depend on the measurement of the oxygen consumption, the ammonia production, and the peroxide production.

The highest concentrations of the enzyme are in the intestinal mucous membrane, the kidney, and the placenta. The liver contains surprisingly little. In normal circumstances the blood contains very little, but during pregnancy there is an enormous increase of the histaminase content of the blood of women. This phenomenon was first described by Marcou (1937) and has been confirmed by many others (for references see Ahlmark, 1944; Anrep *et al.*, 1947). The enzyme is thought to come from the placenta.

Kapeller-Adler (1944) studied this phenomenon by means of a colour test depending on the formation of H_2O_2 . The rise in the concentration of the enzyme in the blood during normal pregnancy could be demonstrated by this test when either histamine or cadaverine was used as substrate, but bloods taken from women suffering from eclampsia or pre-eclamptic toxæmia behaved in a curious way. The effect of these bloods on cadaverine was similar to that of blood from normal pregnant women, but their effect on histamine was much less. This observation seemed at first to suggest that the enzyme oxidizing cadaverine was

not, after all, identical with the enzyme oxidizing histamine. The evidence on this point has therefore been re-examined using the Warburg technique to measure the oxygen consumption as well as other tests. A highly purified preparation of the enzyme from pig's kidney was used in this work. The results showed that there were not two independent enzymes. When histamine and cadaverine were both present the combined effect on the oxygen consumption was less than the sum of their effects when either is present without the other. Cadaverine inhibited the destruction of histamine as measured by biological assay. The effects of various poisons and changes of pH produced similar effects with either substrate, but dialysis had an effect like eclampsia: it decreased the action of the purified enzyme on histamine and increased its action on cadaverine. Both these effects were reversed by flavine adenine dinucleotide; the effect of dialysis thus appears to be due to the removal of this substance. The relation of these observations to those on toxæmia obviously requires further investigation.

The eventual fate of most of the histamine in the body is probably to be destroyed by the enzyme histaminase, but a certain amount appears in the urine. The first clear quantitative evidence of this was obtained by Anrep, Ayadi, Barsoum, Smith, and Talaat (1944), who found that the activity of extracts of urine could be increased by acid hydrolysis. The histamine in the urine seems to be partly free and partly conjugated with other substances, from which it can be liberated by acid. These facts have been confirmed and extended in Edinburgh by Adam. He has been using a simplified form of the test devised by Anrep *et al.* to measure the histamine in human urine. In normal circumstances the concentration of histamine in the urine is comparable with that in the blood—about 50 µg. per litre. This is near the limit of what can be measured by the methods available. When histamine is given by the mouth to man about 1% of it appears as conjugated histamine in the urine, but when histamine is given by slow intravenous infusion it is free histamine which appears in the urine. These observations confirm results obtained by Anrep *et al.* in experiments on dogs.

The fact that large doses of histamine have very little pharmacological effect when swallowed may be partly due to this formation of conjugated histamine, but other factors may be more important. The mucous membrane of the gut contains particularly large amounts of histaminase, and this probably also plays a prominent part in protecting the body from the effects of the absorption of histamine. It has already been mentioned that other organs, such as the kidney, also contain histaminase, and the general result is that only a small amount of histamine normally appears in the urine. This proportion may be much greater when large doses of histamine are given. This is well shown in some experiments by Alexander (1944), who injected 3 mg. of histamine intravenously into each of a group of mice, and then followed its fate by estimating it in the urine and in extracts of the whole mouse. The percentage appearing in the urine in these experiments varied widely, but on the average it was 37.7. After 24 hours the histamine content of the mice had fallen practically to the normal value of 0.3 mg. per mouse, so that the other 62.3% of the histamine must have been destroyed in this time. During the first hour, when the mice were flooded with histamine, excretion in the urine was the main channel by which they got rid of it.

The main interest of estimations of histamine in the urine lies in the fact that they provide a possible means of studying the factors which cause the liberation of histamine from the body. Under the conditions of Adam's experiments

there was no detectable rise in the blood histamine, although measurable quantities of histamine appeared in the urine. It thus seems likely that the liberation of histamine in the body may be followed by estimating it in the urine even when no changes occur in the blood histamine.

Histamine in Normal Physiology

It is natural to suppose that the local control of the circulation may depend on histamine. Vasodilatation is known to occur when the blood supply to a tissue is obstructed or when the activity of the tissue is increased. These phenomena may be partly due to the local release of histamine, but the evidence is conflicting. Workers in Cairo got evidence of an increase in the histamine content of blood coming from the voluntary muscles of a dog when the circulation was obstructed; when the muscles were stimulated the effect was much larger. They also did experiments with a heart-lung preparation, and found that when the heart worked harder it liberated more histamine (Barsoum and Gaddum, 1935b; Anrep and Barsoum, 1935; Anrep, Barsoum, and Talaat, 1936; Anrep, Barsoum, Talaat, and Wieninger, 1939). Some of these conclusions were supported by the results of Feldberg and Holmes (1941), who found that stimulation of voluntary muscles caused gastric secretion in cats which could be attributed to the release of histamine. Unfortunately other workers failed to confirm the experiments in Cairo (Code, Lovatt Evans, and Gregory, 1938; Emmelin, Kahlson, and Wicksell, 1941; Kwiatkowski, 1941). Emmelin and Emmelin (1947) found that benadryl in doses sufficient to reduce the effect of histamine did not reduce the reactive dilatation of the vessels in a cat's leg after occlusion of the circulation.

According to Anrep, Barsoum, Salama, and Souidan (1944) some at least of the negative results were due to the fact that the histamine is very rapidly washed away unless drastic measures are taken to control the blood flow when it is first released. It has also been pointed out that the muscles of the dogs in Cairo contained three to four times as much histamine as the muscles of the dogs used by other workers. It is possible that histamine did contribute to the hyperaemia in all the experiments, but that it was only when it was present in large amounts that it appeared in the venous blood. In any case the evidence in favour of histamine's function in the local control of the circulation cannot be regarded with complete satisfaction at present. It is very probable that various other substances are involved.

The question of the release of histamine by nerves has received less attention than it deserves. Ungar (1935) stimulated the posterior roots antidromically in dogs and found that the vasodilatation thus produced was accompanied by gastric secretion. He attributed this at first to the release of histamine into the general circulation, and suggested that these nerves should be called histaminergic. Kwiatkowski (1943) obtained more direct and convincing evidence in favour of this conclusion. He found that antidromic stimulation in cats caused the appearance of a histamine-like substance in the venous blood. Confirmatory results were obtained when a cat's leg was perfused with Tyrode's solution. High concentrations of histamine were also found in extracts of the nerves which cause these effects, and Kwiatkowski considered that this was analogous to the fact that extracts of cholinergic and adrenergic nerves contain high concentrations of the substances liberated at their endings. There are, however, various complications which suggest that the analogy is not a close one. Kwiatkowski himself found that degeneration caused

an increase in the histamine content of nerves, whereas it is known to have the opposite effect on their content of acetylcholine and sympathin. The work of Koshtojanz, Ryvkina, and Mitropolitanskaya (1945) indicates a more complicated situation. They compared the effects of a blow on the head with those of ether narcosis. Extracts of nerves taken from animals killed by this form of violence contained little or no histamine, whereas those obtained from anaesthetized animals contained large amounts. It is clear that there is still much to be learned about the histamine metabolism of nerves.

Therapeutic Applications

(Rose, 1947)

The realization that the release of histamine plays a part in various pathological conditions has stimulated the search for ways of counteracting its effects. The results of this search have already been briefly discussed; the most promising antidotes for histamine are the drugs, like neoantergan, which probably act as competitive antagonists. Their effect in anaphylaxis has led to their clinical use in allergy. They have been found effective in allergic urticaria. In various other dermatological conditions their main effect is to diminish itching. They are also effective in hay-fever and other forms of spasmodic rhinitis. There is evidence that when patients are specifically sensitive to drugs such as liver extracts or insulin the unpleasant effects can be suppressed with antihistamines and the treatment continued. Under these conditions the patient may be desensitized so that the administration of the antihistamine need not be continued indefinitely. Antihistamines may cause various toxic effects, of which the most troublesome at present seems to be drowsiness. Much work remains to be done before the full possibilities and limitations of these drugs are known, but it is already clear that they have some uses. Histamine thus provides another example of the way in which fundamental discoveries which were originally inspired by unorganized scientific curiosity may bear practical fruit which could not have been foreseen.

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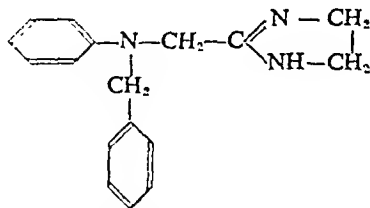
A paper entitled "Some Aspects of Physique in Boys and Girls," by R. E. Roper, M.A., M.Ed., has been published (price 2s. 6d., post free) by the Research Board for the Correlation of Medical Science and Physical Education, Apothecaries Hall, Blackfriars Lane, Queen Victoria Street, London, E.C.4. Mr. Roper examined 1,852 children from State schools and day nurseries, a sample which excluded children at special schools. He has tabulated the age, height, weight, and other particulars of the physique and carriage of the children. He recommends that education authorities should consider employing chiropodists to work in schools, that special corrective classes should be available for children with minor defects, that a pair of large mirrors should be provided in all schools, that education authorities should provide travelling x-ray equipment to examine the children's physique, that each school should have a rest room for children with special needs, that physical exercise should not be omitted to provide more time for study when examinations approach, and he advocates fuller co-operation between physical education and the medical profession.

"ANTISTIN" IN DERMATOLOGY

BY

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Research by K. Miescher and co-workers on antihistamines led to the synthesis of "antistin," a substance which chemically has the formula 2 N-phenyl-N-benzyl-aminomethylimidazoline.



The antistin salts used are all white crystalline powders. The hydrochloride, which is 2% soluble in water, is used in the tablets. The methanesulphonate is readily soluble in water, and is given parenterally. Antistin sulphate has a solubility of about 4% in water, and is employed as a local application to the mucous membrane in hay-fever.

Pharmacology

The pharmacological properties of antistin have been investigated by Meier and Bucher (1946a, 1946b) in the usual animal experiments employed to ascertain the efficacy of this type of drug. Anaphylactic symptoms were entirely prevented by previous medication with antistin in rabbits sensitized to egg albumin; antibody production appeared to be increased when elicited in conjunction with the administration of antistin; addition of antistin to the liquid in which isolated organs were immersed suppressed or prevented anaphylactic contraction (Schulz-Dale's experiment). The antagonism of antistin to histamine was shown in the isolated perfused posterior extremity of the rabbit and in the isolated intestine of the guinea-pig; the fatal consequences from histamine-induced bronchospasm in the guinea-pig were prevented by premedication with antistin. Its toxicity was found to be relatively low, and cumulative action slight. Brack (1946) demonstrated its peripheral action on the vasomotor system in man by the effects of local application in scratch-tests with histamine, diethylmorphine, and simple trauma; he observed suppression of the irritation and a reduction in the size of weal formation. Antistin did not reduce the irritation which followed the application of adrenaline in this scratch-test technique. Staub (1946) found that the temporary increase in the histamine content of the blood in man after the slow intravenous administration of 0.2 mg. of adrenaline was diminished or abolished by the previous administration of antistin.

Clinical Trials

Schindler (1946) attempted a clinical evaluation of antistin in a mixed series of conditions associated with pruritus. Among four patients suffering from jaundice due to infective hepatitis, three were relieved in one to three days, and in one there was no conclusive result. In two patients with carcinoma of the duodenum relief was obtained after two and six days' medication respectively. One patient with uterus of unknown aetiology was free from pruritus after two days' treatment. Senile pruritus was relieved in one patient, but in another, after a temporary relief, the drug proved ineffective. An old man with chronic generalized pruritus experienced relief only after taking antistin tablets. Itching associated with

lymphogranulomata was relieved in one patient, but in another, after an initial period of partial relief, the drug proved useless. Relief was obtained after three days' treatment in a patient suffering from plasmocytoma. In a patient with carcinoma of the pancreas immediate success was followed by subsequent failure. The result of treating one patient with drug-pruritus was unconvincing.

Nine cases of acute urticaria—three of which were due to drugs, two to sera, two to foodstuffs, and one following ultra-violet light therapy—were rapidly relieved by antistin. One patient suffering from recurrent urticaria obtained speedy relief from a relapse, whereas another patient who also suffered from myocardial degeneration experienced little benefit. It proved ineffective for two patients with erythema nodosum.

Schindler found that dosage was purely empirical; he administered up to 300 mg. daily intravenously, intramuscularly, or subcutaneously, and up to 600 mg. by mouth. He tried the effect of a 200-mg. dose intravenously in a normal control. The only ill effect suffered was a sense of warmth in the head, lasting about five minutes. Doses of 300 mg. daily for 10 days in four normal controls did not produce any unpleasant symptoms, nor were the pulse, blood pressure, or respiratory rate affected. Occasionally, when the subcutaneous route was used, a painful nodule persisted for a few days at the site of injection.

Brack (1946) has carried out more extensive trials on about a hundred patients suffering from various skin disorders. Nine patients with acute urticaria and four patients with "cold" urticaria manifested rapid relief. Seven patients with chronic urticaria were improved for long periods after 2 to 3½ weeks' medication. Four patients with nervous pruritus obtained relief, whereas five other patients required ancillary measures to effect improvement. Among 17 patients with neurodermite, 12 enjoyed suppression of irritation without any apparent local change occurring in the lesion. Five patients with prurigo vulgaris were cured. Itching in lichen ruber planus, psoriasis, and after scabies also responded to antistin.

The dosage Brack used was empirical, and varied from 100–200 mg. during the night to 600 mg. by mouth through the day. It was also given by intramuscular or slow intravenous injection in doses up to 100 mg. A few patients experienced transitory faintness or dizziness, but this was avoided by reducing the dosage or retarding the rate of intravenous injection. One patient suffered tetany-like cramp of hands and fingers on doses exceeding 400 mg. daily.

Skouby (1947) treated a group of 43 patients—six with vasomotor rhinitis, 10 with angioneurotic oedema, 15 with urticaria, 12 with asthma. It proved effective in the first three groups only. Thirteen patients suffered from mildly disturbing side-effects, which in seven patients persisted during administration of the drug. Two of the latter preferred to discontinue treatment.

Britton (1947) has used it for 11 patients with urticaria, with some relief in five. Twenty among 54 patients developed unpleasant side-reactions, and in seven they were severe enough to prevent continuation of this mode of treatment. The reactions included nausea (9), drowsiness (4), faintness (3), giddiness (3), headache (2), coughing attacks (2), disorientation (1), depression (1), diarrhoea (1).

Dosage, Mode of Administration, and Control Therapy

The following results are culled from clinical experience with the drug dating from March, 1947. It has been used, mainly in the out-patient department, on some 87 cases. Administration has of necessity been given in the majority of cases by the oral route, occasionally supplemented by intramuscular injection. Dosage has generally been

increased until a therapeutic result was achieved, or toxic symptoms supervened, or a dose of 800 mg. daily had been given.

As a control for the results, the effects of substitution of dummy tablets (suitably flavoured with liq. strychnine, 1/192 gr.) and cessation of therapy were assessed. In addition, in the non-urticarial pruritic syndromes the effect of a potassium bromide sedative tonic mixture was compared with that produced by antistin.

Actinic Dermatitis.—Prolonged observation throughout an exceptionally fine summer, with the use of adequate control therapy, did not provide any clear-cut evidence suggesting clinical improvement on antistin in two patients with this disorder, though the drug was pushed to the limits of tolerance. "Benadryl" in maximum tolerated dosage proved equally ineffective.

Cheirpompholyx.—Three patients with cheirpompholyx of constitutional origin obtained no relief from their irritation on antistin 100 mg. four times a day by mouth. A similar lack of response followed the use of benadryl.

Chronic Constitutional Eczema.—Compared with adequate control measures, 12 out of 13 patients experienced a moderate amount of relief from their pruritus without any change in the progress of the local manifestations being noted. Its effectiveness did not exceed that of 10 gr. (0.65 g.) of potassium bromide thrice daily in mixture form. Seven patients had previously obtained no assessable benefit on the maximum tolerated dosage of benadryl.

Infantile Eczema.—Eight patients, ranging in age from 4 months to 6 years, unfortunately showed no evidence of relief of irritation, or improvement in the local condition. Dosage ranged from 25 mg. four times daily for a 4-months-old infant to 50 mg. four times a day in a 6-year-old child. One child, aged 2, vomited on two occasions when taking 50 mg. thrice daily; there was no recurrence of the vomiting on continuing the same dosage.

Eczematous Conditions with Oedema.—The value of antistin therapy in this group of patients proved more difficult to assess. It would have been preferable to produce a series divided into two comparable groups of patients—one treated by local applications and antistin, and a second by local measures only. Circumstances, and the relatively small number of patients, have not permitted this, but the clinical impression gained was that antistin therapy was a useful adjunct in the treatment of this group. There were nine cases.

Varicose Eczema.—A woman suffered sudden generalization, with marked oedema of face, occlusion of eyes, and very severe pruritus. Antistin was given in 100-mg. doses intramuscularly thrice daily for two days, together with the application of lead lotion to the face and zinc cream to the limbs and trunk. The irritation began to diminish in 8 to 12 hours, and the oedema and symptoms had markedly abated in 24 to 36 hours.

Constitutional Eczema.—Three patients who had suffered during a number of years from recurrent attacks of generalized eczema, with oedema of the face and occasionally the arms, were treated in the above manner. The symptoms began to subside in 12 hours, and the oedema in 24 to 36 hours. One patient stated that on previous occasions the attacks, which were treated by similar local measures only, had persisted for longer periods, the oedema generally requiring from 4 to 7 days to abate and the pruritus continuing for a further number of days.

Contact Dermatitis.—Two men, suffering from mercury and cement contact dermatitis, respectively, with swelling of the face, neck, forearms, and hands, associated with confluent vesicular eczema, showed a great reduction in the oedema, diminution of the irritation, and some regression of the eruption after 36 hours. Antistin was given in a 100-mg. dose intramuscularly thrice daily for one day, followed by 200 mg. by mouth four times a day. Again, simple local applications were concurrently used.

Two other patients suffering from a similar sensitization dermatitis, but of unknown aetiology, involving the face, responded in an equally satisfactory manner.

Erythema Multiforme.—No beneficial effect was noted in two patients with this syndrome.

Dermatitis Herpetiformis.—A man aged 78 suffering from this disorder did not obtain any relief on an arsenical mixture or 1/2 gr. (32 mg.) of phenobarbitone thrice daily. Antistin—

100 mg. four times a day—induced a mitigation of this symptom, but only during administration of the drug.

Lichen Obtusus Corneus.—A woman who suffered from a patch of lichen obtusus corneus in the left supraclavicular fossa for two years had been treated by occlusion of the area, infiltration with "novocain" and "proctocaine," Grenz rays, and x rays, as well as the usual antipruritic local applications, but without any lasting success. Antistin, 200 mg. by mouth, was prescribed for the attacks of irritation. A certain amount of relief followed. Finally the area was infiltrated direct with 100 mg. of antistin, no previous local analgesic being given, as antistin itself has a local analgesic action. Some improvement followed, and the manoeuvre was repeated in a month's time. A month later the lesion had disappeared completely, and no recurrence has been noted after four months' observation.

Lichen Planus.—Of four patients, two were almost completely relieved of the irritation during ingestion of the tablets, but two derived no benefit. One of these was a man aged 66, who complained of transient dizziness while taking 100 mg. four times a day by mouth. The actual course of the disease, and the appearance of the eruption, seemed to be unaffected.

Mycosis Fungoides.—A woman who had suffered from a generalized eczematous condition with marked pruritus for five years, and who ultimately disclosed the true nature of her disorder by developing typical nodules, confirmed histologically, obtained partial relief from her pruritus on this medication without any change in the lesions.

Pemphigus Vulgaris.—Owing to the unsatisfactory state of our knowledge in the treatment of this condition antistin was tried. Though it was administered to the limits of tolerance to two patients no improvement occurred. The effect of benadryl on one of these patients proved equally disappointing.

Senile Pruritus.—Two men, both aged 80, obtained relief, whilst under observation for four and three months respectively, on 100 mg. of antistin four times a day by mouth. A woman aged 72 found no reduction in the irritation on a similar dosage. Another man, aged 80, who obtained no benefit from antistin 100 mg. four times daily, suffered a transitory paresis of the left leg and collapsed while taking this dosage.

Pruritus Vulvae et Ani.—It was hoped that antistin would afford some relief in this condition. Among 14 patients suffering from pruritus vulvae or pruritus ani, or both, of idiopathic aetiology, none showed any consistent improvement. Neither did any benefit accompany or follow the use of benadryl in equivalent dosage.

Psoriasis.—A man aged 38 experienced considerable irritation during an exacerbation of his flexural psoriasis. Antistin afforded no relief.

Chronic Urticaria.—Sixteen patients with this disorder were treated over long periods. In 13, urticarial manifestations almost completely disappeared. In the majority this relief was noted 24 to 48 hours after starting treatment. Two more patients suffered mild undisturbing recurrences, and one other on his own assessment showed a 50% improvement. One derived no benefit. Four of these patients have been free from a recurrence for three to four months following two months' antistin therapy. Four of the persons forming this group also suffered from recurrent attacks of angioneurotic oedema. In one these gradually subsided and disappeared entirely after three months' treatment with antistin; one obtained complete relief when taking the tablets; whilst the other two still had recurrences, but these were milder and less frequent. Nine of these patients had been previously treated with benadryl. Five had developed drowsiness on their respective dosage and preferred to discontinue this treatment and retain their urticaria. Three patients who did not respond had only been given a maximal dose of 100 mg. thrice daily. One patient was equally well controlled on benadryl and "anthisan."

Urticaria Papulosa.—Six children suffering from this condition did not experience any mitigation of their itch on dose up to 100 mg. four times a day. Two children showed a reduction in the tendency to scratch. One child, aged 3, developed transient convulsions on 100 mg. three times a day. Cessation of therapy was accompanied by complete resolution of this disturbing symptom.

Surveillance and Investigations

Twenty-three patients had serial blood counts performed during two to three months' therapy. No significant variations were noted. Seventeen patients had serial blood-pressure estimations performed in the out-patient department over a similar period; six of these were over 70 years old, with arteriosclerosis and mild systolic and diastolic hypertension. Antistin therapy did not appear to cause any permanent significant alteration in the readings. Repeated urinalysis in 30 patients without albuminuria or glycosuria initially did not reveal the development of either during the course of treatment.

Discussion

Antistin is one of the three antihistamine substances available in Great Britain at the moment, the other two being benadryl and anthisan. The indications for the use of the first two in dermatology are, in my experience, identical, and there is little to choose between them in efficacy. One feature concerning the effects of benadryl therapy has repeatedly been observed—notably its high percentage of toxic manifestations which, though mainly mild, are sufficient to limit its sphere of usefulness. Among 120 patients Stroh (1946) found that 14.2% suffered from undesirable side-effects. Slater and Francis (1946) recount an incident in which the driver of an electric truck lost control over his machine while taking benadryl. Nervousness, incoordination, and epileptiform convulsions occurred in a child aged 3½ years who was being treated for hay-fever (Weil, 1947). Of McElin and Horton's (1945) patients 60% complained of sleepiness, 16% of dizziness, and 14% of nervousness. Koelsche, Prickman, and Carryer (1945) state that 25 among 83 patients complained of drowsiness. O'Leary and Farber (1945, 1946) noted that 33% of their patients suffered from toxic reactions. Friedlander (1946) found a similar incidence of side-effects. Again, among 696 patients treated with benadryl, 366 instances of drowsiness occurred (Ann Allergy, 1946).

Lack of its soporific and depressing effect I am reluctant to order benadryl for the motor driver, the skilled mechanic and operator, or others daily performing potentially dangerous tasks requiring a high degree of mental alertness and co-ordination. In my experience antistin has given equally good therapeutic results with a much lower incidence of untoward reactions.

There is, however, only a limited field of usefulness for this type of drug in dermatology; they effect a symptomatic alleviation, but not a cure. Those marketed to date may all cause immediate unpleasant side-reactions, and their remote toxicity has yet to be fully assessed. In some instances the amount of relief afforded justifies their use; in other disorders the same, or greater, relief can be obtained by well-tried, innocuous, and cheaper methods. In my experience, indications for the use of antistin are as follows.

1 *Urticaria and Angioneurotic Oedema*.—It affords marked symptomatic relief in the treatment of this condition while specific or non-specific curative measures are being used. It is often useful in reducing the polysusceptibility of certain cases when testing by scratch or intradermal methods.

2 *Eczematous Conditions with Oedema*.—It offers a useful addition to the dermatologist's armarium for expediting recovery.

3 *Itching in Other Skin Conditions*.—Occasionally it may prove helpful for mitigation of itching when the usual methods are ineffective.

Undesirable Reactions

The following table reveals the incidence of unwanted reactions found among 87 patients.

	No. of cases
Urticaria	10
Eczema	1
Angioneurotic oedema	1
Itching	1
Drowsiness	1
Dizziness	1
Nervousness	1
Convulsions	1
Unpleasant taste	1
Headache	1
Stomach pain	1
Diarrhoea	1
Constipation	1
Unpleasant smell	1
Unpleasant taste	1
Headache	1
Stomach pain	1
Diarrhoea	1
Constipation	1
Unpleasant smell	1
Unpleasant taste	1
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"ANTHISAN" IN TREATMENT OF ASTHMA AND HAY-FEVER

BY

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The unpredictable fluctuations which are a feature of the clinical course of asthma, together with the dauntless optimism with which asthmatics invariably welcome any new remedies, have always made clinical evaluation of these a matter of great difficulty. The very large number of initially encouraging reports of numerous different remedies in the past, now often totally abandoned, point reproachfully to the ease with which both doctor and patient are frequently mistaken in their estimate of the benefit conferred by the new preparation. It should be the duty of those who are interested in the treatment of asthma to assess as accurately as possible each new remedy, not only to protect practitioners and prevent disappointment to the long-suffering asthmatics themselves, but also to allow subsequent investigations of further new substances to proceed unhampered by erroneous and confusing estimates of the benefits of their immediate predecessors.

Reports from France and America on the clinical use of the new antihistamine substances (antergan, neonantergan, "benadryl," pyribenzamine) agree that good or even excellent results are obtained in the treatment of rhinitis, both seasonal and perennial, that markedly beneficial results follow the use of the drugs in various forms of urticaria and in some other dermatoses, that pruritus ani and vulvae and the pruritus of atopic dermatitis are often relieved and drug rashes benefited. Results in the treatment of asthma, however, are less certain.

Nevertheless enough has been published to encourage the belief that antihistamines do confer benefit in many cases of asthma, as Table I shows. From perusal of the American and French literature on antihistamines it is abundantly clear, however, that enough care has not always been taken to eliminate from the clinical trials those factors which contribute to erroneous clinical impressions. It is likely that herein lies the explanation of the otherwise irreconcilable variation in the apparent efficacy of these remedies in the hands of different workers.

TABLE I.—A Selection of Results with Benadryl in the Hands of Different American Workers

Author	Asthma (Seasonal)		Asthma (Perennial)	
	No. of Cases	No. Improved	No. of Cases	No. Improved
Levin (1946)	—	—	87	57
Waldrott (1946)	30	14	48	24
Koelche, Prickman, and Carryer (1945)	19	14	12	4
Blumenthal and Rosenberg (1946)	—	—	12	4
McElin and Horton (1945)	—	—	3	1
Eyer mann (1946)	—	—	4	3
Feinberg and Friedlaender (1946)	—	—	16	0

In most of the published reports on the antihistamines, especially in the treatment of asthma, clinical data are conspicuous by their absence. When authors write of their patients "deriving benefit," this statement is seldom amplified in any way, nor are the criteria of improvement indicated. In many cases the duration of the trial is not stated, nor, apparently, is the use of a control preparation thought to be necessary. These faults appear more plainly evident in those series in which the authors claim a high degree of improvement with antihistamines. To take a single instance, Levin (1946) reports the results of benadryl in the treatment of no fewer than 87 asthmatics, of whom

as many as 67% of the children and 65% of the adults "obtained relief." Apart from stating that benefit was less in those patients who had a cold, the author gives no information at all about the patients; nor is this example an isolated instance.

The Present Investigation

In this investigation an attempt has been made to assess as accurately as possible the effect of one of the antihistamine preparations in asthma and hay-fever. In order to eliminate those factors which tend to create erroneous impressions, the patients have been very carefully selected and critically observed both while taking the trial preparation itself and while taking an inert dummy preparation of identical appearance. So that the criteria of success or failure with the trial preparation should not consist entirely of verbal descriptions of patients' subjective sensations, a system of numerical grading of the severity of the symptoms has been adopted, with the object of obtaining a graphic expression of the effect of the trial preparation itself as opposed to the effect of the control.

The compound used in this trial has been one of the newest and most active of the antihistamine substances—namely, pyranisamine maleate ("anthisan"), which is chemically N-dimethylaminocetyl - N - P-methoxybenzyl - α -amidopyridine acid maleate, otherwise called neoantergan maleate. It is a colourless crystalline solid, soluble in water. The preparation has been kindly supplied by Messrs May and Baker put up in 0.1-g. tablets, coloured green, together with 0.1-g. tablets of identical appearance but composed of quite inert substances—namely, sucrose 50 g., lactose 350 g., starch 100 g.

Each patient has, unknown to him, received a quantity of the inert preparation alternating with the real substance. The initial dosage of both the inert and the real has been one tablet (0.1 g.) thrice daily. This has been increased to three tablets thrice daily after three days on the initial smaller dose. Patients suffering from nocturnal asthmatic attacks have also received 0.3 g. immediately before retiring at night.

The patients have been chosen from among those attending the Asthma Research Clinic at Guy's Hospital during 1946 and 1947. All have been under my direct observation.

Asthma Cases

The asthmatic patients comprised a mixed group of cases of different ages, sex, and duration, of various degrees of severity, with only one feature in common—namely, that all were examples of allergic as opposed to bronchitic asthma, with minimal infection and lung damage. However, although cases of primary bronchitic asthma were excluded from the trial, in the cases of very long standing there was bound to be emphysema and some degree of associated bronchial infection.

Twenty-five patients (12 male, 13 female) were included in the trial (Table II). Their ages ranged from 9 to 48 years. Most had perennial asthma, but some had seasonal exacerbations during June and July, over which period part of the trial was carried out. Of these patients 20 were well known at the clinic, and were particularly suitable for study, as either their asthma periodicity was regular or their symptoms were continually present. The remaining five were new patients with comparatively short histories, included in order to observe the effect of the preparation upon cases of recent onset. Cases 19 and 24 were excluded from the trial owing to the unexpected, startling, and sustained improvement that was produced by the inert control tablets.

The 20 patients had had a great deal of treatment both at Guy's and elsewhere. During the period of the trial it was not found practicable to withhold all other forms of treatment, and therefore, with the exception of the five new cases (Nos. 13, 21, 25, 26, 27), all the patients were instructed to continue with any palliative treatment to which they were

accustomed. The five new patients received the test substances only, and no other form of treatment. If they had been taking occasional ephedrine tablets these were withheld.

TABLE II.—*Asthma Cases*

Case No.	Age	Sex	Occupation	Duration of Symptoms
1	48	F	Housewife	40 years
2	43	F	"	22 "
3	31	F	"	12 "
4	30	F	"	21 "
5	41	F	"	18 "
6	28	M	Mechanic	6 "
7	37	M	Clerk	7 "
8	20	F	Housewife	17 "
9	19	F	Seamstress	2 "
10	27	M	Unemployed	2 "
11	33	M	Clerk	7 "
12	33	M	Fitter	1 year
13†	10	M	School	3 months
14	35	M	Clerk	30 years
15	29	F	Housewife	2 "
16	28	M	Independent	1 year
17	24	F	Typist	16 years
18	39	M	Clerk	2 "
19*	22	F	Journalist	4 "
20	41	F	Factory worker	5 "
21†	25	M	Clerk	9 months
22	31	M	Agent	2 years
23	11	M	School	6 months
24*	49	F	None	42 years
25†	18	F	Student	3 months
26†	9	M	School	8 "
27†	22	F	Typist	3 years

* Excluded from the trial. † Patients new to the clinic.

Hay-fever Cases

The hay-fever patients numbered 15 (Table III). All were skin-tested by the scratch technique and all were found to be sensitive to grass pollens. Cases 3, 9, and 14 were also sensitive to tree pollens. Four patients had asthma as well as hay-fever, but were not included in the asthma series as the unstable periodicity of their attacks made grading impossible. All the 15 cases had definite seasonal periodicity. Cases of perennial rhinitis were not included.

TABLE III.—*Hay-fever Cases*

Case No.	Age	Sex	Occupation	Pollen	Start of Symptoms	Start of Trial
1	21	F	None	Grass	June 1	June 8
2	24	M	Medical student	"	May 29	" 5
3	14	F	School	Grass and tree	June 4	" 11
4	22	M	Medical student	Grass	May 20	" 2
5	39	M	Storekeeper	"	" 25	" 11
6	15	M	School	"	" 2	" 9
7	33	M	Traveller	"	June 11	" 18
8	28	F	Housewife	"	May 22	" 5
9	21	M	Mechanic	Grass and tree	" 14	May 21
10	27	M	Clerk	Grass	" 16	" 23
11	36	M	Farmer	"	June 1	June 7
12	12	F	School	"	" 1	" 7
13	34	F	Housewife	"	" 18	" 7
14	32	M	Doctor	Grass and tree	June 14	June 21
15	43	M	Clerk	Grass	May 16	May 23

Scheme of Trial and Methods of Assessment

Asthma

Grading.—All the patients in the asthma group were graded according to the severity of their symptoms in the past (Table IV). The system adopted was similar to that recommended by the Asthma Research Council (Committee on Assessment of Results in Asthma). In the present series,

TABLE IV.—*Grading of Asthmatic Patients*

Patient Series	Asthma Research Council	Symptoms
Grade 6	Grade I	Continual asthma. Patients who are unable to work at all or go to school.
Grade 5	Grade II	Continual asthma. Patients who are able to work or go to school 75% of the time.
Grade 4	—	Continual asthma. Patients able to work or go to school, but weary on at least one occasion during each 24 hours.
Grade 3	Grade III	Patients whose attacks occur at least once a week.
Grade 2	Grade IV	Patients whose attacks occur at least once a month.
Grade 1	—	Patients whose attacks occur less than once a month.

however, an additional grade has been included, and it has also been found convenient to reverse the grading numbers, so that Grade 1 represents the mildest type of case instead of the most severe.

Method.—The period of the trial for asthmatic patients extended over eight weeks, about half of which was spent on the active preparation, and the remainder, unknown to the patient, on the inert dummy tablets. For the first two weeks the dummies were used, after which the active preparation was substituted. After some weeks on the active preparation, patients returned to the dummies for a week or two before continuing with the active preparation. If a patient appeared to be showing a sustained improvement on the active preparation he was usually changed to the inert dummies.

At the start of the trial the patient was graded according to his past asthmatic history. At the end of each successive week of the trial he was regraded according to the severity of his symptoms during the preceding week. At the end of the eight-weeks period the average weekly grading number while taking the active preparation was available for comparison with the average weekly grading figure while taking the dummies. When the whole series of asthmatic patients had been investigated their average individual weekly grading numbers on the active preparation were added together for comparison with the sum total of the same figures whilst on the dummies (Table V).

TABLE V.—*Summary of Results in Asthma Cases*

Case No.	Grade Before Trial	Weekly Grade Nos.								Average Grade Nos. (Weekly)		
		1st	2nd	3rd	4th	5th	6th	7th	8th	U	D	R
1	6	6D	6D	6R	6R	6R	6R	6D	6R	6	6	6
2	5	5D	5D	4R	3R	3D	5R	5D	5R	5	4.5	4.2
3	5	5D	5D	5R	5R	5D	5R	5D	5R	5	5	5
4	6	6D	6R	6D	6R	—	—	—	—	6	6	6
5	5	5D	5D	4R	5R	4D	5R	4R	5R	5	4.6	4.5
6	3	3D	3D	4R	2R	3R	4R	3D	3R	3	3	3.2
7	4	4D	4D	4R	4R	5R	5R	—	—	4	4	4.5
8	3	2D	2D	2R	2R	2R	2R	3R	3R	3	2	2.3
9	3	3D	3D	3R	3R	3R	3D	3D	3R	3	3	3
10	4	4D	4D	3R	3R	4R	4D	4D	3R	4	4	3.2
11	5	4D	4D	4R	3R	3R	2R	2D	4R	5	3.3	3.2
12	5	4D	3D	3R	4D	4D	3R	4R	4R	5	3.7	3.5
13	4	4R	4R	4D	3D	3D	3D	3D	4R	4	3.2	3.7
14	4	4D	4D	3R	3R	4D	3R	3R	4D	4	4	3
15	3	3D	3D	3R	3R	3R	3D	2D	2R	3	2.7	2.7
16	3	3D	3D	3R	3R	3R	3D	3D	3D	3	3	3
17	3	3D	3D	3R	3R	3R	3D	3D	3R	3	3	2.7
18	3	3D	3D	3R	2R	3R	3D	3D	3R	3	3	3
19*	4	3D	2D	2D	2D	2D	4U	4U	2D	4	2.1	—
20	3	3D	2D	2R	2R	3R	3D	2D	2R	3	2.5	2.3
21	4	4R	4R	3D	3D	3D	4D	3R	3R	4	3.2	3.5
22	3	4D	3D	3R	2R	3R	3R	3D	3D	3	3	2.7
23	4	3D	3D	3R	3R	3R	3R	3D	3D	3	3	3
24*	4	3D	2D	2D	3U	3D	2D	4U	3D	3.5	2.5	—
25	4	3D	2D	2R	4R	3R	3D	4D	3R	4	3	3
26	4	3D	3D	3R	4R	3R	4D	3R	3D	4	3.2	3.2
27	4	4D	3R	2R	3R	4D	3R	3R	4D	4	4	2.8
Total grade nos. for whole series										99.0	90.1	87.1
Average weekly grade nos. for whole series										4	3.6	3.5

* Not included in trial. U = Untreated. D = Dummy. R = Real.

It is not intended that any statistical significance should be attached to these figures. The grading numbers serve as convenient numerical symbols representative of the degree of severity of the asthma of each patient week by week. The figures, however, do bear a definite fixed relation to the severity of the symptoms, so that the sum total of the average weekly grading numbers for the whole group on the real, as opposed to the inert, preparation may be taken as a reflection of the summation of the severity of the asthma of all the 25 patients while taking neoantergan, compared with the severity of their symptoms while they were not.

Hay-fever

Grading.—The symptoms of hay-fever patients have been divided into four grades according to the severity—i.e., Grade 4, severe symptoms; Grade 3, moderate symptoms; Grade 2, slight symptoms; Grade 1, no symptoms.

Method.—A scheme similar to that used for the asthma patients has been devised for the hay-fever patients. Owing to the comparatively short duration of the symptoms in some

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cases the period of time on the dummy tablets has been curtailed to a week in most instances, while that on the active preparation has ranged from four to seven weeks. The results are shown in Table VI.

TABLE VI.—Summary of Results in Hay-fever Cases

Case No.	Weekly Grade Nos.	Average Weekly Grade Nos.		
		Untreated (u)	Dummy (d)	Real (r)
1	4u4d2r2r2r	4	4	1.8
2	4u4d3r2r2r	4	4	1.8
3	4u4d3r1r2r	4	4	1.2
4	4u4d3r1r3d1r1r	4	4	1.4
5	4u4d1r4d1r1r	4	4	1
6	4u4d3r2r1r1r1r	4	4	2.4
7	4u4d1r1r	4	4	1.5
8	4u2r2r3d2r	4	4	2
9	4u4d1r4d1r1r	4	4	2
10	4u4d3r2r2r2r	4	4	2.2
11	4u4d1r2r1r1r	4	4	2.2
12	3u3d2r2r3d1r	3	3	2.5
13	4u4d2r2r4d2r2r	4	4	1.5
14	3u1r1r3d1r	3	3	1.5
15	4u4d3r2r4d2r2r	4	4	1.5
Total		57	56	23.5
Average for series		3.8	3.73	1.5

Discussion

Before this investigation began a few cases of asthma and hay-fever had been treated with neoantergan, with apparently extremely disappointing results in the former and very encouraging results in the latter condition. The tentative impression of the powers of this drug thus created has been confirmed in striking manner by the more detailed observations on the series of cases summarized above.

In the asthmatic group the average of the weekly grading figures for the 25 patients observed over 105 weeks while taking neoantergan was 3.5. The equivalent figure for the same 25 patients observed for 89 weeks on the control tablets was 3.6, and before treatment was started the figure was 4. In other words, there appeared to be no appreciable difference in the severity of the symptoms while taking the drug, as opposed to the control tablets.

In contrast to the asthmatics, the severity of the symptoms of the 15 hay-fever patients while taking the preparation over a period of 69 weeks was indicated by the figure 1.5, whereas the severity of the symptoms of these patients observed over 21 weeks on the controls was indicated by the figure 3.7—a very striking contrast indeed.

These graphic expressions of results strongly reinforce the clinical impression of the benefit of the drug in this series—namely, that in asthma neoantergan appears to be of little or no value, whereas in hay-fever the symptoms have been partially or completely controlled in all the patients who were taking the preparation, including a number with severe symptoms.

The necessity for using a control preparation in an investigation of this kind is illustrated by asthma cases Nos. 19 and 24. Both these patients showed a great improvement in their asthma as soon as they began to take the dummy tablets, and not only was the improvement sustained throughout the period of the trial but both patients became worse when the dummy tablets were withheld. Case 24 was of particular interest, as this patient had previously been a severe asthmatic in Grade 4—a case of very many years' standing—and was also suffering from atopic dermatitis, which, however, remained unaltered in spite of the improvement in the asthma.

Even before this trial it was considered improbable that neoantergan would prove capable of influencing materially the severe asthmatics of Grades 5 and 6. It was to be hoped, however, that some of the patients with milder degrees of asthma might show some improvement—for example, those with only a moderate degree of daily or

nocturnal wheeziness or those who suffered from one or two mild attacks of short duration weekly. The published reports of other workers led me to expect some improvement in patients of this kind, but none was forthcoming which could with justification be ascribed to neoantergan: in fact, improvement in Grades 3 and 4 appeared just as likely to occur with the control as with the real preparation, and in any event was usually fluctuant and variable. For example, asthma patient No. 2, a severe case, had two good weeks as soon as she went on to the real preparation: but this improvement persisted even when the control was substituted, and when she finally did relapse the previous degree of improvement could not again be achieved with the active preparation.

It did not seem that a short duration of the patient's history favourably influenced the results with neoantergan. Asthma cases Nos. 13, 21, 23, 25, and 26 had all had asthma for less than a year, but none showed any improvement—in fact, Cases 13 and 21 actually appeared to be worse during treatment. Neither did the youth of this particular group of patients impart any salutary effect.

In spite of its soporific effect neoantergan conferred no apparent benefit upon patients whose asthma showed a nocturnal periodicity. For example, asthma case No. 7, a young clerk, had an attack every night with clockwork regularity, usually at about 3 to 4 a.m. This had persisted even during treatment as an in-patient, and sleeping by day instead of by night made no difference, the asthma again occurring some five hours after retiring to rest. This man received a large dose of neoantergan as a preventive immediately before getting into bed, but the attacks occurred just the same. Nor did the drug appear to exert any appreciable effect in relieving the established attack, which, however, invariably responded to adrenaline. It was of particular interest to note that after the trial was over Cases 16, 18, 20, 21, and 26 improved at once on adrenaline, which they had not previously taken, except occasionally. The improvement was sufficient to move Cases 21 and 26 down a grade as soon as they had mastered the technique of self-injection of adrenaline.

In addition to the object-lesson of Cases 19 and 24, both of whom did so well on the inert control tablets, another point of interest emerges from the grading results—namely, that the patients' grading figures (3.6) during the trial while taking the dummies were considerably lower than the figures (4) for the same cases before the trial, in spite of careful assessment of the grades based on previous observation of the individual patients over periods of time ranging from several months to several years. It is easy to see how, if a control preparation had not been used, such a change in symptoms could be mistaken for an improvement due to the test drug.

There can be no doubt at all of the value of neoantergan in the symptomatic treatment of hay-fever. In addition to the striking changes in the grading figures while taking the preparation (1.5) compared with the figures on the dummies (3.7), the patients themselves were unanimous in their praise of the preparation, although disappointed during periods on the dummy tablets. Some of these patients had had pollen-desensitization courses in the past, several of them more than once. They declared that the most success conferred as much protection as any but the most successful desensitization course. Two patients, not included in the trial, were treated with a high degree of success with neoantergan, which was started half-way through the season when their pre-seasonal desensitization course was found to be not wholly effective.

Side-effects.—Of the 42 patients reported in this trial side-effects were noted in 23—10 had slight nausea, 6 nausea and drowsiness, 4 drowsiness, 1 impotence, and 2 giddiness.

Conclusions

Neoantergan conferred no apparent benefit upon 25 specially selected and carefully observed asthmatic patients.

Neoantergan was markedly successful in reducing the severity of the symptoms of 15 cases of hay-fever.

When working with asthmatic patients an erroneous impression of the efficacy of a new preparation is likely to be formed unless a very careful scheme of trial is planned, preferably using a control preparation.

It is with pleasure that I acknowledge the help received from Dr. W. N. Mann during this investigation, and I am grateful to Dr. W. R. Thrower, of Messrs. May and Baker, for kindly supplying the anthisan. This work is an abstract from part of a Cambridge M.D. thesis, and for permission to publish it I am indebted to Sir Lionel Whitby, Regius Professor of Physic, Cambridge University.

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CHIASMA LESION DUE TO FALL IN EPILEPTIC FIT

BY

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Damage to the optic nerve due to a fall in an epileptic fit is surprisingly rare, although optic-nerve lesions may follow slight head injuries. Chiasmal damage occurring after epileptic seizures has not been previously recorded in the literature. The following case, which ended in optic atrophy and blindness in one eye, is of special interest because of its unusual course and visual-field changes.

Case Report

The patient, a single man aged 32, suffered from epilepsy, probably of traumatic origin. Generalized fits followed a severe head injury sustained six years before. These occurred at intervals of one to two months, with sudden falls and no aura. At the end of November, 1944, he fell on his forehead during a fit. There was a swelling over the right eye due to extravasation of blood. He was confused for the rest of the day, as usual after his seizures. Next day, when mentally clear, he complained of blindness in his right eye. Examination revealed a complete loss of vision in this eye, and a marked temporal-field defect of the left eye with normal visual acuity. This was evident in subsequent examinations. Simple and stereoscopic x-ray examination of the skull immediately afterwards did not show any fracture.

About a fortnight after the accident there was a distinct difference in the two disks, the right being paler. After a month there was an obvious atrophy of the right disk, with pallor, narrowing of the large retinal arteries, and reduction of the small vessels. This condition was still unchanged when a complete examination of fundus, visual field, and acuity was carried out in May, 1945, six months after the accident. Since further developments were not anticipated no regular examinations were made. On July 17, 1945, however, the patient reported that a few days previously he had begun to see again with the right eye and that vision had gradually improved. A further examination showed a central scotoma in his right

eye with full peripheral visual fields. The visual acuity for finger-counting was 3 ft. (0.91 metre). An examination two days later showed that the central scotoma had disappeared and that the acuity had risen to 6/9. The visual field in the left eye still showed some temporal defect, but to a less degree than in the first period after the accident.

On Aug. 2 he reported that the sight of the right eye had again become worse, and attributed this to an injury inflicted by a patient, who he alleged threw lumps of soil into his face. He also stated that a few days previously he had had to bend his head while helping with weeding in the garden. The visual field two days later showed a central scotoma and a concentric constriction of the peripheral field; the visual acuity had fallen to 1/60. Subsequent examinations showed that the scotoma gradually increased in size, the peripheral field became more and more restricted, leaving eventually a pericentral annular island of vision, and within a week the patient was again blind in the right eye. The visual field of the left eye showed no definite temporal defect during this phase. The direct pupillary reaction to light in the right eye was from the beginning of the observation sluggish and poor, decreasing in the first week after the accident until it became fairly stable after the atrophy of the optic nerve had been established. No definite change was noted during the short spell of recovery. Up to January, 1948, no further change has occurred; the right eye remains blind, with atrophy of the disk; the left eye shows full visual field and normal acuity. The direct light reaction, though very poor, is still obtainable.

Discussion

Complete blindness and optic atrophy of the right eye after a fall in an epileptic fit, and a temporal-field defect of the left eye, pointed to a lesion in the chiasmal region affecting the fibres of the right optic nerve and the nasal retinal fibres from the left eye. This type of injury has been repeatedly discussed in the literature. The skull fracture which often accompanied such lesions suggested a direct traumatic damage to the nerve, and specimens have been shown in which the nerve in this section had actually been torn. Early writers were mainly concerned with the possible types of skull injury which might produce this nerve damage. Various mechanisms have been suggested (Liebrecht, 1912; Coppez, 1929; Rand, 1937), but more recent experience has made it clear that bone injury and anatomical nerve lesions are not the only cause of the traumatic chiasma syndrome, and that vessel damage alone may have the same effect and produce the initial symptoms (Traquair, 1933, 1942; Dandy, 1932; Rodger, 1943; Hughes, 1943). Rodger differentiates bleeding into the sheaths and subvagal and intraneural haemorrhages.

There can be little doubt that in our patient there was a vascular lesion; the remission and subsequent relapse cannot be explained in any other way. The fact that central vision was the last to return when the recovery took place, and that a central scotoma was the first symptom when the relapse occurred, seems to indicate an intraneural damage. The onset immediately after the injury is in favour of traumatic rupture of the vessel wall, with consequent intraneural haemorrhage (Rodger, 1943). This would also account for the relapse. After a slight injury the vessel, which had been closed, started to leak again causing a gradually increasing extravasation—a mechanism well recognized in meningeal and brain-vessel damage when a minor incident may cause renewed extravasation long after the initial trauma.

With regard to the progress of our case the changes during the first few weeks after injury were as anticipated. It is the general experience that a visual-field defect and loss of visual acuity occur immediately after the injury, while atrophy of the optic nerve usually appears within four weeks. In seven cases of optic-nerve lesions Rodger (1943) noted an average interval of 17 days, the shortest

interval being four days. In our case blindness set in immediately after the accident, and atrophy was distinct after a fortnight.

Concerning the prognosis of these cases there has been general agreement (Traquair) that if no signs of improvement in visual acuity occur during the first four weeks no further change can be expected. But in our patient there was a rapid and almost complete recovery as late as five months after the injury. This is difficult to explain; it is contrary to all experience that recovery should have occurred after so long a time. One might think of a hysterical fixation of an original organic blindness, but nothing was observed in the general behaviour of the patient to support this, and there were no psychogenic elements. There were, on the other hand, optic atrophy and a transitory scotoma—findings which do not permit a functional explanation.

It is likely that the primary site of the lesion was in the anterior chiasmal angle, affecting mainly the right optic nerve but also damaging the crossed fibres of the left. It is interesting to note that the temporal-field defect of the left eye gradually diminished and had entirely disappeared after the relapse. We will therefore have to assume that on this occasion the chiasma had been spared, the lesion being restricted to the right optic nerve.

Summary

A case is reported in which blindness and optic atrophy in the right eye, with a temporal-field defect in the left eye, followed a fall in an epileptic fit. X-ray examinations of the skull were negative. There was no fracture.

Not less than five months after the injury normal visual acuity with full visual fields in the left eye were re-established; during this period of recovery central vision was the last to return to normal. The temporal-field defect in the left eye was the same time greatly reduced.

Shortly afterwards, following a trivial blow on the face, his sight and visual-field condition deteriorated, a gradually extending central scotoma appeared, and visual acuity fell rapidly until the right eye became blind again. There was no temporal-field defect in the left eye at this time. Atrophy of the right optic disk remained unchanged during the whole period. There was no further change one year later.

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Dr. Esmond R. Long, director of medical research and therapy, National Tuberculosis Association, has been appointed editor-in-chief of the *American Review of Tuberculosis*, official journal of the N.T.A.'s medical section, the American Trudeau Society, to succeed the late Dr. Max Pinner. A new position of managing editor has been created, and Dr. Walsh McDermott, associate professor of medicine, Cornell University Medical School, New York, has been appointed to the post. Dr. Long, who is also director of the Phipps Institute, Philadelphia, has been director of the N.T.A.'s medical research since January, 1947. He is a past president of the N.T.A. and is a consultant on tuberculosis to the United States Army, the Veterans Administration, and the U.S. Public Health Service. A graduate of the College of Physicians and Surgeons, Columbia University, Dr. McDermott is associate attending physician of New York Hospital and was associate editor of the seventh and eighth editions of the *Cecil-Loeb Textbook of Medicine*. He is a member of the American Trudeau Society's Committee on Medical Research and Therapy and of the Antituberculous Study Section and the Tuberculosis Study Section, National Institute of Health, U.S. Public Health Service.

JUVENILE GENERAL PARALYSIS

A CASE WITH A SPONTANEOUS BUT SHORT-LIVED REMISSION

BY

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Although a considerable number of cases of juvenile general paralysis have been reported in the literature the disease is relatively rare and its incidence in cases of congenital syphilis is stated by Stewart (1933) to be about 1%. Schmidt-Kraepelin (1920) gives the figure as 1.7%, but White and Veeder (1922) and Smith (1933) are in agreement that the incidence is less than 1%. Most authorities agree that the sex distribution is approximately equal, although there is a slight tendency towards a preponderance of males; thus out of 145 cases reported by Mott (1899), Watson (1903), Schlicht (1915), Schmidt-Kraepelin (1920), Klauder and Solomon (1933), and Menninger (1930), 83 were males and 72 females. According to Menninger (1936) there are two types of onset, the first being insidious, when the child is apparently subnormal from birth, and the second in which an acute breakdown occurs after several years of seemingly normal development. Menninger in an analysis of 542 cases gives the age of onset as 3 to 5 years in 9.4%, 6 to 10 years in 24%, 11 to 15 years in 36.2%, 16 to 20 years in 26.8%, and 21 to 25 years in 3.6%. In the majority of cases, therefore, the illness begins between the ages of 10 and 15. Menninger states that in a series of 653 cases psychic trauma was regarded as the precipitating factor in 2.7%, and that convulsions occurred in 17% before the diagnosis was established.

Case Report

A boy, aged 11 years 3 months was admitted to this hospital in November, 1946, as he was not responding to outpatient treatment at a child-guidance clinic in another area.

Family History.—The father, a Naval petty officer aged 38, was stated to be fit and well. He has had little to do with the boy's upbringing owing to his service overseas. When interviewed in December, 1946, he admitted that he had had primary syphilis in 1929 but had received a full course of treatment over two years. His Wassermann reaction was: blood +, C.S.F. negative. He was having treatment at a V.D. clinic. The mother, aged 36, is fit and well. She is a kindly woman, but ineffective in handling the family and lacking in understanding. Her Wassermann reaction was: blood +, C.S.F. negative. She has had no treatment. **Siblings:** There are three sisters, aged 16, 7, and 4. All are bright and alert, with negative serology.

Personal History

The boy weighed 8 lb. 12 oz. (3.98 kg.) at birth, walked at 12 months, and began talking at 15 months. Clean habits were established early, and he appears to have been a perfectly normal child until a few days before his fifth birthday, when his home was destroyed by enemy action. He was uninjured, but was said to have screamed persistently for several hours after the incident. He was apparently terrified during the next three days, and there were many outbursts of screaming during this time. On the fourth day he had an epileptiform attack during which he exhibited loss of consciousness and left-sided rigidity followed by generalized clonic movements. In the succeeding nine months he had frank epileptic major attacks with incontinence and tongue-biting at the rate of about one a week. These persisted despite anticonvulsant drugs prescribed by his doctor. During this time he progressively became more dull and was excessively timid and anxious. There was, in fact, a complete personality change, and whereas he had formerly been a bright, cheerful, alert, self-possessed child, he now became very quiet and reserved, and was made fun

of by other children. Six months after the original epileptic manifestation he was seen by a children's psychiatrist, who stated that he was suffering from an anxiety state but that no special treatment was required. Shortly before this it had been noticed that he was becoming very clumsy and had very great difficulty in picking up objects. It was also noted that he had to be assisted in dressing, as he was unable to do up his buttons or tie his shoe-laces. His speech, which had previously been quite clear, became slurred, and his parents and teachers had difficulty in understanding what he was trying to say.

In July, 1942, the family moved to Scotland, and shortly after this a remarkable change was noted in the child. In the course of a few months he completely lost all signs of muscular incoordination, his speech became clear, he regained confidence, and he began to stand up for himself with other boys. He rapidly made progress in education, and during the next two years became recognized as one of the best scholars in his year. Evidence of this exists in the fact that he was awarded several books as prizes in arithmetic, writing, spelling, and drawing. In September, 1944, the family moved to another area and very shortly John's condition began to deteriorate once more. His standard at school fell rapidly, but his mother attributed this to the change of school. By February, 1945, however, it became obvious to his parents that his symptoms were exactly similar to those noted at the age of 5. A school report in May, 1945, noted him as "dull and backward" but "very nervous." He was accordingly referred to a child-guidance clinic and was treated as a "maladjusted child." His I.Q. was reported as 100. It is of interest to note that his mother had observed that his drawings were becoming completely indecipherable, being entirely obscured by a wealth of unnecessary detail. As three months' treatment did not make any impression on the child, but on the contrary had failed to prevent deterioration, he was sent to this hospital for in-patient treatment.

On examination he was a plump, awkward-looking child who was very restless and apprehensive. It was noted that the incisors were of the Hutchinsonian type. Gross motor incoordination was present, and this rendered him ludicrously clumsy. Slurring of articulation was a prominent feature, and although the pupillary responses were fairly normal there was irregularity of the margins. Tongue tremor was present and all reflexes were exaggerated; plantar responses were flexor. He was dull, slow in comprehension, and his I.Q. was found to be 69. The diagnosis of juvenile paresis was confirmed by a triple positive Wassermann reaction in both blood and cerebrospinal fluid and a paretic gold curve in the Lange test.

Since admission his condition has continued to deteriorate despite treatment, and he now falls about, has numerous epileptiform attacks, is incontinent, and requires constant nursing care and supervision.

Discussion

The above history has been carefully checked by reference to practitioners who previously treated the child, to teachers, and to others. It will be noted that the onset was just before the age of 5. So far as can be ascertained there are only 14 cases recorded in the literature in which the age at onset was the fifth year. Spontaneous remission is indeed very rare, and Stewart (1933) states that "the disease is never interrupted by a remission." On the other hand, Alzheimer (1895), Thompson and Dawson (1895), and others have recorded instances of spontaneous remissions, but the total number of cases does not exceed 20. Most authorities agree that the prognosis in such cases is very poor, and Lurie *et al.* (1943) report on 8 cases of juvenile paresis seen at the Cincinnati Child Guidance Home. Despite early diagnosis and treatment all these children showed progressive mental and intellectual deterioration.

It is fact that this boy was examined by two child psychiatrists and treated by one for three months should make clear the need for a careful physical examination of all children at child-guidance clinics. In this connexion it is interesting to note that out of 125 in-patient children

reported by Barker and Milligan (1947) 13 were found to be suffering from organic disease of the nervous system and only three of these cases had been diagnosed as such before admission to hospital.

Summary

A case of juvenile general paralysis is described, with an onset at the age of 5 and an apparently complete spontaneous remission of two years' duration.

I wish to thank Dr. Thomas Beaton, Physician-Superintendent, St. James Hospital, Portsmouth, for permission to publish this case record.

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Medical Memoranda

Gastric Herpes Zoster

The following report of a case of haematemesis due to gastric herpes zoster is worthy of record.

CASE HISTORY

A diabetic woman aged 66 was admitted in a precoma condition with a blood sugar of 450 mg. per 100 ml. She had been under regular observation in the diabetic clinic, and had no history of gastric symptoms. One year previously she had fallen and bruised her left lower ribs, and since that time she had noticed intermittent vague pain in the same region. A week before admission this had become constant and more severe, radiating round to the left abdomen. Four days later, feeling ill, she remained in bed, and at noon had a sharp haematemesis. At 3 p.m. she noticed a rash on the abdomen to the left of the umbilicus. On account of her malaise she discontinued both food and insulin; her diabetic precoma was the direct result.

On examination, apart from the signs of dehydration, she showed slight central epigastric tenderness. A typical eruption of herpes zoster was present on the left chest and abdomen, apparently involving thoracic segments 9 and 10. The rest of the examination was normal. Her diabetic condition was successfully treated, but unfortunately it was severe enough to preclude gastroscopy. A barium meal x-ray film eight days later was normal, and a fractional test meal showed complete achlorhydria. Haemoglobin was 90%, and rose subsequently with treatment. A radiograph of the spine and ribs was normal. The cerebrospinal fluid on admission contained 70 mg. of protein per 100 ml. and 23 lymphocytes per c.mm. Nine days later the protein was 50 mg. and there were 10 lymphocytes.

COMMENT

The sympathetic supply of the stomach by way of the coeliac plexus almost certainly includes branches from the ninth and tenth thoracic nerves. The appearance of the somatic eruption within three hours of the haematemesis is very suggestive of a true gastric herpes zoster as the origin of the latter. The relation of the previous injury to the herpes is of interest. Although there was no evidence of bony injury, it is possible that the repeated painful stimuli from an organized haematoma in muscle may have been sufficient to render the affected segments liable to attack by the virus. The cerebrospinal fluid changes are typical of those found in herpes zoster.

I wish to thank Prof. T. H. Oliver for permission to describe this case.

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Reviews

KEEPING FIT

Physical Fitness Appraisal and Guidance. By Thomas Kirk Cureton, Jr., M.A., M.P.E., Ph.D., assisted by Frederick W. Knoch, B.S., M.S., John Brown, B.S., and W. G. Moss, M.S., Ph.D. (Pp. 566; illustrated. 30s.) London: Henry Kimpton. 1947

What does physical fitness mean? This, the opening sentence of this remarkably comprehensive work, prompts the supplementary inquiry, Fit for what? In the past, attention has been particularly, indeed almost exclusively, directed to the circulation as the limiting factor in physical endurance. It is clear that specific tests must be instituted to assess capability for a particular purpose; for emotional, mental, and social fitness are also important in adaptation to life and living—problems which, the author indicates, will be investigated in future. As we must repeat *ad libitum*, perhaps *ad nauseam*, it is to the U.S.A. that we look for research in this subject. Interest and opportunities there permit grand-scale organization and operations with unlimited subjects for investigation, luxurious equipment, and staff to conduct the investigation. All of these are effected in the present work—a stupendous compilation of details, page after page of charts and graphs and columns recording the results of tests of physical fitness and physique ratings.

What are the conclusions? To a great extent only an elaboration of the obvious, a reminder of what is already known, repetition of the opinions expressed by workers in all parts of the world. We see, however, the beginning of an important study of "body types." "Just as we can purchase 10 dollar suits or 100 dollar suits so some of us inherit 10 dollar organs and others 100 dollar organs." How far can we estimate frailty and longevity on the basis of certain constitutional body types? We see in this work's subtitle the claim that "appraisal" permits of "guidance" to utilize natural advantages to the utmost, to accept the limitations imposed by natural deficiencies and so avoid disappointments in attempting to achieve the impossible.

The student of athletics will look for references to the super performer. In a chapter entitled "Analysis and Prediction of All-out Athletic Performance" the author speculates on the factors governing the quality of great endurance. He quotes (from *Cardiologia*, 1945, 9, 313) Gustav Nylin's investigation on the blood circulation of Gunder Hägg and Arne Andersson, the great Swedish middle-distance runners who broke several world records. It is interesting to learn that the most elaborate observations could only confirm the clinical examination which was made when these athletes visited Britain two years ago in the conclusion that no specific explanation was forthcoming of their remarkable performances. It is simply a matter of superior co-ordination of all the factors concerned in violent exercise.

The authors include a table of the "calorie value" of all forms of physical exertion from knitting to sprinting at full speed, which underlines once more the popular misconception that obesity can be treated by exercise. Doubtless exercise contributes to its reduction so long as dietetic restrictions are simultaneously imposed. The fat man will be dismayed to learn that in order to work off a pound of fat it is necessary to walk 66½ miles at the rate of 3½ miles an hour, which is a fairly strenuous pace for the average person of sedentary habits, or to run at full speed (10 yards per second) for 7½ miles, were this humanly possible.

ADOLPHE ABRAHAMSON.

PRACTICAL BIOCHEMISTRY

Laboratory Instructions in Biochemistry. By Israel S. Kleiner, Ph.D., and Louis B. Dotti, Ph.D. Second edition. (Pp. 245. 12s. 6d.) London: Henry Kimpton. 1946.

This manual of practical biochemistry is primarily intended for medical students. The selection of material and the standard of instruction are good, being based upon several years of practical experience in New York Medical College. The book compares favourably with manuals used by medical schools in

this country which for some inexplicable reason rarely seem to reach the publisher's office. The authors cover the basic requirements of clinical chemistry well, and as an innovation include accounts of such estimations as acid and alkaline phosphatase, cholesterol-ester ratio, and Bratton-Marshall's method for sulphonamides. There is a new section on analysis of cerebrospinal fluid, and a courageous attempt has been made to introduce the student to blood-gas analysis. With the development of the technique of heart catheterization such analysis will become of considerable clinical importance.

The book suffers from the disadvantage of all practical manuals in that, divorced as it is from its theoretical background, it lacks continuity with the course in organic chemistry which should precede it and the course of clinical chemistry which should follow. A practical account of a simple metabolic investigation is welcome; it is a feature which might with advantage have been extended to cover a few simple clinical tests. Students in Britain will find it difficult to carry out the instructions on experimental diets. The quality of the paper, which for the most part is printed on one side only, is first class. A novel plastic binding allows individual pages to be removed and gives the book an attractive appearance; nevertheless, it is unlikely that it will survive even normal use for more than a few years, and a more orthodox and permanent binding would have been preferable.

A. E. KELLIE.

A PHYSICIAN'S PHILOSOPHY

The Philosophy of a Scientist. By R. G. Gordon, M.D., D.Sc., F.R.C.P.E.D. (Pp. 206. 16s.) London: Hutchinson's Scientific and Technical Publications 1948

The contributions of members of our profession to philosophy, in all senses of that word, have been illustrious. Speaking of Locke, Dugald Stewart wrote

"No science could have been chosen, more happily calculated than Medicine, to prepare such a mind for the prosecution of those speculations which have immortalized his name: the complicated and fugitive and often equivocal phenomena of disease, requiring in the observer a far greater proportion of discriminating sagacity than those of Physics, strictly so called; resembling, in this respect, much more nearly, the phenomena about which Metaphysics, Ethics and Politics are conversant."

Some readers of Dr. Gordon's thoughtful treatise may think that he quotes over-abundantly, and a reviewer certainly should eschew quotations, but the following passage illustrates happily what Dugald Stewart had in mind

"There are some people who think a little, that their sole philosophy is to do as their neighbours do and conform to the customs of the tribe, whether that tribe be a community of primitive savages or a social set in a provincial town. This may work well enough so long as things go on relatively smoothly and the tribe remains a coherent body, but if some upheaval occurs, whether in the personal life of the individual or in national politics, which flings them out of their envelope of protective custom, these people may become very lost and very distressed. They are apt to suffer from one variety of what is popularly called a nervous breakdown. This may cause them the more distress in as much as, previously, they have thoughtlessly adopted the attitude of insolent superiority, bred of ignorance and prejudice, with which their set have regarded those suffering from something which they do not understand. To find that they themselves are afflicted with such a complaint fills them with such shame that they insist that they must be suffering from some organic disease, which in their eyes is much more respectable and for which they would expect full sympathy, which they would never dream of extending to their miserable neurotic brethren."

Perhaps that admirable passage may attract colleagues to whom the word philosophy is as repellent as the word ideology to the reviewer. Dr. Gordon's philosophy, like that of Horace, is:

Aequè pauperibus prodest, locupletibus aequè,
Aequè neglectum pueris senibusque nocebit.

It appertains to what in the eighteenth century would have been classed as natural theology, but Dr. Gordon's knowledge of twentieth-century science is more exact than the knowledge eighteenth-century deists had of Newtonian mathematical

physics. Dr. Gordon sets out fully the difficulties which a consistent philosophy of the universe, or theology, must reconcile and insists that each man must face those difficulties for himself: he may end by reaching conclusions long ago pronounced, but they must be his conclusions. As the first Marquis of Halifax said, "Men who borrow their opinions can never repay their debts." It is not a sneer but a psychological truth that each man must make his own God: yet the result may not differ superficially from the God of a "revelation." It differs, however, fundamentally in as much as it is realized by the individual. Dr. Gordon's holistic conception of the soul and Aristotle's entelechy do not seem very different, but the two philosophers have travelled by different routes.

Dr. Gordon's philosophy is optimistic. He believes in ethical progress and reminds us that, on a cosmic time scale, civilization is young. Perhaps one needs more than an average degree of altruism to be comforted by his argument, but certainly an honest student will learn from Dr. Gordon's book some useful lessons in self-discipline.

MAJOR GREENWOOD.

GROWTH OF A VOLUNTARY HOSPITAL

The Story of a Scottish Voluntary Hospital. The Royal Northern Infirmary, Inverness. By T. C. Mackenzie, M.D., F.R.C.P. Ed. (Pp. 279. 8s. 6d.) Inverness: The "Northern Chronicle" Office.

The author of this interesting study of the inception and growth of a typical Scottish voluntary hospital presents a panorama in miniature of the changing social standards and advances in medical practice during the past 150 years against a background of the detailed administration and inevitable development of a living institution meeting an increasing need. Conceived in 1797 as a means of affording effectual aid to the sick poor in the Highlands of Scotland, and nurtured through the years by the generosity and devotion of succeeding generations of public-spirited individuals, the Inverness Infirmary has grown from small beginnings into the Royal Northern Infirmary, the acknowledged medical centre for the Northern Region of Scotland. The author has compiled the story from contemporary records and reports, and excerpts from the minutes of the Weekly Meetings of Committee give colour and human interest to the recurring pattern of increasing demands having to be met by increasing expansion and greater efforts to enlarge the funds. From the earliest days the interest of the managers and staff in the detailed administration of the hospital is clear—even concern about the vagaries of the Infirmary cow is recorded—as well as their interest in the welfare and progress of the patients.

To the student of medical and social history interesting glimpses are afforded of the values, human and monetary, accrued in the early part of last century. It is startling to realize that the provision for the "lunatic poor" consisted of cells 8 feet square and that in 1811 one of the staff reported to the Committee that a female lunatic who had been in the Asylum for nearly 12 months "was so far recovered, that she might be allowed to leave her cell with safety, but as she was quite destitute of cloaths being literally in a state of perfect nudity, the doctor suggested the propriety of furnishing her with some." Fifty years before Florence Nightingale the nurse ranked with the cook and chambermaid, with a wage of £4 yearly, and the matron's wage at £10 was less than the ward-maid's.

The book throughout illustrates clearly the gradual evolution of the voluntary hospital, which through the initiative and enterprise of private individuals has constantly been in advance of public authorities in meeting the needs of the community. As the author states in his preface, the knowledge of such a history is of special interest and importance at the present time, as the trend of events points to the assumption by the Government of departmental and possibly bureaucratic direction of the sphere of hospital work. Dr. Mackenzie's lucid and judicious account and a mature understanding of the subject are qualities which we hope that many readers who think that the history of medicine has been found much of interest in this book.

E. A. COPMACK.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

Males and Females. By R. Pilkington. (Pp. 92. 6s.) London: Delisle, 1948.

An introduction to the physiology of sex for adolescents.

Education and Health of the Partially Seeing Child. By W. Hathaway. 1st ed. Revised. (Pp. 216. 14s.) London: Geoffrey Cumberlege, 1947.

Intended for teachers, administrators, and nurses.

Congenital Malformations. By D. P. Murphy, M.D., F.A.C.S. 2nd ed. (Pp. 127. 30s.) London: J. B. Lippincott, 1947.

A practical introductory account of the causes of congenital malformations.

Diagnosis in Daily Practice. By B. V. White, M.D., and C. F. Geschickter, M.D. (Pp. 693. £4 10s.) London: J. B. Lippincott, 1947.

A textbook of diagnosis intended for the general practitioner and house-man.

Restoration Exercises for Women. By E. Rout. Preface by Sir Arthur Keith, F.R.S. 9th ed. (Pp. 84. 7s. 6d.) London: William Heinemann, 1948.

Physical exercises described and illustrated for women.

The Care of the Teeth. By G. H. Russell, M.B., Ch.B., L.D.S. (Pp. 48. 2s.) Altrincham: John Sheratt, 1948.

Instructions for the mother on the care of her own and her baby's teeth.

How to Become a Pharmacist. By W. A. Muteham, M.P.S. (Pp. 120. 5s.) London: The Actinic Press, 1948.

An outline for prospective entrants to pharmacy.

The Metabolic Brain Diseases and Their Treatment. By G. T. Stoekings, M.B., B.S., D.P.M. (Pp. 262. 16s.) London: Baillière, Tindall and Cox, 1947.

The author discusses the physiology and chemistry of physical therapies and compares these with psychotherapeutic methods.

A Manual of Pharmacology. By T. Sollmann, M.D. 7th ed. (Pp. 1,132. 57s. 6d.) Philadelphia and London: W. B. Saunders, 1948.

Intended as a comprehensive outline of modern knowledge of pharmacology.

Sport und Kreislauf. Edited by Dr. A. Wander. (Pp. 154. 12.80 Swiss francs.) Bern: Medizinischer Verlag Hans Huber, 1947.

Papers on the circulatory system in relation to athletics.

La Streptomycine. By Prof. C. Levaditi. (Pp. 218. 350 francs.) Paris: Presses Documentaires, 1947.

A monograph on the preparation of streptomycin and its clinical and experimental applications.

Das Psychoanalytische Volksbuch. Edited by Federn and Meng. 4th ed. (Pp. 736. 24.50 Swiss francs.) Bern: Hans Huber, 1939.

An exposition of psycho-analysis for the layman.

Erkennung und Unterscheidung akuter innerer und ansteckender Krankheiten. By Prof. A. Sylla. (Pp. 456. R.M.18.) Berlin: Urban and Schwarzenberg, 1948.

A textbook of acute diseases and communicable diseases.

Melk in het bijzonder als Zuigelingenvoedsel. By Dr. J. H. de Haas and Ir. O. Meulemans. 2nd ed. (Pp. 112. No price.) Batavia, N.E.I.: Tweede Druk, 1940.

A monograph on the composition of milk.

Histopatología d'una Nova Capa d'Epiteli Semiescamós pla que Cobreix les Mucoses Digestives. By F. D. i. Jorda. (Pp. 83. No price.) Barcelona: L'Institut d'Estudis Catalans, 1947.

An account of a "semi-squamous epithelial layer covering the gastric and intestinal mucosae" which the author claims he can demonstrate.

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THE PLEBISCITE RESULT

The present plebiscite, the results of which are analysed on another page, shows that the concessions made by Mr. Bevan have persuaded many medical men to change their attitude to the Act and their decision whether or not to enter the Service on July 5. In the plebiscite of February there was a 9 to 1 majority in an 84% poll against the Act. In this plebiscite approximately 2 out of every 3 doctors in a 77% poll disapprove of the Act, notwithstanding the concessions Mr. Bevan has made. The figures show that some of those who disapprove of the Act are nevertheless prepared to enter the Service on July 5. In answer to Question B—the most important question of the three—12,799 medical men in England and Wales and Scotland are in favour of accepting service, and 13,891 are not in favour. The group which answered this question contains those directly affected by the Act—consultants and specialists, general practitioners, and whole-time voluntary hospital workers. There is an almost even division of opinion—48% willing to enter the Service and 52% unwilling. The number of general practitioners (principals and assistants) against accepting service is 9,588. Although there is an overall majority against accepting service, the majority does not include approximately 13,000 general practitioners. The majority the B.M.A. required if it was to continue to advise the profession not to enter the Service has, therefore, not been obtained.

This *Journal* went to press while the Council met on Wednesday to receive the results of the plebiscite and to consider what action should be taken. While it may be agreed that the Council is faced with a difficult problem, Mr. Bevan is faced with one which is equally, if not more, difficult. Opinion as expressed in Parliament and in the Press welcomed his statement in the House of Commons on April 7 as being a real attempt to break the deadlock—an attempt, moreover, made in such a manner that showed Mr. Bevan was making a genuine attempt to conciliate those whom he had previously offended. His gesture, we suggested in a leading article in the *Journal* of April 17, warranted an equally generous response. The B.M.A. Council recognized the concessions made by Mr. Bevan, and in a temperately worded phrase stated that these concessions did not offer sufficient safeguards for the essential freedoms of professional life. The medical profession as a whole, in continuing to disapprove of the Act, supports the Council's view. In the last plebiscite each of the eighteen groups of medical men answering Question A disapproved of the Act in substantial proportions. In this plebiscite all except three of these groups still disapprove of the Act, though not so strongly as last

time. Those approving include the salaried consultants or specialists, the whole-time teachers, and the whole-time research workers. But the majority of those employed whole-time in the Public Health Service still disapprove of the Act, and so by a very small majority do those working whole-time in Government service. A large majority of those holding permanent commissions in the Services are still in opposition. These facts cannot be ignored either by Mr. Bevan, or by the public, or by the medical profession.

In the last plebiscite 17,000 general practitioners were not prepared to enter the National Health Service. Those who still hold to this opinion now number 9,588. This figure falls far short of the 13,000 considered to be necessary in order to justify collective opposition to the Act, and the B.M.A. Council would therefore not appear to have a mandate to recommend such a course to the Representative Body. To organize collective opposition on such an insecure basis would be disastrous whatever the merits of the case. We are faced with the fact that over 7,000 general practitioners have changed their minds as a result of the concessions made by Mr. Bevan—and the fact that over 2,000 have not troubled to vote. It is possible that on further reflection more general practitioners will consider that while they have not gained all the points they sought the promised Amending Act and other concessions made by Mr. Bevan will provide them with an opportunity to practise their profession as independent men and women.

On the assumption that the Representative Body agrees that collective opposition is now out of the question it may decide that the best thing for the B.M.A. to do is to co-operate with the Minister of Health in trying to make the Service workable, to press for satisfactory terms and conditions of service for all sections of the profession, to be active in securing satisfactory Regulations, and to respond willingly to the Minister's invitation to assist him in framing the new Amending Act. If the B.M.A. pursues some such course in the interests of those who are prepared to serve under the new Act it will have no less an obligation to protect the interests of those of its members who decide to stay outside the Service. As there is a majority of Noes in answer to Questions A and B no one can pretend that the medical profession will enter this new Service in the enthusiastic manner which Mr. Bevan hoped would be the case. Apart from the deep antagonisms he stirred up in the medical profession by his treatment of the Negotiating Committee last December and his ill-advised utterances in the House of Commons in February, there is still a grave doubt in the minds of responsible doctors about the effect of a State medical service on the development of Medicine in this country. Whereas the voting in the plebiscite of February may have to some extent been influenced by a spirit of antagonism to the Minister of Health, we believe that this has had little influence in the results of the present plebiscite. Not only do medical men have serious doubts about the benefits to the public and to Medicine of a State medical service, but they have still graver misgivings about the possibility of starting such a Service in July in a way which is going to give the medical profession an opportunity to fulfil the promises made by the Government to the people of Britain. Mr. Bevan has very

few bricks at his disposal to build his new house, and the foundations of it even are still in the main only architect's plans. We foresee endless confusion in the administration of this new Service, and foresee, too, that the public will express their disappointment in no uncertain manner. Much of this hostile criticism will fall unjustifiably on the heads of the doctors. The medical profession will be able to meet this, and compose differences of opinion within its own ranks, if it continues to preserve unity within diversity. Only by remaining united shall we be able to influence the development of the new Service and the framing of the new Amending Act promised by the Government.

THE CENTENARY OF PUBLIC HEALTH

On Thursday morning H.R.H. Princess Elizabeth opened the Health of the People Exhibition organized by the Central Office of Information, and sponsored by the Ministry of Health, which is designed to commemorate the centenary of the passing of the first great Public Health Act. On Friday evening the Corporation of London held a dinner to celebrate this same centenary and also that of the appointment of their first medical officer of health, Sir John Simon. On another page we publish an article which discusses the conditions which led to the passing of this Act, the accomplishments of the men who held the stage in these stirring times, and the course of sanitary reform in the years which immediately succeeded the new measures.

That the social conditions of the first half of the nineteenth century cried for redress is well known, but the significance of the increasing depths of degradation into which the poor of our cities were sinking is perhaps less appreciated. Although the cholera of 1832 disturbed the equanimity of the complacent it still needed the fulminations of Chadwick, combined with the inquiries of several official and unofficial committees, to bring home the simple fact that wretched social conditions mean disease and death, and that in the long run they do not pay. Thirteen years after the first outbreak of cholera the Health of Towns Commission gave illuminating figures for certain industrial towns. In Preston, for example, in the four-hundred-odd houses which were surveyed people were sleeping on an average three to a bed, and in 84 instances four persons shared the same bed. Three years later the Metropolitan Sanitary Commission presented a similar catalogue of vile conditions. Bermondsey was intersected by open ditches of the most disgraceful character, and in the streets of Whitechapel there was neither sewerage, drainage, cleansing, paving, nor a good supply of water. It was soon evident that the remedy for such conditions would conflict with vested interests. It was probably only a Chadwick—careful, untiring, and self-sufficient—who could have brought these conditions home to the consciences of the landlords and owners. There was no house in the land which was not liable to suffer from the evils of sanitary conditions. The Queen's apartments at Buckingham Palace were reached through the common sewer; and at the time the footmen in the pantry suffered

constantly from sore throats, till it was discovered in 1844 that there were more than fifty unemptied cesspools under the Castle.

From before 1832 reform had been in the air, but in the case of the health of the people it was an unconscionable time in coming. The Public Health Act of 1848 made up for the delay. This was a truly great and pioneer measure. It consists of 152 sections, and in its printed form takes up 67 pages. The preamble expressly indicates that the intention of the Act is to place under one and the same local management such functions as sewerage, drainage, cleansing, and paving. It constituted a General Board of Health and gave it power to appoint officers. The Act was permissive, but if any area had not adopted it, and a certain proportion of the inhabitants petitioned the Board regarding local conditions, the Board had power to order a local inquiry and, if the result was not satisfactory, to enforce the Act in that district by an Order in Council. A Local Board was given power to appoint officers, such as a Surveyor, an Inspector of Nuisances, a Clerk, and a Treasurer. The Local Board might also appoint a qualified medical practitioner as an "officer of health." There are important sections dealing with sewerage. The Local Board had power to purchase the rights vested in any person for the making of sewers, and were responsible for the repair of sewers vested in them. The Act also deals specifically with the drainage of houses, with water closets in factories, public conveniences, the keeping of swine, the keeping of slaughter-houses, the regulation of offensive trades, the registration of common lodging-houses, and the prohibition of the use of newly built cellars as dwelling rooms. There was a similar prohibition of the construction of any vault or grave within the walls of or under any church built after the passing of the Act. The nuisance clause—referring to drains, water closets, privies, cesspools, and ash-pits—was advanced for its time, but the powers given for compulsory abatement were not adequate. From every point of view this Act, the centenary of which we celebrate this year, was an important and far-reaching measure.

We may refer briefly to the subsequent course of sanitary legislation in this country. There were of course many Acts of secondary importance, but these need not concern us. In 1866 the next principal Public Health Act was passed. This was not a permissive Act. As Simon expresses the matter, under it "the grammar of common sanitary legislation acquired the novel virtue of an imperative mood." By 1875 many Acts had been passed, and in that year all these were consolidated in the great Public Health Act, 1875. This was the long-abiding charter of health administration. It was not until 1936 that consolidation was again effected, and the Act of that year is still in force.

Turning to the other side of the picture, the translation of legislation into the day-to-day practice of the principles of sanitation, Dr. Underwood's article (p. 890) stresses the greatness of Simon in this field. Fortunate indeed was the City of London to acquire his services. At this time Duncan in Liverpool and Simon in London were the only two health officers in the country, and each in his own way was labouring, almost personally like a Hercules, to

cleanse the Augean stables of his area. It was eight years before medical officers of health were appointed for the vestries of the Metropolis, and later still for the country generally. The record of vital statistics shows what was achieved by these men in the succeeding years. At first the duties of these officers lay mainly in the field of sanitation, but from the days of Duncan and Simon, too, it had always been the function of the medical officer of health to deal in expert fashion with outbreaks of epidemic disease. This function could have been carried out only by a man qualified in medicine. As the years passed other clinical functions came within his field; to the supervision of tuberculosis was added the care of the mother, the school-child, and the infant, and in recent years cancer and rheumatism were tending to come under the jurisdiction of the health officer. Mr. Neville Chamberlain's Local Government Act, 1929—whose sole serious drawback was that it lacked the now by no means novel virtue of an imperative mood—enabled enlightened authorities to add to their responsibilities the maintenance and development of many large hospitals; and the medical officer of health had at last come into his own. His responsibilities now embraced the prevention and treatment of all diseases afflicting the seven ages of man.

The medical officers of health will regard these celebrations with pride—but pride mingled with regret and disappointment. Our legislators have seen fit to divorce hospitals from the health services, and once again the nation is faced with dual health administration. Yet the present generation of medical officers will look back with pride to the achievements of those men who in a true pioneering spirit shaped the public health service of this country to the great benefit of the health of the people of Britain.

HISTAMINE

It is becoming increasingly clear that drugs act by imitating or modifying the effect of substances which are ordinarily present in the body. The simplest illustration of this is the similarity between the drug ephedrine and the naturally occurring adrenaline. A large number of drugs imitate or modify the action of acetylcholine; they include muscarine, pilocarpine, arecoline, physostigmine, nicotine, and atropine. There is, in addition to adrenaline and acetylcholine, a third naturally occurring substance which like them is capable of producing dramatic effects in a moment—this is histamine. The function of this substance, unlike that of the first two, remains undiscovered, and we still think of it mainly as something toxic, which the body might well be without. In the lecture which is published in this issue of the *Journal* Prof. J. H. Gaddum has brought together all the clues which are available at the moment to those engaged in solving this riddle, and his analysis will be of the highest value to those working in this field.

It used to be thought that histamine was mainly produced in the lumen of the intestine, where bacteria made it from the amino-acid histidine by decarboxylation. It is true that some bacteria contain an enzyme which can carry out this change, but they do so only in an acid medium, about pH 5,

and not in the alkaline intestine. Indeed, only when the bacteria have adapted themselves to an acid surrounding are they found to contain the enzyme. A further reason for regarding the intestine as an unimportant source of histamine is the fact that large doses of the substance have little pharmacological effect when taken by mouth; they are conjugated either in the lumen or in the wall of the intestine.

Gaddum discusses the formation of histamine and describes the important work carried out by Dekanski, who investigated the amount of histamine in mice. If a mouse is anaesthetized and then immersed in hot water the quantity of histamine in the animal is doubled in the following hour. The new formation appears to occur in the skin. Feldberg and Kellaway observed the discharge of histamine from perfused lungs produced by various agents and drew up a balance-sheet of the amount disappearing from the lungs and that appearing in the effluent; they obtained no evidence of new formation. According to an attractive theory put forward by Rocha e Silva, histamine is combined in the tissues in a peptide linkage between the $-NH_2$ group and the $-COOH$ of lysine and arginine: the link is split by trypsin, with the setting free of histamine. The curious fact that the pain of a nettle-sting is caused by the simultaneous presence of histamine and acetylcholine has recently been demonstrated by Feldberg and Emmelin and is commented on in an annotation on another page. This action can be no coincidence, and must indicate a relation between the formation and function of the two substances.

If the body is flooded with histamine a large amount is excreted in the urine, but the enzyme histaminase is chiefly responsible for its removal. It has repeatedly been observed that there is a very great increase in the amount of this enzyme in the blood in pregnancy, which is believed to be due to production of histaminase in the placenta.

The best-known aspect of histamine at the present time is, however, the use of antihistamine drugs like "anthisan," "antistin," "benadryl," and others. One of the curious features of these substances is their apparent dissimilarity of chemical structure, which is so great as to suggest that their action cannot be related to their structure. Gaddum has made an interesting attempt to show how this difficulty may be overcome.

On other pages we publish articles on the clinical use of two of these compounds. Dr. J. Overton describes the use of antistin in skin conditions and Dr. N. Southwell the results of a trial of anthisan for asthma and hay-fever. Dr. Southwell's account is in some respects a model of how an investigation of this kind should be conducted. He furnished himself in the first place with dummy tablets as well as with tablets containing anthisan, and when he began to treat his patients he used the dummy tablets for the first two weeks in nearly all. He made the interesting observation that two patients with asthma of long standing found themselves notably benefited by these dummy tablets. The general method of the trial, which was carried on for eight weeks, was to grade each patient on his previous asthmatic history, and then to regrade him each week according to the severity of his attacks in the previous week. The grading consisted in allotting him a number from 1–6. At the end of the eight-week period the average weekly grade

number while taking the active preparation was available for comparison with the average weekly grading figure while taking the dummies. Needless to say the patients did not know whether they were receiving the real tablets or not.

The outcome of the trial was quite clear. Dr. Southwell found that anthisan—in a series of 27 patients—was of no benefit whatever in asthma, but that it was strikingly beneficial in hay-fever as shown in each of 15 patients. This investigation is an example of how a clinical trial can be made objective and quantitative, and it will well repay careful study by those faced with similar problems.

SURGEONS IN CAMERA

At a meeting of the Fellows of the Royal College of Surgeons held on April 28 three resolutions criticizing the National Health Service Act were passed. We observed in a recent leading article that it was desirable that the views of the Fellows of the Colleges on the National Health Service Act should be known. The Fellows of the Royal College of Physicians have already expressed their collective opinion in the two resolutions recently passed by the Comitia. Unfortunately the meeting at the College of Surgeons last week was held in secret and we were prevented from reporting it; a similar meeting a year and a half ago was open and was reported. The President of the College has, of course, the right to withhold an account of the meeting and to prevent publicity being given to the resolutions passed, which will presumably be considered at the next meeting of the Council of the College. But when between 200 and 300 Fellows meet at their own request to discuss such a serious matter as the National Health Service Act, and define their attitude to it in carefully considered resolutions, it would seem to be of the first importance that the medical profession at large should know the views of these distinguished men. The medical profession has urged upon the Minister of Health the need for free expression of opinion on all aspects of professional life and work in the new health service. It is regrettable that for the Fellows of the Royal College of Surgeons freedom of expression is to some extent curtailed by the withholding of their views from the rest of the medical profession. It is hoped that the Council of the College may remedy this by making public fairly soon the three resolutions passed on April 28. No good can come from concealing differences of opinion, and it is plain that consultants and specialists are sorely perplexed about their future under the National Health Service Act. This found expression in a resolution passed at a meeting of consultants in London two weeks ago. The Spens Committee's recommendations for consultants are not yet known, and Counsel's opinion (*Journal*, May 1, 1948) shows that many problems remain to be solved if consultants are to be able to work under the Act with anything like a contented mind.

THE ROYAL ACADEMY

In the age of statistics are there any to say how many visitors will be likely to visit the Royal Academy this year? It may be safe to say, quite unscientifically, that on the whole the medical profession is too busy for such pastimes as art appreciation, although it is true that there are a number of notable amateur artists among them. However, those who go to Burlington House this spring will have the

pleasure of seeing Henry M. Carr's competent painting of the Council of the Royal College of Surgeons of England (279), which takes its place among the more formal exhibits. There is a portrait (467) of Miss Elizabeth Bolton, C.B.E., M.D., late Dean of the Royal Free Hospital School of Medicine, and here the artist, William Dring, has made bold use of the colours of the robe in a lively and penetrating study. E. Roland Bevan contributes a forceful bust of Sir Alexander Fleming, and Maurice Lambert an interesting and lifelike full-length portrait of Viscount Nuffield, the model of a statue to be executed in bronze for Guy's Hospital.

If doctors can put aside their Gray's *Anatomy* they may take some pleasure in André Dunoyer de Segonzac's masterly composition "Bathers" (663). In the same room Leslie Cole's "Seated Figure" (706) may tempt them to obstetric speculations. The psychologists among them, noticing the high incidence of vitamins in the subject matter of the smaller exhibits, may discover anew how emotion is deepened when the object becomes comparatively inaccessible, for among the most delicate colour harmonies and most painterly studies in the exhibition can be numbered Nancy Meilor's "The Midday Meal" (12), Alec Bailey's "The Flour Sack" (58), Robert Hurdle's "Round Table: Still Life" (268), and Margaret Noakes's "Still Life" (435).

In a more serious mood psychologists may also study the moving portrait of the late Mr. J. G. Winant (333), in which the artist, James Gunn, has caught behind the simple and rugged exterior a great depth of suffering.

"STROKE A NETTLE"

Anyone who is sufficiently provoked by the stinging nettle to wish to find out the cause of his discomfort will be able, thanks to N. Emmelin and W. Feldberg,¹ to obtain nearly a complete answer. The statement that the active principle of the nettle was formic acid has repeatedly appeared in print and become part of the lore belonging to the plant. It now appears that the juice of the nettle does not contain this substance in any measurable quantity. The facts are both more interesting than the fiction and more in keeping with contemporary biochemical research. It has been ascertained that the fluid in the hair of a nettle contains one part in a hundred of acetylcholine and between one part in five hundred and one part in a thousand of histamine. In the case of the former, the content of individual hairs could be pharmacologically estimated. Ten hairs from a stalk gave values ranging between 0.02 and 0.4 millionths of a gramme, with an average of 0.108. Hairs from the upper surface of leaves contained only about one-third as much. In so far as histamine is concerned it had been assumed in advance, not unreasonably, that the sting of a nettle hair would prove to be merely one more stimulus for the release of this substance from human tissues. Instead, the histamine came from the nettle, although it was necessary to pool the contents of some 15-30 hairs to obtain a measurable effect. Further, it was established by tests on human subjects that both the acetylcholine and the histamine are needed to provoke the typical reaction. Neither separately can produce the equivalent of a natural "sting." On the other hand indications were also obtained that nettle-hair juice produces a more marked effect than would be expected from its content of these two substances alone. It is suggested, therefore, that there is probably a third active principle, still unidentified but, not formic acid.

¹ *J. Physiol.*, 1947, 106, 440.

ISOLATION OF ANTI-PERNICIOUS-ANAEMIA FACTOR

Ever since the discovery by Minot and Murphy in 1926 that pernicious anaemia responds specifically to treatment with liver attempts have been made to isolate the responsible active principle. For many years it was believed that it was a member of the vitamin B complex, though Castle,¹ writing in 1945, could not identify it with any of the known members of the group. When Spies and his colleagues² found in 1945 that folic acid, which occurs in liver, restores the blood to normal in pernicious anaemia it was at first suggested that this might be the long-sought anti-pernicious-anaemia principle of liver. This view could no longer be held when it was shown that folic acid, unlike active liver extracts, failed to prevent the neurological complications of pernicious anaemia; indeed, some workers claimed that it appeared to precipitate them in certain patients. The anti-pernicious-anaemia factor of liver is also many thousands of times more potent than folic acid. Thus Clark³ has calculated that, although 10 to 20 mg. of folic acid is the average daily dose needed for the initial treatment of pernicious anaemia, the maximum amount of it present in a curative dose of liver extract is of the order of 0.02 to 3.7 μg —a 5,000- to 20,000-fold difference.

In 1942, three years before the isolation of folic acid, intensive research was begun by a group of workers in the Merck laboratories in America to isolate the anti-pernicious-anaemia factor from liver. After six years they now announce the preparation of small amounts of the factor in a pure crystalline form.⁴ As the new factor is a member of the vitamin B complex, and as the last member to be named was B₁₂ (later shown to be identical with folic acid), the American workers propose that the new factor be called vitamin B₁₂. The progress of the work was materially hastened by the discovery of Shorb⁵ that a factor (LLD) required by the organism *Lactobacillus lactis* Dorner is present in refined liver extracts in concentrations bearing an almost linear relationship to the unit potency of the extracts used in the treatment of pernicious anaemia. It was suggested that the LLD factor might be the therapeutically active principle in these extracts. Intensive purification of clinically active liver fractions resulted in the isolation of a crystalline compound active for the growth of *L. lactis* and for the treatment of pernicious anaemia in relapse. This was vitamin B₁₂, which in doses of 3 to 10 μg , produced a prompt increase in the circulating reticulocytes, red cells, and haemoglobin in patients suffering from pernicious anaemia.⁶ The haemopoietic activity of this preparation is thus 7,000 to 8,000 times that of folic acid. The discoverers believe that 1 μg . may be approximately equivalent to 1 U.S.P. injectable unit of liver. Clinical work with vitamin B₁₂ has been hampered by the small amounts available.

During the last two years British workers have also been active in this field. As we reported in last week's issue of the *Journal*, Dr. E. Lester Smith,⁷ of Glaxo Laboratories, describes in a recent issue of *Nature* the preparation by repeated chromatography of a gramme of two red pigments from four tons of proteolysed liver. The preparations are active in pernicious anaemia in doses of 20 μg . and, what is even more interesting, they are effective in

the treatment of subacute combined degeneration of the spinal cord. Neither of Smith's pigments is identical with the vitamin B₁₂ of the Merck group, since they are both amorphous and weight for weight are not quite so active clinically. Further developments are promised on both sides of the Atlantic, and they will be awaited with interest.

NEUROSIS AND RELIGIOUS DENOMINATION

Between thirteen and fourteen thousand Service men were admitted to the Sutton Emergency Hospital during the six years September, 1939–September, 1945: 9,354 men went into the neuropsychiatric wards and 4,202 into the general wards. Slater¹ has classified these patients by religious denominations. The classification was based solely on the men's statement given as a routine on admission to hospital. Over 70% belonged to the Church of England, and the ratio of admissions to the psychiatric wards to admissions to the general wards of men of this denomination was taken as a standard to compare with other religious groups. No denomination had a significantly lower ratio than that of the Church of England, all the significant differences being in those groups which had a greater tendency to neurosis. It might be mentioned, however, that in the case of the Church of Scotland the ratio was 0.775, but statistical analysis showed that this was not a significant result. The ratios of the groups having a significant difference were: Roman Catholics, 1.250; Methodists, 1.386; Salvationists 2.843; Jews 5.338.

The interpretation of these figures can only be a matter of speculation, but Slater suggests that men of a neurotic disposition may find a particular denomination or religion attractive—for instance, the Salvation Army is not unwilling to gather in people with an irregular social record, among whom a high incidence of neurosis might be expected. The Jews are, however, in a different category, since nearly all the men were born into this faith and conversions to the creed are negligible. The Jews were unique among all the religious groups in showing a progressive rise in the incidence of neurosis during the course of the war. The number of admissions of Jews to the neurotic wards rose from 1.3% to 6.7% during the six years. This rise was not influenced by the recruitment of foreign refugees into the Army, all foreign nationals being excluded from the analysis. The author suggests that perhaps Jews possess a stronger than average attachment to their immediate domestic circle and the society of their fellows and that Army life causes a relatively greater strain.

PROCEEDINGS OF THE ANNUAL MEETING

The Council of the B.M.A. has decided to publish in a separate volume the papers read before the Scientific Sections of the Annual Meeting to be held in Cambridge in June. Just before the war it was resolved that the Opening Papers read to the Sections should be published in the *Journal* at the discretion of the Editor. As the paper for the *Journal* is still strictly rationed, and as it is possible to find space for only a proportion of the original articles submitted in the ordinary way, it will be possible to print in the *Journal* only a few of the papers read at the Annual Meeting. But all contributions will be put on permanent record in the *Proceedings*. So that plans may be made for printing the *Proceedings* it is to be hoped that those who are reading papers at Cambridge in June will as soon as possible send them to the Editor of the *Journal*.

¹ Castle, W. B., Ross, J. B., Davidson, C. E., Burchenal, J. H., Fox, H. J., and Ham, T. H., *Science*, 1944, 100, 81.

² Spies, T. D., Koch, M. B., and Caldwell, M. H., *Sth. med. J., Birmingham*, 1945, 38, 707, 781.

³ Clark, G. W., *Amer. J. med. Sci.*, 1945, 209, 520.

⁴ Rickes, E. L., Brink, N. G., Konlusz, F. R., Wood, T. R., and Folkers, K., *Science*, 1948, 101, 396.

⁵ Shorb, M. S., *Ibid.*, 1948, 102, 397.

⁶ West, R., *Ibid.*, 1948, 102, 398.

⁷ Smith, E. L., *Nature*, 1948, 161, 638.

THE CENTENARY OF BRITISH PUBLIC HEALTH

RISE OF HEALTH LEGISLATION IN ENGLAND AND IN LONDON

BY

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On May 7 the Corporation of London commemorated the centenary of the first Public Health Act and of the appointment of Sir John Simon as first Medical Officer of Health for the City. Although nowadays civic hospitality must be on a modest scale, the guests and the commemoration dinner were fully representative of the leaders in health legislation and administration and in the various departments of preventive medicine. The year 1848—the zero year of public medicine in this country—was marked by several events of the first importance, and this celebration, coinciding as it did with the opening of the Health of the People Exhibition, which has been arranged by the Central Office of Information and is sponsored by the Ministry of Health, was intended to commemorate all of them. This article is written as a reminder of these epoch-making events and as a tribute to the men, far-seeing beyond their time, who shaped their course.

The Prelude to Legislation

The cholera epidemic which ravaged this land in 1831-2 caused a profound but unfortunately temporary stirring of the social conscience of the people. The importance of this outbreak, and its effect on the minds of the men and women who feared its terrors, can hardly be overestimated. This disease of the Far East, which had hitherto been of interest only to those who had practised there, first reached this country in October, 1831, and from then until the end of 1832 it overran Great Britain and Ireland, causing the death of 31,400 persons in Great Britain alone. In a recent communication I gave a table showing the distribution of these cases in time (Underwood, 1948a), and it will be seen there that small towns appear in company with the great cities in this roll of dishonour. In 1833 there was a recrudescence of cholera in London, when the metropolis had 1,454 deaths, and there were also a few scattered minor outbreaks in other parts of the country. But for all practical purposes cholera had burnt itself out, and, although the fear of it continued to haunt the people, there was no further outbreak until the next great epidemic of 1848-9. The intervening period of sixteen years saw an armed truce between the forces of disease, filth, and squalor on the one hand and the powers which were being gradually assembled to combat them. No mean difficulty confronts anyone who sets out to give a few examples of the prevailing conditions. The reader may think that a finger of scorn is being pointed at a certain locality, whereas all the contemporary reports show that there was nothing to choose between any of them. With this proviso in mind a fairly typical example may be given here. Baker (1833) described some of the appalling sanitary conditions which were found in the township of Leeds. In three parallel streets, housing about 386 persons, the sanitary conveniences consisted of two small privies, which were in such a state as to be totally unusable. From the privies in one end the accumulated filth of thirty years was removed by order of the Commissioners. Seven years after this cholera epidemic in Leeds the streets had again become so full of excrement, filth, and refuse of every description that their surfaces were far above their original level. It is small wonder that no official action was at last taken in this country generally until it should have shown itself primarily in the abatement of sanitary nuisances. The broader conception of health measures began later, and evolved almost entirely in the mind of one man—Sir John Simon.

The cholera epidemic of 1831-2 had two results of the first importance. In the first place it showed the urgent need for sanitary reform in town and country alike. In the second place it gave rise to an event which demonstrated that the control of medical action against a grave

epidemic disease, could be directed by a central government department. I refer to the Royal Proclamation of June 2, 1831, which announced the formation of a consultative Board of Health, of which Sir Henry Hallford, the President of the Royal College of Physicians, was elected chairman (1831-1897). It was a matter for congratulation that this Board was appointed before cholera actually reached our shores. But it had no powers of compulsion, though the Government did subsequently issue certain Orders in Council implementing some of the Board's recommendations.

Though educated men and women felt the stigma of the conditions in which the population was dwelling, the stimulus to effect improvements was lacking, and the offensive weapons against the powers of darkness were not yet forged. The real awakening of the public conscience took place during the decade 1838-48. This was the era of Chadwick and Southwood Smith, of Neil Arnott and James Phillips Kay (Sir J. P. Kay-Shuttleworth). The necessary action came through a demand for the reform of the Poor Law, and it is worth while noting that ten years were to elapse between the recommendation for the introduction of the necessary legislation and the actual passing of the Act.

Sir Edwin Chadwick

Edwin Chadwick (1800-90) was one of those men who stumbled almost by accident into their life's work. As a young man he studied for the Bar, but when he was 29 years old he wrote an essay on *Preventive Police* which was seen by Jeremy Bentham. The two men met and appear to have got on very well together, since Chadwick went to stay with Bentham at the latter's house in Queen's Gate. The association continued until Bentham's death in 1832, and during the intervening period Chadwick was called to the Bar, carried out many first-hand investigations into the social conditions of the poor in London, and finally renounced the Bar as a profession. The reason was his appointment in 1832 as an Assistant Commissioner to the Commission which had been set up to inquire into the Poor Law system. In the following year he was promoted to be a Commissioner, and in the same year he was also appointed as one of the three Commissioners on a Royal Commission to examine the treatment of children in factories. In 1834 the Poor Law Commission issued its Report, and this led to the Poor Law Amendment Act and the formation of the Poor Law Board with Chadwick as secretary.

Chadwick really opened his campaign against the evils of defective sanitation four years later, when the Poor Law Board sent a famous letter to Lord John Russell, the Home Secretary, in which they pointed out that some of the most important charges on the poor rates are those "which are caused by nuisances by which contagion is generated and persons are reduced to destitution." Later on the Commissioners said: "We have eagerly availed ourselves of the opportunity of making the present Report, to submit to your Lordship the urgent necessity of applying to the Legislature for immediate measures for the removal of these constantly acting causes of destitution and death. All delay must be attended with extensive misery, and we would urge the consideration of the fact that in a large proportion of cases the labouring classes, though aware of the surrounding causes of evil, have few or no means of avoiding them, and little or no choice of their dwellings."



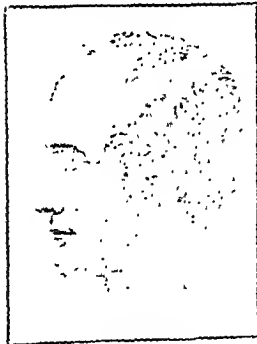
Sir Edwin Chadwick, 1800-90

Southwood Smith

The Commissioners attached to their letter two reports which had been specially drawn up by their medical inspectors. The first was a joint report by Dr. Neil Arnott and Mr. James Phillips Kay, *On the Prevalence of Certain Physical Causes of Fever in the Metropolis*. Neil Arnott (1788-1874) was at that time a well-known London physician and was a physician-extraordinary to the Queen. In 1827 he wrote a popular textbook on physics, and his practical inventive capacity found expression in such well-known devices as Arnott's ventilating valve, his smokeless fireplace, and his water-bed. Arnott was a founder and an original member of the Senate of the University of London (1836). Sir J. P. Kay-Shuttleworth (1804-77) became secretary to the Manchester Board of Health, and was the author of a technical work on asphyxia. He may be regarded as the founder of English popular education, and he was a joint founder of Battersea Training College.

More intimately connected than either of these men with the succeeding progress of legislative public health was the author of the second report attached to the Board's letter—Thomas Southwood Smith (1788-1861). Munk gives a sympathetic summary of his life and work (Munk, 1878). Smith was at first a dissenting minister in his native Somersetshire, and he then studied medicine at Edinburgh. During this period he wrote his *Divine Government*, which was praised among others by Byron, Moore, and Wordsworth. Southwood Smith was for twenty-four years physician to the London Fever Hospital, and he was therefore well qualified to carry out medical work for the Poor Law Board. This second report to which I have referred was entitled *On Some of the Physical*

Causes of Sickness and Mortality to which the Poor are Particularly Exposed. It emphasized the fact that, while in the districts of London occupied by the wealthier classes streets had been widened, drainage improved, and nuisances removed nothing whatever had been done to effect similar remedies in the poorer districts. He gave telling figures to emphasize the results. Southwood Smith was later prominent in the formation of the Health of Towns Association (1839) and of the Metropolitan Association for Improving the Dwellings of the Industrial



Thomas Southwood Smith,
1788-1861

Classes (1842). His essay (1832) in the *Westminster Review*, which was later reprinted as a pamphlet entitled *The Use of the Dead to the Living*, led to the passing of the Anatomy Act. He wrote also on fevers and a popular work entitled *The Philosophy of Health* (1835-7). To anticipate, Southwood Smith became the medical left hand to Chadwick's right. When the General Board of Health was constituted in 1848 Southwood Smith became its medical member, and he remained in this office until the Board was dissolved in 1854. It is well known that he was Jeremy Bentham's private medical attendant: that Bentham left his body to Smith for dissection; and that Smith delivered an oration over the body on June 9, 1832, before starting the dissection.

Chadwick's Harvest Years

The letter from the Poor Law Board to the Home Secretary led to many debates in Parliament, especially in the House of Lords, and in 1842 the Government published three volumes of reports. The third volume was entitled a *General Report on the Sanitary Condition of the Labouring Population of Great Britain*. It was written by Chadwick, and was published (1842) in his name. He recommended, *inter alia*, efficient drainage, the removal of refuse, and the improvement of water supplies. He also made the prophetic statement that "it would be good economy to appoint a district medical officer independent of private practice, and with the securities of special qualifications and responsibilities to initiate sanitary measures and reclaim the execution of the law." Chadwick's recommendations were

substantially confirmed by a Royal Commission which reported in 1844 and 1845 and gave thirty detailed recommendations proposed for the local authorities. The chief momentum for all subsequent action came from this report of Chadwick's and from the Report of the Health of Towns Commission which soon followed.

The years 1845-7 saw the placing on the Statute Book of a number of minor measures—dealing with markets and fairs, gas-works, waterworks, and cemeteries—which formed the background to the Act of 1848. This was the Public Health Act, which received the Royal Assent on August 31. This is the charter which is being celebrated this year. Another important measure was the Nuisances Removal and Disease Prevention Act of 1848. A metropolitan Act of 1849 made similar provisions for London as did the Public Health Act for the rest of the country. (This London Act did not apply to the City, which was dealt with by the City Sanitary Act.) The new legislation established a system of summary jurisdiction against the chief health nuisances. It further created a General Board of Health, which was to continue for five years. Chadwick was appointed one of the three Commissioners, along with Lord Carlisle and Lord Shaftesbury. A little later Southwood Smith also became a member of the Board. The addition of Smith did not occur until 1850, and on the authority not of a Public Health Act but of the Metropolitan Interments Act. This led Henry Wyldere Rumsey (1856) to write of the whimsical experiment which had been tried of appointing three non-medical authorities—two lords and a farmer—to preserve the health of the living, and then, after a year or so of doubtful success, of calling in a physician to bury the dead.

Under the driving force of Chadwick the new Board got rapidly to work. By 1853 the Board had been memorialized from 284 places for application of the Act, and had applied the Act in 182 places having in all more than two million inhabitants. The Board introduced measures regarding common lodging-houses, and made recommendations regarding burials in towns. In the field of water supply it straightway developed grandiose ideas. It proposed to centralize all the water undertakings of London, and there is evidence that it intended to be itself the owner and director of this organization. There is no doubt that this first General Board of Health laboured from the start under three drawbacks. In the first place, it was not represented in Parliament by a Minister of the Crown, so that criticism of its activities could not be dealt with effectively as soon as it was uttered. Secondly, it had no whole-time engineering inspectors. Its technical experts were engaged in the locality where they were to be temporarily employed, and in this way abuses were apt to be met with. The third drawback was—Mr. Chadwick. As a pioneer he had been admirable, but the very qualities which made him a great pioneer rendered him rather intolerant as an administrator. If there were vested interests which might be trod on Chadwick trod on them with all his weight. The result could not have been long in doubt. In 1854 the General Board of Health was terminated and a new Board was constituted in its place. Chadwick retired on a pension of £1,000 a year. His "official" life was ended, but during the next thirty-five years he continued to wage an unofficial war on dirt and disease. As an administrator Chadwick was impatient of results. In Sir John Simon's words, "he probably hoped to achieve in a few years the results which not ten times his few years could see achieved; and where others on all sides were hanging back, his ardour seemed ready to undertake the work of all."

In passing, it should be said that the General Register Office had been established in 1836, and that William Farr had been appointed as Compiler of Statistics in 1839. Farr founded a new science. In the telling phrase of Simon, he was "a master of the methods by which arithmetic is made argumentative." One has either to write much about him, or exclude him of design, and honourably. In this short note I have no choice. His work was an essential weapon for his contemporaries and many who followed later. To those who are interested I would recommend the sympathetic account of his mind and work which Prof. Greenwood (1948) recently published.

The Rise of the Medical Officer of Health

I have already quoted Chadwick's words recommending that it might be worth while to appoint whole-time medical officers

independent of private practice. An Act of 1847—the Towns Improvement Clauses Act—not only dealt with improvements in paving, draining, cleansing, and lighting, but gave power to large towns to appoint such medical officers. Liverpool had already anticipated this authority, since it had by a local act of 1846 sought and obtained power to appoint a medical officer of health. Dr. William Henry Duncan—the first medical officer to be appointed in Great Britain—had taken up office on Jan. 1, 1847. Duncan was a most conscientious and capable officer, and in Liverpool he had to deal with incredible problems of overcrowding, bad sanitation, gross immigration, and constant outbreaks of disease. If his reports did not have the classic ring of those of Simon, he was nevertheless a great medical officer who demands our respect. In another communication I deal more fully with his work (Underwood, 1948b), and Prof. Frazer, of Liverpool, recently published a biography of Duncan which was long overdue.

The City of London followed swiftly the example set up by Liverpool. The City Sewers Act of 1848 was to become operative from Jan. 1 of that year. It contained important provisions relative to the sanitation of the City, and gave power for the appointment of a medical officer of health. In October, 1848, Simon took up this office.

Sir John Simon (1816-1904)

The holder of this important post was a young man who was well fitted by his training and general intellectual ability to fill it with dignity. John Simon, born in 1816, was the sixth of fourteen children, and was more than half French. At 16 years he studied in Germany for a year, and in 1833 he was apprenticed to the surgeon Joseph Henry Green. Qualifying



Sir John Simon when Medical Officer of Health, City of London, 1848-55

in 1838, Simon decided on a surgical career, and during the next ten years he held posts of some importance as a surgeon and as a pathologist. For his pathological work he was elected to the Royal Society at the age of 29, though the mesh was much wider then than it is now. In his spare time he studied metaphysics, Oriental languages, and art.

Simon held the post of medical officer of health to the City for seven years. When the new General Board of Health was formed Simon became its first medical officer

in 1855. Shortly afterwards the Board's duties were taken over by the Privy Council, and Simon served this body well for thirteen years. Supported by a brilliant team of colleagues, he built up a system of public health which was the envy of the world. He was in effect preaching the importance of public health as an administrative entity, and the creation of a Ministry of Health. In 1871 his hopes were dashed when various heterogeneous departments were amalgamated to form the Local Government Board. Public health interests were now constantly subordinated to the demands of the Poor Law, and the advice of medical officers to that of lay administrators. In 1876 he asked leave to retire, and the country thus lost one of its ablest administrators while he was still an active force. After his retirement Simon lived for 28 years—the recipient of many honours and the friend of many celebrities, including Ruskin and George

Simon at the City

Simon's appointment as medical officer of health to the City of London in 1848, as Simon very soon found.

He came to be regarded at Whitehall as an officer available for the general public service, and he served on several important Government bodies. On his appointment Simon at once came to an arrangement with the Registrar-General whereby he was provided each Monday with the death returns for the City for the previous week. He instituted a system of weekly inspections, with a follow-up of all nuisances. In the few years of his tenure of the office enormous improvements were effected in drainage, water supply, the abatement of nuisances, in scavenging, and in general cleanliness. He says himself that "at a time when cesspools were still almost universal in the Metropolis, and while, in the mansions of the west-end they were regarded as equally sacred with the wine-cellars, they had been abolished, for rich and poor, throughout all the square mile of the City."

The five annual reports which Simon wrote while he was in the City are classics of public health administration. In his first report he pointed out that the mortality was about twice the mean mortality of surrounding districts. He stated that some thousands of houses in the City still had cesspools, and he described their evils in eloquent language. In dealing with water supply he laid down the postulates that every house, and every floor of a tenement, should be separately supplied; that every privy should have a sufficient supply; that every court should have a standcock; and that the supply should always be uninterrupted. He stated that there were 138 slaughter-houses in the City, and in 58 of these slaughtering occurred in vaults and cellars. He was convinced that both slaughter-houses and other offensive trades should be excluded from the Metropolis. He not only condemned further burial in vaults but recommended the burial outside the City of coffins already deposited in vaults. In connexion with unfit and unsanitary houses he struck a modern note immediately: the removal of walls is, he says, only a palliative, and the best measure is the wholesale purchase of series of courts and the demolition of all the houses in them. In dealing with the social conditions of the poor he expresses his belief in the powers of education. Simon emphasized that the most important task which lay ahead was inspection, and he recommended the establishment of a whole-time staff of inspectors. Finally he said that he considered it indispensable that the authority should receive the largest and most accurate returns which could be procured of all sickness occurring among the poorer classes. A hundred years after he wrote these words these returns are still indispensable for both the statistician and the administrator—but they have not yet materialized. Simon's other reports followed closely on the lines of his first—emphasizing water supply in one year, cholera in another, as the occasion demanded. As examples of vigorous, fearless prose in official reports they can seldom have been equalled.

Epilogue

The events which I have inadequately described had a far-reaching influence in this country and abroad. The two men who were principally concerned were both young men when they entered the field, and both were pushed out of office while still in mature manhood. Simon qualified in 1838, and during the decade when Chadwick was at his prime Simon apparently showed not the slightest interest in what was going on in the field of sanitation and public health. Yet in 1848 he took over the most important area in the country, wrote a classic report, and immediately laid down plans of action and procedure which were to be followed by other health administrators for many years to come. While during these centenary celebrations we will honour them and their only slightly less gifted colleagues, our thanks are also due to the enlightened members of the City Corporation in 1848-54—for these were the men who first really accepted Chadwick's principles and who gave Simon the opportunities which he so quickly grasped.

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THE PLEBISCITE

PLEBISCITE ON THE NATIONAL HEALTH SERVICE ACTS

Summary and analysis of replies received up to and including 3, May, 1948

TABLE I

PLEBISCITE

Summary and analysis of replies received up to date

TABLE I

(1)	(2)	(3) Registered medical practitioners either resident in Great Britain or serving in H.M. Forces at home (54,667 plebiscite forms issued)						Classification No.	
Reference to Plebiscite Form	Classification of professional work	England and Wales		Scotland		Total Great Britain			
		Approve	Disapprove	Approve	Disapprove	Approve	Disapprove		
APPROVE of the National Health Service Act, 1946, in view of the modifications now proposed by the Government.	1a. Consultant or specialist, not holding whole-time salaried post	1,068	2,525	163	274	1,236	2,800	1a	
	1b. Consultant or specialist, holding whole-time salaried post	75	530	132	74	919	604	1b	
	2. General practitioner, principal	4,679	9,802	765	4,043	5,444	10,842	2	
	3. General practitioner, assistant	629	1,144	155	172	787	1,317	3	
	4. Whole-time voluntary hospital	1,010	1,593	296	275	1,316	1,868	4	
	5. Whole-time local authority general hospital	474	517	62	55	536	572	5	
	6. Whole-time local authority special hospital	361	341	61	85	421	429	6	
	7. Whole-time public health service	784	893	102	120	886	1,013	7	
	8. Whole-time Government service	255	250	63	52	318	302	8	
	9. Whole-time teacher	219	151	50	65	269	216	9	
	10. Whole-time research	151	103	24	34	175	137	10	
	11. Other whole-time non-Government post	151	207	21	34	172	241	11	
	12. Medically qualified dental surgeon	19	199	15	45	34	244	12	
	13. Retired	638	2,321	127	295	765	2,616	13	
	14. Unclassified	695	1,297	155	227	850	1,524	14	
	Totals	11,918	21,904	2,095	2,840	14,013	24,744		
DISAPPROVE of the National Health Service Act, 1946, notwithstanding the modifications now proposed by the Government.	15. Services, permanent commission					179	410	15	
	16. Services, temporary commission, specialist					53	69	16	
	17. Services, temporary commission, graded specialist					65	105	17	
	18. Services, temporary commission, general duty officer					287	513	18	
	Totals					14,620	25,842		

TABLE II

B								
		In Favour	Not in Favour	In Favour	Not in Favour	In Favour	Not in Favour	
I AM in favour of accepting service under the National Health Service Act, 1946, in view of the modifications now proposed by the Government.	1a. Consultant or specialist, not holding whole-time salaried post	1,347	2,147	234	137	1,581	2,345	1a
	1b. Consultant or specialist, holding whole-time salaried post	916	360	61	42	1,077	452	1b
	2. General practitioner, principal	6,586	9,802	1,050	714	7,636	5,493	2
	3. General practitioner, assistant	803	1,144	195	133	1,003	1,093	3
	4. Whole-time voluntary hospital	1,249	1,328	253	225	1,502	1,556	4
	Totals	10,905	12,550	1,893	1,341	12,799	13,891	
I AM NOT in favour of accepting service under the National Health Service Act, 1946, notwithstanding the modifications now proposed by the Government.	1a. Consultant or specialist, not holding whole-time salaried post							1a
	1b. Consultant or specialist, holding whole-time salaried post							1b
	2. General practitioner, principal							2
	3. General practitioner, assistant							3
	4. Whole-time voluntary hospital							4
	Totals							
	15. Services, permanent commission							15
	16. Services, temporary commission, specialist							16
	17. Services, temporary commission, graded specialist							17
	18. Services, temporary commission, general duty officer							18
	Totals							
	15. Services, permanent commission							15
	16. Services, temporary commission, specialist							16
	17. Services, temporary commission, graded specialist							17
	18. Services, temporary commission, general duty officer							18

TABLE III

C								
		Agree	Do Not Agree	Agree	Do Not Agree	Agree	Do Not Agree	
I AGREE to abide by the decision of the majority and undertake not to enter the Service if the answers to Section B reveal a majority against undertaking service as defined in paragraph 4 above and if so advised by the British Medical Association.	1a. Consultant or specialist, not holding whole-time salaried post	2,589	850	257	154	2,846	1,004	1a
	1b. Consultant or specialist, holding whole-time salaried post	457	717	73	121	590	838	1b
	2. General practitioner, principal	9,306	4,413	979	743	10,285	5,161	2
	3. General practitioner, assistant	1,202	516	189	122	1,390	635	3
	4. Whole-time voluntary hospital	1,590	923	337	167	1,927	1,095	4
	Totals	15,374	7,424	1,814	1,312	17,188	8,736	
I DO NOT AGREE to abide by the decision of the majority if it is against accepting service as defined above in paragraph 4.	1a. Consultant or specialist, not holding whole-time salaried post							1a
	1b. Consultant or specialist, holding whole-time salaried post							1b
	2. General practitioner, principal							2
	3. General practitioner, assistant							3
	4. Whole-time voluntary hospital							4
	Totals							
	15. Services, permanent commission							15
	16. Services, temporary commission, specialist							16
	17. Services, temporary commission, graded specialist							17
	18. Services, temporary commission, general duty officer							18
	Totals							
	15. Services, permanent commission							15
	16. Services, temporary commission, specialist							16
	17. Services, temporary commission, graded specialist							17
	18. Services, temporary commission, general duty officer							18

The work carried out by staff of the British Medical Association for the purpose of obtaining a plebiscite of the medical profession on the matters set out in column (1) of the above Tables was directed and supervised by our representatives continuously from its start on 16, April until 4, May, 1948. The completed plebiscite forms received during that period were examined only by our representatives and by staff of the Association working under our supervision and under pledge of secrecy and were retained under our control from the time of their receipt at B.M.A. House until their destruction in the presence of our representative on 4, May, 1948.

We satisfied ourselves by appropriate tests

(1) that all reasonable steps were taken to furnish a plebiscite form to every registered medical practitioner either resident in Great Britain (but not Northern Ireland) or serving in H.M. Forces at home;

(2) that the figures set out in the foregoing Tables I, II, and III are a correct summary and analysis of the replies received at B.M.A. House up to and including the second post on Monday, 3, May, 1948.

PRICE, WATERHOUSE & CO.
Chartered Accountants.

PLEBISCITE RESULTS, MAY, 1948

SOME IMPORTANT PERCENTAGES

All percentages are calculated to the nearest whole number. 50,514 Plebiscite Forms were sent to practitioners other than those serving in H.M. Forces. The distribution of practitioners as between England and Wales* and Scotland* is based on figures obtained from B.M.A. records.

		Question	Total Voting	Percentage Approving the Act	Percentage Disapproving	Not Voting	Of those who Voted	
							Approving	Disapproving
All civilian categories	Great Britain	A	77%	28%	49%	23%	36%	64%
	England and Wales*	A	78%	28%	50%	22%	35%	65%
	Scotland*	A	70%	30%	40%	30%	42%	58%

		Question	Of those who Voted	
			(A) Approving (B) In Favour (C) Agreeing	(A) Disapproving (B) Not in Favour (C) Not Agreeing
Group 1 A. Consultant or specialist not holding whole-time salaried post	{	A	31%	69%
		B	40%	60%
		C	74%	26%
Group 1 B. Consultant or specialist holding whole-time salaried post	{	A	60%	40%
		B	73%	27%
		C	40%	60%
Group 2. General practitioner principal	{	A	33%	67%
		B	47%	53%
		C	67%	33%
Group 3. General practitioner assistant	{	A	37%	63%
		B	48%	52%
		C	69%	31%
Group 4. Whole-time voluntary hospital†	{	A	39%	61%
		B	49%	51%
		C	63%	37%

† Excluding those of specialist status (covered by Group 1 B) but including practitioners holding B1, B2, and A appointments and Class I and Class III appointments under the Government's postgraduate scheme for ex-Service practitioners.

Reports of Societies

ENDOCRINOLOGY OF SCHIZOPHRENIA

In the Section of Psychiatry of the Royal Society of Medicine on April 12, with Sir DAVID HENDERSON presiding, certain experimental investigations of the endocrinology of schizophrenia were presented.

Dr. R. F. HEMPHILL said that the theories he put forward were advanced with the greatest diffidence. It was not his intention nor that of Dr. Reiss, who was associated with him in a research programme, to suggest that schizophrenia was an endocrine disorder, but from their work and that of others there was sufficient evidence to encourage research into endocrine relationships. The greatest single difficulty in research of this character was to find case material which was clinically homogeneous. An endeavour had been made to collect cases on account of their psychiatric similarity, but it was found that cases which had an apparently identical picture clinically might have dissimilar physiological patterns. The majority of the papers on the subject had dealt with the investigation of phenomena in isolation, such as oxygen consumption, liver function, and so on, and to add to the multitude of such investigations would contribute little to the problem. Therefore the present research had been directed to biological or endocrine indications.

In recent years pathological changes in the testes in schizophrenia had been studied. Biopsy specimens consistently showed an abnormal picture in schizophrenia. The speaker proceeded to describe a series of tests, but remarked how difficult the picture of inconstancy operated against biochemical research. It had been thought that schizophrenic

patients could be grouped into those of constant and those of inconstant physiological or biochemical patterns, but unless the patients were in the same stage of the disease or were suffering from the same conditions clinically much variation in the results was to be expected. If tests could be devised which would reveal constancy or inconstancy it should be possible to detect patients with similar patterns and subject them to extensive and detailed investigations.

Study of Ketosteroids

A special study was made of the ketosteroids for constancy and inconstancy as well as for information about endocrine activity. It was observed that their output increased after electrical shock treatment and leucotomy. After E.C.T. a sudden increase up to three times the upper level of normal had been seen; but it was still impossible to isolate from these results any particular pattern of variation, and it could not be said that the patients could be grouped according to constancy and inconstancy patterns. After further study a group of six chronic patients who had failed to respond to recognized treatments were chosen, first because they were regarded as incurable, secondly because it was possible to assess their clinical state by a mere inspection, and thirdly because the onset of their illness occurred in each case rather late in life, and thus it was hoped to avoid the variation of the endocrine changes in early adolescence. They were as nearly similar in health, nutrition, and clinical picture as possible, and were investigated under standard conditions. But although these patients were identical clinically the fractionated ketosteroids were not. Dr. Hemphill described one case in which treatment daily with testosterone brought about a remarkable clinical improvement. The patient, aged 33, who had scarcely spoken for eight

REPORTS OF SOCIETIES

MAY 8, 1948

years, and had been immobile, became active, talking and walking, and showed an increase in weight and growth of beard. Although this patient did not recover, he remained for a year in a state of partial remission, only relapsing if not treated with testosterone. The patient's state was not corrected but it was influenced, and it was reasonable to suppose that this single case there was a close relationship between the abnormal endocrine state and the clinical condition. Without biochemical control the empirical treatment of these patients would have produced the same result, but it would not have been possible to say why treatment succeeded in the one case and not in the others. One could not optimistically speculate that if the methods of analysis were sufficiently correct definite indications for treatment in many cases could be found; endocrine diseases were not simple, and might have to be corrected by the administration of more than one hormone. Nor was it known whether the successful result was due to the direct action of the hormone or to its effect on the hormone balance. The necessity of prolonged treatment had been stressed by other workers.

Another investigation related to thyroid function. A proportion of schizophrenic patients responded to thyroid treatment for a time, and many showed a tolerance of thyroid for a few weeks, but it was not clear whether these results were due to failure of reactivity or to some special property of the thyroid itself. Investigations had also been made concerning the physical development of schizophrenic patients, and these would be continued for five years and records of the measurements kept.

The speaker touched finally on puerperal schizophrenia. In such cases the pre-psychotic mental constitution was usually good and the physique normal, and this was the one form of schizophrenia which came under treatment within a few days or weeks of the onset of psychotic symptoms. The prognosis on that basis seemed likely to be favourable, but in point of fact the prognosis was probably the worst of all, and in his service there appeared to have been not more than two or three cases of puerperal schizophrenia which had made full remission. Puerperal schizophrenia should be an entity in the disease group and most acceptable to hormone investigation.

Other Investigations

Dr. M. REISS added a number of further points on investigation and described in more detail the experiments outlined by Dr. Hemphill. He said that it seemed clear that there was something decidedly wrong with the adrenal mechanism in these patients, sometimes a lowered, sometimes a heightened function. He described the difficulties of estimation of thyroid function in schizophrenia until there was worked out a modification of the method recommended by Dr. Russell Fraser and it was possible to determine in certain cases the protein-bound iodine. There were very few results to date, but, such as there were, they were in the same direction as the results with the ketosteroids. Very often there was a decrease of the protein-bound iodine, but sometimes a very considerable increase. Concerning the pituitary hormones, the problems were mainly those of method. It might be asked how an effect on the anterior lobe function could have an effect on the brain. From one-third to one-fourth of the total metabolism in the body took place in the brain, whose sugar reserves were more easily exhausted. Dr. Reiss added that nothing in fact was fewer tempting than to form hypotheses, particularly if facts were few and not contradicted, but it was much more profitable to leave any hypotheses and just to see what future developments would bring.

EPIDEMIOLOGY OF TRYPANOSOMIASIS

At a joint meeting of the Section of Comparative Medicine of the Royal Society of Medicine and the Royal Society of Tropical Medicine and Hygiene, held on April 21 under the chairmanship of Mr. R. E. GLOVER, a discussion took place on the epidemiology of trypanosomiasis in animals and man. Mr. J. CARMICHAEL said that tsetse flies were confined almost entirely to the continent of Africa. Generally speaking, the existence of domestic animals was incompatible with contact with the fly. The dwarf cattle of West Africa were apparently able to survive, and it had been claimed that this particular

breed was immune, but absolute proof of immunity had not been obtained even after ten years' work on the problem by the Agricultural Department in Nigeria. Large numbers of human beings in Africa were living in contact with the tsetse fly, and the question was whether the fly was infected with the human parasite and, if it was, why the disease did not occur. Even under epidemic conditions the percentage of infection was never very high. Why was it that over large parts of the area domestic animals were infected but not man? He could not help thinking that throughout Africa there must be a balance between trypanosomes and man, and that this balance was upset and an epidemic started as a result of some outside factor, environmental or nutritional. A great deal of fundamental knowledge was still lacking. During a sojourn in the West Nile many years ago he had noticed the occurrence of epidemics of drugs in the tsetse fly areas was a waste of time because the cattle were quickly reinfected. One of the most important factors in the epidemiology of trypanosomiasis, whether in man or animals, was the shifting character of the fly population. In Uganda, where he had first-hand experience for many years, the extension of the fly area recently had been most serious.

Dr. C. A. HOVER said that trypanosomiasis as affecting both man and domestic animals afforded one of the best examples of a common ground between medical and veterinary science. Both the epidemiologist and the protozoologist were faced with the same problem—detection of the source of infection and its control. The parasites supposed to be responsible for the chronic and acute forms of sleeping sickness were *T. gambiense* and *T. rhodesiense* respectively, but these two parasites were closely related and sometimes apparently identical. The question of reservoir hosts was highly controversial. From the epidemiological point of view trypanosomes found in animals in localities where the human disease was unknown were probably *T. brucei*.

In addition to epidemiological data, significant results thrown light on the problem had been obtained from observation on experimental infections in various animals. It had been demonstrated that *T. rhodesiense* could be maintained in cyclical transmission to antelopes and to sheep for about 1 year, in the course of which it remained infective for man. Similar observations on *T. gambiense* showed that it could be transmitted cyclically to goats and pigs for four years without losing its transmissibility to man. It was concluded that sleeping sickness various other mammals in addition to man constituted a source of infection, and that the relative importance of the human and animal reservoirs differed according to the type of distribution of the disease.

If it were proved that *T. brucei* were capable of establishing itself in man, both wild animals harbouring this trypanosome and domestic animals would have to be reckoned as dangerous sources of human infection. Apparently the chief factor which prevented *T. brucei* from originating from establishing itself in man was the trypanocidal action of normal human serum. In man was the trypanocidal action of normal human serum might occasionally lose its trypanocidal properties, as, for example, in some diseases of the liver and in certain types of avitaminosis, some workers maintained that human beings with such conditions might become susceptible to *T. brucei*. Further, exceptionally virulent strains of *T. brucei* might be capable of overcoming the trypanocidal action of normal human serum. According to this hypothesis, having thus established itself in man, *T. brucei* would gradually adapt itself to its new host, at first behaving like *T. rhodesiense*, which it had so many features in common, and would give rise to acute disease, and subsequently would acquire the characteristics of *T. gambiense*, giving rise to a mild or chronic disease. Although on theoretical grounds this appeared to be a plausible hypothesis, it could not be accepted unreservedly for several reasons. All attempts to infect human volunteers with *T. brucei* had so far failed, though in a case recently reported from the Belgian Congo a transitory infection had been produced. It had also been demonstrated that *T. rhodesiense* could be transmitted cyclically to infect man—in other words, without losing its power to infect man—in other words, without reverting to a form indistinguishable from *T. brucei*. It

might be concluded that *T. brucei* could not readily adapt itself to man unless it was transformed into *T. rhodesiensis*. It was reasonable to assume that this evolution had actually occurred in the remote past and might operate at present under exceptionally favourable conditions, the nature of which was not yet known.

In conclusion it might be noted that in addition to trypanosomes which were common to man and the lower animals, like the African and South American trypanosomes, there were a large number of cases on record showing that purely animal parasites could occasionally break the barrier of host restriction and establish themselves primarily in man. On one or two occasions human infection with the trypanosome of ungulates had been reported from Africa.

In the course of a short discussion Dr. J. T. EDWARDS mentioned with regard to non-tsetse trypanosomes the difference in susceptibility to infection of different species of animals. In India horses which became infected with a particular trypanosome almost invariably died, whereas cattle were highly resistant, though probably carriers. In the chemotherapy of trypanosomiasis in horses treatment had to be drastic, for if one surviving trypanosome were left in the animal there would be a relapse.

BACKACHE-SCIATICA SYNDROME

A joint meeting of the Liverpool Medical Institution and the Manchester Medical Society, held at Liverpool on March 4, discussed "The Backache-Sciatica Syndrome and the Intervertebral Disk."

Sir HARRY PLATT reviewed the stages by which our present knowledge of the pathogenesis of the backache-sciatica problem had been reached. During the past forty years the concepts of sacro-iliac and lumbo-sacral strain, the part played by lumbo-sacral skeletal anomalies, the intervertebral arthritis theory, and the contracted ilio-tibial band represented a sequence of clinical entities which had in turn been rejected in favour of the present-day view that the prolapsed intervertebral disk was a dominant lesion in sciatica. He referred to the many thousands of successful operations for the relief of backache-sciatica which had been carried out by neurological surgeons and orthopaedic surgeons both in Great Britain and the U.S.A. On the other side of the picture, however, was the experience of a not inconsiderable number of failures to demonstrate a disk lesion at operation. Moreover, extravagant claims had been made for the intervertebral disk as the only "reputable" cause of sciatica. Many now held that in the backache-sciatica syndrome extra-spinal lesions could be ignored. He reminded his audience that a large-scale survey of backache-sciatica patients in the Mayo Clinic had shown that cases of disk lesions were in the minority; and he quoted with approval the opinion of Love that the disk protrusion was the commonest *intra-spinal* cause of sciatica. This meant that extra-spinal lesions were not myths.

The differential diagnosis of sciatica could be approached by the recognition of five main causes: (1) pelvic visceral disease; (2) bony lesions of the lumbar spine, pelvis, and femora—these might be inflammatory lesions or new growths; (3) lesions of the spinal, pelvic, and hip joints—in this group the protruded disk had displaced sacro-iliac strain and vertebral arthritis as the dominant lesion, though sacro-iliac strain and vertebral arthritis were still real lesions, and in his experience sciatic pain was also a common feature in osteoarthritis of the hip joint; (4) central nervous lesions proper—for example, crural equine tumours; (5) "pseudo-sciatica," or fibrositis of the fascial, ligamentous, and muscular structures in the lumbar region, buttocks, and thighs. He believed that this type was increasingly important. The condition of fibromyositis might, of course, cloak an underlying arthritic state of the lumbar spine in which degenerative changes were likely to be present in the intervertebral disks.

Posterior Crural Pain

Dr. G. G. GIBBS, after agreeing that it was possible to distinguish the attack of sciatica—how much better a name than the term "lumbar sciatica"—from the non-committal "posterior crural pain," which might be due to neuritis, said that

it was impossible to prove it. A small disk rupture might have taken place even then. As for neuritis, it had proved too successful a diagnostic name. He thought that true neuritis in the proper inflammatory sense was a rare disease. With Mr. Kessel he had conducted a follow-up study of patients with sciatic "neuritis" seen earlier than five years ago. The unoperated series was small and replies were obtained from 26 patients. Of these two-thirds had continued to have attacks; three had been badly handicapped, and in the remainder the attacks had been of the remitting type with severe episodes only rarely.

This finding was in line with the Scandinavian reviews of close on 500 patients and lent little support to the contention that sciatica was commonly a transient and unimportant disorder. Yprehus (1947) found only 33.8% of unoperated cases able to do full work, while in Boysen's survey in 1947 only 21.1% were quite free from pain. Relapses in unoperated cases could be accounted for in three ways: (a) because there was from time to time a sudden further small protrusion of disk tissue; (b) because, the prolapse remaining unchanged, there were recurrent episodes of oedema or congestion; and (c) the tension caused by the hernia was intermittent because the disk popped in and out—a process he found very difficult to believe. He thought that the hernia caused pain by tension rather than by pressure on the nerve-root.

No disk protrusion had been found in only 8 out of 130 cases operated upon by himself or his assistants. The problem of alternative causes of sciatica was not as great as some suggested; nevertheless, the negative cases were important. Sufficient time had not yet elapsed for a clear picture to be formed of the after-histories of the patients with negative findings at operation. Patients from whom a disk had been removed were in the main either cured or had insignificant pain. This was so in 82% of his own series. Surgeons must agree that any operation that produced results of that order was a good operation, for none was known in any region of the body or for any condition that gave 100% of cures. The relationship between disk herniation and sciatica was now firmly established, but the history and clinical signs of both positive and negative groups were often identical. We needed to discover the differences between the two groups which should be there.

MEDICAL ASPECTS OF CHILD GUIDANCE

At a meeting of the Devon and Exeter Medico-Chirurgical Society at the Royal Devon and Exeter Hospital on April 15 Dr. HARDY S. GAUSSEN talked about some medical aspects of child guidance.

Dr. Gausсен said the child-guidance clinic was designed to deal with children in real difficulties. Studies of behaviour showed that children differed mentally from adults. The child's mind was still malleable and amenable to treatment where the adult's was rigid. The aim of treatment was to enable the child to achieve mental maturity. To bring this about it might be necessary to influence the environment, especially the parents, bearing in mind that when there was a conflict of ideas between parents and children the child was usually right. Common sense was not enough in child guidance. Team work was necessary, and the team consisted of the psychiatrist, the psychologist, and the social worker, other specialists such as the paediatrician and the special therapist being co-opted when necessary.

The approach to the problem was threefold: medical, educational, and social. Children were referred to the clinic by parents, schools, courts, and family doctors. Children who suffered from tantrums, screaming fits, sleep disorders, or who lied or were solitary, overactive, or aggressive, were problems to parents and teachers. Sick children—those with functional pain due to fears, with enuresis, with vomiting or anorexia, and with unexplained pyrexia—formed another group. A third group might be described as "magistrates' cases." Sometimes, but by no means always, these could be cured by a good beating. In Dr. Gausсен's opinion approved schools were not the complete answer; they got hold of the children too late in life. Those children in whom emotional difficulties caused diversion of energy and consequent backwardness at school were educational problems.

The whole team of a child-guidance clinic should examine each child. Physical disorders having been ruled out, the correct procedure was as follows; first, the social worker should visit the home to get as full a picture as possible of the child's background; secondly, the psychologist, usually a non-medical woman with a degree in psychology, should estimate the child's intelligence; lastly, the psychiatrist should get to know the child in a series of friendly talks, playing games perhaps, but asking no direct questions. The evidence should then be pooled and treatment planned. The combined investigation might reveal insecurity of various kinds—in relation to parents, to brothers or sisters, to being the odd man out at school, or to developmental conflicts. It might reveal educational difficulties due to a degree of intelligence superior or inferior to the rest of the class or to defects of vision or hearing or to left-handedness. It might reveal constitutional difficulties due to epilepsy or to spastic paralysis with concomitant mental defects, some of which cases inevitably ended in mental hospitals.

All these cases needed help from the child-guidance clinic. What could be done for them? Where possible, the cause must be found and treated. The parents must be guided. Social factors must be considered. It might be necessary to get the father a job, or get the school to change the child's class, or interview the schoolmaster and enlist his help in getting the child away from the mother's apron-strings. Methods of treatment might sometimes be applied with advantage to groups of children. In some cases institutional, and in others individual, treatment was the method of choice.

ALLERGIC CONDITIONS OF THE EYE

The second general meeting of the British Association of Allergists was held at Oxford on April 17. A discussion on allergic conditions of the eye was opened by Dr. VERA B. WALKER, who gave an account of her experiences during seven years' work. Dr. Walker presented some of her results obtained with specific desensitization, comparing them with those following non-specific desensitization with histamine-azo-globulin; where the specific allergen could not be determined desensitization with histamine provided an alternative line of treatment. Dr. Walker made special reference to three conditions—conjunctivitis, keratitis rosacea, and migraine. She emphasized the urgency of referring all cases of keratitis rosacea to the allergists for investigation, and indeed other patients with keratitis of unknown origin, especially those with a family history of acne, eczema, or urticaria.

Discussing the treatment of allergic migraine, Dr. Walker drew particular attention to the significance of a low systolic pressure. Although all cases of migraine were not of allergic origin, if a patient with true migraine had a low systolic pressure, then allergy should be suspected and treated appropriately.

The subject was then thrown open to discussion and Mr. FREDERICK RIDLEY, Mr. A. C. HOULTON, Mr. ANTHONY PALIN, and Dr. R. S. MACLATCHY contributed observations from the point of view of the ophthalmologist. Other speakers included Dr. A. W. SPENCE, Mr. DRUMMOND CURRIE, Dr. R. W. STEPHENSON, Dr. C. J. C. BRITTON, Dr. LIPMAN COHEN, Mr. VICTOR PURVIS, Dr. F. WRIGLEY, and Dr. D. HARKINS.

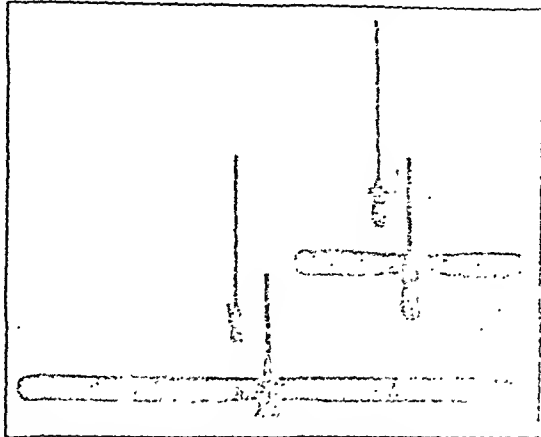
Preparations and Appliances

TRANSFUSION NEEDLE FOR INTRAVENOUS CANNULIZATION

Dr. J. H. WAELSCH, of the Central Laboratory, Bulovka Hospital, Prague VIII, writes: In carrying out transfusions, especially those repeated at short intervals, it is necessary to prevent damage to skin and veins which might arise from repeated insertions. The normal needles supplied with the various types of apparatus for drip transfusion allow direct piercing of the vein and skin, and have the disadvantage of leaving a sharp point in the vein, which not only endangers the vein by perforation but also irritates its walls and may cause the formation of small blood clots. Also, contact of the point of the needle with the walls of the vein may slow down or

entirely stop the transfusion. On the other hand, the introduction of a cannula damages the skin, even though the damage is slight. The place used is thus rendered unsuitable for transfusions at short intervals. This seems to be the case when using the method described by A. Clain (*Lancet*, 1947, 2, 830) who makes a short skin incision with a scalpel.

The type of transfusion instrument for intravenous cannulization described below, which we used for more than a year, makes it possible to pierce the skin as with the ordinary transfusion needle. It combines all the advantages of transfusion



by blunt cannula without necessitating the use of a scalpel, so that injections can again be made on the same spot within a very short time. It consists of the transfusion cannula, to which wings are attached, and an injection needle which is enclosed by the cannula. The illustration shows two types of the instruments, which are made in three sizes.

The injection needle fits tightly into the cannula whilst allowing of its being moved to and fro. The needle-tip lies immediately in front of the blunt tip of the cannula, so that no unevenness is felt by the patient when the skin is pierced. The mount of the needle and cannula can be attached to "Record" syringes. The mount of the needle is provided with a tooth to fit into a notch made in the base of the cannula to prevent independent rotation of needle and cannula. If no metal adapter is available the tubing of the intravenous apparatus can be attached simply by being pulled over the olive mount of the cannula. Wings, made of flexible metal with a roughened surface are fixed to the cannula.

Procedure.—Insert needle into cannula so that the tooth on the needle falls into the groove on the cannula, and attach syringe. Clean the skin of the patient and apply compression in the usual way. Pierce skin and insert the instrument into the vein. When it has been ascertained that the instrument is in the vein, release compression and withdraw the needle, leaving the cannula in the vein. It is essential that the instrument be inserted into the vein far enough, so that the cannula is still well in the vein when the needle has been withdrawn. The intravenous apparatus, which is set up in the usual way, is then attached to the mount of the cannula by an adapter or by the rubber tubing being pulled over the olive. The wings of the cannula, which can be shaped to the form of the limb, are then fixed with "elastoplast." When the transfusion is finished the cannula is withdrawn and the skin treated as after intravenous injections.

The needles were made for me by F. Špírk, instrument makers, Prague XVI, Hluboký 399, and can now be manufactured by Willen Bros. Limited, Surgeons' Instrument Makers, 44, New Cavendish Street, London, W.1.

In recognition of his doctor's "kindness, understanding, and devotion to duty" a Mr. J. L. Street, of Dewsbury, who died on March 31, has bequeathed his body to the doctor or his successor for medical research, reports the *Yorkshire Post*. The doctor concerned died last October himself and his successor has therefore accepted the bequest and given the body to Leeds Medical School.

Correspondence

Control of Regulations

SIR,—It appears that, while Mr. Bevan's recent promises have not satisfied many of the doctors, there is an even larger section of the profession which wishes to be rid of this controversy. The monster about to be born seems capable of creating great misery. Since we do not possess the power of superfecundation, all we can hope to do is to palliate the Minister's evil potentialities.

To the specialist, whose terms of service are to be determined by Regulation, a satisfactory check on Regulations would seem essential and sufficient. For the general practitioner there appears to be no public support for the retention of buying and selling of practices. The system of payment by capitation fee will exert an economic negative direction which will not be removed by annulment of the negative-direction order. Thus the only means of preserving his freedom is the same as for the specialist.

If there is still a vote for abstinence from the Health Service Act as it is to stand, a compromise proposal from the doctors would have considerable public support and be successful. In such circumstances I suggest a memorandum on the following lines: (1) The B.M.A. reaffirms its desire for a comprehensive health service. (2) If the Government will insert in the Amending Act a provision that the Regulations under the National Health Service Act, 1946, shall be subject to the provisions of Sect. 1 of the Rules Publications Act, 1893 (or a suitable modification thereof), and that the B.M.A. and Royal Colleges shall be considered as public bodies under this Act, then, notwithstanding the many and varied other objections to the Act, the B.M.A. will recommend the doctors to accept its provisions and work for its improvement. Better to have a solution on these lines than a fight in which all will suffer.—I am, etc.,

London, N.W. 11.

HAROLD E. THOMAS.

Comprehensive Service

SIR,—In common with many others I am at a complete loss to understand the policy of the B.M.A. in regard to the Health Act. Do they want the Act or do they not? Your leading article in the *Journal* of April 24 (p. 791) and Dr. Dain's letter (p. 805) seem to add to the confusion. Lord Horder's letter to the *Daily Telegraph* seemed almost to be an apology for Dr. Dain's speech, but at least it gave a clear view of the situation that will arise if the profession compromises on any of the B.M.A. four points.

I submit that even if all four points are conceded by the Minister we shall still be acting dishonestly to the public if we agree to participate in working the Act as from July 5. We know the facts about shortage of hospital beds, equipment, nurses, etc. We know that our middle-class patients will be particularly hit by the cost of the compulsory State insurance scheme and that the most of them will have to pay in addition for private ward or nursing-home in the absence of the promised free hospital bed. The present insured population will suffer greater hardship by this added competition for the available beds. We made no election promises nor did we distribute rose-tinted spectacles in 1945. Why should we now make ourselves the scapegoat of the politicians of all parties who blessed the Beveridge Plan?

I submit that the B.M.A. is wrong in reiterating that we all desire a comprehensive medical service, if by that they mean a service which is a necessary corollary of the Beveridge Plan and a service to which subscription by everyone is compulsory. The only comprehensive medical service to which I myself will subscribe is one which is open to everyone but to which everyone is free to subscribe or not. At least those who wish should have the right to contract out before we touch the Act.

It is not difficult to think that we can retain professional freedom, even if we take over four subsidiary and subsidiary points if we have sold the pass and let it be understood that with our medical features we will agree to work a

labour, plus compulsory State medical records of everyone, and you have the complete Nazi system in embryo thrust upon us. We cannot claim freedom for ourselves and at the same time become the agents of any Government, of any party or coalition, in binding a totalitarian system on the whole nation. To think such possible is a confession of a disordered mind. If we agree to work an all-in compulsory scheme like the Health Act, we shall sell out to Communism. I have voted "No," and mean to vote "No" as consistently as Molotov.

If the B.M.A. cannot act on the clear expression of the profession's opinion in the last plebiscite and leave the Minister to stew, to carry out his boast that he will work the Act with or without the doctors, and if in spite of this they must go running around to him for conversations, then the melancholy thought arises: Are there in high places in our Council some who really want this totalitarian Act to come into operation for personal reasons? If this be so, then for all time their honour will stand rooted in dishonour, for they will have manœuvred the free medical profession into becoming agents of tyranny.

Our ancestors fought and died for religious and civic freedom, and for myself I will never take part in thrusting the delusion of complete social security (whether supported in the name of Beveridge by Conservative or Socialist or Liberal Party) upon my fellow citizens. As students of biology we ought to know that we live in a competitive world where survival is only possible by individual effort. Our hospital system with all its human shortcomings is the visible expression of the Christian faith of our fathers. To hand them over to the State and to make them dependent on forced subscriptions is to admit that the compulsion of the Christian ethic no longer acts on our conscience.

It is a fact that nearly all thinking citizens are now looking to us as their last hope of freedom in our time. If we fail to stand fast then it will be for all time to our discredit as a profession. We blamed the Germans for not protesting at the risk of their lives against Nazism in its early days. The same choice is now before us as a profession, but with no comparable risks, if we refuse to become agents in binding our country with chains of tyranny.—I am, etc.,

Bournemouth.

DAVID HARDIE.

SIR,—You say in the *Journal* of April 17 (p. 737) that the profession is committed to a comprehensive medical service. This was a colossal and fundamental mistake and it is recognized as such now by the immense majority of the profession. Is it right that any profession or body of men should be tied to such a mistake made by their leaders? I am quite sure that if Mr. Aneurin Bevan found a mistake like that in his Act he would have an Amending Bill introduced into the House the next day. Let the Council take a plebiscite on the 100% policy and see what the result would be.—I am, etc.,

London, W.5.

J. B. MASON.

The Minister's Gesture

SIR,—While heartily welcoming the Minister's gesture and particularly the tone in which he spoke, I am afraid I see no great cause for rejoicing, nor for another plebiscite. After all, it is only a step—a small step, I feel—towards solving the problems confronting us. Apart from three rather minor concessions which are to be incorporated in the Act, the rest of our road seems paved only with good intentions couched in vague terms: "Not in prospect" (Question 3); "ought . . . to be ready to indicate its likely attitude" (Question 3); "appointed after consultation within" (Question 4); "will be asked to observe the wishes of" (Question 11a); "would be taken into account by" (Question 11d); etc. Not really very reassuring. I fear.

In the three "concessions" he is merely (1) incorporating in an amending Act an assurance he himself had already given (*Hansard*, Nov. 4, 1946, Vol. 428, C. 1125) ensuring that a full-time salaried service can only be instituted after a further Act of Parliament. (Is putting in writing what has already been promised verbally really a concession?) (2) Amending (if need be) the Act relating to partnership agreements, which was so ambiguous that grave injustices might have occurred. (Is amending an Act so worded that its meaning was ambiguous and liable to cause injustice really a concession?) (3) Juggling

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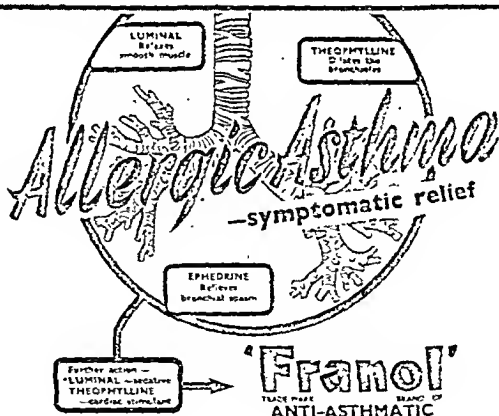
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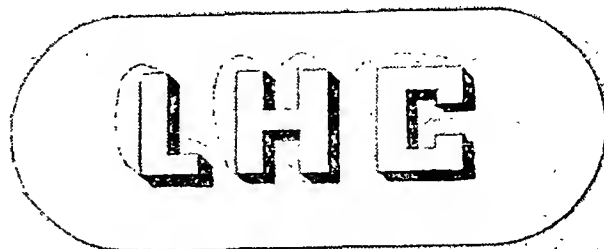
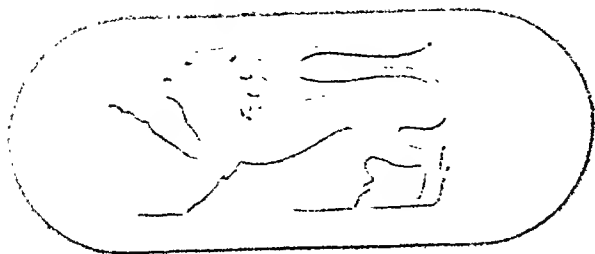


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Ph. 56

with the strings attached to the unhappy basic salary. But the alary remains—a noxious thing. Obviously there must be something given for that £300 or the Treasury would veto a vast of public funds. Direction, or negative direction, seems indicated.

Freedom of speech and publication, though again assured verbally by the present Minister, are still not to be incorporated in the Act and so made binding on his successors. Ownership of goodwill, which would solve so many other problems (and make "concessions" Nos. 2 and 3 unnecessary) and for which a detailed, equitable, workable alternative has yet been put forward, has not yet been conceded. The powers of the "unofficial G.M.C." to prevent a qualified practitioner doing midwifery under N.H.S. remain. There is still no right of appeal to the courts, and the powers of the Minister remain such that he might well be renamed the Dictator of Health. We have stated what we consider essential or a satisfactory Health Service and have conceded all else. Now it seems to be suggested that as Mr. Bevan has made a gesture we should concede the rest.—I am, etc.,

Rusby,

R. PRESTON HENDRY.

Established and New Practitioners

SIR,—Mr. Bevan wishes to abolish the buying and selling of practices so that the young doctor shall start practice without financial difficulty. Many doctors agree, but it seems unfair if the institution of such an innovation, if proved a wise one, that practitioners already established and yet still treading the fires of financial stress should be penalized.

In the new Health Service a change for the better is to take place for the young doctor about to commence general practice. None is so conservative as to object to innovation to improve conditions for the next generation, but let it not be at the expense of those men in established practice who have in most cases already paid large sums of money in capital outlay; and subsequent sums to purchase additional shares and/or pay out a senior partner.

May I suggest that as at July 4, 1948, a line should be drawn between the old and the new, and that all doctors in established practice, whose names appear in the *Medical Register* and who have for so many years served the public faithfully and well, should be compensated adequately both for capital outlay and subsequent payments they have had to make while building a practice. More important still, that fair compensation should be paid to them, if they so desire, within a definite stated number of years (say, five)—those fortunate enough not to require their money immediately to be paid, as already suggested, at death or retirement.

The above suggestions are of little concern to the young man not yet embarked on G.P., nor to the doctor long enough established to have saved for retirement or old age. They do not apply to the main body representing general practice—doctors of ten years' standing or so—who have to meet the heaviest financial commitments of a busy practice and a young family. It is the vote of this group of practitioners which carries most weight in any plebiscite for or against a National Health Service.

Surely if these debatable points were concisely and quickly clarified, and the probability of realizing the capital value of a practice within a specified number of years was certain, there would be less apprehension for one's future financial stability, and with a mind composed each doctor would be better able to reconsider his decision for or against service in a national health scheme.—I am, etc.,

G. A. POWELL-TUCK.

Birmingham.

More Safeguards

SIR,—I am among the majority who desire to continue to refuse service under the N.H.S. until there is sufficient safeguard of the freedom of the profession. So far as general practitioners are concerned, for an eventual 100% Government service I am convinced that there are three essential safeguards of our security which have not to my knowledge so far featured in such negotiations as have taken place. They are:

(1) Complete removal of the power of dismissal from the Service from the hands of the Minister and of any committee

under his jurisdiction. Dismissal should be in the hands of the General Medical Council, as it is equivalent to removal from the *Register*, and should be allowable on ethical grounds only—i.e., for neglect of patients and not for neglect of regulations. Breaches of important regulations could be dealt with, if considered necessary, by other means such as fines.

(2) Inclusion in the Act of the scale of remuneration in general terms—e.g., that it shall be in accordance with the recommendations of the Spens Committee. Details of its interpretation may then be subject to negotiation between the Minister and the profession.

(3) Inclusion in the Act of the recognition of the British Medical Association as the authorized negotiating body for general practitioners. If this is not included the Government may at any time after our acceptance of service rule that collective action by the B.M.A. is illegal, since it is not a trade union.

Whatever the outcome of negotiations about retention of goodwill, negative direction, etc., I believe these three practical points to be fundamental to our security after the Service has been joined.—I am, etc.,

Hove, Sussex.

E. N. G. GORMAN.

Alternative Service

SIR,—I believe that this latest plebiscite will show a smaller all-round vote and a smaller number of outright rejections of the Service because many of us feel that the "Molotov" attitude is not enough, that the B.M.A. should be telling the Government and the public, especially the latter, what we will do rather than merely what we will not. If my forecast is wrong there is no more to be said; if it is correct there is still time to modify our method of counter-attack.

While those of us who are in medicine know well enough that the new Service will make no difference to the health of the people, we must recognize that the great mass of people wish to pay for medical treatment on a contract basis. This is the essence of the new Act and ought, I believe, to be accepted by the doctors. All the points to which we have made strong objection are not essential and may justifiably be rejected.

I suggest that the profession should make a declaration to the public and to the Government along these lines: (1) We agree to run a 100% service to be paid for on a capitation basis at a rate in conformity with the Spens Committee report (Patients preferring private attendance could still obtain it and would not necessarily lose sick pay, since private certificates would be accepted.) (2) The question of the buying and selling of goodwill, direction, etc., to be postponed for five years. If after that time it can be shown that the Service is not working effectively for lack of these elements, the Government can approach the profession afresh in respect of them.

I submit that this procedure would have the following advantages: (a) It would demonstrate to the public that we are not trying simply to prevent the introduction of the new Service for our own ends but are prepared to serve them adequately. (b) It would, I believe, be endorsed by a greater number of general practitioners than rejected the Service in the last plebiscite. I can say nothing as to the consultants, since I have no more idea than they as to what they are being offered. (c) Five years' participation in a national service would bring the solidarity of the profession (so much a product of this controversy) to the same level of effectiveness as the National Health Insurance Service has achieved; and less than two years ago we had a useful demonstration of what this means in negotiations with the Government.—I am, etc.,

Northwich, Cheshire.

J. BOYD FULTON.

Postpone Service

SIR,—In the beginning Mr. Bevan was briefed to take the proposed new Health Service and work it according to certain principles. In order to achieve this object he devised his battle orders in two distinct phases. The attack in phase I, in which the National Health Service Act passed into the Statute Book, was directed at the general public and Members of Parliament. Doctors' representatives were first ignored and then abused. Soon after the Bill became law phase II was put into operation and is now nearing its height. Its objective is to lure the

profession into the trap. Notice how the technique has changed. The Minister is now conciliatory and makes "considerable" concessions to this reactionary profession. There are ominous signs of weakening in the Council of the B.M.A., as reflected in the wording and tone of the last leading article (April 17, p. 757).

We have stated publicly that we will adhere to our four "freelancers," which we regard as essential for the protection of our patients and ourselves. Nothing has changed since that decision to alter the material position in any way. Mr. Bevan has done exactly as Dr. Dain forecast weeks ago. He has given way on one small point in order to force a breach in our defences. Our answer should be to close that breach with a decisive "No" to the plebiscite question.

In my view the Act's implementation should be postponed, even if there was agreement on the main clauses, until the detailed terms of service such as hours of work, secretarial assistance, and holidays have been decided. It seems to me incredible that we are being asked to sign on for a lifetime's job with no possibility of an alternative, and are told that the conditions of work will be settled "later on."

As has been stressed so often, our strength is in unity. By sticking together we can postpone this change for the worse in the medical services of this country and so easily make it a change for the better. The National Health Service Act contains so much that is good that it is a pity to pluck the fruit until it is ripe, and until the maggot has been removed from within.—I am, etc.,

ROSE M. DEVEN

KENNETH INMAN.

The Plebiscite

SIR,—I wish to record my protest against the hurried manner in which the recent plebiscite has been conducted. It seems to me entirely wrong that any medical man should be expected to make what is, or ought to be, a major decision in his life without opportunity for due consideration and discussion with his colleagues.—I am, etc.,

DOUGLAS ROBERTSON.

Position of Assistants

SIR, Dr. John Gemmell's letter (April 24, p. 810) rightly stresses the unsatisfactory position of present-day assistants, both now and in the future Health Service. Nothing has emanated either from the B.M.A. Council or from the Minister to guide and encourage them. Indeed, it would appear that in the future, as in the past, their role will be the same—a source of cheap labour, liable to a month's notice at any time and *pointedly* directed from the area by restrictive covenants in their agreements, although, as Dr. Gemmell says, they may have built up "a certain goodwill by their own merit."

The Act at present provides that assistants will not be eligible for automatic inclusion in the list of doctors participating as principals in the new Service. An assistant, however, will be able to continue to assist any doctor permitted to have an assistant, or to secure admission to the list as a principal if the Medical Practices Committee consents. This of course means if his employer consents; for the Committee will naturally consult the principal regarding his assistant's application. The assistant therefore remains at the mercy of his principal. He can be given notice at any time without reason, and yet he may be as good a doctor as his principal, as well beloved by his patients, and as keen as ever on working in the area which he chose when he took on the job.

Dr. Dain, the day after the Bill received the Royal Assent, informed me that the Minister was to be impressed that restrictive covenants in partnership agreements must continue. The Minister has agreed to this, apparently, for there is nothing in the Act as it stands which precludes such clauses from operating after 1948. It seems to me that he has in my opinion given principals a protection which they are not entitled in law (it is one of the *conventional* conditions of the B.M.A., although we hear little of it) to demand.

See the statement of the case *Roth and Wilson v. Jones* before the High Court in 1947, and later before the Court of Appeal in 1947, p. 760. It was established that a principal is not protected in law from competition by a previous assistant, and that the knowledge which the assistant has of the practice may be used by the patients of the practice may

adversely affect the selling value of that practice. The Health Act provides full compensation for the selling value of the practice of a principal entering the Service. Why, then, should the principal be still further protected from competition by a previous assistant? There is no protection in law against free competition, and the B.M.A. indeed insists that it is essential to ensure good work.

If the present status of the assistant is allowed to continue it means that his income will be restricted to the present rate of pay while the principal reaps the financial advantage of an extra 2,400 capitalisation fees. I would therefore support Dr. Gemmell (and the other writers whose letters have appeared at infrequent intervals without stimulating any official reply) in asking that the position of present-day assistants be classified. There are many with first-rate experience who, because of their war service and the financial loss they have in consequence suffered, find themselves forced to take assistantships in order to provide for their families. Some of them, principals before the war, lost their practices and in some cases their property too. They cannot afford to buy practices, houses, and equipment at to-day's prices. They are, I believe, entitled to more consideration from the B.M.A. Council and from the Minister than they have so far received. They are also entitled to a measure of representation.

There is no reason, if B.M.A. principles are sincere and apply to all members of the profession, why any assistant in the future Service should be prevented from practising as a principal in the area in which he has served as an assistant.—I am, etc.,

Okehampton, Devon

C. G. JONES.

Bewildered Practitioners

SIR,—On demobilization after the recent major conflict I was vaguely surprised that the B.M.A. took so little notice of the "returning doctor." However, I comforted myself with the thought that the entire organization was probably concerned with working out operational orders for "Operation Bevan." Since that day I have listened to a vast quantity of irrelevant ideas propounded by elderly practitioners whose lack of understanding of the problems of the young ex-Service doctor is only surpassed by that of the Royal Colleges when it comes to general practice.

While we talk and negotiate and vote the sands are running out, and on July 5 a herd of bewildered practitioners will join the Service because nobody has told them what to do if they stay out. So let us have some clear-cut directives from the trustees of the Independence Fund, and let us have them at once, so that local schemes can be worked out ready for the appointed day.—I am, etc.,

St. Neots, Hunts.

IAN H. BARTLEY.

N.H.S. Capitation Fee

SIR,—It seems to have escaped general notice that the capitation fee of 18s. which we shall receive under the new Health Act (it will be less in most cases after the first charges have been deducted from the pool of £41,000,000) falls short of the figure, translated into 1948 values, recommended by the Spens Committee Report by more than 5s. per head. The Government promised to implement the Spens Committee recommendations. How some of us appear to be fooled about this, as well as about the infinitely more important issues of our professional freedom and fundamental civil rights, is beyond comprehension.—I am, etc.,

Salisbury.

PAUL HARRIS.

Statement to Patients

SIR,—At a meeting of local doctors the following statement, for display in waiting-rooms on and after April 5, 1948, was signed by 24 out of 25 doctors engaged in general practice in the area.

We, the undersigned medical practitioners, practising in the Ilarefield, Ickenham, Hillingdon, Uxbridge, Yiewsley, and West Drayton Areas, while welcoming a Health Service suitable for the whole community, consider that the National Health Service Act of 1946-7 as at present enacted would be detrimental to the welfare of our patients and the proper practice of medicine. For these reasons WE HEREBY GIVE NOTICE to our patients that in accordance with our rights under the said Act, we will not enter into any statutory contracts of service as provided for in the said Act IN THEIR PRESENT FORM.

—I am, etc.,

R. A. G. HAMILTON.
Local Hon. Secretary

Uxbridge, Middlesex.

Freedom not to Treat

SIR.—During the past months a great deal has been said about the undesirability of central control of treatment, but I wonder if anyone can help me to solve this type of problem. Take a recent experience of mine: I am consulted about a young woman whom I find to be a fairly florid schizophrenic unsuitable for admission to my general hospital. The relevant county mental hospital does no insulin treatment on the female side. The neighbouring county mental hospital does but cannot undertake treatment of "non-domiciled" persons. The nearest city mental hospital can do so but does not do insulin treatment on the female side owing to shortage of staff—and so on over an area of several thousand square miles. An application to an L.C.C. mental hospital for assistance draws advice to get her admitted locally or wait until July 5.

For about half of the modern "psychopathological" period insulin has been recognized as the weapon of choice for this illness, and to-day, 13 years after 1935, I cannot get this girl treated even as an act of grace.—I am, etc.,

Norwich.

R. LOUIS ROSE.

Acute Intussusception in Childhood

SIR.—In their interesting discussion of the diagnosis of intussusception in infancy (April 24 p. 776) Drs. Brenda Morrison and Donald Court make no mention of a finding which seems to me perhaps the most helpful and significant of all. On making a rectal examination, when the finger is withdrawn, in intussusception and in intussusception alone there is absolutely no faecal odour upon the finger-stall, even when it is smeared with mucus and blood. In all enteric infections, on the other hand, the odour is always strongly faecal.

One other point seems to me important, because it is apt to convey a deceptive reassurance. For long, in the intervals between the pains, the baby commonly falls asleep and may present all the appearance of normal, peaceful health, so that for anyone not familiar with the condition it is difficult to believe that the danger is so urgent.—I am, etc.,

London W1

HECTOR CHARLES CAMERON.

Iron-deficiency Anaemia in Pregnancy

SIR.—I was interested to read the article by Prof. L. S. P. Davidson and Dr. R. H. Girdwood (April 17, p. 733) on the subject of the treatment of refractory iron-deficiency anaemias with intravenous iron. Although engaged wholly in general practice, with its limited but frequently underestimated opportunities for clinical investigation compared with the facilities offered in hospital, I have for some time taken considerable interest in the treatment of iron-deficiency anaemia in pregnancy.

From about the sixth month of pregnancy onwards the foetal demands increase rapidly, and when the physiological anaemia of pregnancy has been excluded and a true iron deficiency exists, oral iron therapy has been found to have several disadvantages:

1. An appreciable number of cases show intolerance to iron administered by the oral route, and symptoms of alimentary irritation such as flatulence, nausea, anorexia, and diarrhoea make adequate dosage impossible.
2. In those cases in which symptoms of intolerance are not so prominent, unsatisfactory increase in the haemoglobin level is frequently observed. This is probably associated with the hypochlorhydria or achlorhydria which is a more common finding at this stage of pregnancy.
3. It is most desirable to ensure maximal haemoglobin levels and adequate iron storage at the time of parturition, but time may be too short to achieve this by oral therapy.

I feel, therefore, that any form of therapy would be most valuable which would tend to ensure maximal haematological response, and which would not be influenced by those factors already mentioned which interfere with the absorption of iron from the gut and with its subsequent utilization in haemoglobin synthesis.

When Nissim's paper appeared, on the use of intravenous iron in hypochromic anaemia (*Lancet*, 1947, 2, 49), I felt that a safe and effective preparation of this type might be of definite assistance in my own investigations. It appeared, however, that the method of preparing solutions of saccharated oxide of iron was not at that time sufficiently reliable to ensure the production of similar batches

of material, at all times free from toxicity, with standard therapeutic effectiveness after efficient sterilization. This difficulty has been stressed in Prof. Davidson's recent paper (April 17, p. 733), but some months ago I was able to obtain a solution of saccharated oxide of iron (containing 2% of iron) which is evidently prepared by a process fulfilling the requirements mentioned.

I have carried out investigations with this preparation on a series of cases, both at different stages of pregnancy and during the puerperium. The majority of the cases were ambulatory, and no difficulties have occurred during treatment. During this investigation considerably more than one hundred 5-ml. and 10-ml. injections of this preparation have already been administered in a period of over three months, and I agree with the statement made by Slack and Wilkinson (April 17, p. 733) that the injections present no special difficulties after the simple technique has been acquired, and no elaborate precautions have to be taken other than gradual dosage increase and slow administration.

This investigation is proceeding and detailed clinical results will be described later, but I can state that my preliminary observations show a dramatic response to this treatment when a true iron deficiency exists. The absence of the symptoms of intolerance associated with oral iron administration already mentioned and a satisfactory rise in the haemoglobin percentage enhance the feeling of well-being and contribute substantially to the patient's confidence and co-operation.

I have found that intravenous iron therapy administered before parturition ensures adequate iron reserves in the body in addition to correcting the anaemia. As a result, satisfactory haemoglobin levels have been effectively maintained after parturition without further need for iron by any route.—I am, etc.,

Kiddermore Staffs

D. G. FRENCH

Iron in Anaemia

SIR.—With reference to the question and answer on iron in anaemia (March 27, p. 625), it is suggested that ferrous iron is rapidly converted to the ferric state in the patient with achlorhydria but that there is little clinical evidence in support of this. I have observed anaemia to follow gastrectomy and have also noted that giving iron by the mouth is sometimes ineffective as a cure. Two obstinate cases were cured by giving to one extra milk and intramuscular calcium, and to the other intramuscular calcium alone.

The latter is a woman of 50 who was seen a year after gastrectomy with Hb 58%, brittle finger-nails, falling thin hair. Neither iron nor calcium by the mouth was tolerated, so intramuscular calcium with vitamin D was given on alternate days for six weeks. The Hb rose to 92%, the hair and nails soon began to recover, and she regained her lost energy. This sequence of events has been repeated twice.

The question arises as to whether a lack of calcium can cause an inability to absorb iron, or whether calcium can under some circumstances "save" iron, or whether the improvement in nutrition caused by the calcium and vitamin D was responsible for the better absorption of iron. It has been noted that general improvement in diet improves the Hb in the circulatory blood, and that is perhaps why Hb estimations in expectant mothers in this country to-day are higher than before the war, for their diets to-day contain certainly no more iron but equally certainly more milk.—I am, etc.,

Leeds.

R. A. MURRAY SCOTT.

Lupus and Cod-liver Oil

SIR.—Dr. G. B. Dowling *et al.* (March 6, p. 430), quoting a recent American article, state that Emery in 1848 first described the treatment of lupus with massive doses of cod-liver oil. This is incorrect. Devergie's original paper (*J. Méd. Chir. prat.*, 1848, 19, 411) on this subject appeared in May, that of Emery in September (*Rev. méd.-chir. Paris*, September, 1848). Devergie states that he had used cod-liver oil—the most fishy "Thuille brune" variety—as well as other treatments for eight years, and that "aujourd'hui je n'hésite pas à déclarer que c'est de tous le plus efficace: je vais plus loin, et j'avance qu'administré suel il guérit. Cette assertion est tellement vraie, qu'à partir du moment où ce moyen a été mis en usage par quelques-unes de

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pas malades, les autres m'ont successivement prié de le leur faire prendre." The dose was "une cuillerée à bouche" night and morning, which was increased every two or three days by another tablespoonful, until about three were being taken at one time. When once this dose was reached most patients ceased to dislike the oil, so that it could be rapidly increased to the desired maximum of 12 to 14 tablespoonfuls daily. Treatment had to be continued for three to six months or even longer. The appetite of the patients decreased but their weight and general well-being increased.

Emery's original paper is not listed as being available in any library. The American reference to it is really a reference to an abstract—an abstract which was apparently inaccurate in 1848 (*Bull. con. Thé. Paris*, 1848, 45, 466) and which in its turn has been inaccurately summarized in 1947 (*J. Lancet*, April, 1947, p. 152). Indeed it appears to be impossible to know now what Emery really wrote, let alone what he really did; but it seems incredible that his patients drank 1,000 g. (nearly 2 pints) of cod-liver oil daily, while the 12 to 14 tablespoons (about one-third of a pint) of Devergie are at least possible. Can it be that Emery was the result of a juvenile frolic of Karl Friedrich Hieronymus, Baron von Münchhausen (1720-1797)?—I am, etc.,

1-15-48, W.I.

FRANKLIN BICKNELL.

Papworth Village Settlement

SIR.—When the Disabled Persons (Employment) Bill became law it was apparent to workers in the tuberculosis field that the facilities for training and employment provided therein, while suitable for the ordinary disabled person, were hardly possible of application to the man and woman disabled by tuberculosis. For some time past negotiations have been going on between Papworth Village Settlement and the Ministry of Labour to provide some scheme for training which would be of assistance to tuberculous sufferers. The Ministry of Labour has now agreed to recognize as vocational trainees all trainees (other than Ministry of Pensions cases) at Papworth who are able to work for a minimum of three hours a day. This recognition will extend to those who have completed their sanatorium treatment elsewhere as well as to patients who have received their sanatorium treatment at Papworth.

The following terms have been agreed:

- (1) Training allowances will be paid to all recognized trainees on the basis set out below; sickness benefit will not be payable.
- (2) The Ministry will pay hostel charges in respect of each recognized trainee at the rate of 28s. per week for men and 22s. 9d. per week for women.
- (3) No training grants will be paid to the Settlement by the Ministry.
- (4) The period during which the Ministry will pay training allowances will depend on the trainee's progress. It is understood that the training period is likely to be well under two years. In no cases will allowances be paid for more than three years.
- (5) When a trainee has finished training he will be considered for admission to the Settlement at the trade union rate.
- (6) Quarterly reports will be rendered to the Ministry of Labour, and if it appears that the trainee is unduly prolonging the period of training or otherwise proves that he or she is unlikely to benefit from further training, the Settlement will advise the Ministry of Labour. Reports will also be rendered if so desired to the Local Authority responsible for treatment.

TABLE I.—Persons Aged 20 and Over

Pay	Amount per Week	
	Men	Women
A	36s.	28s.
B	42s.	31s.
C	48s.	35s.
D	50s.	43s.

a man or woman with an adult dependant other than a wife and one or more dependent children.

TABLE II.—Persons under 20 Years of Age

Age	Amount per Week	
	Young Men	Young Women
19	26s. 6d.	24s.
18	23s. 6d.	23s.
17	22s.	21s.
16	22s.	21s.

The allowances are payable without regard to any payments received from the Service departments during paid furlough or to any disability pension or similar allowance (excepting those cases already excluded from the scheme—i.e., Ministry of Pensions treatment allowance cases).

Persons who leave home for training will receive, in addition to the appropriate rate of allowances, full board and lodging free of charge. A person in training away from his home area who continues to maintain his former home may receive additionally an allowance of 24s. 6d. a week.

Married men under 20 years of age, and in certain circumstances unmarried men aged 19 and women aged 19 who have dependants, receive allowances at rate (B) or (C) or (D) above, as appropriate.

Other persons under 20 years of age who have dependants receive 10s. for an adult dependant and 5s. for a dependent child under 16 in addition to the allowances set out in Table II.

During periods of sickness of a week or more training allowances will not be paid. Sickness benefit and training allowances will not be paid concurrently.

This scheme will now enable local authorities to send selected cases to Papworth at less cost than hitherto, as part of the cost of maintenance will be borne by the Ministry of Labour (see (2) above). The decision as to suitability for admission to Papworth and the scheme will rest entirely with the medical staff at Papworth, who will require full clinical details and x-ray films in each case from the tuberculosis officer.

Both the Committee of Management of Papworth Village Settlement and the Ministry of Labour feel that this is a considerable step forward in the rehabilitation of the tuberculous, and anticipate its extension in the future. To this end the Ministry has undertaken to provide half the cost of two hostels of 50 beds each for men and women at Papworth.—I am, etc.,

Papworth Hall, Cambridge.

RICHARD R. TRAIL,
Medical Director.

Thiosulphate as an Aid to Chemotherapy

SIR.—A recent report by Lorant¹ on the subject of the non-specific chemotherapy of malaria by thiosulphate has given us a great satisfaction, for during the war we carried out experiments from a similar view-point and obtained similar results.² We had previously confirmed the fact that thiosulphate, in spite of its being a single inorganic substance of a simple chemical constitution, acts in various cases (lewisite, mustard gas, cyanide, and carbon monoxide poisoning) like a "universal detoxifier" (Kabelik³), and this may probably be ascribed to the following factors: (1) Thiosulphate as the neutral salt of thiosulphuric acid behaves like an inorganic glutathione, combining with certain toxic agents and rendering them practically non-toxic. (2) Being oxidatively converted to sulphuric acid, thiosulphate supplies an abundant exogenous source of ethereal sulphates. (3) Thiosulphate intensifies the biological defence reactions by activating the reticulo-endothelial system.

In addition to the detoxifying actions as above mentioned, thiosulphate possesses an activating effect on certain chemotherapeutic agents, particularly neoarsphenamine in syphilis and "optochin" in serpigulous ulcer of the cornea. In both cases thiosulphate not merely elevates the tolerance of the organism for those agents, but also seems to increase more or less markedly their bactericidal effect.

Suggested by these inferences, we undertook a few experiments on birds concerning the effect of combination of thiosulphate with quinine in comparison to the routine treatment with quinine alone. Canaries were inoculated with *P. praecox*, and three days after this they were divided into three random groups and subjected to the following procedures:

1. Quinine and thiosulphate group. The birds were injected daily with 0.2 ml. of 2% calcium thiosulphate solution (corresponding to the confirmed optimal dose of about 0.2 g. per kg.

A and B apply to persons without dependants. Rate B applies to persons with one or more dependent children under 16 but with no other dependants. Rate C applies to a married man with wife or a married woman with husband. Rate D applies to a married man with wife and children or a married woman with husband and children under 16, or in certain circumstances

body weight) and one hour later with 0.2 ml. of 0.5% quinine hydrochloride solution.

2. Quinine group. The birds were injected daily with 0.2 ml. of physiological saline solution and one hour later with 0.2 ml. of 0.5% quinine hydrochloride.

In both groups the injections were given intramuscularly and repeated for four consecutive days.

3. Untreated control group.

From the fourth day of inoculation parasites were examined almost daily microscopically by Giemsa's method. The intensity of their development was estimated by counting them in a given number of fields.

On an average, the degree of development of parasites on the 12th day in the quinine-thiosulphate group corresponded approximately to that of the 9th day of the quinine group, and it can be said that in the experimental conditions thiosulphate brought about an inhibition equivalent to about three days. This result may be attributable, apart from the three factors already mentioned, to some degenerative changes in the protoplasmic constitution of the microbes caused by direct action of thiosulphate upon it—Kritschewski's thiosulphate phenomenon.⁴ Further, it can be expected that quinine may be replaced by mepacrin, or any other new antimalarial agent.

Systematic clinical examinations of the combined treatment suggested above have not yet been undertaken in Japan, but experience has shown us that the most adequate route of administration of thiosulphate is the intravenous injection.

In conclusion we hope that the field of the combined application of thiosulphate as a common, non-toxic activator of chemotherapy need not be restricted to malaria, but will find a widespread extension irrespective of the nature of the chemotherapeutic agent—e.g., sulphaniilamide etc. Out of three cases of kala-azar, resistant to antimony preparations, successful results were obtained promptly through the combined thiosulphate treatment.—We are, etc.

J. HIRADE

Y. YASUI

Tokyo, Japan.

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- 4 *Z. Immunforsch.*, 1931, 73, 303.

Poliomyelitis and Lymphocytic Meningitis

SIR.—When presenting his neurological experiences in the Middle East and India at the Royal Society of Medicine Dr. Douglas McAlpine¹ in his discussion on acute benign lymphocytic meningitis stated that "neutralization tests in some of these proved that the majority were not due to the virus of acute choreomeningitis." He then went on to say that "in 1941 abortive cases of poliomyelitis were reported by Major Caughey, N.Z.A.M.C., thus making the sorting of these cases of lymphocytic meningitis more difficult."

The facts are as follows. Between November, 1940, and July, 1941, an epidemic of poliomyelitis occurred among New Zealand troops in the Middle East. This has been recorded in the *Medical Journal of Australia* by myself and Dr. Porteous.² Out of 30 cases 21 were the pre-paralytic type, with changes in the spinal fluid but no paresis. At the time Dr. McAlpine stated in a report that these cases were not cases of poliomyelitis, although they had come from the same division, the same units, and occurred at the same time as the 19 paralytic cases.

In the *Journal of Dec. 27, 1947* (p. 1019), in a paper on acute poliomyelitis, Dr. McAlpine and others again make reference to acute benign lymphocytic meningitis when discussing the differential diagnosis. When speaking of acute choreomeningitis they state that they "are not convinced that up to the present this condition has been at all common in this country [U.K.], although it should be added that many cases were seen in Service personnel in the Middle East during the late war." There is a marked discrepancy between this latter statement and that Dr. McAlpine made in 1945 at the Royal Society of Medicine. As far as I was aware on no occasion was it established by neutralization tests that acute choreomeningitis occurred in the Middle East among Service personnel, but I am open to correction on this point.

Finally, Dr. McAlpine and others state in the summing-up that in England "the virus of acute poliomyelitis should now be regarded as the usual cause of a benign type of lymphocytic meningitis." Hence they will allow of the diagnosis of pre-paralytic cases of poliomyelitis in the United Kingdom, but

Dr. McAlpine persists in his denial of such cases in the epidemic of poliomyelitis in the Middle East. He cannot have it both ways.

I am entirely in agreement that during an epidemic of poliomyelitis by far the most likely cause of cases of acute lymphocytic meningitis is poliomyelitis, but the exact diagnosis can only be made by serological tests and animal tests. Until such are more readily available, during an epidemic of poliomyelitis cases of acute lymphocytic meningitis must be regarded as being due to poliomyelitis.—I am, etc.

Auckland New Zealand

J. E. CAUGHEY

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- 2 *Med. J. Aust.*, 1941, 1, 1.

Fear and Pain in Childbirth

SIR.—Dr. J. Donaldson Craig (April 10, p. 769) makes the point that the pain of labour may be modified, if not entirely eliminated, "by the degree of confidence reposed in medical attendants." A very great deal has been written about the physical pain of labour, but little attention has been paid to what Head describes as "the diminution of general resistance to painful impressions" by "debilitating psychological states, such as anxiety or emotional shock." If certain obstetricians are able to conduct relatively painless labour without anaesthesia, surely it is by the elimination of fear. Is it not time that we devoted more attention to this aspect of the matter?

It is difficult for anyone long familiar with anatomy and accustomed to the facts relating to the physiology of labour to enter imaginatively into the state of mental ignorance in which many women are still allowed to approach their first confinement. If equipped with an assortment of half-digested facts about her body acquired from popular medical literature and first-hand classes, the young primigravida waits in the chair, queue next to a formidable mother of five. She may be encouraged by the resulting confidence, as Dr. H. Teitelbaum (Feb. 14, p. 316) optimistically suggests, but unfortunately we know that she is more likely to gather a terrifying impression of "instruments" and "violence." Her own idea of the birth canal must inevitably be that it is small, since her experience of it is limited to coitus and the insertion of vaginal tampons. How can so small an aperture allow the escape of a baby without some gnawing destructive process? As a rule true fear and its associated images are suppressed, and are only shown by an inability to relax during examinations. A simple but graphic explanation about the size of the bony pelvis and the softening processes in the connective tissue vagina will give immediate and lasting relief. If our clinics are too crowded to allow time to probe for these fears, information should be made available to mothers through simple lectures or discussion groups.

The primigravida frequently comes to her confinement in a state of apprehension. In many maternity departments she is admitted in a glare of lights on to a high white bed with a good view of the instrument cupboard. A sterilizer may be boiling up the forceps, presently to be lifted out in front of her, for Mrs. Jones moaning audibly next door. In this year of grace there are still communal labour wards, and she may find herself in the company of one or more pain-weary women more advanced in labour than herself. Confidences are soon exchanged, and they are not such as to reassure. Someone in a white coat appears and examines her. Notes are written and drugs ordered, but remarks to the patient are confined to kindly meaningless phrases which give nothing away and therefore do not allay her fears.

Kindness, though it abounds, is unfortunately not enough. We are all straining to be kind, but custom tends to dull our perception of the inner significance of birth as it is experienced by the mother. It is easy to forget the fear of the unknown and the sense of mystery and miracle which preoccupy her mind while we are debating some obstetric problem. We need to be more sensitively aware of the emotional side of the patient's experience if we are to avoid all these petty unconscious cruelties to which we subject her by our failure of imagination. By eliminating these we may do much to remove the part of pain which is made unendurable by fear, and the fear which may in itself be worse than pain.—I am, etc.

London, W.11.

MARY E. EGERTON

REFERENCE

- British Medical Journal*, 1932, 1, 1.

Pain in Phantom Limbs

SIR.—In discussing the treatment of painful phantom limbs "Any Questions?" April 24, p. 817) you rightly stress the disappointing results from such measures as excision of neuro-ma, neurectomy, posterior radicotomy, and stump remodeling operations. You conclude that "the management of these cases is distressingly difficult," but make no suggestion regarding treatment except to advise the patient to persist in the wearing of the prosthesis.

While it is quite true that many heroic surgical measures, including even chordotomy, tend to be ineffective in this condition, it should surely be noted that excellent results are often obtained following 1% procaine injection of the sympathetic nerve supply to the affected limbs,^{1,2,3} or even from local injection of nerve trunks and scar tissue. The benefit so produced frequently passes off within a short time, but the procedure can be repeated indefinitely and the periods of remission tend to become longer, so that complete cure may result from three or four injections.

It is commonly held that, while phantom sensations are of almost universal occurrence after amputation, actual pain is comparatively rare. In a small series which I have recently studied closely⁴ it was found that bouts of pain, sometimes extremely severe, commonly occurred during the first six months after operation. The intensity and frequency of these painful episodes generally diminished with the passage of time, so that by the end of a year or so symptoms were not serious enough to demand treatment other than explanation and reassurance. With only one exception none of these patients has sought advice for symptoms which, although distressing, appeared to them to be so unreal and fantastic as to suggest that they were the product of disordered imagination. One very intelligent subject remarked, "I did not report sick, because I did not expect a doctor to treat a ghost."

It may therefore be that phantom pain is very much more common than is generally believed, and that we are called upon to deal with only that minority of patients in whom spontaneous remission does not occur and who are accordingly driven to seek advice. Amputation inevitably implies nerve injury, and it is therefore reasonable to suppose that in a certain proportion of cases a condition may develop which is directly analogous to the causalgia which sometimes results from other nerve injuries.⁵ Pain so caused is localized in the sensorium in terms of the established "body image," and so is interpreted as being felt in the phantom.⁶

The persistent symptoms experienced by such patients are very real indeed, despite the frequent paucity of demonstrable abnormality in the stump, and they may lead to complete breakdown of physical health and emotional stability, as in one unfortunate case in my experience. Therefore, although the difficulties and disappointments in treatment are realized, it is suggested that a largely nihilistic therapeutic approach is unjustified when simple methods of proven efficacy are available.—I am, etc.,

J. DONALDSON CRAIG.

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7. *Neurol. P. W. Post.*, 1947, 70, 145.
8. H. J. H. and H. J. H. *ibid.*, 1941, 34, 102.
9. H. J. H. *Br. J. Surg.*, 1948, 1, 183.

Treatment of Pruritus Ani

SIR.—The variety of methods of treatment and the frequent therapeutic failures in pruritus ani are probably due to a lack of recognition of the fundamental cause of the complaint. This cause, however, is always the same. It is the exposure of the perianal skin to particles of faecal matter. The perianal skin normally possesses a specific resistance against the irritation caused by adhering particles of faeces following defaecation. In the elderly, however, this resistance breaks down. This breakdown is more marked in middle and old age, more seldom in younger age groups, and practically never in the young and adolescent. The breakdown has set up, therefore, develops a vicious circle. The breakdown leads to scratching and excoriation, the faecal matter penetrates into the crevices of the damaged skin and

aggravate the irritation, and so it goes on until a kind of perianal eczema develops.

The rational treatment therefore has to be both palliative and causative. The most suitable palliative treatment proved to be radiotherapy. Three doses of 100 to 150 r at weekly intervals of a radiation produced at 90 to 100 kV and filtered through 1 mm. of aluminium are usually sufficient to clear up the eczematous condition. In some cases a fourth treatment after one more week may be required.

The treatment is best given with the patient in the knee-elbow position and the buttocks pulled apart so as to expose the anal region. The width of the field depends on the extent of the skin involved. When large fields are used it is necessary in male patients to protect the testicles by a sheet of lead or lead-rubber.

The causative treatment, which should be begun at once, consists in washing with soap and water the anal region after every defaecation. Not only must the surrounding skin be washed, but the lining of the anus must also be cleaned by pushing the soaped finger inside it. All traces of soap must be rinsed away with water, the skin dried, and a dab of calamine lotion applied to the area. This treatment must be rigorously carried out indefinitely if recurrences are to be prevented.

This treatment has been uniformly successful in over 50 cases of pruritus ani. The few recurrences observed occurred only where the patient omitted to carry out the washing, and a final cure was achieved when regular washing was resumed. Mild cases may yield to washing alone without x-ray treatment. Occasional irritation may be relieved by one or two applications of "nestosyl" ointment.—I am, etc.,

St. Peter Port, Guernsey.

ALEXANDER ORLEY.

D.D.T.

SIR.—In the leading article entitled "D.D.T. in Use" (April 3, p. 648) you list the drawbacks of this insecticide and discuss briefly the ways in which these may be overcome. One or two points were made, however, which, we venture to suggest, require further consideration.

It was stated that D.D.T. is apparently lethal to all insects and acarines. That is, in our opinion, a somewhat arbitrary statement, as D.D.T. is certainly not lethal to all acarines—the glasshouse red spider being a case in point—nor is it toxic to all insects. Much work will have to be done before anything like complete information is available as to the relative toxicity of D.D.T. to arthropods in general, but with our present knowledge and methods of formulation your statement is incorrect.

The several problems of irritancy, the lag in acquiring a lethal dose, and the non-persistence of D.D.T. have to a considerable extent been overcome with those insects susceptible to it by scientific formulation and new and improved methods of application. One of us (F.G.S.W.), while carrying out trials at the Royal Naval School of Tropical Hygiene, Colombo, and later in this country, obtained excellent results against flies, mosquitoes, cockroaches, and bedbugs using the new activated emulsions evolved by Dr. H. Hurst, with greatly improved knock-down and residual toxicity. Using these emulsions there is little possibility of mosquitoes escaping from rooms with non-lethal doses, and the residual toxicity against cockroaches (among the most resistant of insects) has been proved to be effective for six months or more in such unfavourable surroundings as canteens and kitchens. Comparably good results have been obtained against flies on cattle.

The work of Twort¹ on heat volatilization of germicides has established the method of the production of insecticidal aerosols by a similar means. A continuous aerosol of D.D.T. produced by controlled heat at the rate of 20 mg. per hour per 3-5,000 cu. ft. (85-141 cu. m.) will give a complete knock-down of many diptera within 30 minutes or less. Furthermore, by this method the use of solvents is obviated and any loss of efficiency due to supersaturation is eliminated. What is of extreme importance is that a film of crystalline D.D.T. is continuously being deposited on all surrounding surfaces, and those which are highly porous will tend to have losses by absorption balanced by the continuous deposit of the aerosol. Even fabrics hung in a room in which a continuous-phase aerosol is being produced will, in time, become toxic to clothes moths.

With regard to cattle, field trials carried out last summer showed that the application of continuous-phase aerosols in the sheds for periods of as little as three hours daily gave immunity from biting flies both in the byre and at pasture.

The irritant effect of D.D.T. when not specifically formulated for quick knock-down may not in all cases be as harmful as may at first be apparent. Col. J. W. Scharfe, R.A.M.C.

when serving as the military member of the Medical Advisory Division, S.E.A.C., was of the opinion that relatively light contact by mosquitoes with walls sprayed with a 5% solution of D.D.T. in kerosene resulted in a "biting inhibition" reaction which prevented the insect from feeding, either by an initial peripheral paralysis or by loss of appetite caused by the D.D.T. This effect has been noted recently with the stinging of wasps in Sweden and with *Stomoxys* in this country.

Concerning the lack of toxic vapour we have clear evidence that vapours emanating from screened surfaces painted with D.D.T. are lethal to flies in enclosed spaces, though whether directly or by readsorption on to treated surrounds has not been determined.—We are, etc.,

F. G. SAREL WHITFIELD.

A. H. BAKER.

L. J. WHITE

Aitchby Laboratories, Goring-on-Thames, Oxon

REFERENCE

J. Hyg., Camb., 1940, 40, 321

Curare in Treatment of Spastic Conditions

SIR.—DRS. C. Astley Clarke and R. D. Hotston (Feb. 14, p. 289) report that curare in oil and wax had no advantages over the aqueous preparation in duration of effect or avoidance of side effects. With an air of finality they concluded that curare in oil is not the hoped-for advance in reducing spasticity.

With their findings one can have no quarrel. The implication that they have set up a critical comparable experiment with previous work is, however, fallacious. Their entire experiment was carried out with a suspension of *d*-tubocurarine in oil and wax supplied by Burroughs Wellcome and Co., whereas previous material was made up by the experimenter himself and later by E. R. Squibb and Sons. Suspensions in themselves vary with the techniques of the makers, and potency assays from manufacturer to manufacturer have varied greatly. This is common knowledge. There remains then a great weakness in the nature of your authors' conclusion from their experiments. A more acceptable and less sweeping conclusion would be that Burroughs Wellcome curare in oil and wax did not yield any more favourable results than aqueous curare.

I might add that spasticity is frequently a moiety of syndromes exhibiting weakness, ataxia, involuntary movement, and contracture. A critical evaluation, therefore, of its amelioration by any agent obviously requires careful study. Such study should include recording of range of motion changes, variations in stretch response as judged clinically and by myography, motion pictures of motor function, and whatever other data can be gleaned from the skills of the physiotherapist and neurologist. Static deformities must be exempted from the experimental group treated. Such data cannot be extracted from clinical observations of, "Did the injections enable a bed-ridden patient to walk or allow an ambulatory one to discard a stick?"—I am, etc.,

New York

EDWARD B. SCHLESINGER

Pancreatitis Due To Ascariasis

SIR.—I feel that this case is of sufficient interest to warrant a short description.

A boy of 18 months was admitted to hospital with a history of diarrhoea with blood and mucus, and a rectal prolapse, for three weeks. Examination showed a very thin baby with tense distended abdomen, liver slightly enlarged, a small readily reduced rectal prolapse, and temperature of 100° F. (37.8° C.). No other abnormality was found. The stools were very pale and bulky, offensive, and contained much free fat. They were unaffected by diet, and microscopy disclosed ascaris ova. The third day after admission a mass became palpable under the costal margin, just to the left of the midline, and antonin treatment produced two adult ascarides. Over the next eight days the mass slowly and steadily enlarged, with steady deterioration of the child's condition. The temperature swung regularly between 101° and 97.6° F. (38.3° and 36.4° C.).

On the ninth day after admission consent was at last obtained from the parents, and the mass was explored under local anaesthetic. An abscess cavity adherent to the abdominal wall was opened and 6½ oz. (190 ml.) of greenish-yellow pus with a sweetish smell was evacuated. The patient's condition precluding further exploration, a small drain was inserted and the skin protected with sterile vaseline. The following day there was a profuse yellowish serous

discharge and the drain was removed. The fourth day after operation slight digestion of the wound edges was noted, and the following day, the fifth after operation and the fourteenth after admission, the patient died.

Post-mortem examination disclosed an abscess cavity occupying the whole of the head of the pancreas, extending some 3/4 in. (1.87 cm.) to the left of the midline, and containing the partially digested remains of an adult ascaris. A track extended upwards retroperitoneally, entered the liver, the whole of the left and quadrate lobes of which were destroyed, and discharged through an incision at the left costal margin. In the small intestine a further seven ascarides were discovered.

In the rather limited literature at my disposal the only references I can find to a similar occurrence are those of ascariasis being a rare cause of acute pancreatitis in Craig and Faust, *Clinical Parasitology* (4th edition, 1945, p. 342), and Rose and Carless, *Manual of Surgery* (7th edition, p. 1314).

My thanks are due to the Acting Director of Medical Services, Tanganyika Territory, for permission to publish this account.

—I am, etc.,

Chuma, Tanganyika Territory.

N. A. DUNCAN.

Stasis of Chest Radiographs

SIR.—When a tuberculous patient moves from one district to another it is the practice of most tuberculosis officers to send the chest x-ray film to the colleague who is to take over the case, and these are often useful for comparison with subsequent films. The more enlightened voluntary hospitals also co-operate in this respect when they transfer patients to tuberculosis clinics. Sometimes, however, it is extremely difficult to obtain such films, not only from hospitals but even from Government departments.

It may be that this reluctance to part with x-ray films is due to the fear that they may be lost, but for practical purposes they may be just as much lost in the archives of some distant institution as if they were at the bottom of the Atlantic. True, some of these film-hoarders send clinical and radiological reports, but it is impossible to compare a film with a report. Surely when a patient moves from one clinic to another his chest x-ray film, often the one concrete piece of evidence in his medical history, should follow him like his more orthodox shadow.

The day draws near when the tuberculosis officer is to be enmeshed in the net of Governmental and voluntary hospital control, and he too may become a film-hoarder. Before the net is finally drawn, however, perhaps one last pleading wriggle may be permitted in this matter of the free circulation of chest x-ray films.—I am, etc.,

Worcester.

R. B. MAYFIELD.

Treatment of Undulant Fever

SIR.—The present unsatisfactory state of treatment of undulant fever is stressed in the annotation under this title in the *British Medical Journal* of Nov. 1, 1947 (p. 700), which prompts me to record my experience in the use of "suramin." ("germanin," "Bayer 205," or "antrypol").

Since it is rare for any one physician to have a sufficient number of cases under his care for a controlled experiment, and since the course of the disease is so unpredictable as to make conclusions drawn from a small number of cases hazardous, it is hoped that others will take steps to use this simple method of treatment and record their results, so as to confirm or refute its apparent efficacy.

So far as I am aware, suramin was first given for this purpose in 1930 by Dr. J. Leggate, of Salisbury, Southern Rhodesia, in consultation with me. The patient, an adult male European, had been ill for four months, and a blood culture revealed *Brucella abortus*, which his serum agglutinated to a titre of 1/50. The dosage was 1 g. suramin in 10 ml. of sterile distilled water intravenously once a week for four doses. The first dose caused some exacerbation of pyrexia and of symptoms, but after the second injection there was a gradual improvement, and convalescence began after the third dose.

Since that date the drug has been used by me for seven cases whose diagnosis had been definitely confirmed by positive blood culture. Satisfactory results were obtained in all of them.

The details of the procedure have varied somewhat, but the method now adopted is as follows:

As soon as a pyrexial period commences, 1 g. of suramin in 10 ml. of sterile distilled water is injected intravenously. This is usually followed by an exacerbation of symptoms and of pyrexia over the subsequent one to two days. A week later a similar injection is given. No exacerbation has been noted, and there is a tendency for the pyrexial curve to pass into a rapid lysis over the next two or three days.

In five of the patients a further pyrexial bout started and in these a further injection of 2 g. was given, with disappearance of all symptoms within 48 hours. In the other two cases two injections sufficed.

No treatment other than symptomatic was given, but in view of the well-known effect of suramin on the renal tubules the urine was examined daily for albumin and casts. On the above dosage neither was demonstrated on any occasion. The following is an illustrative case.

A European male aged 20 was admitted to hospital on Feb. 18, 1941, with a history of 6 days' headache, backache, shivering, and joint pains of insidious onset, the latter not relieved by adequate doses of aspirin; two days' drenching sweats, especially at night; sudden onset of acute pain, lasting for one day, in right knee, right hip-joint, left ankle, and left elbow, all of which were red, swollen, and distended with fluid.

On admission, T. 102.2° F. (39° C.), P. 128, R. 26; in extreme pain; appearance as of an acute gonococcal case with complications but no urethral discharge and no gonococci in prostatic smear. (There was a mild secondary anaemia, with W.B.C. 12,500 (polymorphs 68%, lymphocytes 30%, eosinophils 2%). Blood culture in broth and in blood-broth sterile. No agglutination to typhoid or *Brucella* groups on Feb. 19 and Feb. 24, 1941.

The treatment given was 1 g. sulphapyridine 4-hourly for 6 days, with an intramuscular injection of 1 g. soluble sulphapyridine twice daily on Feb. 19 and 20. This had no effect on the pyrexia, the acute joint pains, or the orchitis. By March 1 the temperature had returned to normal but the chart was "undulant" in character.

On March 4 a new pyrexial phase started and further blood cultures in blood-broth were taken. One specimen was incubated under normal conditions and one under 10% CO₂ tension; only the latter grew "an organism having the biochemical and agglutination reaction of *Br. melitensis*." On March 5 the first injection (1 g. suramin) was given intravenously. A mild exacerbation of pyrexia was noted but no increase in joint or testicular pain. On March 12 the second injection was given. There was no immediate effect, but from March 15 the temperature slowly subsided, to become normal on the 20th.

On March 23 the third pyrexial phase started and 2 g. of suramin was given on the 24th. During that night the testicular pain disappeared, but the joints were still very painful; temperature (8 p.m.) 102° F. (38.9° C.). The following day the temperature did not exceed 100° F. (37.8° C.) and was normal on the 26th. He was discharged from hospital on April 23 and was seen at intervals for nine months. No relapse occurred.

This case illustrates the following points: (a) the uncommon type with acute joint involvement; (b) the rare epididymo-orchitis (cf. Straus's reaction); (c) the failure of sulphapyridine; (d) the need for CO₂ tension for success in blood culture; (e) the method of treatment advocated.

Suramin is one of the symmetrical urea derivatives, and there is some laboratory evidence that it has an inhibitory action on the *Brucella* group.

A personal communication from Dr. M. Gelfand, of Salisbury, reports a further successful treatment by this method in a patient seen by him in consultation with Dr. Nuttall Smith, of Gloucester, who carried out the treatment.—I am, etc.,

S. R. SMITH, Government Medical Service.

R. M. MORRIS.

Idiosyncrasy to *d*-Tubocurarine Chloride

SIR.—May I comment on the article by Drs. T. Cecil Gray and John Halton (April 24, p. 784) on this subject? I was surprised to read that 15 mg. of *d*-tubocurarine chloride had been used on their first case as an initial dose. Surely there are very few anaesthetists who have not realized that such a dose is fatal. Previously I have advocated an initial test dose of 5-10 mg., followed by minimal additions, owing to individual idiosyncrasy (*British Medical Journal*, 1947, 1, 267). My own experiments have more than justified this belief.

I have also pointed out that when inflating the lungs must be done with care, namely, (1) distension of the stomach, (2) distension of the fund from the oesophagus to the airway, (3) distension of the airway, intubation in the majority of

cases is quite unnecessary with the glottis paralysed by *d*-tubocurarine chloride. However, it becomes essential when inflation is carried out, in order that a pack can be inserted in the pharynx or a cuff-tube in the trachea, either of which will avoid the above complications.

Blood-stained fluid was regurgitated and entered the air passages during the 195th minute, from which time the patient's condition appeared to deteriorate rapidly. The routine use of a cuff-tube or a pack before inflating the lungs would have avoided this catastrophe. However, it appears that in spite of this mishap Case 2 was again subjected to the danger of regurgitation into the air passages, not to mention the effect on the stomach of intermittent distension for 45 minutes.

I am in full agreement with Drs. Gray and Halton in re-emphasizing the importance of a trial dose, although I consider 1 mg. per stone sufficient as the initial dose for a child.—I am, etc.,

Swansea

D. S. JONES.

Malignant Syphilis

SIR.—Dr. C. D. Alergant (April 17, p. 757) appears to be critical of the medical memorandum written by Dr. W. Fowler and myself, entitled "Malignant Syphilis" (March 6, p. 457), and we would like to make the following comments:

1. The diagnosis was not at any time in doubt. In addition to the evidence in favour of syphilis which we published, the patient was also seen by Dr. J. T. Ingram, consulting dermatologist to the Leeds General Infirmary, who was also satisfied that the patient had syphilis. It is our experience, and that of most authorities we have consulted, that it is extremely difficult to find *S. pallida* in rupee or other very late secondary syphilitic eruptions.

2. We are accustomed to using very large doses of penicillin, arsenicals, and other drugs in the treatment of syphilis, but did not do so in this case because we were convinced that the slightest therapeutic shock would have precipitated his death. It was not merely a question of combating virulent infection but of endeavouring to keep alive a patient who from the time we made our first examination was almost moribund from severe and long-continued toxæmia.

3. It has been our experience that it is very difficult to infect rabbits with material from human syphilis. To have made this experiment when the patient was first seen would have meant subjecting him to unnecessary manipulations, thereby increasing his weakness.

4. The question of therapeutically inactive penicillin can be excluded because many other patients suffering from syphilis were treated with the same batch of drug, which was in general use in the hospital, and no suspicion of lack of potency was aroused.

—I am, etc.,

Leeds

ROBERT LEES.

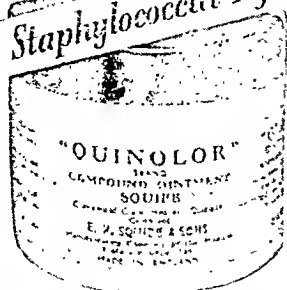
The Fenestration Operation

SIR.—With reference to the recent communications in your *Journal* on the above subject I should like to suggest that the newly formed Otolaryngological Group Committee of the B.M.A. should appoint a special research subcommittee from the most suitable members of the Group to collect the data submitted to them on request from all surgeons who have performed these operations. A national record should be kept of their results and the findings of this subcommittee should be issued through the *British Medical Journal* at regular intervals up to a period of ten years, so that the medical profession and, through them, the public will be able to reach a true assessment of the value of this operation in this country, being guided by such a body of experts. A questionnaire could be drawn up and sent out to cover all data required, both pre- and post-operative. Already much data is available compiled on a scientific basis.

I understand that Dr. Julius Lempert, of New York, who is shortly to pay us a welcome visit to this country, claims to have operated on several thousand cases, but we want to know the British findings. It was in this country that early pioneer work was done by Jenkins, Fraser, and the late Dr. A. A. Gray, before Mr. Lempert improved the technique and so made the operation practicable. The report would stimulate further research concerning otosclerosis, the cause of which is so little understood at present.

Medical opinion is much divided in this country, even among our most eminent specialists, as to the final results of this operation. Time is an essential factor. The success of this operation and its recognition by the medical profession depends

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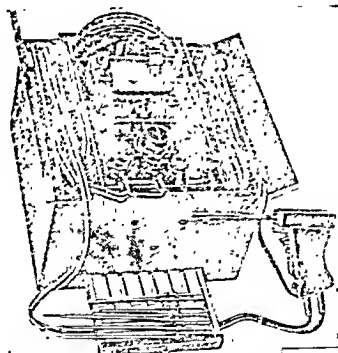
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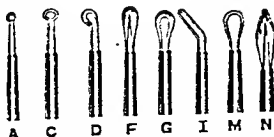
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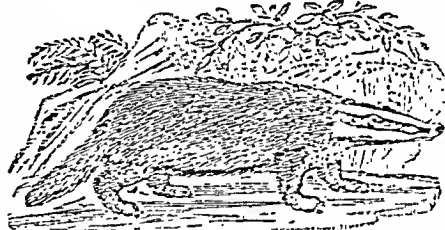
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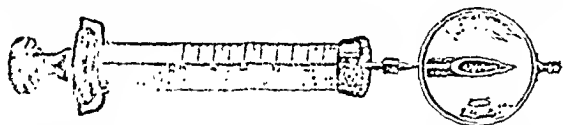
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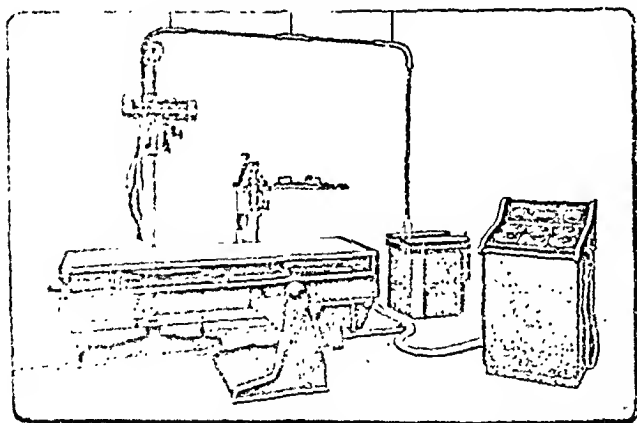


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GORDON C. HENRY.

The Nelson Touch

SIR.—“Serving Officer” (April 17, p. 750) need not worry over the revelation of names of V.D. cases to his commanding officer. He has not been in the R.A.F. long enough to forget he was once a doctor. Let him neglect to carry out this disgusting order. A colleague and I refused to comply with it when promulgated in this command six months ago. No direct action has been taken against us. Of course we should have been court-martialled and dismissed or even cashiered long ago. Our confidential reports must be close to the “adverse” level, though. That such a violation of confidence is performed uncomplainingly by the majority of medical officers is a sign of the times.—I am, etc.,

FLIGHT LIEUTENANT.

Colonial Medical Service

SIR.—From the Annual Report of Council (*Supplement*, April 10) at p. 94, it might be deduced that all that is wrong with the Colonial Medical Service is inadequate salaries. It appears also to be the Colonial Office view that since Colonial Governments cannot or will not pay more there is nothing to be done but hope that in time austerity and unemployment at home will force men into the service. But surely all medical men do not ask first where and how they can find most money?

In the colony that I have left private practice was probably better than in most others, and on average brought total incomes to a reasonable level. Yet the situation was (mid-1947): (i) The shortage of medical staff was between 30 and 40 on an authorized establishment of 99 all branches. (ii) The wastage from invalidings and resignations was unparalleled in any other department. (iii) Only about one in four entrants completed service to age 50. (iv) Many stations which used to have M.O.s were being worked by dispensers or nurses only; others no longer had M.O.H.s; the larger hospitals were badly understaffed. (v) Shortage compelled the retention in the service of passengers who brought discredit on it. (vi) Of the Government's promises to the people during the planning years of extended medical services, requiring a large increase in staff, nothing had come. (vii) Morale in the department was very low. All this, in spite of the facts that there is so much in the work of extraordinary interest, and so much in the life attractive to tough, enterprising, and restless persons; and that colonial was accepted as an alternative to military service.

I would suggest that the most important cause of the unpopularity of the service and the general dissatisfaction within it is the colonial civil service atmosphere in which we have to live and work, and the sort of administration and type of administrator we have to endure. Quite how soul-searing this is is difficult to describe briefly. To a remarkable degree the old tradition persists from the days when every man in West Africa had a “history” of treating staff rather as potential breakers of regulations and blotters of copy-books than as professional men doing work of some value.

For many years now the higher administrative appointments have with rare exceptions been filled from the numerically much smaller Health Branch—that is, by men who have spent almost the whole of their service in the relative ease and comfort of health offices, with little if any experience of the remote and lonely bush stations or of heavy work in the larger hospitals. Most of them soon develop a type of mind which makes inevitable disharmony between themselves and the working staff. Not long ago our head office staff were known collectively as the Old Men of Vichy. One director inspecting my hospital carefully examined the insides of all the drawers and cupboards, outside taps to see if they were leaking, and some disused latrines. That was all; of the work of the hospital, not a word. Another in the course of a little dispute barked out, “This is not a democratic service, it is a semi-military one.”

There is no freedom of expression of opinion, and the medical staff have no means of influencing either the Colonial Government or the Colonial Office. If the trouble is taken to draw up and present a memorial, it will merely get the usual dusty answer. If an individual criticizes or expresses opinions unwelcome in head office, he may be regarded as having permanently blotted his copy-book and forfeited all claim to consideration and promotion—and very likely be sent to a punishment station (I have been myself). A colleague who sent a brief signed letter to a journal drawing attention

to a misstatement in the advertisement was officially informed that he had thereby incurred the displeasure of the Secretary of State. Such offences are more serious than almost any degree of idleness or dissolute living.

In war it is realized that morale is all-important not only in the fighting services but among civilian workers. It is surprising and lamentable that it should have been so neglected in the Colonial Service. I see little hope of progress until there is installed as director-general at the Colonial Office one with a powerful personality who will be a great deal more than a mere Civil Servant and who will command the respect and the liking of the staff. At present there is only a small advisory staff consisting of retired administrators none of whom have ever meant anything to us in the Colonies.

Those who think there is nothing to fear in a whole-time salaried State service would do well to look closely at the Colonial Service. Not so long ago Dr. H. B. Morgan, M.P., then in opposition, alleged in the House that it was a disgrace. Very recently, supporting Mr. Bevan, he claimed that it was quite satisfactory. I think most of us would say he was nearer the mark first time.

As a retired (specialist) colleague remarked, it might have been a grand service, but the direction is all wrong. I have enjoyed it, and do not regret my choice, but would not now recommend it to one in search of a career unless he was very sure that his tolerance of “the direction” is and will remain without limit. Mine was not.—I am, etc.,

G. L. ALEXANDER.

Colonial Medical Service (ret.)

Bristol.

POINTS FROM LETTERS

Resident Appointments

UNEMPLOYED DOCTOR writes: During the present fantastic scramble for resident hospital appointments considerable time and anxiety could be spared the applicants if the following simple procedures were adopted by the hospitals concerned. (1) Appointments are only advertised if there is a definite vacancy not likely to be filled by a candidate already known to the appointing committee, or that the existence of such a candidate be indicated in the advertisement. (2) Appointing committees only short-list a candidate if they consider him fully suitable for the appointment, and not merely to make their meeting official. (3) Immediately the short list is compiled, candidates whose names do not appear on it are notified to that effect.

John Hilton

DRS. ELLIOT E. PHILIP and E. W. WALLS (Middlesex Hospital Medical School, London, W.1) write: We are preparing an entirely new edition of John Hilton's surgical classic *Rest and Pain* to be published by Messrs. G. Bell and Sons, Ltd., the publishers of the original lectures. We should be most grateful to any of your readers who can give us any information that might help us in this work. As we propose including a short biographical note on John Hilton we would welcome details of his life—especially his early life—and the temporary loan of any portrait that may be suitable for reproduction.

O.H.M.S.

DR. H. G. HOWITT (London, S.W.16) writes: I have already received complaints about the new method of dealing with national health certificates by the Ministry of National Insurance. One patient complained that correspondence with the Ministry over sickness certificates had cost a shilling in postage. In the past an insurance agent had called and paid cash. I advised her to let the Ministry pay postage in future.

Fainting at Immunization Sessions

DR. N. J. W. THOMPSON (St. Helens) writes: When carrying out diphtheria immunization on large numbers of school children I find that a certain number, say 2%, succumb to fainting attacks. . . . The attacks come on during, after, or sometimes even before inoculation. Nervous apprehension seems to be the provocative factor, and delicate or highly strung children seem the most susceptible. In dealing with such cases I find the following procedure very useful. I instruct the child to squat down, sitting on his heels. I then tell him to clasp his legs and press his thighs tightly against the abdomen. This manoeuvre, by squeezing the blood from the splanchnic area, raises the systolic and diastolic blood pressures by 15 to 30 mm. Hg. Cerebral circulation is quickly restored and the child recovers in a few minutes.

Festina Lente

DR. W. REGINALD WILSON (Doncaster) wires: Imperative retain ownership and settle about consultants and chemists and certification before assenting. Festina lente.

Obituary

ERIC GUTTMANN, M.D., M.R.C.P.

Eric Guttman was born in Gleiwitz, Upper Silesia, and spent the first half of his professional career in Germany. He came to this country in 1933. He died on April 25 at the age of 52.

Guttman's training, on his own initiative, was more than usually broad and thorough. After qualifying, he studied pharmacology before specializing in neurology in the clinically oriented school of neurology in Berlin under the leadership of Cassirer, Oppenheim's successor. He then went to Munich and studied psychiatry under Kraepelin and neuropathology under Spielmeyer. He became Lange's chief assistant at the Psychiatric Research Institute in Munich, and acting director there until he followed Lange to Breslau. With the beginning of the Jewish persecution he came to England in 1933 with the help of the Rockefeller Foundation. At the Maudsley Hospital he was one of the principal workers in the Department of Clinical Research until, at the outbreak of the war, like all others in his position, he was interned for a time. Subsequently he worked in the neurosurgical department at the Radcliffe Infirmary at Oxford and in the Neurosis Centre at Mill Hill Emergency Hospital. When the Maudsley Hospital was reopened he returned there and was assigned the arduous and anxious task of supervising the complete reorganization of clinical teaching there.

His chief work was in research and his main interests were in neuropsychiatry, in the investigation of the psychological phenomena of organic disease. His interests were wide. He was responsible for introducing the use of amphetamine in psychiatry, and his papers on the mesencephalic psychosis and on the artistic productions of psychotic patients awakened general interest. His work on the psychiatric aspects of head injuries was a permanent contribution to our knowledge. He did much other valuable work, on the functions of the frontal lobes, on meningiomas of the brain, on Schilder's disease, Huntington's chorea, the psychological aspects of general bodily illness, and on prognosis in schizophrenia. Social psychiatry, which came into prominence during the war, also engaged his attention. He was the psychiatric consultant to the Officers Selection Board of the National Fire Service, and later he carried out for the Ministry of Health an inquiry into the after-history of neurotic soldiers, the results of which have recently been published. His research work was characterized by catholicity of interest, breadth of learning, balance and coolness of judgment, and by thoroughness and caution.

Inevitably, as he was attached to a teaching hospital, he spent much time in teaching. From the time of his arrival at the Maudsley he exercised a considerable influence on his younger colleagues. Through him the Meyerian approach, which had been the dominant influence at that school, was broadened by phenomenological conceptions such as the possibility of analysing symptoms into those directly due to a basic organic process and those which represented a reaction of the personality. His clinical acumen and diagnostic powers were such as to give convincing evidence of the validity of the principles he taught. His teaching was seen at its best at the bedside, or in the discussion of fundamentals over coffee or tea. But he was an able lecturer, and he became part author of a well-known short textbook of psychiatry for medical students. Proud and declining any acknowledgment, he gave generously of his time in helping his junior colleagues with their work, whether it was research, the clinical problems of the ward, or aid from his knowledge of theory and extensive acquaintance with the literature. In his last years, when his chief occupation was the training of postgraduate students, he was able to attract and respect by his accessibility, his lucidity and his clinical wisdom.

As a man of such wide range and depth, there are men doomed to go through more than the average share of misfortune. Guttman was no exception. He was put in the first rank, yet he never lost his sense of his own limitations. His career was twice com-

again at the outbreak of war. Finally, when he seemed on the point of reaching the position his merits deserved, his health failed. Yet he was a man of genial and happy disposition. He gave all his loyalty to the land of his exile. With his deep kindness and self-effacing reserve he found himself at home in the temperamental pattern of English life. It was impossible not to be friendly with him. He met his misfortunes with the dry ironic humour and the courage and good will that marked his personality and endeared him to all who knew him. He is survived by the son and daughter of his first marriage, and by his wife, Dr. Elizabeth Rosenberg, and an infant son.

A.L. writes: No one could replace Eric Guttman in the affection of his friends, and it is very doubtful whether anyone can replace him in the remarkable contribution he was making to psychiatric research and the training of psychiatrists. From the time of his arrival at the Maudsley in 1934 it was clear that a man of outstanding capacity had come who was prepared to devote all his gifts, without thought of personal advantage, to the furtherance of sound psychiatry in this country. His integrity and friendliness, and the respect his abilities always evoked, soon made him a trusted adviser in all the clinical activities and the development of the medical school; every one of his colleagues learnt much from his unusual combination of sound, experienced judgment and fruitful scientific and therapeutic enterprise. He was versatile but never superficial; critical yet encouraging; and always to be relied on for unselfish, unlimited help. His tact and sure perceptions made him almost ideally successful in his dealings, whether with his colleagues, his pupils, or his patients and their relatives. When the Maudsley resumed its normal work after the war Guttman showed a characteristic disregard for his own interests and convenience. He knew, though his friends had no inkling of it, that he had a cardiac lesion which had given threatening signs, but he willingly shouldered a heavy burden of teaching and clinical duties; he enjoyed the work intensely, and many young psychiatrists have abiding reason to be grateful for the guidance and stimulus he gave them during those two post-war years at the Maudsley. So also have his senior colleagues. By his writings and research, and still more by his direct teaching and example, Guttman exercised upon the growth of psychiatry in this country a steady and increasing influence the full extent of which can hardly yet be appreciated. He gave this unsettled branch of medicine a sure impetus, brought it closer to neurology, and by his command of psychological and other research techniques, allied to wide clinical experience, showed the way of sound progress. But it is his generous spirit, his kindness, his humour and courage that his friends now remember with a feeling of intense personal loss.

Dr. CHARLES SHACKLETON SIMPSON, who was born at Brighton in 1861, died on April 21 at his home in Hove. He had retired from active practice some seventeen years ago. He had been bed-ridden for two years, and looked to his end with equanimity for he was unable to enjoy the fruits of his retirement, his garden, his books, and his music. He came of a talented family of architects, his father having designed much fine property in Brighton. Two other brothers were similarly engaged—one, Sir John Simpson, was P.R.I.B.A., and designed Wembley Exhibition and Roedean School. A third brother was professor of surgery at Sheffield. Educated at Brighton Grammar School, Charles Simpson studied medicine at Guy Hospital and qualified in 1889. After holding some junior appointments he settled in Hove, where he practised for forty years. He did much hard and useful work and was greatly loved and respected by all. He gave unfailing courtesy, kindness, and consideration, and had a quiet bedside manner together with a keen sense of humour. He refused to argue or get ruffled, thus preserving a peace of mind which he loved in his household and fireside. Rush and hurry were foreign to him, though he always had time for everything. For many years Dr. Simpson took a great practical interest in a local Scout troop. He was a keen naturalist and ornithologist and was interested in photography. He was a great reader, and also had a magnificent library of gramophone records. Throughout his career there were no outstanding honours or publicity, no display, just plenty of hard work. He had many an interesting and amusing tale to tell of past decades when walking, horseback riding, cycling, and carriages preceded cars. He also told of typhoid, which was very common in the old days, and of the period when teeth were extracted with an

instrument like a key, the operator keeping his top hat on during the process and the tooth jumping up to the ceiling.

When he retired many mourned his going and inquired about him long afterwards. Charles Simpson had a broad tolerance and understanding of new ideas and youth, together with a practical knowledge of clinical medicine. He had the true Christian spirit. Sympathy is offered to his wife, who looked after him so well in health and sickness, and to his two daughters.—J. H.

Dr. WILLIAM FRANCIS CHRISTIE, who died at Stibbington on April 25, was the son of the late Dr. Dugald Christie, C.M.G. He came from a large family, of whom a number entered the medical profession, including Prof. R. V. Christie, of St. Bartholomew's Hospital, and Dr. J. M. Christie, of Finchley. Coming from Edinburgh with an outstanding athletic record, and after a not undistinguished academic career, Christie first entered the R.A.M.C. as a regular officer. He served with distinction during the 1914-18 war and in India. He had graduated M.B., Ch.B. in 1909, and he proceeded M.D. in 1919. On retirement in 1923 he went into practice in Lancaster Gate, London, where he remained until recalled to serve as a medical specialist during the 1939-45 war. At the end of the war he did not return to practice but retired to a beautiful old rectory near Peterborough. At one phase of his career Christie became interested in obesity and was the author of two popular books on this subject. These were a happy combination of scientific fact and cynical humour, presented in a language which could be understood by the laity and illustrated by a famous artist with drawings which emphasized how much the lusts of the flesh contributed to a pathological state. "Willie" Christie was a first-class tennis player and was a regular tournament competitor until the last war. He had a large circle of friends, both inside and outside the profession. He was a natural host, a charming companion, and a good friend to many. In his practice he combined kindness and tact with shrewdness and ability. These characteristics were invaluable to him in dealing with his many important patients, to whom he often had to give unwelcome advice. He is survived by his widow, Cecil, daughter of the late Sir Abe Bailey, whom he met when she was nursing during the 1914-18 war. There were no children.—L. W.

Medico-Legal

LIBEL ACTION BY MR. MATTHIAS ALEXANDER

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

The evidence given during the first nine days of the hearing of this action for libel was reported in our issue of March 20 (p. 575). The plaintiff was Mr. Frederick Matthias Alexander, of London, and the defendants were three medical men, Dr. Ernst Jökl, Physical Education Research Officer to the Union Education Department, Dr. E. H. Cluver, Director of the South African Institute for Medical Research at Johannesburg, and Dr. B. Maule Clark, of Houghton, Johannesburg, as editors of *Manpower*, a biannual scientific journal published in Pretoria by the Government Printer and circulating throughout the Union.

Mr. O. Pirow, K.C., addressed the court for the defence.¹ It relied, he said, on the plea of prescription, that the action had been brought after the statutory period of one year had expired; and on the pleas of justification and fair comment. The evidence showed that Mr. Alexander was an ignorant layman who knew very little of anatomy and physiology yet claimed that healing or therapeutics was "his own province." His five books were useless as textbooks for his technique or as guides to health or to a philosophy of life. They could be read only as "sales talk." They tried to eliminate all possible sources of competition as incomparable or harmful. As against the "incompetence" of the medical world, the "humbug" of faith healing, and the "quackery" of physical education, Mr. Alexander claimed that his technique was unique, that it had a practical procedure that would prove the keynote of future evolution, and that its practice would eradicate and prevent all disease. This he supported with the equally revolutionary contention that all disease really originated in erroneous preconceived ideas of the use of the body and the self. Mr. Pirow submitted that these claims had been completely disposed of

by the medical evidence. If his claims to provide an unfailing preventive to disease were held to constitute quackery, then disposed of the case.

The fact that Mr. Alexander might improve posture by manipulation and provide other qualified benefits was beside the point. His claims covered the whole field of pathology from cancer to hay-fever. The evidence about the technique boiled down to achieving a certain posture and receiving certain manipulations; from these and a certain head-neck relationship certain remarkable benefits were claimed, but there was no evidence properly establishing a relation between the action and the alleged benefit. Sir Henry Dale had given evidence that the support of such eminent laymen as Sir Stafford Cripps and the late Lord Lytton could be looked upon as "a typical instance of group hystero-neurosis." Most of Mr. Alexander's cures seemed to have affected people afflicted with some form of anxiety neurosis.

Case for the Plaintiff

Mr. H. J. Hansen, K.C., submitted for the plaintiff that the article complained of was a complete misrepresentation of the principles of Mr. Alexander's teaching.² It omitted all references to the method of teaching—the inhibition of the old wrong manner of use and the substitution of a new right use in which the head-neck relationship was of prime importance. Nor was there any reference to the theme that the results of this right posture and body mechanics would correct old strains and misuses and would strengthen man's resistance and thus in time make him immune to disease. Dr. Jökl was not concerned with Mr. Alexander's claims in their medical or educational aspect, but only as they affected physical education, of which he was a protagonist. The setting in which the article was written was the suggestion that Mr. Alexander was making false claims about the benefits of his system on health as compared with physical education. If this interpretation of the article was correct, it was curious that Mr. Alexander's claims to prevent disease bulked so little in the article but loomed so large in the evidence for the defendants. The whole suggestion was that Mr. Alexander was dishonest, but Dr. Jökl had said under cross-examination that he had no grounds for calling him dishonest. Not a tithe of evidence had been brought for the defence on the physical side—all the big guns had been brought to bear on the medical side. Even on that side witnesses of the highest standing had given evidence that Mr. Alexander had never claimed to cure or treat in the medical sense. They had all testified to the benefits received. Against this, the defendants and their witnesses had acknowledged that they knew nothing about the practical technique on which Mr. Alexander's claims were based but were none the less prepared to say it was all nonsense. The statement that in time the Alexander technique would provide an unfailing preventive of disease was obviously, in its context, one of Mr. Alexander's dreams of the future. It was just a hypothesis, like Dr. Cluver's, that many of man's ills came from depression and worry. There was overwhelming evidence that Mr. Alexander had specifically disclaimed any attempt to diagnose or cure diseases, and that where people had gone to him for treatment or cure he had sent them off with a flea in their ear and told them that that was a matter for a doctor.

Judgment

In a fifty-page written judgment Mr. Justice Claydon analysed the evidence given in Johannesburg and on commission in England and gave his conclusions in detail. These conclusions he summarized.³

Mr. Justice Claydon said that the defendants had shown that Mr. Alexander was a quack in the sense that he made ignorant pretence to medical skill. They had shown that much of the physiological reasons put forward were wrong and that in its claim to cure the Alexander system constituted dangerous quackery. In these matters, however, they had misrepresented the views of Mr. Alexander. In showing how foolish were those views which he did not put forward they had in the article in *Manpower* called him much more of a quack than they were entitled to do. In addition the defendants had failed, in his view, to prove that the Alexander system could not bring about the results claimed in the improvement of health and the

prevention of disease; again, they had made matters worse by overstating the claims made for the system. Discussing next the allegation of quackery in the field of physical education, the judge said that on the facts of the case it was Mr. Alexander's claim to improve health, not the claim to cure or prevent disease, which related to physical education. The claim to improve health had not been shown to be baseless, even in the medical field. As against the finding of the court being partly in favour of the defendants, counsel for the defence argued that if it was shown that there was quackery, and dangerous quackery, that was the sting of the article and the plaintiff would not then be entitled to an award of damages. This contention was not, in his view, well founded in law. Although he did find dangerous quackery shown in some respects, that did not put an end to the plaintiff's claim on this ground. Apart from the fact that in the present case there were charges of fraud and dishonesty—even if these were confined to the fraud and dishonesty inherent in quackery—this was a case where in substance the defendants had called the plaintiff a much worse quack than they could prove to be true. Mr. Justice Clayden then cited instances in support of the contention that the justification should be as broad as the libel.

The defendants had said that there was quackery in the field of physical education and dishonest quackery in the field of medicine, both in claims to cure and in claims to prevent disease and improve health. They had proved only quackery and dishonest quackery in the sense that quackery is always dishonest in the claim to cure. Even in that regard they had made the quackery appear to be worse than it was and they had alleged dishonesty to a greater degree than would be implicit in quackery itself. In these circumstances, too, the justification was not as broad as the libel. What the defendants had proved would assist them in the question of mitigation of damages, but it did not constitute a defence to the action. There was no evidence to justify the allegations of dishonesty in the wider sense which were imputed by the article in *Manpower*.

The two other defences set up in the defendant's plea were prescription and fair comment. It had not been argued that the action was prescribed, the evidence showing that the plaintiff came to know of the article less than a year before the issue of the summons. Nor was it necessary to deal at length with the defence of fair comment. There were so many facts in the article which were not true, either in the sense that there had been misdescription of the technique or because only part of the facts had been set out, that the foundation for the defence of fair comment had not been laid.

On the plaintiff's contention that the article was published with malice on the part of Dr. Jokl, its author, the judge said: "If that question has to be considered, it is, I think, only right to say that I think the truth of Dr. Jokl's evidence, should it come into question, is a matter with which his demeanour has nothing to do. There was nothing in his demeanour in court which gave me the impression that he was being anything but truthful."

Mr. Justice Clayden concluded, therefore, that the plaintiff was entitled to an award of damages. Although the circulation of the article had been small, it had nevertheless been circulated to important and influential readers, and the circulation had not been confined to South Africa. Bearing this in mind he had to decide what damages should be awarded for a defamation which had in part been shown to be the truth but which had throughout overstepped the mark, which in a large part of the attack had not been proved to be true, and which had involved additional allegations of dishonesty and criminal conduct which were not justified.

Throughout the article scathing terms were used. The article was intended to be emphatic in its showing up of what the author regarded as a real danger. When an attack was made in such terms and was not wholly justified, those responsible could not expect an award of merely nominal damages. He considered that proper award in all circumstances to be £1,000. The defendant was ordered to pay the costs of the action, including the costs of the application to take evidence on commission and the costs of taking that evidence.

Medical Notes in Parliament

RADIOACTIVE SUBSTANCES BILL

In the House of Lords on April 29 Lord HENDERSON moved the Second Reading of the Radioactive Substances Bill. The main provisions of the Bill were summarized in our issue of April 24 (p. 812).

Lord Henderson said that a Bill with the same purpose had been introduced about a year ago but was found to be capable of improvement. Improvements suggested then had now been accepted. Radioactive substances were used in industry as luminizing agents and in the manufacture of other products. Radium and radon were employed in treating certain forms of cancer. Powerful x-ray tubes were used industrially, for example, for testing castings. Artificial radio-elements would shortly become available and would be of immense importance as research tools and for therapeutic purposes. Possible injuries to health if these substances were handled without stringent precautions ranged from minor burns to serious illness and death. Undue exposure to radiation might have genetic effects which as yet were uncertain. A good deal had been achieved by the British X-Ray and Radium Protection Committee appointed over twenty-five years ago by the Medical Research Council, but its advice had not always been asked or taken.

Artificial radioactive substances would soon be available in considerable quantities. More powerful x-ray apparatus was being developed. The cyclotron, the betatron, and the synchrotron, though potent tools in the hands of the scientist and the doctor, added greatly to the need for protection. Parliament must protect the worker in industry or in hospitals, the patient who ran the risk of unskilled treatment, and the public at large. In the Bill the substances and apparatus concerned and the methods of protection required were left to be laid down in Regulations. It was a difficult and complicated technical matter, to draw a line between dangerous and harmless amounts of radiation, and the Government must be able by Regulations to frame appropriate definitions and apply them on expert advice. Proceeding by Regulation would facilitate amendment to meet changing circumstances in a field in which new discoveries were being made daily.

Advisory Committee

Clause 6 required Ministers to appoint an Advisory Committee after consultation with appropriate organizations which would include the Medical Research Council, the Royal Society, the Physical Society, the three Royal Colleges, and the three Corporations in Scotland, the Faculty of Radiologists, the Department of Scientific and Industrial Research, and the British X-Ray and Radium Protection Committee. In each case the Minister concerned was required by the Bill to consult this Committee before making Regulations, which must also be published in draft form.

The Bill proposed in Clause 3 to prohibit the sale or supply to the public of medicines or toilet preparations containing more than a prescribed quantity of radioactive material, except by a doctor or dentist holding a licence for the purpose from one of the Health Ministers or by a chemist under the authority of a prescription from a licensed doctor or dentist. Clause 3 also limited the administration of radioactive substances to licensed doctors and dentists. This was proposed because the Government was advised that the dangers inherent in many of these new substances were not universally known even among members of the medical profession.

Clause 4 required anyone using irradiating apparatus emitting radiation of a strength to be defined in Regulations for medical or dental treatment to obtain a licence from the appropriate Minister. The Government knew of many unfortunate accidents the repetition of which it intended to prevent. The Clause provided for the extension of licensing to cover the use of the apparatus for diagnostic purposes if that course was advised by the expert advisory committee. This Committee would advise on the appropriate qualifications and experience on which licences were to be granted and on conditions to be attached to the grant. Both Clause 3 and Clause 4 empowered the Ministers to exempt specified classes of persons from the requirement to obtain a licence, any such exemption being dependent on consultation with the Advisory Committee.

Safety Precautions

Clause 5 empowered the Minister to make by Regulation codes of safety precautions for the protection of the public and workers in premises where radioactive substances and

irradiating apparatus were used. Regulations relating to factories in which luminizing was carried on were already in force and had been found most useful. There were other establishments for which safety precautions should be prescribed—for example, hospitals and laboratories. In addition the Minister was empowered to ensure by Regulation that radioactive waste products from factories and so on were disposed of safely. Chimneys should be heightened to ensure that dangerous smokes were dissipated; the rate and temperature at which liquid effluent was discharged should be regulated; and contaminated articles of clothing or equipment should be disposed of safely.

Clause 1 empowered the Minister of Supply to manufacture, process, and distribute radioactive substances. This would enable him to dispose of by-products from atomic energy piles as well as natural radium and radon. The Government hoped to improve the supply of radioactive substances of all kinds for medicine, research, and industry. Clause 2 gave the Minister power to control the import and export of radioactive substances, a control at present effected under a temporary Act of 1939. Lord Henderson closed by emphasizing the Government's intention to avoid unnecessary interference with science, medicine, or industry.

Lord CHERWELL said that for the last twenty-five years there had been scarcely any cases of severe injury to persons using x rays. When one compared the relative safety of this sort of work with the number of deaths on the road one felt that perhaps Parliament was taking unnecessary trouble. On the other hand a number of new radioactive substances were being produced and the carrying into law of some measure such as the Bill was probably justified. He was glad that the Bill introduced last year had been replaced by the new measure. The old Bill was calculated to hamstring research. This Bill laid down that nobody, unless he had a licence, was to administer a radioactive substance to human beings. On that the Minister presumably would act on the advice of the Committee. No definition was given in the Bill of "irradiating apparatus." This too would have to be decided on the advice of the Committee. He hoped the Minister would make sure that the Committee contained industrial people who used these substances and that it was not over-weighted with medical watchdogs.

Lord AVULREE said this was the first time that any form of control of the use of x rays had been placed upon members of the medical profession. It would now become necessary for a doctor to obtain a special permit before he could carry out certain forms of treatment. He hoped that requirement would not become a regular practice, but he admitted that the danger to patients from the use of radium and x rays by medical practitioners who had not been well trained and experienced in their use was very great. He had seen catastrophic instances where people had been severely damaged by radiation. The Bill said a person carrying on a hospital, a clinic, or a nursing home could possess radioactive substances. He asked whether sufficient care would be taken to ensure that matrons could not acquire radium or other radioactive substances and keep them in such a way that proper protection was not afforded. He was pleased to see that safeguards would be provided in hospitals and factories. It would be valuable to control more buildings where radioactive substances were used, although these buildings did not come under the Factories Act.

Lord HENDERSON said physicists would have proper representation on the Advisory Committee. He was not able to say whether there would be industrial representatives. It would be within the province of the Industrial Committee to make recommendations about the conditions in which stocks of radioactive substances should be held in hospitals and nursing-homes.

The Bill was read a second time without a division and was sent to a Committee of the whole house.

Personal Injuries Bill

Sir HARTLEY SHAWCROSS moved on April 23 the Second Reading of the Law Reform (Personal Injuries) Bill. He said Clause 1 abolished the notorious doctrine of common employment whereby an employer was not responsible for injuries to his servants caused by the negligence of a fellow servant. A subsequent Clause provided that in assessing the sum to be awarded to an injured workman the courts should in future take into account his loss of earnings or profits but should set against that loss one-half of the National Insurance benefit. The courts would continue to have regard to medical expenses if these had been incurred. There would be no obligation to incur such expenses after the National Health Scheme came into operation, but if they were nevertheless incurred they would rank.

The Bill was read a second time.

Criminal Justice Bill

The LORD CHANCELLOR, in the House of Lords on April 27, moved the Second Reading of the Criminal Justice Bill, into which the House of Commons had inserted a provision suspending the execution of a capital sentence for five years. In the course of the debate the BISHOP OF WINCHESTER said Parliament had experience of other measures which were hurried forward without regard to the times. The National Health Service might for a time deprive people of medical assistance with the intention of some day providing medical assistance for all. Lord OAKSEY did not think any classification of murders or of murderers would be of benefit. It was far better to leave the matter at the discretion of the Home Secretary.

When the debate was resumed on April 28 Lord TEMPLEWOOD said the Bill proposed greater facilities for medical inspection and treatment of prisoners, on the basis that penal prisoners had to be dealt with individually. Investigation of individual cases and the adoption of the method most suitable for the particular delinquent had succeeded in the Fighting Services during the war. He felt profoundly the need for this country to show its respect for the sanctity of human life. Lord READING mentioned the substitution in the Bill of the term "Broadmoor patient" for "criminal lunatic." That exemplified the tendency in this country to call things by a different name and think that thereby their character was changed.

Lord MAUGHAM predicted that if capital punishment were suspended there would in five years be practically no difference in the number of murders. The experiment would prove nothing. A large proportion of those who spoke in the House of Commons against the death penalty did so because of the method of its administration. The method was out of date, horrible, and caused hysteria among prisoners who heard that a hanging was taking place. With modern knowledge a mere prick in the arm would surely carry out the course he held, in the interest of the State, to be necessary.

Lord BALFOUR OF BURLEIGH said he found in the Bill a provision for compulsory mental and physical examination. He understood it to be a principle of common law that an accused could not be physically examined without his consent. He believed that little could be gained from a physical examination except with the co-operation of the prisoner. He felt the proposal departed from the principles of established law. It was also a new principle of law that an innocent person should be forcibly made to give a finger-print.

The Bill was read a second time and referred to a Committee of the whole House.

Industrial Injuries—The National Insurance (Industrial Injuries) Bill was read a first time in the House of Commons on April 29.

Hospital Beds—Sir ERNEST GRAHAM-LITTLE inquired on April 30 how many hospital beds in England and Wales would be available on the appointed day as compared with the number in 1938. Mr. BEVAN replied that the total number of beds in England and Wales at the end of 1947, the latest date for which information was available, was 533,000. The corresponding figure for 1938 so far as known was 466,000.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

Field-Marshal the Rt. Hon. Jan C. Smuts will be installed as Chancellor of the University on June 10 and will afterwards confer honorary degrees, including that of D.Sc. on Sir William Wilson Jameson, K.C.B., M.D., F.R.C.P., Chief Medical Officer, Ministry of Health and Ministry of Education; on Sir Hugh Lett, K.C.V.O., C.B.E., F.R.C.S., President of the British Medical Association; and on Sir Paul Fildes, O.B.E., M.B., B.Ch., F.R.S., Director of the Department of Chemical Bacteriology, Medical Research Council. The same honorary degree will be conferred also on Sir Robert Robinson, D.Sc., President of the Royal Society and Waynflete Professor of Chemistry in the University of Oxford.

UNIVERSITY OF GLASGOW

On April 24 the degree of M.D. was conferred upon J. Hood, Colonel J. S. K. Boyd, late R.A.M.C., and R. R. Gordon.

UNIVERSITY OF EDINBURGH

Prof. Robert McWhirter, the first occupant of the recently endowed Forbes Chair of Medical Radiology, delivered his inaugural lecture in the Pollock Memorial Hall, Edinburgh, on April 28, when he was introduced by Prof. Sydney Smith, acting Principal of the University. His subject was "Some Biological Reactions to

The Defenders of Human Rights are organizing a discussion at the National Health Service, to be held in the Kensington Town Hall at 8 p.m. on Wednesday, May 19. Admission is free. The professional point of view will be put by Dr. D. A. Ferment of Mr. John Bunyan. Other speakers include Dr. Letitia Fairfield, Dr. H. B. Morgan, M.P., Mr. Wilson Harris, M.P., and Mr. I. Pitman, M.P.

Surgeon to Lecture in Hungary

Mr. A. E. Porritt will visit Hungary to lecture on behalf of the British Council between May 16 and 29. He will speak on penicillin in surgery, gastrectomy, and injection treatment of hernia.

Association of Doctors' Wives

The Association of Doctors' Wives (Birmingham and district) has been formed under the presidency of Prof. Hilda Lloyd with the broad intention of enabling doctors' wives to meet and discuss matters of particular interest to them, and to encourage them to take an interest in municipal and public life. The annual minimum subscription is 5s. Doctors' wives in and around Birmingham may obtain information from the Secretary, Mrs. L. H. Chittis, 353, Chester Road, Castle Bromwich, Birmingham.

Medicine in War

The Medical Research Council has issued a report entitled *Medical Research in War* (H.M.S.O., price 7s. 6d. pp. 455). The Council was required to advise the Government during the war on a great variety of medical problems, many of them arising directly from the conditions of warfare. Its success in one field at least is revealed by the high chance of survival of a British soldier wounded in battle—93%. The report outlines the many investigations initiated and conducted by the Council. It will be discussed in a future issue of the *Journal*.

Committee on Partnerships: Evidence Invited

The committee set up recently by the Minister of Health to consider whether Sections 35 and 36 (affecting partnerships) of the N.H.S. Act need amending will receive evidence from any organization or persons directly interested. Memoranda should be submitted to the Secretary of the Committee, Ministry of Health, Whitehall, London, S.W.1, as soon as possible, and in any case before the end of May.

Physician Emigrating

Dr. H. L. Wallace, physician at the Royal Edinburgh Hospital for Sick Children and lecturer on child life at Edinburgh University, is emigrating to South Africa to help organize a health service in Natal.

Postgraduate Surgery

The Royal College of Surgeons has prepared a scheme for providing residential accommodation for postgraduate students. The local authorities have approved the plan. Reconstruction of the College will probably start this year.

Golf Competition

The Middleton and North Manchester Medical Society are holding a competition on Wednesday, May 12, at the North Manchester Golf Club. Particulars may be obtained from Dr. J. A. Strachan, 566, Broadway, Chadderton (Tel. FAI 2230).

COMING EVENTS**St. George's Hospital Medical School**

Lecture-demonstrations in neurology and psychiatry will be given in the large lecture theatre of St. George's Hospital Medical School, Hyde Park Corner, London, S.W., on Thursdays, at 4.30 p.m., from May 6 to July 22, both dates inclusive. They are open, without fee, to medical practitioners and senior medical students.

Royal Medico-Psychological Association

The next quarterly meeting of the Royal Medico-Psychological Association will be held at Dublin on Wednesday and Thursday, May 12 and 13. The programme is as follows: At Royal College of Physicians of Ireland, Kildare Street, May 12, 10.15 a.m., business meeting. 11 a.m., Drs. J. Kearney and T. W. H. Weir, "Legislation and Mental Health." 2.15 p.m., Mr. John Hayward, "The Personality of Dean Swift." 5 p.m., reception at country branch of St. Patrick's Mental Hospital, at St. Edmundsbury, near Lucan, as part of the bicentenary celebrations of Swift's hospital (St. Patrick's). At Grangegorman Hospital, May 13, 10.15 a.m., Dr. J. Dunne, "A Ten Years' Survey of Physical Methods of Treatment." 2.15 p.m., Dr. H. J. Eustace, "Addiction under the Mental Treatment Act, 1945." 8 p.m., reception by the President of Eire at his residence in Phoenix Park.

Edinburgh University Club of London

The 238th dinner of the Edinburgh University Club of London will be held at the Savoy Hotel on May 20, with H.R.H. the Duke of Edinburgh as guest of honour and Sir John Anderson, P.C., M.P., in the chair. The dress for the occasion will be evening dress with decorations. Members should have received notification of the function, but any who have not are requested to communicate with the honorary secretaries, Edinburgh University Club, 12, Wimpole Street, London, W.1.

London School of Hygiene and Tropical Medicine

The annual meeting of the Court of Governors of the London School of Hygiene and Tropical Medicine will be held at the school (Keppel Street, Gower Street, W.C.) on Wednesday, May 19, at 4 p.m.

Tuberculosis Association

A meeting of the Tuberculosis Association will be held at Birmingham on Friday and Saturday, May 21 and 22. On May 21, at 2.30 p.m., at the Queen Elizabeth Hospital, a communication on "The Clinical Estimation of Cardio-respiratory Function" will be presented by Prof. W. Melville Arnold, Dr. A. G. W. Whitfield, and Dr. G. H. Armistage, and at 4.20 p.m. Dr. Francis Jarman will speak on "The Clinical Significance of Bronchial Lesions in Pulmonary Tuberculosis." At 7.30 p.m. a reception and dinner will be given by the Lord Mayor of Birmingham at the Council House. On May 22, at 9.30 a.m., at the English Theatre, The University, Edmund Street, Dr. A. Clark Penman will present a communication on "Primary Tuberculosis in the Adult"; at 10.30 a.m. Dr. J. F. Geddes and Mr. A. L. d'Abreu will discuss "Selection of Cases for Thoracoplasty"; and at 12 noon a colour film, made by Dr. Paul H. Hollinger, of St. Luke's Hospital, Chicago, on "Bronchial Tumours, etc. as seen at Bronchoscopy" will be shown. Mr. Geoffrey Bateman. The annual conference of the association will be held at Belfast on June 30, July 1, 2, and 3.

New Schools

An exhibition entitled "New Schools" will be open to the general public from May 26 to June 19 at the Royal Institute of British Architects. Examples of school furniture from several European countries as well as Britain will be exhibited.

Pathological Society of Great Britain and Ireland

The meeting of the Pathological Society of Great Britain and Ireland, which had provisionally been arranged to take place at Ghent on July 9 and 10, has had to be cancelled owing to currency restrictions. The meeting will take place in the Medical School, Leeds, on the same dates.

SOCIETIES AND LECTURES**Monday**

EDINBURGH UNIVERSITY: PHYSIOLOGY CLASSROOM.—May 10, 5 p.m. "Religion and Medical Progress," by Dr. Douglas Guthrie.

INSTITUTE OF LARYNGOLOGY AND OTOTOLOGY, 330, Gray's Inn Road, London, W.C.—May 10, 6 p.m. Cinematograph films: "Organic Disorders of the Larynx" and "Bronchial Neoplasms," by Mr. Geoffrey Bateman.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—May 10, 8 p.m. Annual general meeting, 8.30 p.m. "The Line of Drugs," Annual Oration by Dr. A. H. Donthwaite.

Tuesday

CHELSEA CLINICAL SOCIETY.—At South Kensington Hotel, 41, Queen's Gate Terrace, London, S.W., May 11, 7 for 7.30 p.m. Annual dinner of the 51st Session of the Society.

INSTITUTE OF DERMATOLOGY, 8, Lisle Street, Leicester Square, London, W.C.—May 11, 5 p.m. "The Lichenoid Eruptions, including the Neurodermatoses," by Dr. R. M. B. MacKenna.

INSTITUTE OF LARYNGOLOGY AND OTOTOLOGY, 330, Gray's Inn Road, London, W.C.—May 11, 2.15 p.m. "The Respiratory Tract in Infectious Diseases," by Dr. E. H. R. Hargis.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHYSIOLOGY.—At Physiology Theatre, Gower Street, London, W.C., May 11, 5 p.m. "The Physical Aspect of Speech," by Mr. D. B. Fry, Ph.D.

Wednesday

GLASGOW UNIVERSITY: DEPARTMENT OF OPHTHALMOLOGY.—May 12, 8 p.m. "Disturbances of the Lacrimal Apparatus," by Dr. James Hill.

BRITISH ASSOCIATION OF PHYSICAL MEDICINE.—At Royal College of Surgeons of England, Lincoln's Inn Fields, London, W.C., May 12, 5 p.m. Discussion: "Physical Methods in Geriatrics," to be opened by Mr. L. Cosin and Dr. Marjory Warren.

Thursday

CHADWICK TRUST.—At University College, University Park, Nottingham, May 13, 4 p.m. "Advances in Preventive Medicine during the War of 1939-45," by Sir Arthur MacNalty.

EDINBURGH ROYAL INFIRMARY.—May 13, 4.20 p.m. Honyman Gillespie Lecture: "On Abdominal Pain," by Mr. F. R. Brown.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHARMACOLOGY.—At Physiology Theatre, Gower Street, London, W.C., May 13, 5.15 p.m. "Permeability and Drug Action," by Mr. J. F. Danielli, Ph.D., D.Sc.

Friday

ROYAL INSTITUTION, 21, Albemarle Street, London, W.—May 14, 9 p.m. "The Role of Chemistry in Combating Tropical Diseases," by Sir Ian Heilbrunn, F.R.S.

APPOINTMENTS

Mr. Commodore H. A. Hewat, C.B.E., M.B., Ch.B., D.T.M.&H., has been appointed Medical Adviser to the British Red Cross Society and has taken up his duties at the society's headquarters at 14, Grosvenor Crescent, London, S.W.1.

Prof. H. W. Rodgers, F.R.C.S., and Mr. J. A. W. Bingham, F.R.C.S., have recently been appointed to the surgical staff of the Infant Hospital for Sick Children.

D. VINCENT, E. A., M.S., F.R.C.S., Surgeon to Orthopaedic and Traumatic Unit, West Middlesex County Hospital.

Mr. DAVENPORT took the London degree with honours in 1932 and the M.S. in 1935. During the war he served as a surgeon specialist in the R.A.M.C. He has contributed papers on "Swelling of the Upper Limb following Radical Mastectomy," "Infection of the Hand," and "The Control of Staph. aureus in an Operating Theatre."

J. GAY, T. E. D., M.B., Ch.B., M.R.C.P., D.C.H., Paediatrician to West County for Cheshire County Council, Chester Corporation, and Chester Royal Infirmary.

GROVER, V. O. B., M.R.C.S., L.R.C.P., D.P.H., D.I.H., Deputy Medical Officer of Health, County of Oxfordshire.

Hospital for Sick Children, Great Ormond Street, London, W.C.—Assistant Medical Officer (Radnor Court), Elspeth M. Frith, M.B., B.S., House Officer, William Roe, M.B., B.S., House Physicians, J. A. Black, M.B., B.Ch., M.R.C.P., and F. W. Nash, M.B., B.S., M.R.C.P.

LOVING, JEAN, M.B., Ch.B., Assistant Psychiatrist, Crichton Royal Mental Hospital, Dumfries.

Middlesex County Council.—The following senior appointments are announced: W. Hirston, M.D., M.R.C.P., D.P.H., Deputy County Medical Officer of Health, K. R. Stokes, M.R.C.S., L.R.C.P., Medical Director, Harefield Hospital, R. Asher, M.D., M.R.C.P., Physician, Central Middlesex County Hospital, C. H. Dunn, M.R.C.S., L.R.C.P., D.A., Senior Anaesthetist, West Middlesex County Hospital.

Ministry of National Insurance.—The following appointments have been made to the headquarters medical staff of the Ministry of National Insurance: Deputy Medical Officer, F. M. Collins, Ch.M., F.R.C.S., J. M. Davidson, M.D., D.P.H., C. J. P. Grosvenor, M.B., B.Chir., Senior Medical Officer, W. D. T. Hooper, D.M., D.P.H.

MURRAY, D. I., M.B., Ch.B., D.P.H., Assistant Senior Medical Officer, St. Andrew's Regional Hospital Board.

PURVIS, W. J., M.B., B.S., D.A., Honorary Consulting Anaesthetist, Royal Victoria Infirmary, Newcastle-upon-Tyne.

SHARP, C. G. KAY, M.D., Honorary Director, Contact Lens Unit, Royal Eye Hospital, London, and King's College Hospital, London.

STEWART, J., M.B., Ch.B., D.P.M., Deputy Medical Superintendent, Park Royal Hospital, Basingstoke.

THOMAS, J. C. S., M.R.C.P., D.P.M., Regional Psychiatrist, North-East Metropolitan Regional Hospital Board.

WILLIAMS, J. I., M.D., Director, Pathological Department, Royal Infirmary, Sheffield.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Borthwick, On March 10, 1948, at Fernwood House, Jesmond, Newcastle-upon-Tyne, to Betty (née Flinn), wife of Dr. I. Borthwick, 25, Redewater Road, Leamington, a son, David James.

Frank, On April 28, 1948, to Marjorie (née Hutton), wife of Dr. H. Frank, 1, W. St. John and Lippin, a daughter.

Hillingsworth, On May 1, 1948, at Sheffield, to Cynthia Hillingsworth, M.B., M.R.C.P., wife of Prof. R. S. Hillingsworth, M.D., F.R.C.P., a daughter.

Kitchin, On April 11, 1948, at 265, Langley Road, Slough, to Jean (née B. C. D.), wife of Dr. A. P. Kitchin, a daughter.

Mundy, On April 25, 1948, at Cleveland Nursing Home, Paddington, W., to Betty (née Hill), wife of Dr. P. Gordon Mundy, 152, Plashet Road, London, E. 1, a son, Anthony Richard.

Pugh, On April 23, 1948, at Redruth, Cornwall, to Daphne, wife of Dr. J. I. Pugh, a son, Michael James.

Stradling, On May 1, 1948, at Central Middlesex County Hospital, to Peggy (née Brown), wife of Dr. Peter Stradling, a son.

Thomas, On April 27, 1948, to Joyce, wife of Stanley F. Thomas, M.B.E., F.R.C.S., of G. Padman, Ganjam District, Orissa, India, a daughter—Edith Margaret.

DEATHS

Osborne, On April 25, 1948, at the Old Rectory, Subbington, near Peterborough, to William Francis Osborne, M.D., formerly of Lancaster Gate, London, W.

Clark Wilson, On April 29, 1948, at 2, Roseburn Cliff, Edinburgh, John Clark Wilson, M.D., M.R.C.P., F.R.C.S., D.P.H., aged 77.

Coburn, On April 27, 1948, at West Middlesex Hospital, Brentford, James L. Coburn, F.R.C.P.S.I., F.R.P.S. Glas., of White Lodge, Bedford, aged 43.

Conran, On April 27, 1948, Philip Crawford Conran, M.D., of Firgrove, Macclesfield, Cheshire, aged 63.

Frankel, On April 25, 1948, Ernest Maurice Frankel, M.D., of 10, Devonshire Road, London, W.

Hartman, On April 25, 1948, John Herbert Hartman, M.D., of Southport, Lancs.

Hughes, On April 25, 1948, at Ch. H. House, Leicester, Gloucester, Staffs, Arthur Hughes, M.B., Ch.B., M.R.C.S., L.R.C.P., aged 60.

Thomas, On April 25, 1948, at Llanelli, Carmarthen, Cynl Herbert Thomas Hutt, M.B., Ch.B., M.R.C.P., aged 41.

George, On April 25, 1948, at Eastern Nursing Home, Dundee, George George, M.B., Ch.B., F.R.C.S., of The Times, Carmarthen, Angus.

Stewart, On April 25, 1948, at 1, Victoria Road, Glasgow, M.R.C.S., L.R.C.P., aged 60.

Tudhope, On April 25, 1948, at 1, Victoria Road, Glasgow, J. James Tudhope, M.B., Ch.B., M.R.C.S., L.R.C.P., aged 60.

Wright, On April 25, 1948, at 1, Victoria Road, Glasgow, P. H. Wright, F.R.C.S., aged 60.

Wright, On April 25, 1948, at 1, Victoria Road, Glasgow, P. H. Wright, F.R.C.S., aged 60.

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended April 17.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland. Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland. A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	47	3	15	3	2	81	5	19	1	—
Deaths	—	1	—	—	—	—	—	—	—	—
Diphtheria	136	12	53	11	3	182	24	59	22	9
Deaths	2	1	—	—	1	1	—	1	—	—
Dysentery	110	30	47	—	—	46	4	16	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Encephalitis (febrile), acute ..	—	—	—	—	—	2	—	1	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	46	10	1	—	36	1	1	—
Deaths	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years	—	—	—	27	—	—	—	—	28	—
Deaths	35	3	5	5	—	84	11	16	7	1
Measles*	9,681	1360	315	96	45	9,035	490	296	44	18
Deaths†	—	—	2	1	—	20	3	—	2	2
Ophthalmia neonatorum	54	1	13	—	—	64	8	10	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever	7	—	1(A)	—	—	5	1	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenza	639	54	8	12	2	728	39	4	16	2
Deaths (from influenza)	10	—	2	1	1	16	3	3	—	—
Pneumonia, primary	205	45	213	30	8	36	252	30	9	9
Deaths	—	—	—	—	—	—	—	—	—	—
Polio-encephalitis, acute	1	—	—	—	—	1	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Poliomyelitis, acute	19	1	2	1	—	9	—	2	6	—
Deaths§	3	—	—	—	—	—	—	—	—	—
Puerperal fever	—	2	11	—	—	—	10	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia|| .. ..	114	4	8	6	—	139	6	12	3	3
Deaths	—	—	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	1,290	76	252	37	38	930	73	126	26	33
Deaths†	—	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	2	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid fever	9	—	—	2	—	5	1	1	4	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough*	3,888	286	61	69	22	2,117	255	399	88	—
Deaths	13	2	1	—	—	16	1	6	8	—
Deaths (0-1 year)	338	53	44	25	12	528	76	82	34	—
Infant mortality rate (per 1,000 live births)	—	—	—	—	—	—	—	—	—	—
Deaths (excluding stillbirths)	4,615	738	619	180	120	5,270	816	688	246	1
Annual death rate (per 1,000 persons living)	—	—	—	—	—	—	—	—	—	—
Live births	8,469	1366	1062	341	259	10,532	1662	1233	492	3
Annual rate per 1,000 persons living	—	—	—	—	—	—	—	—	—	—
Stillbirths	211	30	31	—	—	276	41	31	—	—
Rate per 1,000 total births (including stillborn)	—	—	—	—	—	—	—	—	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the return are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

|| Includes puerperal fever for England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Provisional Death Rates for 1947

The decline in the maternal mortality rate in England and Wales continued during 1947, resulting in a new low figure of 1.01 per 1,000 total live and still births, compared with the previous lowest rate of 1.24 in 1946. The rate per 1,000 total live and still births for deaths from abortion was 0.17.

A male rate of 593 deaths from respiratory tuberculosis per million civilian population maintains the fall that has taken place since the high figure of 795 in 1941 and 611 in 1946. The corresponding rate for females increased from 344 in 1946 to 362 in 1947. The rates for other forms of tuberculosis were 87 for males and 72 for females.

Deaths from cancer among females continued to increase, the rate per million civilian population being 1,745, compared with 1,735 in 1946 and 1,577 in 1937. The rate for males from this cause was 1,976, compared with 1,987 in 1946.

Discussion of Table

In England and Wales decreases in the number of notifications were recorded for measles 1,512, acute pneumonia 64, and diphtheria 19, while an increase was reported for whooping-cough 585 and scarlet fever 94.

The largest decreases in the incidence of measles were London 449, Surrey 273, Middlesex 132, Lancashire 116, and Derbyshire 114. Notifications of whooping-cough are about twice the usual average and are the highest since 1941; during the week the largest increases were Lancashire 107, London 55, and Cheshire 52.

A small rise in the incidence of scarlet fever in most areas of the country arrested the decline that occurred during the preceding five weeks. There were no local variations of any size in the returns of diphtheria.

Three cases of paratyphoid were notified from the cities of Birmingham and Dewsbury. While a fall in the notifications of dysentery was recorded in other areas a rise occurred in London from 18 to 30 (Camberwell 14) and in Yorkshire West Riding from 17 to 28. The only other large return for dysentery was Lancashire 24.

Notifications of acute poliomyelitis were 5 more than in the preceding week. The only administrative districts with more than one case were Leicestershire, Barrow-upon-Solr R.D. 3, and Essex, East Ham C.B. 2.

An outbreak of gastro-enteritis in Scunthorpe, Lincolnshire, has caused the death of 13 babies under 12 months during the past five weeks.

In Scotland the incidence of measles decreased by 130, while small increases were reported for scarlet fever 14 and whooping-cough 16. The notifications of dysentery in Glasgow were 7 more than in the preceding week.

In Eire a decrease in the notifications of measles 34 and primary pneumonia 14 was recorded, while the notifications of whooping-cough increased by 34. The decrease in measles and the increase in whooping-cough were fairly general throughout the country.

In Northern Ireland the only change in the trends of infectious diseases was a decrease of 7 in the notifications of diphtheria.

Week Ending April 24

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,535, whooping-cough 3,727, diphtheria 179, measles 9,092, acute pneumonia 593, cerebrospinal fever 43, acute poliomyelitis 16, dysentery 252, paratyphoid 3, and typhoid 4. One case of cholera, a laboratory infection, was notified.

The Council on National Emergency Medical Service of the American Medical Association held its spring session recently and discussed medical aspects of modern warfare and its problems of sanitation and general hygiene. There were lectures on atomic, chemical, and psychological warfare. Dr. Edward L. Bortz, President of the A.M.A., said that it was necessary to collect information on the management of casualties caused by biological products and chemical agents. American medicine had never faced a greater challenge, and the A.M.A. was determined to function through its various councils in every way it possibly could for the protection of the nation's population. Dr. Wigodsky emphasized the necessity for nation-wide education about atomic energy so that people should have a factual basis for reasonable logical thought on the matter. Dr. G. F. McGinness, vice-president for health services of the American National Red Cross, outlined the organization prepared for combating disaster. The Red Cross scheme includes the provision of medical supplies, equipment, and staff, and the establishment of shelters for victims who have had their houses destroyed.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Sarcoidosis

Q.—What are the current views on the causation, symptomatology, and treatment of sarcoidosis? In what way does it differ from Darier-Roussy sarcoid?

A.—Some of these problems were discussed at the International Conference of Physicians held in London in September, 1947. An absolute cause is not known but many authorities regard sarcoidosis as a particular pattern of reaction in the tissues consequent upon sensitization (the term "anergic" is used) to a chronic infection. This may be a tuberculous infection in this country (leprosy, coccidioides, etc., in other countries), but the organism is not demonstrable and the Mantoux reaction is commonly negative. The skin lesions are most easily assessed, but similar infiltrations occur in other organs in relation to the reticulo-endothelial system. Focal or nodular, plaque or sheet infiltrations of a lupoid character are seen in the skin and may be observed in tonsils or be appreciated by palpation in deeper subcutaneous tissues, glands, liver, spleen, tendon sheaths, etc. They may be detected in the lungs and in the bones, especially of the hands and feet, by x-ray examination. A "chilblain circulation" may favour deposits about the nose, cheeks, ears, hands, and feet, producing a condition described as lupus pernio, which is nearly always associated with lesions in bones, lungs, and other tissues. In the experience of the writer and of others the response of calciferol in large dosage (100,000 units daily for an adult) is quite remarkable, but there is no constant response to other measures. The histology is markedly tubercloid, and essentially presents masses of endothelioid cells with no surrounding infiltration or disorganization of collagen and rarely any tendency to caseation or giant-cell formation.

The so-called Darier-Roussy sarcoid is ill-named and bears no direct relationship to this syndrome. It is a variant of Bazin's disease, a gummatous tuberculous process associated with deep induration in the subcutaneous tissues and usually affecting the lower legs.

Failure to Ovulate

Q.—What is the likely cause of failure to ovulate? Is any treatment likely to help? The patient I have in mind is a married woman of 28, with a history of apparently normal and regular periods. On being investigated for infertility she was told that an endometrial biopsy showed no secretory phase. What is the prognosis? She is very anxious to have a baby.

A.—The cause of failure to ovulate in the absence of gross pelvic disorder is unknown, and its occurrence is so common that it can be regarded as being almost physiological. Since one cycle may be anovular, ovulation occurring in other cycles, the result of a single endometrial biopsy may be of little significance. In this case it would be desirable to repeat the endometrial biopsy during several cycles, or to instruct the patient in the keeping of charts of the daily waking temperature (vaginal, rectal, or oral) to see whether menstruation is regularly anovular. Alternatively, the estimation of the excretion of pregnanediol during the second half of several cycles might be helpful. Only when it is established beyond doubt that anovular menstruation occurs so commonly that it is likely to be the real cause of the infertility is treatment indicated. Treatment is in any case difficult, and the results are not easy to assess because of the ever-present possibility of a spontaneous return of ovulation.

The best hope of precipitating ovulation probably lies in the application of cyclical gonadotrophin therapy by Hamblen's technique. This consists in giving ten daily intramuscular injections of 400 units of serum gonadotrophin, followed by ten daily intramuscular injections of 500 international units of chorionic gonadotrophin. The first injection should be given

on the 10th day of a 28-day cycle (counting from the first day of menstruation). Ovulation is most likely to occur after the 10th day, and injection of chorionic gonadotrophin, and coitus should be timed accordingly. Treatment should not be given more than two consecutive cycles. If pregnancy does not occur the treatment should be repeated only after an interval of several months.

Thiopentone and Laryngeal Spasm

Q.—In actual practice is there any great danger of laryngeal spasm from inducing anaesthesia with intravenous thiopentone ("pentothal") and following up with ethyl chloride and open ether? Would you use this method in the absence of a machine?

A.—Most anaesthetists have the impression that thiopentone increases the liability to laryngeal spasm during induction of anaesthesia. As is the case with most respiratory depressants, a spasm once initiated relaxes but slowly. To minimize the risk of spasm the induction dose of thiopentone should be kept to a minimum and the subsequent ethyl chloride and ether should be administered with the same skill and artistry as though no thiopentone had been given. In these circumstances laryngeal spasm is rare. The risk of spasm is still further reduced if the larynx is sprayed with cocaine before administering the thiopentone. The thiopentone-ethyl chloride-ether sequence is quite satisfactory with the open mask. In fact, during the war thiopentone and ethyl chloride became a favourite method of induction before ether anaesthesia with the Oxford apparatus, a method virtually equivalent to an open mask.

Repeated Haematemesis in Polycythaemia

Q.—Can any treatment be suggested which will control repeated haematemesis and the intermittent passage of large amounts of uric acid gravel in a case of polycythaemia? Deep x-ray therapy has given only temporary benefit. Venesection once a week has helped to control the haematemesis, but has not affected the urinary condition.

A.—Repeated haematemesis in polycythaemia is usually due to peptic ulceration, which is present in about 8% of patients with this disorder. In a smaller group polycythaemia is associated with cirrhosis of the liver (Mosse syndrome). It is of importance, therefore, to determine the cause of the haemorrhage in this particular instance and, if peptic ulceration is present, to treat it on the usual medical lines. The passage of uric acid gravel is the result of the increased urinary excretion of urates accompanying the raised level of uric acid in the blood that characterizes this disease. This can be checked only by controlling the hyperplastic process itself, and the effective means of accomplishing this are irradiation of the entire skeleton, injections of nitrogen mustard, and injections of hydrophorus. The last-named is not yet available in this country, and the second produces only short remissions. A copious intake of water and alkalis should help to prevent the precipitation of urates.

Varicose Ulcers

Q.—A woman aged 58 has had severe varicose ulcers of the lower leg for a year and a half years. Blood Kahn and W.R. are negative. The organisms responsible are a "coliform organism" and *Staph. aureus* (penicillin-sensitive). Various local applications have been tried without effect. The ulcers have become much worse. She has been treated with ointment of zinc oxide and has had no effect. She refuses to go to bed for the night, as she did so once, and when she did so the ulcer disappeared. Should amputation be considered? I should much appreciate advice concerning this case.

A.—Amputation should never be considered in ulcers due to varicose veins. The first consideration is to treat the varicose veins by ligation and excision, if these veins are not too numerous. If the ulcer becomes easier, the treatment of the ulcer becomes easier. If the ulcer is due to old femoral thrombosis, then supportive treatment is all that is needed. The ulcer will often succeed when

applied with great tightness and with pads of adhesive felt or "sorbo" over the ulcer itself. Another way to get a good support is to keep the patient in bed during the week-end and on Monday's visiting round apply Unna's paste, renewing this bandage each time with a preliminary two-days rest in bed. Another alternative is to apply Thiersch grafts to the ulcers with the patient in bed for four weeks. After healing, appropriate support must be continued—permanently, if necessary. It may take the form of Unna's stocking, elastic bandages, or elastic stockings, according to the amount of scarring of the leg and the tendency to oedema.

Shrunk Breasts

Q.—A woman of 35 breast-fed her second baby for eight months, then went on holiday without the child and developed much engorged breasts. She was treated first with stilboestrol and then changed to belladonna plasters and tight bandaging, which relieved the pain. There were no ill effects at the time, but now the breasts have shrunk. Can you recommend any treatment to restore her original form?

A.—It is very unlikely that stilboestrol or belladonna plasters, etc., could have more than a temporary effect, and probably the breasts will recover spontaneously. Stilboestrol inhibits lactation by suppression of the pituitary lactation hormone, but, apart from the period of lactation, it normally has a stimulating action on breast structure. The local inunction of ung. oestradiol or stilboestrol might be tried. It is assumed that menstruation has now returned to normal and there is no evidence of wider endocrine dysfunction—e.g., delayed pituitary superinvolution.

Egg-grown Vaccinia Virus

Q.—Has experience confirmed the impression that post-vaccinal encephalitis may be avoided by the use of egg-grown virus for vaccination instead of the usual lymph preparation? Are supplies yet available in this country?

A.—Insufficient numbers of individuals have been inoculated with egg-grown vaccinia virus to provide any evidence regarding the risk of post-vaccinal encephalitis from such a vaccine. In one small trial by Buddingh in the U.S.A. the lesions in 9 children inoculated with vaccinia virus grown on the chorio-allantoic membrane were milder than in 10 children who received calf lymph vaccinia virus. The neutralizing antibodies were of the same titre in both groups, one month and fourteen months after vaccination. Vaccinia virus grown on the chorio-allantoic membrane of developing chick embryos is not in current use in any country so far as is known. Further trials and improvements in production are necessary before the large-scale use of such a vaccine can be considered.

NOTES AND COMMENTS

Naming Drugs.—Mr. T. C. BLACK (Menley and James, Ltd. London) writes: "Mr. Lloyd (April 17, p. 757) raises a point of some interest to us. We are arranging to make supplies of 'mandelamine' (which, unfortunately, must be known here as 'mandamine' available in this country, and have decided to use the description methenamine mandelate. We considered anglicizing this description but as this is a new drug and methenamine is a B.P. synonym we considered it preferable to retain the original American description and to shun the confusing practice to which Mr. Lloyd rightly draws attention in the last paragraph of his letter."

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: Allford Western, London. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the British Medical Journal alone unless the contrary be stated. Authors desiring REPRINTS should communicate with the Publishing Manager, B.M.A. House, Tavistock Square, W.C.1, on receipt of proofs. Authors overseas should indicate on MSS. if reprints are required, as proofs are not sent abroad. ADVERTISEMENTS should be addressed to the Advertisement Manager, B.M.A. House, Tavistock Square, London, W.C.1 (hours 9 a.m. to 5 p.m. TELEPHONE: EUSTON 2111. TELEGRAMS: Britmedads, Western, London. MEMBERS' SUBSCRIPTIONS should be sent to the SECRETARY of the Association, TELEPHONE: EUSTON 2111. TELEGRAMS: Medisecra, Western, London. B.M.A. SCOTTISH OFFICE: 7, Drumhugh Gardens, Edinburgh.

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY MAY 8 1948

INSURANCE ACTS COMMITTEE

A meeting of the Insurance Acts Committee was held on April 22, with Dr. E. A. Gregg in the chair. The members, as trustees of the National Insurance Defence Fund, received a report from the Treasurer, Dr. J. W. Bone, that five more areas had completed their quota towards the target of one million. A discussion took place on the future of the funds accumulated by statutory and voluntary levies respectively. The Chairman said that moneys under the statutory levy could be used only for administrative purposes, and any balance when the Panel Committee was wound up would have to be handed over to the Practitioners' Fund. Concerning the voluntary levy, apart from cases in which an individual committee making the levy had stated that the money should be used in certain ways, each committee could do what it pleased with the fund, subject to the liability to repay to a contributor who demanded it the portion of his contribution which was unexpended.

Dr. Wand presented the revised draft statement of evidence on certification under the National Health Service Act which it is proposed to give to the departmental committee. The draft had been prepared by a joint committee of the Insurance Acts and General Practice Committees. The committee agreed to certain amendments made by the revising body. The principal discussion took place on the reference in the evidence to the increasing number of certificates which practitioners are asked to complete in support of applications for passports, tobacco concessions for old-age pensioners, and other non-medical purposes. A strong recommendation had been included in the draft that practitioners should be relieved of this burden by the deletion of the reference to the medical profession from the classes of persons—barristers, schoolmasters, relieving officers, and others—authorized to sign such certificates.

This recommendation was opposed by some members of the Insurance Acts Committee, who felt that the family doctor should perform this relatively slight service for his patients, and that it would cause a certain amount of inconvenience to them if he did not. Eventually an amended recommendation was agreed to, to the effect that practitioners should be relieved of this burden so far as possible. Dr. Wand and his sub-committee were complimented on their work in preparing this evidence.

A report of a discussion between certain representatives of the Committee and the National Insurance Advisory Committee on the Maternity Benefit Regulations was also received.

The Committee considered the various resolutions carried at the recent Special Panel Conference. On the motion by Cumberland that any contract of terms of service should be not one-sided as contemplated but two-sided, and that the Minister should not have power to add to or alter the terms without consultation and agreement with the profession, Dr. Dain said that in interviews at the Ministry it was stated that under National Health Insurance the profession had always been consulted (except on one occasion, by an oversight, for which an apology was made), and they could only say that that should be continued.

The motion by Derbyshire passed at the Conference calling for an undertaking by practitioners who felt compelled to take service under the Act that they would refuse to accept patients or dependants of patients now on the lists of doctors who had

refused to come in was also considered. The Chairman said that it would be perfectly legitimate to ask such practitioners to give such an undertaking, and the matter had been referred to the trustees of the Independence Fund. On another matter arising from a resolution by Hull that practitioners be advised not to accept any medical cards under the Act unless so advised by the British Medical Association, it was stated that the Independence Fund trustees had been into this matter with great care and had decided upon an appropriate plan of action.

The Committee expressed their support for the views of the Council of the B.M.A. as expressed in the statement issued in connexion with the second plebiscite.

HEARD AT HEADQUARTERS

Coroners and the Doctor's Duty

Two coroners gave interesting addresses when they were the guests at dinner of the West London Medico-Chirurgical Society. Mr. H. Neville Stafford, coroner for the London Western district, remarked that for a long time it was held that there was some legal obligation on a doctor to report a death to the coroner. The matter was eventually referred to counsel (Sir Roland Burrows), who gave his opinion that no such obligation existed, the only legal duty in this respect being imposed on the registrar. It might have been supposed, said Mr. Stafford, that after this medical practitioners would say, "Very well, we have no legal obligations, and there is no penalty, so we will let the registrars do it." But in fact, to the great satisfaction of the coroners, doctors are still ready—at least in Mr. Stafford's experience—to report to the coroner as before, and in practice counsel's opinion has made no difference. If doctors do report to the coroner it certainly expedites matters and saves the relatives some trouble. The other coroner, Mr. H. G. Broadbridge, whose jurisdiction is the western district of Middlesex, mentioned that of 13 full-time coroners in England and Wales 11 are medically qualified. Under the Act of 1926 a coroner is required to be either a barrister or a solicitor or a legally qualified medical practitioner of not less than five years' standing in his profession. Mr. Broadbridge said that it was easier for a doctor to obtain sufficient knowledge of law to enable him to discharge his duties properly as a coroner than for a lawyer to obtain sufficient knowledge of medicine, for in law a great deal has to be studied on theoretical lines, whereas medicine is based more on practical work. He gave one or two examples of certificates which had come his way containing errors which might very well not have been spotted by a coroner who had not had a medical qualification.

A Token of Appreciation

A sum of 50 guineas has lately been put into the Charities Trust Fund of the Association. This was an amount sent to the honorary secretary of the North Northumberland Division by the Divisional General Manager of the North-Eastern Region of the Railway Executive at York as a tangible recognition by the former L.N.E.R. of the work performed by members of the local medical profession on the occasion of the accident some time ago at Goswick in Northumberland.

Association Notices

COUNCIL OF THE B.M.A.

Election of 22 Members by Grouped Branches in the British Isles, of 2 Public Health Service Members, and of 1 Woman Member

The following have been elected for the session 1948-9:

East Yorkshire and Yorkshire Branches:	L. Dougal Callander, Doncaster.
Bedford, Bucks and Oxford, Birmingham, and Staffordshire Branches:	J. A. Brown, Birmingham.
North Wales, and Shropshire and Mid Wales Branches:	J. A. Ireland, Shrewsbury.
South Wales and Monmouthshire Branch:	W. V. Howells, Swansea.
Bath, Bristol and Somerset, Gloucestershire, Worcestershire and Herefordshire Branches:	H. M. Golding, Bristol.
Kent and Sussex Branches:	R. P. Liston, Tunbridge Wells.
Edinburgh and Fife Branches:	J. G. M. Hamilton, Edinburgh.
Glasgow and West of Scotland Branch (Glasgow Division):	W. M. Knox, Glasgow.

The following candidates have been nominated:

Isle of Man, and Lancashire and Cheshire Branches:	R. Kennon, Liverpool. D. R. Owen, Chester. F. M. Rose, Preston. J. Cottrell, Grimsby.
Derbyshire, Leicestershire and Rutland, Lincolnshire, and Northhamshire Branches:	E. C. Dawson, Derby.
Northshire, Cambridge and Huntingdon, Essex, Hertfordshire, Norfolk, Northamptonshire, and Suffolk Branches:	G. O. Barber, Dunmow. J. C. Pearce, Diss. J. S. Ross, Welwyn Garden City.
Metropolitan Counties Branch:	J. A. Gorsky, London. F. Gray, London. Lord Horder, London. A. M. A. Moore, London. H. H. D. Sutherland, London.
Devon and West Hants, South Western and Wiltshire Branches:	G. F. Burnell, Truro. J. A. Pridham, Weymouth.
Sussex and Surrey Branches:	A. C. de B. Helme, Guildford. N. E. Waterfield, Little Bookham.
Aberdeen, Dundee, Northern General, of Scotland, and Perth Branches:	Mary Esslemont, Aberdeen. J. T. Simpson, Perth.

and papers will be issued to the members of these Groups on May 15, 1948.

Nominations have been received for Group A (North of England); Group Q (Border Counties, Glasgow and West of Scotland (Five County Divisions), Stirling); Group R (Northern Ireland).

PUBLIC HEALTH SERVICE

The following have been elected: James Fenton (Kensington); R. H. H. Jolly (Wolverhampton).

WOMAN MEMBER

Ernest Atken (London), being the only candidate nominated for election by women members, is elected as a member of Council for 1948-9.

CHARLES HILL,
Secretary.

Diary of Central Meetings

MAY

1. V. Council, 10 a.m.

Branch and Division Meetings to be Held

Metropolitan Counties Branch.—At B.M.A. House, Tavistock Square, London, W.C.1, Tuesday, June 1, 2.30 p.m. Ninetieth Anniversary Meeting. Agenda: Report of Branch Council for 1947-48; Report of Branch representatives on Central Council, 1947-48; election of officers for 1948-9; address by incoming President.

East of London Division.—At City Hall, Charing Cross, London, E.C.4, Thursday, May 13, 7 p.m. Annual Meeting. Agenda: Report of Division of Representatives to Council for 1947-48; Report of Division representatives on the Public Health Committee; election of officers for 1948-49; and (2) Annual Meeting of the Division.

B.M.A. ANNUAL MEETING

CAMBRIDGE, JUNE 25 to JULY 2, 1948

When completed, the following form should be sent to the Executive Officer, Local B.M.A. Office, Guildhall, Cambridge.

Form of Application for Accommodation

NAME (Block Letters).....

ADDRESS (Block Letters).....

I hereby authorize you to book on my behalf the accommodation detailed below and I undertake to pay for it in advance. (The rates are: Colleges £1 2s. daily with full board; Town Lodging 9s. daily, Bed and Breakfast.)

.....Single Room(s) (male) from the night of.....
till the morning of.....

.....Single Room(s) (female) from the night of.....
till the morning of.....

.....Double Room(s) from the night of.....
till the morning of.....

I would prefer Room in *.....College
or in Town Lodgings*

*State College preferred or Town Lodgings

Signed.....

Date.....

Please give the following additional particulars:

Are you a graduate of Cambridge?.....

If so, what College?.....

Do you intend to bring a car?.....

Which Scientific Sections do you propose to attend?.....

Please remember to bring Ration Books or Emergency Ration Cards, Towels, and Soap. When booking is completed an account will be sent to you.

TICKETS AT CAMBRIDGE ANNUAL MEETING

With reference to the notice about tickets which appeared in the *Supplement* of April 24 (p. 108), will members please note that these are not obtainable in advance but should be obtained on registration at the Guildhall on arrival at the Meeting.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Poplar.
Non-County Borough Councils.—Dartford, Radcliffe (limited to future appointments), Tottenham, Wallsend.

Urban District Councils.—Denton, Droylsden, Houghton-on-Spring, Huyton-with-Roby, Portslade, Redditch (restricted to new appointments), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

The Home Office announces that Dr. Richard Morton Geldart is no longer authorized under the Dangerous Drugs Acts to be in possession of or to supply dangerous drugs.

LONDON SATURDAY MAY 15 1948

AETIOLOGY, DIAGNOSIS, AND TREATMENT OF EARLY VITAMIN-DEFICIENCY STATES

BY

Z. A. LEITNER, M.D.

Clinical Assistant, St. Mary's Hospital, London

Vitamins are chemically and structurally heterogeneous organic compounds, and their functions—so far as they are known—differ even more. They are produced either in negligible amounts or not at all in the human body, do not furnish energy, and are not utilized as building units for the structure of the organism: they are able to perform their complicated functions in the transformation of energy and for the regulation of metabolism in minute quantities.

Following the spectacular advance in vitamin research, clinical medicine has not been able to keep pace with the laboratory. For the same reason we know now a larger number of different vitamins than identified human deficiency syndromes. Naturally occurring avitaminosis is mostly due to multiple deficiencies, and therefore controlled animal experiments with deprivation of one single vitamin cannot easily be translated to human beings.

Aetiology of Vitamin-deficiency States

The causes of vitamin-deficiency states are either primary or conditioned.

Primary Deficiency.—Nutritional deficiency states of the tissues may be caused solely by inadequate diet, and this is termed primary deficiency. Primary deficiency states are comparatively rare in this country at present. They are, however, occasionally seen in single old people who are either unable to collect their food or to cook it properly, or in persons with self-imposed restriction of essential food intake (Leitner, 1948a). By "dietary inadequacy" is meant the failure to ingest an essential nutritional factor in sufficient amounts to meet the existing body requirements. "Nutritional inadequacy" means not only the failure to ingest (i.e., dietary inadequacy) but failure to absorb and to utilize essential nutritional factors in sufficient amounts to meet these requirements. "Nutritional failure" occurs when essential nutritional factors fail to reach the tissues and the protective mechanisms of the body are unable to compensate the malnutrition. At that point symptoms begin to appear. The factors responsible for inadequate intake (primary deficiency) are poverty, ignorance, improper cooking and preparation of food, and self-imposed restriction of essential food (faddiness, eccentricity, anxiety).

Secondary or Conditioned Deficiency.—Nutritional deficiency states occurring on adequate dietary intake are known as secondary or conditioned deficiency. The importance of conditioning factors as a cause of deficiency states has not always been sufficiently recognized. Even when gross manifestations of deficiency disease caused by conditioning factors are recognized the findings may lead to one of two errors (Jolliffe, 1942): (1) to consider the lesion a manifestation of the original or conditioning disease unrelated to tissue depletion (e.g., to attribute polyneuropathy to pyloric stenosis); (2) after recognizing the nutritional basis of the secondary manifestation, to attribute the original disease solely to nutritional deficiency (e.g., in the case of a middle-aged edentulous woman to ascribe the symptoms only to malnutrition, disregarding the loss of teeth, the often associated dysphagia, achlorhydria, etc.). The first error ignores the existence of deficiency disease, the second

ascribes most deviations from normal health to malnutrition only.

These conditioning factors are: (a) interference with ingestion; (b) interference with absorption; (c) interference with utilization; (d) increased body requirements; (e) increased excretion; and (f) increased destruction.

Interference with Ingestion

The inclusion of this as a conditioning factor is warranted owing to the frequency with which abnormal conditions and disease may interfere with adequate food intake. For example in hospitals the food intake is often calculated from the meals served to the patients. It is common knowledge that even convalescent hospital patients consume only a part of the meals as served (DuBois and Chambers, 1942). Our experts similarly calculate an adequate food intake for the population in this country. It is, however, very probable that the monotony of our diet for the last six to seven years, the lack of choice, and the fact that the population's very limited variety in food depends more on the chance of the food available on the world market than on their taste may be considered as a conditioning factor. For a considerable part of the population on the relatively low protein and fat and high carbohydrate proportion of our food might be a further aggravating factor.

Gastro-intestinal and psychiatric disorders causing anorexia, nausea, and vomiting, are clear examples of conditioning; alcohol in place of other food causing anorexia and chronic gastritis and reducing thiamin intake, also provokes a change from a previously satisfactory diet to something like dry toast, highly seasoned food, coffee or spirits, which may lead again to any of the deficiency diseases.

Diets prescribed with prolonged restriction of certain essential food factors are occasionally responsible for deficiency states—e.g., in peptic ulcers, obesity, colitis, food allergy, and nephritis. Slimming diets are especially harmful, though their low calorie content gives some measure of protection for a limited time. Even well-planned reducing diets are usually short of B vitamins, and it is advisable to supplement them with brewer's yeast and vitamin A concentrate.

TABLE 1.—Factors Interfering with Ingestion

Anorexia:
Due to alcohol, operations, debilitating or infectious diseases, congestive heart failure, pregnancy, thiamin deficiency.
Gastro-intestinal disorders:
Gastro-enteritis, vomiting, peptic ulcer, gall-bladder disease, obstructive lesions of the gastro-intestinal tract.
Neuro-psychiatric disorders:
Psychosis, neurosis, migraine, anorexia nervosa, neurological disorders interfering with food intake.
Unsatisfactory denture, loss of teeth.
Therapeutic restriction of essential foods:
Peptic ulcer, obesity, nephritis, allergy, occasionally gall-bladder disease and diabetes.
Monotony and lack of variation in the diet.
Disproportion in the protein, fat, and carbohydrate ratio.

Interference with Absorption

Anatomical, chemical, and physiological changes (Beams *et al.*, 1941) may all interfere with the absorption from the intestinal tract. The reduction of the absorbing surface, hypermotility of the gastro-intestinal tract, and absorbants and lubricants introduced perorally may all be instrumental. In diarrhoeic conditions the reduction of the absorbing surface and

the hypermotility with the rapid passage are causal factors. The clinical importance of diarrhoea in producing pellagra, sprue, riboflavin deficiency, hypocalcaemia, and vitamin A and D deficiency is well known. In the sprue syndrome the hypermotility seems to be reduced by improvement of phosphorylation (Leitner, 1942), by an adequate supply of the B complex in the form of crude liver extract, or even quicker by synthetic folic acid (Spies *et al.*, 1946; Manson-Bahr and Clarke, 1946).

Achlorhydria may interfere with the absorption of ascorbic acid (Alt *et al.*, 1939) and of thiamin (Melnick *et al.*, 1941). In unexplained malnutrition, especially in patients over 40, achlorhydria should always be suspected.

Bile salts play an important part in the absorption of fat and of the fat-soluble vitamins, especially that of vitamin A (Brees and McCoord, 1939) and natural vitamin K (Snell, 1939). The habitual taking of liquid paraffin for bowel regulation also interferes with the absorption of vitamin A (Andersen, 1939) and vitamin K (Elliott *et al.*, 1940). Aluminium hydroxide and kaolin may absorb the water-soluble vitamins from the gut (Bicknell and Prescott, 1946). Resection, short-circuiting operations, and fistulas of the gastro-intestinal tract have long been known to produce macrocytic anaemia and the sprue syndrome (Bennett and Hardwick, 1940). Peripheral neuritis due to interference with absorption in cases of pyloric stenosis, dysphagia, cardiospasm, and neoplasms of the gastro-intestinal tract may respond to parenteral treatment with thiamin (Laurent and Sinclair, 1938).

TABLE II.—*Factors Interfering with Absorption*

Achlorhydria.
Vitamin deficiency (sprue syndrome).
Gastro-intestinal disorders:
Hypermotility, reduction of absorbing surfaces, oss of mucosal integrity (carcinoma of stomach, intestinal tuberculosis, gastro-intestinal fistulae).
Biliary disorders, especially obstructive jaundice.
Therapeutic measures:
Liquid paraffin, colloidal absorbents, gastro-intestinal resections, short-circuiting operations, severe catharsis.

Interference with Utilization

The evidence for this is mainly circumstantial, as direct experimental verification is extremely difficult. Provided that the intake is adequate, it is imperative to exclude interference with absorption, increased destruction and excretion, as well as abnormal requirements before defective utilization may be concluded. Carotene has to be converted into vitamin A; thiamin phosphorylated into cocarboxylase; nicotinic acid into coenzymes I and II, etc. These changes may occur in different tissues, but at present most evidence points to the liver as being the main organ for these processes (Moore, 1931; Sydenstricker, 1941), although it was recently suggested that carotene might be converted into vitamin A in the intestine (Glover *et al.*, 1947). In the case of liver dysfunction not only the conversion but also the storage and release of these substances is interfered with. In this way the body becomes dependent on the very variable daily intake, and as storage of the excess is also impaired a deficiency is bound to occur sooner or later.

Vitamin-A deficiency has been established in chronic liver diseases (Haig and Patek, 1942), obstructive jaundice (Stewart and Rourke, 1941), and hypothyroidism (Wohl and Feldman, 1939). Similarly in certain skin conditions, such as Darier's disease, Devergie's disease, and ichthyosis, in which low plasma vitamin-A values were repeatedly observed, impaired liver function could be demonstrated (Leitner, 1946a; Leitner and Moore, 1946). The low plasma vitamin-A levels found in patients with cancer of the gastro-intestinal tract have been attributed to failure in utilization due to hepatic dysfunction (Abels *et al.*, 1944) as in the various nutritional diseases in alcohol addicts (Lancet, 1941).

Factors interfering with utilization are: hepatic dysfunction (liver cirrhosis, chronic hepatitis, alcoholism); hypothyroidism, and malignant diseases of the gastro-intestinal tract.

Increased Body Requirements

The daily and adequate nutritional intake should cover the increased requirements. Under certain conditions, however, the requirements are increased far beyond the normal level, and these exceptions might be considered as follows. It is known that the basal metabolism

about 13% for each degree centigrade, strong emotion may also increase the metabolism considerably, while strenuous exercise or very hard work may even raise it to five to fifteen times above the basal level (Best and Taylor, 1943).

The influence of sunshine in the provocation of deficiency symptoms is well known. Its precipitating effect in pellagra ("mal di sole") is partly ascribed to its traumatic action (Smith and Ruffin, 1937) and partly to the excretion of the B vitamins in sweat (Cornbleet *et al.*, 1943).

A conditioned deficiency may be produced by thyroid, dinitrophenol, and fever therapy, which increases the whole metabolism, or by high carbohydrate diet, insulin-shock therapy, and parenteral administration of large amount of glucose, which increase the demand for coenzymes (Spies *et al.*, 1938). The water-soluble vitamin-B group, especially thiamin, may easily be washed out of the tissues and used up by repeated glucose infusions (e.g., after operations). The resulting "water-logging" (Sydenstricker, 1941) after excessive parenteral administration of glucose is a manifestation of thiamin deficiency.

Pregnancy and lactation have long been known to provoke symptoms of vitamin deficiency. Nixon *et al.* (1942), utilizing his material in Hong Kong and in this country, found besides pregnancy neuritis, already described in this country (Theobald, 1936), conditions allied to toxæmia and beriberi in undernourished pregnant women. It is not yet clear whether these symptoms are due only to increased requirements. Damage of the liver from pregnancy toxæmia may also lead to impaired liver function interfering with the utilization and storage of thiamin, choline, and other members of the vitamin-B group.

The importance of large doses of a single synthesized vitamin as a conditioning factor is still insufficiently recognized. Since Spies, Bean, and Ashe (1939) and Sydenstricker *et al.* (1940) first noticed that symptoms of thiamin and riboflavin deficiency became more pronounced in pellagrins after nicotinic acid treatment similar occurrences have been repeatedly recorded in clinical medicine. Lehmann and Nielsen (1939), Braendstrup (1940), and Salvesen (1940) described signs of pellagra after large parenteral doses of thiamin. Bichel and Meulengracht (1941) reported the development of pellagra after treatment with riboflavin; Leitner (1945) described signs of riboflavin deficiency after large parenteral doses of thiamin. Repeated attempts to produce imbalance of the vitamin-B factors experimentally have been unsuccessful, but Richards (1945) was able to induce fits in rats kept on pyridoxin-poor diet after large doses of thiamin, whilst the fits (characteristic of pyridoxin deficiency) could be entirely prevented if small doses of pyridoxin were given before the thiamin. Richards also suggested that one of the two types of thiamin toxicity described previously by Leitner (1943) which resembled thyroid overdosage might well be considered a vitamin deficiency induced by excess of the single vitamin.

Apart from the comparatively small number of verified descriptions of this syndrome, one encounters in hospital and private practice many partly abortive cases which often appear after repeated parenteral doses of one single vitamin—mainly thiamin.

A woman admitted to hospital with menopausal arthritis and gross adiposity was given a routine slimming diet, mersalyl, and thyroid. After having lost about 1 st. (6.35 kg.) in weight she still complained of shortness of breath; there were no signs of organic heart disease, and it was suggested that the shortness of breath was due to thiamin deficiency. Daily parenteral injections of 25 mg. of thiamin improved the breathlessness within five days, but painful cracks developed at the angles of the mouth, followed by crust formation and cheilosis.

Leitner (1946b, 1947a, 1947b) emphasized again that subclinical latent deficiencies within the vitamin-B group may often become manifest after energetic treatment of the obvious deficiency. Farrar (1947) found that administration of large doses of thiamin in inadequately nourished cases of pernicious anaemia aggravated the glossitis and caused diarrhoea and pellagrous dermatitis, but no pellagra-provoking effect of thiamin could be observed in the same patients when adequate diet had been given. He also found that haematological relapse appeared quicker when nicotinic acid was administered after stopping liver treatment. Davidson and Girdwood (1948) observed in two cases of pernicious anaemia and three cases of sprue the appearance, during treatment with folic acid, of

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EARLY VITAMIN-DEFICIENCY STATES

vitamin-B complex deficiency, consisting mainly of peripheral neuritis, cord involvement, angular stomatitis, cheilosis, and pellagrous dermatitis with depression. Whilst administration of purified vitamins was of little avail, potent liver extract always brought about an improvement. As the liver extract contains only traces of the vitamin-B complex, produced the most dramatic effect on a wide variety of vitamin-deficiency symptoms. Davidson and Girdwood suggest that liver extract may contain a factor which liberates members of the vitamin B complex from their inactive form or facilitates their absorption or utilization. Leitner (1948b) subsequently put forward again the explanation that large doses of one purified vitamin (i.e., one single enzyme system) may easily upset the balance in deficiency states or may exert an inhibitory effect on other enzyme groups which at that particular time are present in abnormally low amount. The well-balanced multiple enzyme systems present in potent liver extracts may restore the disturbed equilibrium without containing large doses of any of the known purified vitamins.

TABLE III.—Factors Increasing Body Requirements

Increased activity:	Increased physical effort	Increased demands
Sirens and prolonged physical effort	Excessive winds	
Certain environmental influences		
Certain manufacturing processes and industries		
Certain glare (snow)		
Fever		
Pregnancy and lactation		
Hyperthyroidism		
Therapeutic measures		
Thyroid, alpha-dinitrophenol, parenteral dextrose or excessive		
continuous fluid intake as in urinary infections, high carbohydrate		
diets, fever therapy		
		large doses of a single pure vitamin

Increased Excretion
Increased excretion of vitamins may secondarily lead to malnutrition, but there are very few substantiated observations to this effect. Lactation polyuria or forced water-intake (Cowgill *et al.*, 1930) may cause increased excretion of vitamins (e.g., in urinary infections, sulphonamide treatment). The occasional observation of a mild gestational polyneuropathy with rapid development of symptoms and signs during the first few weeks of lactation might be an example of increased excretion. Excessive perspiration in the Tropics might condition a deficiency of the water-soluble B vitamins, as some of them appear in sweat in a considerable concentration after heavy physical exercise (Cornbleet *et al.*, 1943).
The main factors that increase excretion of vitamins are: (1) polyuria (diabetes mellitus, after excessive intake like urinary infections, sulphonamide therapy); (2) lactation; (3) excessive perspiration.

Increased Destruction
Induced vitamin deficiency in animals has long been known. Generalized erythematous scaly dermatitis with pruritus, arrest of growth, spastic gait, and abnormal posture could be produced by feeding raw egg-white in animals (Boas, 1927) and man (Sydenstricker *et al.*, 1942). The cause of this syndrome is a biotin deficiency. The glycoprotein (avidin) contained in the raw egg-white forms a complex with biotin. Cooked egg-white, and this complex cannot be broken down. Another biotin, and this complex does not inactivate biotin. And death, white, on the other hand, does not inactivate biotin. A severe deficiency is chaste paralysis in silver foxes fed on raw fish. It consists of anorexia, hyperaesthesia, ataxia, and death with cerebral lesions similar to Wernicke's encephalopathy, and it is due to thiamin destruction caused by injection of vitamin B₁ (Melnick *et al.*, 1942) or by cooking the fish. Although both conditions are very probably not due to simple destruction of the vitamin, it is perhaps pertinent to mention them here—"antivitamins," "inhibitors" (Woolley, 1944).
Factors leading to increased destruction of vitamins are: (1) achlorhydria; (2) alkalis, sulphonamides; (3) toxic doses with lead? arsenicals? gold?

Achlorhydria seems to interfere with the assimilation of ascorbic acid. Alt *et al.* (1939) have shown 65% destruction of ascorbic acid in three hours at a pH of 7.95, and Melnick *et al.* (1941) found that thiamin is stable in acid gastric juice (pH 1.5 to 8) during an incubation of 16 hours, but if antacids were added thiamin was completely destroyed. Bile and pancreatic juice also destroyed a considerable part of thiamin.

It has been claimed that vitamins, especially vitamin C, are often destroyed owing to their "detoxifying" actions—e.g., by arsenicals, gold, lead, sulphonamides, barbiturates, T.N.T., etc.—but the evidence is conflicting (Bicknell and Prescott, 1946).

The discovery of biosynthesis of vitamins by the intestinal flora focused some attention on sulphonamide therapy. It was known for some time that sulphonamides reduced the therapeutic action of nicotinic acid. Whilst there could be competition for the same enzyme system (Wood, 1929) between sulphapyridine and nicotinic acid, the explanation did not hold good for sulphonamides not containing the pyridine ring. Later it could be shown in man that, after giving sulphaguanidine or sulphasuxidine, the vitamin biosynthesis—e.g., that of thiamin (Najjar and Holt, 1943), riboflavin (Najjar *et al.*, 1944), nicotinic acid (Ellinger *et al.*, 1944)—in the intestines was substantially reduced or perhaps completely inhibited. As the extent of the biosynthesis is at present unknown the loss of this function may be considered from a practical point of view equivalent to destruction.

Diagnosis

Diagnosis of early vitamin-deficiency states is exceedingly difficult. The deficiency should be diagnosed at a time when symptoms have not yet been developed into the textbook description of deficiency disease in the latter case the patient would be severely ill. The early symptoms are often non-specific, and laboratory methods are usually of little help at this stage, and to recognize the condition reliance has to be placed on the patient's dietary history. Complete reliance has to be placed on the patient's physical examination on indefinite symptoms and signs found on physical examination, and on a balanced clinical judgment. Complete nutritional failure is a rare condition in this country, but different degrees of deficiency state with a host of vague symptoms are frequent enough to warrant serious concern. In the earlier stages of vitamin research there was an inclination to attribute definite symptoms to a particular vitamin, but clinical experience has taught us that with greater frequency it takes the form of borderline states of ill-health owing to multiple deficiencies, often with vague symptoms which might easily be attributed to other causes.

Personal and Dietary History

The U.S. Public Health Service states that nutritional diseases constitute their greatest medical problem, not from a point of view of death but from that of disability and economic loss (Wohl, 1945). The fact that no similar statement has been made by public health authorities in this country does not by any means imply that the problem is non-existent here.

Grossly inadequate diet can be recognized without difficulty. Particular consideration should be given to patients on any special diet—e.g., those with obesity, peptic ulcer, dyspepsia, diabetes, etc. Detailed attention should be paid to dietary history in cases of psychoneurosis.

Clinical Examination

As manifold deficiency symptoms usually occur simultaneously, a wide variety of vague and interwoven symptoms are met with. The earliest symptoms consist of such general complaints as anorexia, fatigue, loss of weight, restlessness, irritability, paraesthesias, cramp in the muscles, burning of the eyes, photophobia, dimness of vision, impairment of memory, etc. These vague symptoms may be caused by different deficiencies, and they become pronounced with advancing disease. In a vitamin-A deficiency clinical signs are detectable only when the process is moderately advanced. Perhaps the earliest change is xerosis conjunctivae, which can be observed if the eyelid of the patient is kept open for a few minutes; the lustre is lost owing to the rapid drying of the conjunctival epithelium, due to metaplasia and thickening of the conjunctival epithelium, which reduces the secretion. It may be the earliest sign of vitamin-A deficiency. Like night-blindness—another symptom of vitamin-A deficiency—it is not specific, and both might have several other aetiological causes. Xerosis conjunctivae may later develop into Bitot's spots, which may or may not be

associated with night-blindness. Burning of the eyes, lacrimation, photophobia, and discharge are further early eye symptoms. More advanced changes of vitamin-A deficiency are to be seen in the skin, which becomes dry, scaly, and horny, with the typical papules around the follicles. Late stages of vitamin-A deficiency are connected with more pronounced damage of epithelial structures, mainly of the mucous membranes.

In a survey of 195 hospital and private patients with complaints not expected to interfere with the vitamin-A level, normal blood carotene and vitamin-A values were found (Leitner and Moore, 1948a). No signs of vitamin-A deficiency could be detected in any of these cases clinically. We found, however, low vitamin-A values in certain rare skin diseases (Leitner and Moore, 1946, 1948b) with characteristic skin lesions (Leitner, 1947c).

The early changes of vitamin-B deficiency are the most frequently met with in practice. It has been mentioned that the various members of the vitamin-B complex are grouped together more by virtue of their association in nature than by any structural similarity. Owing to their close association deficiency symptoms of the various members of the group overlap even more than would at first be expected.

The earliest signs of thiamin deficiency are generally ill-defined, and they are due most probably to deficiency of the entire B complex. The prodromal period may be described as a period of ill-health lasting for a long time. As thiamin is mainly concerned with metabolism of the nervous tissue, early deficiency symptoms chiefly connected with the abnormal function of the nervous tissues, such as anorexia, fatigue, irritability, dizziness, apprehension, etc., might be expected to form part of the clinical picture. But these symptoms are absolutely unspecific, like many of the early symptoms of other vitamin deficiencies, and the laboratory methods available are not sensitive enough to determine their origin. It may be argued that dementia is the earliest symptom of many of the slowly developing pathological conditions, the specific symptoms and signs being much later. It has, indeed, been my experience that many of the symptoms and signs follow if the symptoms mentioned remain untreated, and therapeutic tests corroborate this assumption. Though these early symptoms attributed to deficiency are often encountered, properly controlled large-scale studies have never been carried out.

Signs of the loss of weight, inability to concentrate, and the present digestive disturbances, intermittent pain and numbness, soreness at the corners of the mouth, and burning of the eyes with visual disturbances, headache, depression, and depression are early signs attributed to deficiency (Schrell and Butler, 1938) differentiated by the following experiments the well-known symptoms which later are found in hyporiboflavinosis (Stannus, 1944): paleness of the lips, followed by maceration and bilateral superolateral lesions at the angles (angular stomatitis); the lips become chapped, cracked, and crusted with transverse fissures. The tongue is clean, the papillae are normal, but there is patchy denudation and congestion of the capillary loops leading to magenta colour in contrast to the atrophic, often painful scarlet-red tongue in pellagra. A dry, scaly, somewhat "branny" desquamation on an erythematous base on the alae nasi, on the naso-labial folds, eyelids, and occasionally the hands, vulva, and perineum, are other early signs (Schrell and Butler, 1938). Ocular disturbances (Spitz, Viter and Ashe, 1939) such as conjunctivitis, burning, photophobia, pruritus, sensation of sand, and corneal vascularization leading later to punctate opacities are regarded by many investigators as the earliest signs of hyporiboflavinosis (Schrell and Butler, 1938).

Nicotinic acid deficiency is also introduced by a long period of ill-health, a "development time" characterized by loss of weight and weight disturbances of the alimentary tract, general weakness, fatigue, irritability, insomnia, depression, inability to concentrate, vertigo, numbness, palpitation, and a general sense of loss of memory, and confusion. At this stage, if no other signs are present and the diagnosis of deficiency is not supported by laboratory methods, the diagnosis of deficiency is easily made. The characteristic skin changes and dermal lesions appear

much later. Hyperaesthesia of the tongue may precede the swelling, redness, and indentation caused by the teeth. Desquamation of the superficial layer causes a scarlet-red, dry, smooth, beefy tongue which is often painful. Secondary infection with monilia and Vincent's organisms over the fissures and aphthous ulcers occurs frequently, and the inflammatory process often extends to the neighbouring mucous membranes. The associated angular stomatitis and cheilosis might respond to riboflavin treatment. (Angular stomatitis may also be caused by ill-fitting dentures, dribbling, chewing-gum, and lipstick.) The characteristic skin lesions may sometimes be missed (pellagra sine pellagra). They are more often than not symmetrical, and may be precipitated by sunlight or other irritation. Hands, face, neck, knees, feet, and perineal regions are favourite places, but the sunburn-like, erythematous, pigmented, often hyperkeratotic, and distinctly demarcated lesions may appear anywhere. Mental symptoms such as emotional instability, depression, and confusion may be precipitated suddenly (Gottlieb, 1944), or within a few days in persons on deficient diet.

A woman, aged 64, who lived for 10 years on a restricted diet developed pulmonary tuberculosis. She was admitted to a sanatorium and improved greatly on a full diet. After eight months' sanatorium treatment she suddenly developed diarrhoea, accompanied by anorexia. Within a few days changes occurred in the oral mucous membrane, followed by depression and confusion, and the skin and eye changes characteristic of pellagra were fully developed (Rinington and Leitner, 1945).

It would exceed the scope of this paper to discuss the possible relationship of macrocytic and microcytic anaemias to vitamin and nutritional deficiencies. It is perhaps sufficient to refer to the results achieved with another B vitamin—folic acid—in macrocytic anaemia, in the sprue syndrome, and in allied conditions.

Early vitamin-C deficiency is another widespread condition. Owing to the scarcity of citrus and other fruit and fresh vegetables for many years, congested, swollen, purple-red, easily bleeding gums occur comparatively often. I have also seen florid scurvy on five occasions during recent years, mainly in old single men who normally cooked only once a week for themselves and lived predominantly on warmed-up, overcooked meals. Fatigue, weakness, and anaemia are often early unspecific signs of vitamin-C deficiency, together with localized follicular keratosis. Petechial haemorrhages are usually moderately advanced signs, and although increased capillary fragility is more and more attributed to vitamin-P deficiency (Scarborough, 1940), the two substances appear to be associated in nature.

Laboratory Tests

These are of little help in early vitamin-deficiency states. Urinalysis is usually normal. The blood picture may or may not show a moderate microcytic or normocytic anaemia. Blood sedimentation rate, total serum proteins, and albumin globulin ratio are usually within normal limits. The fractional test meal often shows an achlorhydria, but this is neither pathognomonic nor characteristic. It is said that oesophagoscopy and gastroscopy usually reveal the same changes as are found in the buccal cavity. The "deficiency pattern" of the small intestine found on x-ray examination with abnormal segmentation, pooling, disappearance of herringbone structure, obliteration and coarsening of the mucosal folds (Golden, 1941), although not always characteristic, may offer some indication of a B-complex deficiency.

During the last few years exact laboratory tests have been worked out for the determination of a given vitamin in the blood; saturation and excretion tests were also introduced. The assessment of the vitamin status, especially in the case of early deficiency, is, however, not simple. While the results of saturation tests as shown recently by Ellinger and Hardwick (1947) for nicotinamide may be affected by unknown mechanisms, low vitamin values in the blood and urine may, on the other hand, be found without depletion of stores in the organs; these findings are at times singularly uncharacteristic in cases of early deficiencies, and can be used only with great caution in the assessment of physiological deficiency. Moreover, it is essential that the laboratory data should be carefully correlated with the clinical findings. Within these limits, however, it is obvious that exact laboratory tests can

substantially contribute to the detection of subclinical deficiency states. For vitamin A the chemical estimation of the vitamin in plasma and the estimation of the dark-adaptation, for thiamin and riboflavin the determination of the excretion of vitamin B₂ and B₆, are the routine laboratory tests. Saturation tests are used for the assessment of nicotinic acid and ascorbic acid; some also rely on the vitamin-C estimation in the white cell layer, on the determination of capillary fragility, and on x-ray changes in the bones. The great difficulty with these procedures is that they nearly always require specialized laboratory technique.

Differential Diagnosis of Early Symptoms

As naturally occurring deficiency is always multiple, the associated symptoms are, especially in the early stages, often interwoven, and this makes the diagnosis of a deficiency of a specific chemical substance most difficult. Vague, ill-defined, waxing and waning complaints, prominent among them being fatigue, weakness, loss of appetite, loss of initiative, irritability, personality changes—in fact, all the common symptoms of neurasthenia—are frequently encountered. The patients are neurasthenics, indeed, and it is often difficult to separate these two conditions, particularly as neurasthenics are liable to eat an inadequate diet. Weir Mitchell long ago established that some neurasthenics benefited by a properly balanced forced diet combined with rest; and after careful study of the modern version of Weir Mitchell's method—the modified insulin treatment in neurotics (Sargent and Slater, 1944)—one wonders whether seclusion and reassurance or proper food are more important for their cure.

TABLE IV.—Symptoms described as manifestations of Early Vitamin Deficiency (after Cayer, 1946)

Fatigue*	Paraesthesia*	Depression*	Weakness*
Insomnia*	Palpitation*	Abnormal diet*	Lassitude*
Anorexia*	Nervousness*	Muscular weakness*	Muscle pain*
Veniso*	Irritability*	Backache*	Lack of concentration*
Headache*	Dyspepsia*	Apprehension*	Apathy*
			Confusion*
			Decreased output of work*

*Symptoms given as symptoms of neurasthenia in the textbooks of medicine

Table IV may facilitate the appreciation of the overlapping between symptoms of early vitamin-deficiency states and neurasthenia (Cayer, 1946). This overlapping unfortunately led to the indiscriminate use of vitamin preparations all over the world. All evidence, however, shows that administration of vitamins without underlying deficiencies does nothing to improve the patient.

The difficulty in the assessment of early deficiency states warrants the occasional administration of vitamins as a therapeutic test. If the quick disappearance of symptoms is followed by general well-being the suspected diagnosis might have been right. Great care, however, has to be exercised, as slight improvement often follows any therapeutic trial.

Treatment

The underlying principle of the treatment of early vitamin-deficiency states is to deal with the conditioning factors and to supplement the tissue deficiencies. The degree of depletion of the various food factors varies in different patients, and, whilst often only one deficiency symptom predominates in the clinical picture, it has to be borne in mind that other deficiencies are also likely to be present. Food contains many still unknown factors certainly necessary for proper nutrition, and these are not present in synthesized vitamin preparations. The basis of treatment consists accordingly in securing an adequate diet.

It is quite evident that provision of the average daily requirements is not sufficient to make up for past losses. Although some of the patients showing early vitamin deficiencies may appear obese and overnourished, an investigation of their food intake will show that they have an unbalanced diet. The intake in these cases ought to be at least 3,500 calories, containing 120–130 g. of proteins (calculated for a person of 11 st.—70 kg.). This diet cannot be given easily to patients in this country at present:

our rations, even with additional foods for invalids, cannot provide either the necessary calories or the suggested protein intake. It is to be hoped, however, that the world food situation will soon enable the food policy of this country to be altered, at least for those who are in special need. Table V indicates the foods rich in different vitamins.

TABLE V.—Food Rich in Vitamins

Vitamin A	Thiamin	Riboflavin	Nicotinic Acid	Ascorbic Acid
Butter	Wholemeal	Wholemeal	Bran	Blackcurrant
Milk	Quatmeal	Bran	Peasants	Rose-hip
Cheese	Bran	Nuts	Chicken	Lemon
Eggs	Peas	Beans	Pork	Orange
Carrots	Beans	Peas	Beef	Lime
Broccoli	Lentils	Broccoli	Liver	Grapefruit
Lettuce	Parsnip	Endive	Kidney	Strawberries
Spinach	Nuts	Spinach	Heart	Tomatoes
Tomatoes	Milk	Mushrooms	Meat extracts	Green Peppers
Liver	Eggs	Milk	Salmon	Red pepper
Eel	Fish-roe	Cheese	Mackerel	(Capsaicin)
Carp	Pork	Eggs	Brewer's yeast	Potatoes
Fish-liver oils	Veal	Fish-roe		Cabbage
	Beef	Kidney		Spinach
	Brewer's yeast	Liver		Cauliflower
		Meat extracts		Turnips
		Brewer's yeast		Fenugreek
				Sun-dried
				Dandelion

In addition to a rich and well-balanced diet, vitamins should be administered in deficiency states. Parenteral administration of vitamins should be restricted to emergencies and to those cases in which there is obvious interference with absorption. As indicated earlier, large doses of parenterally given pure vitamins, especially those of the B group, may provoke a serious imbalance, and even if there is a deficiency of the administered vitamin they sometimes cause more harm than good. This point should be specially stressed, as there are indications that latent deficiencies without obvious clinical signs and symptoms are much more widespread than is realized. In early vitamin deficiencies something like five to ten times the daily minimal requirement should be given—e.g., thiamin and riboflavin 10–15 mg., nicotinamide 100–200 mg., ascorbic acid 150–300 mg., in divided doses three times a day. Fat-soluble vitamins should be given in larger doses, and my practice is to give 50,000 to 100,000 i.u. of vitamin A daily. As vitamin-A deficiency is often connected with disturbance of liver function, simultaneous parenteral application of liver extract seems, in my experience, to reduce the time needed for correction of the deficiency (Hoagland, 1945). Vitamins D and K are outside the scope of this paper, and no therapeutic suggestion is therefore given for deficiency of these.

In cases of deficiency of one of the vitamins of the B group it is advisable to give, instead of the most obviously lacking factor, a mixture of thiamin, riboflavin, nicotinamide, and possibly folic acid, together with brewer's yeast, 1–1½ oz. (28–42 g.), or liquid liver extract, 1 oz. (28 ml.), daily. Injection of the less refined liver extracts may also be tried. Symptoms usually begin to improve after two to four weeks, but as the depletion may be of long standing it is advisable to continue giving smaller doses for a longer period, particularly as dietary treatment alone in this country is bound to be ineffective for some time to come.

Summary

Deficiency states may be caused solely by the failure to ingest an adequate diet, or may be conditioned by factors which interfere with ingestion, absorption, and utilization, or by conditions which increase the requirements for vitamins and their excretion or destruction. The physiological and pathological aspects, and the therapeutic measures, that may result in a conditioned deficiency state, are briefly discussed.

The clinical diagnosis of early deficiency states is exceedingly difficult, as the deficiencies tend to be multiple and the symptoms in many instances are non-specific. Physical signs are often

in part, and laboratory findings may not be characteristic in the early stages. Diagnosis should not be made on the basis of symptoms alone; careful evaluation of the dietary history, symptoms and signs, the available laboratory data, and response to specific therapy may help to establish the cause.

Not only a number of diseases but also some of the therapeutic measures used to combat them may precipitate a deficiency state, and the imbalance of vitamin-B factors is particularly stressed. The treatment of early vitamin-deficiency state is in every case an individual medical problem requiring exact diagnosis and properly planned therapeutic measures.

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THE TREATMENT OF NEUROSYPHILIS WITH PENICILLIN*

BY

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The powers of penicillin have excited the whole world but penicillin was introduced as an antibacterial remedy and it was not to be expected that it would be potent against the protozoal infection of syphilis. Moreover, it was soon discovered that penicillin given intramuscularly did not find its way into the cerebrospinal fluid; it did not, it was said, pass the blood-brain barrier; and so it was inherently improbable that it would have much effect on syphilis of the nervous system. We knew also that nowhere did the spirochaete entrench itself more strongly than in the brain; we knew that general paralysis especially was a hard nut to crack. It was therefore right and natural that the first rumours that penicillin was in some degree effective in cases of neurosyphilis, and even in cases of general paralysis, should be received with a certain amount of incredulity; and this attitude is apparent in most of the reports on the trials of penicillin in neurosyphilis, because nearly all observers, finding some clinical improvement but little immediate change in the cerebrospinal fluid and blood, have gone on to treat their patients with malaria. General paralysis is a progressive and inexorable disease that allows no temporizing, and one must have good reason for withholding the well-tried standard, if desperate and often inadequate, remedy.

My own attitude at the beginning was the same. Early in 1945 some penicillin became available for civilian hospital use in diseases for which it was known to be appropriate, and just at that time I had admitted to the National Hospital under my care a man of 50 suffering from taboparesis.

This patient was euphoric and fatuous, and had recently lost his position as a secretary-accountant because of his inability to carry out his duties. He was pursuing allotment gardening in a hypomanic way, and had undertaken several allotments though he was a small weak man. At home he was restless, irritable, obstinate, and sometimes tearful. He had some tremor of his lips and tongue and a tremulous dysarthria, and also some tremor of his hands. His pupils were inactive to light, his knee-jerks and ankle-jerks were absent, and his plantar reflexes were weakly extensor. His cerebrospinal fluid showed typical parietic characteristics and his blood Wassermann reaction was strongly positive. I decided to try the effect of penicillin, and we were able to obtain the required amount. The reports which had come from America had at first suggested that over a million units might be necessary, but by the time treatment was started on this patient it was being said that even two million units were required, and he was given a course

*A paper read to the Society for the Study of Venereal Diseases on Jan. 24 (abbreviated).

of two million units in injections of 20,000 units every three hours. When the course was finished he had certainly made some clinical improvement. He was less restless, a little less expansive, and his concentration and memory were better. Physically he was less tremulous, but the other physical signs were of course unchanged. To our disappointment his cerebrospinal fluid, examined ten days after the completion of his course of penicillin, showed practically no change.

The Americans had had a long start of us, and the few reports which were then available indicated that penicillin was inadequate, and that it was necessary to use malaria as well. Faced with the lack of serological improvement in my patient and with this information from America, I thought it obviously the appropriate course to proceed with malarial therapy and this was done without waste of time. I did nevertheless say, being impressed with the clinical improvement, that it would be a pity to cure the patient with penicillin and then, for the sake of confirming the cure, to kill him with malaria. As it turned out, this very nearly happened. At the time of his fifth rigor the patient passed into a semicomatose state with low muttering delirium, and the malaria was hurriedly arrested. Nevertheless he remained in a condition first of semicoma and muttering, and later, for nearly a fortnight, in a condition of profound dementia with lapses into delirium and it seemed as if he was unlikely to survive. However, he gradually came round, and in the end made a very good recovery, although I do not think his mental state has ever been quite so good as it was before the malaria started.

This was by no means my first *fortis* triumph with malaria, but it was a new lesson. Meanwhile Dr Carmichael had started one of his patients on penicillin—case of Frank G.P.I. in a man of 58—and invited me to follow the case with him. This man, when a course of three million units was finished, also showed clinical improvement, but his cerebrospinal fluid still had "paretic" abnormalities, and his blood Wassermann reaction was still strongly positive. Nevertheless we decided that we should treat the patient and not the cerebrospinal fluid, and clinically we saw no call for immediate further treatment, and certainly no justification for submitting him to the dangers from which the first patient had so narrowly escaped. After a short period of observation in the hospital, during which he continued to improve, he was allowed to go home. His improvement continued and after a few months he was very much better clinically. Since then I have treated well over 30 cases and none of them has had malaria, so that the following series of cases were treated either with penicillin alone or with penicillin supplemented only by the usual chemicals.

Present Series

The series consists of 24 cases which I had treated at the National Hospital, Queen Square, before the end of September last. The number is small compared with some of the American series, but this will not surprise those who are aware of the extent of the decline of neurosyphilis in this country (an interesting subject in itself which I hope to discuss at another time). Even in the American reports the number of cases described as treated by penicillin alone is not so very large, most of the big series consisting of cases treated by combined methods.

The cases hitherto published in England are few. Smith (1947) reported seven cases of general paralysis treated by penicillin alone and observed for periods up to 13 months. Lescher and Richards (1947) described 10 cases of neurosyphilis of different types treated with penicillin alone and other cases treated by combined methods. Nicol and Whelan (1947) have referred to the immediate effects in 14 cases treated with penicillin alone, and a larger number with a combined method.

My series is a mixed bag of all varieties of neurosyphilis. There were eight patients who presented mental symptoms, and they all had "paretic" spinal fluids: one other patient

whose presenting symptom was hemiparesis, due evidently to a vascular lesion, also had a "paretic" fluid. Five patients were typical cases of tabes and two others were predominantly cases of optic atrophy, while nine patients were instances of different varieties of meningo-vascular syphilis.

Group 1, Dementia Paralytica.—Under this heading I include all cases with dementia and "paretic" changes in the cerebrospinal fluid. The group consists of eight cases—Nos. 1, 3, 7, 9, 14, 18, 20, 21, in chronological order—all of which have been followed up for at least six months and five of them for more than 12 months. The patient in Case 1 works two allotments himself and acts as secretary for the local allotment holders; in Case 3 the patient has for a long time been back at his former work as a timekeeper. Case 7 was one of paresis in a woman of 60, who has shown great clinical improvement in the 20 months that have elapsed since her first treatment; whereas before her treatment she had to be cared for at home, she is now able to do her own housework and her shopping. Case 9 was one of paresis in a woman of 42; Case 14 was one of congenital infection in a woman of 27; in Case 20 the patient was a man of 59 who had received fever treatment by means of "sulfoxon" in 1935; in Case 21 the dominant clinical features were tabetic and the mental symptoms were slight. In all these cases the reports concerned have made clinical improvement and all are improving. The changes in the cerebrospinal fluids and fluids are shown in the Table. It will be observed that all the fluids have

Table Showing Changes in "Paretic" Cerebrospinal Fluids

Case No.		Cells	Protein mg	Glucose %	W.R.	Latex	9-12 T.R. M.
1	Before 2M	1	60	—	4444	4555432100	4444
	After—1-2 weeks	4	50	—	4420	4555432100	4442
	5 months	0	60	—	4444	4555432100	4444
	24 "	3	45	—	Neg	4555432100	4442
	30 "	0	55	—	Neg	4555432100	Neg
3	Before 3M	3	70	—	4420	4555432100	4421
	After—1-2 weeks	1	60	—	4200	4555432100	4420
	9 months	Not known	—	—	—	—	Neg
	12 "	—	—	—	—	—	Neg
	22 "	—	—	—	—	—	Neg
7	Before 3M	12	90	—	—	4555432100	—
	After—1-2 weeks	15	120	—	—	4555432100	—
	2 months	4	160	—	—	4555432100	—
	4M	0	70	—	—	—	—
	5 months	3	65	—	4200	No change	4442
	10 "	3	40	—	Neg	—	4442
	14 "	3	40	—	Neg	—	4442
	20 "	0	50	—	Neg	4555432100	3100
9	Before 4M	35	80	—	4444	4555432100	4444
	After—1-2 weeks	16	80	—	4322	4443210000	3321
	7 months	3	60	—	4200	4443210000	4200
	4M	3	55	—	Neg	4555432100	2000
	12 "	6	40	—	Neg	4443210000	4200
	15 "	—	—	—	—	—	3100
14	Before 4M	14	30	—	4200	4555432100	4444
	After—1-2 weeks	3	25	—	4420	4443210000	—
	12 months	3	25	—	Neg	4443210000	4310
17	Before 4M	24	40	—	4442	4555432100	4444
	After—4 months	4	30	—	Neg	4443210000	4442
	9 "	1	25	—	2000	4443210000	4420
20	Before 5M	6	40	—	4420	4555432100	Neg
	After—3 months	2	40	—	4442	4555432100	Neg
	9 "	0	35	—	Neg	No change	Neg
21	Before 5M	296	85	—	4200	4555432100	4200
	After—6 months	5	45	—	Neg	4443210000	Neg
	7 "	—	—	—	—	—	Neg

remains normal except for the persistence of Lange (colloidal gold) curves in some cases and the presence of six cells at the last examination in Case 9.

Group 2, Tabes.—Of the five cases in this group—Nos. 6, 8, 10, 15, 19—three had received previous treatment. No. 19 has been lost sight of. None of the patients concerned had a very active syphilitic cerebrospinal fluid, and their fluids and blood have become normal with relative ease. Tabes being a chronic degenerative disease, not much positive clinical improvement can be expected, but the patients are better subjectively and their lightning pains are diminished. From the nature of the disease it will take many years to determine whether or not it is arrested.

Group 3, Optic Atrophy.—Two patients—Nos. 5 and 11—presented with optic atrophy. The greatest interest attaches to the first of these, a man who when first seen was blind in his right eye and complaining of diminishing vision in the left. Both disks were paper-white, and there seemed little chance of saving any sight. With particular precautions at the start and preliminary iodide and mercury, he was given five million units of penicillin, and excision of the stellate sympathetic ganglion was performed on the left side with the purpose of increasing the blood supply to the left optic nerve. No further diminution of sight was observed, and in the course of some months his acuity of vision in the left eye, which was at first 6/12, recovered to 6/9 and later to 6/6, and at present it is a little better than 6/6. The visual field has remained full. In the other eye, too, there was a little recovery of sight, which enables him to see hand movements in a part of the field. I have seen improvement of vision before in cases of optic atrophy followed subsequently by deterioration, and therefore cannot be quite confident about the outlook in this case; but it is now 2½ years since the first treatment, so that one can be hopeful. Nevertheless it is evident that in this case penicillin had an effective and prompt action. Case 11 is also noteworthy because it is the only one in the series in which symptoms continued to progress after a course of penicillin. The patient came under observation again after eight months and was given a second course of penicillin and also mercurial direction and in the succeeding eight months there has been no further deterioration of his sight.

Group 4, Vascular Syphilis.—Of the nine cases of vascular syphilis, three—Nos. 4, 16, and 17—presented with the following symptoms. Case 16 had generalized vascular disease with high blood pressure, a type of case in which little improvement can be expected. Case 17 had cerebral syphilis in her cerebrospinal fluid which are shown to be normal. Clinically and serologically she has improved. Of the remaining patients in this group the first two had subacute spinal syphilis, and these have shown moderate improvement. A young man with an unusual case of disease has also improved moderately. The other three were women with cerebral syphilis, two of whom had cerebral abscess, and all three of these patients have improved markedly after treatment.

Results in General

Reviewing these 24 cases, we may consider the apparent effects of the treatment in more general terms—the clinical effects, the effects on the cerebrospinal fluid, and the effects on the blood.

Clinical Effects. In most cases it is evident that the progress of the symptoms has been arrested; we may exclude from consideration in this respect the cases of tabes and the cases which have been lost sight of, and we are then left with 15 cases in which clinical progress can be assessed. In Case 11 visual impairment continued to progress after a course of treatment with penicillin was given, but in all the other cases the progress of symptoms has been arrested. In 12 of the 15 of the first course of treatment, and in nearly all of the 15 the patient has made positive recovery. Arrest of symptoms is all that can be expected clinically in the treatment of the disease, and the most effective treatment, and it is not possible to judge the effectiveness of treatment. Any positive effect is due to the arrest of the disease, and depends on the state of the

nervous tissue after the disease process has been stopped and its degree is not a measure of the effectiveness of the treatment. Whether the arrest of the clinical progress of the disease will be permanent it is impossible yet to say but as yet there have been no relapses and no deaths so far as I know.

Effects on the Cerebrospinal Fluid.—The effects on the C.S.F. and blood form the best criterion of the probable permanence of the arrest of the disease and of its eradication. In most instances the Wassermann reaction in the cerebrospinal fluid has become negative in about a year. It is not known when it became negative in Case 1, but it was found negative at the end of two years. The number of cells in the fluid usually becomes normal quickly and has always been within normal limits by the end of two months. The total protein content becomes normal more slowly, and frequently shows an increase immediately after treatment, which may last for one or two months. This is probably to be regarded as an indication of the reaction that has gone on in the tissues, and particularly in the cerebrum, and it is in keeping with what occurs in various other diseases. The tests for excess globulin usually become normal about the same time as the total protein. The colloidal gold reaction shows the most persistent of the changes in the cerebrospinal fluid, and in Cases 1 and 14 it is still of the paretic type after 30 and 12 months respectively when all other features of the fluid are approximately normal. As is well known, this also happens after malarial treatment, and the significance of this persistence is difficult to determine. In most instances, if the fluid is otherwise inactive, the reaction dies out in the course of some years, and it seems unlikely that an active colloidal gold reaction is to be regarded as any sign of activity of the disease. With the exception of the colloidal gold reactions, and occasionally of the total protein, all the cerebrospinal fluids in my series have returned to a normal state within about 12 months. The sequence of changes in the cerebrospinal fluid after penicillin therapy is thus exactly the same as that which follows successful treatment with malaria, and we may recall Dattner's insistence that a fluid which has become negative after malaria never becomes positive again.

Effects on the Blood.—It seemed at first that penicillin did not have much influence on the Wassermann reaction of the blood, but as time has gone on the reaction in the blood has become negative in a number of patients who have had no treatment except penicillin, and in some other patients it now shows a decided weakening. In cases in which N.A.B. and bismuth were given in addition the state of the blood is no better than in the others. In general the blood reactions in the series as a whole seem now as good as would have been obtained by any other method of treatment, but the delay in the correction of the blood Wassermann reaction after that of the cerebrospinal fluid has become normal is difficult to understand. A similar delay is known to occur after malarial treatment, but after penicillin it is more striking, possibly because other changes occur more quickly than after malaria.

The combined effects of the treatment on the clinical state and on the states of the cerebrospinal fluid and blood all indicate that treatment with penicillin is effective in arresting and exterminating the disease, and provide good grounds for expectation that the results will be permanent.

Dosage and Method of Administration

In all cases penicillin has been given by the intramuscular route only. Sodium penicillin was used for most of the cases, and in recent times the crystalline form whenever obtainable. We also made a trial of the beeswax preparation, but my house-physician at the time found some difficulty in working it, and it was abandoned.

TREATMENT OF NEUROSYPHILIS WITH PENICILLIN

In the early days the total amount given in each course was two million Oxford units (2M). This was soon increased to 3M, and then 4M; and for the last two years the course has been standardized at five million units (5M).

For the first day the doses are small, but thereafter half a million units are given every three hours, making nearly half a million units daily, and this rate of administration is continued until a total of approximately five million units has been reached. During the first day, as a precaution against Jarisch-Herxheimer reactions, much smaller doses are given. These may be either of the order of 15,000 units three times in the course of the day, or, as recently, 10,000 units hourly, with orders to stop administration if the patient seems upset or makes any complaint. No untoward reactions of any kind have been seen.

As will be seen, several of my patients have had repeated courses of penicillin. In the early days we had not appreciated the importance of time as a factor in the improvement of the cerebrospinal fluid and blood. We were not sure enough of our effects, and, dealing with such inexcusable conditions as paresis and optic atrophy, we could not afford to take any additional risks. One patient with dementia paralytica had three courses within eight months; another with optic atrophy three courses in 12 months. In the light of subsequent experience such intensity of treatment seems lavish and unnecessary. It is true that the results were very good in both cases, but probably not enough time was given for the full effects of the first course to show themselves, and the same results might now be obtained with more economy of treatment. Gammon, Stokes, *et al* (1946) suggest that the right time for repetition of the course is after four months, but my experience leads me to think that at that time the whole influence of the first course is not yet apparent either clinically or in the cerebrospinal fluid and blood, and if the clinical condition is satisfactory longer intervals may be allowed.

In several of my cases the cerebrospinal fluid has been examined for evidence of the presence of penicillin, but in no instance has it shown any inhibiting effect on the standard test cultures.

Adjuncts to Penicillin

Of the adjuncts to penicillin the first and most important is time. 5M+6 months does far more than 5M alone, and in all my more recent cases I have been content to allow intervals of this order before re-examining the cerebrospinal fluid and considering the need for further therapy. Most observers have not given time its opportunity before going on to malaria, but those who have describe very good results.

The second most important adjunct is probably more penicillin. However, until we know the full value of time after the first course it is impossible to say just how valuable a second course is. Effects that were attributed to repetition of the penicillin in Cases 5 and 7 may well have been due in fact to time.

As other adjuncts I have used N.A.B., bismuth, mercurial inunction, and a mercury and iodide mixture in different cases. N.A.B. has been used in three cases in the desire to obtain a negative Wassermann reaction in the blood, since penicillin seemed to have a peculiar weakness in that respect. Mercury and iodide possibly exert a better effect than anything else on the more subacute or chronic pathological formations in meningo-vascular syphilis, and if this is so they have a special place in the treatment.

Tryparsamide I have not as yet used as an adjuvant to penicillin, and until we can assess more exactly the effects of penicillin itself it would be impossible to determine its value in combination, but it obviously may have a place.

Comparison with Malarial Therapy

To revert to the more active of our cases—those with mental symptoms and "paretic" fluids and those with optic atrophy—we have to consider the two burning questions: Are the results as good as those that would have been obtained with malaria? and, secondly, Could the results be improved by giving malaria as well?

In times past, eight at least, and probably ten, of these patients (including those with optic atrophy) would have received malarial treatment. Would the results have been any better? My own experience says that they would not have been as good, and actually in the last half-dozen cases treated by my colleagues with malaria at Queen Square the serological results to date are not as good as those of the cases treated with penicillin alone. We must bear in mind both the limited effectiveness of malaria and the dangers and difficulties of the treatment. Malaria alone is effective in the sense that it arrests the disease in general paralysis in about 55% of cases, and the remaining cases gradually progress so that 40% of all the patients treated die within five years. The mortality associated with the period of malarial treatment and the subsequent months is 8-10%. The results are considerably improved by combining tryparsamide with malaria, but even with the combination the disease is not arrested in all cases. With penicillin therapy the risks and difficulties of treatment are obviously very much less, and if the results obtained are at all comparable, as they undoubtedly are, the advantages are very conspicuous. I do not overlook the fact that my own small series contains no case of acute G.P.I., but Nicol and Whelan (1947) in this country, and also Smith (1947), have reported great clinical improvement in such cases with penicillin alone.

The American reports are mixed, but Callaway and his associates (1946) considered that treatment with penicillin was more effective than with malaria, and Rose and others (1946) concluded that there was little to choose between the results obtained with penicillin alone and those with malaria followed by tryparsamide. Daitner (1947) considers that penicillin when given in adequate doses is at least as effective in the treatment of neurosyphilis as combined fever and specific chemical therapies. A more detailed account of the American reports has recently been given by Dr. Worster-Drought (1947), and now we have a shorter review by Dr. Nicol (1948).

But there is the further question, Would still better results be obtained by giving malaria as well? Or rather, would any improvement commensurate with the risk be obtained by giving malaria as well? In the last resort this question may be settled by practical experience, and from the reports that have been published of comparable series of cases treated by different methods it is evident that there is no great difference in the results. In a series described by Rose and Solomon (1947) there was no material difference in the percentages of clinical improvement whether the patients were treated with penicillin and malaria, penicillin and the fever cabinet, or penicillin alone. From the report of a smaller series described by Lescher and Richards (1947) in this country it is also evident that the results were very similar, although the observers concluded that the best clinical results seemed to have been achieved with malaria and penicillin, closely followed by those obtained with penicillin alone.

There are two general aims in treatment. The first is to obtain arrest of the disease as rapidly as is possible in consistency with safety, and the second to ensure its permanence. If a rapid arrest can be obtained by any means, additional treatment for the same purpose is useless, and if it involves risk it is certainly unjustified. Treatment cannot

of the cerebral tissue: it can only arrest the disease. Arrest as rapidly as is consistent with safety is the only requirement. It seems that the syphilitic processes are arrested by penicillin before malaria could even come into operation, although further experience is necessary to show whether that inhibition is complete enough in all kinds of cases.

It is fallacious to say that clinical recovery occurs more quickly or more completely after this or that method of treatment, provided only that the treatment is effective—i.e., that it eradicates the disease. After any sufficiently effective treatment the extent of clinical recovery depends on the amount of the cerebral tissue that is capable of recovery, and that is not a function of the treatment but of the viable cerebral tissue. Similarly, the period of clinical recovery is the time required for the recovery of such cerebral tissue as is capable of restored activity. The final results cannot vary between one effective method of treatment and another, provided the treatments themselves are innocuous and reasonably prompt in their actions; and if an effective treatment has once been given no greater or quicker improvement can possibly be obtained by a multiplication of therapies. The practical results that have been reported are in general agreement with this conclusion.

Secondly, to ensure its permanence. Here our only criterion is the serological reactions. After the disease is arrested these take time to become normal, and if the cerebrospinal fluid is of the "inactive" type after three or four months, and normal, apart from the colloidal gold reaction, within a year, we may be satisfied. Such results are obtainable with penicillin as with malaria, and there seems no reason why they should not be as permanent. Though serological relapses must be watched for, they are likely to be few.

Conclusions

As a result of my observations I draw the following conclusions—tentative because longer observation is necessary.

1. Penicillin alone is sufficient in most cases of neurosyphilis. Whether it is adequate for the most acute cases of G.P.I. the experience of this series does not show.
2. If, with the possible exception of such cases, the patient can be kept under observation after treatment and penicillin repeated if necessary, malaria will seldom be called for, and the risk of it will seldom be justified.
3. Even if penicillin does not render malaria unnecessary it is a potent weapon and will make us much less dependent on malaria, and, if malaria is used at all, risks which were hitherto before need not now be taken.

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A CASE OF ACUTE PORPHYRIA

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"Acute idiopathic porphyrinuria is clearly recognized in Germany and elsewhere on the Continent; it is being increasingly reported in America, but even to-day it is scarcely mentioned in British literature." The above comment, made in 1939 by Chandler *et al.*, appears as true to-day as it did eight years ago. It has been suggested by clinicians (Rau, personal communication, 1947) who are familiar with the condition that the relatively large number of cases reported in Scandinavia and Germany was primarily due to a more widespread knowledge of the chief features of this rare metabolic disorder. This interest was particularly stimulated by the clinical investigations of Günth (1911), who first described the disease, and by Haas and Fischer's elucidation of the chemical nature of porphyrin pigments. The comprehensive reviews of Mason, Cottrill, and Ziskind (1933) and Dobriner and Rhoads (1939) have recently served to stimulate in America an increased interest in the chemical and clinical aspects of this malady. A brief survey disclosed that no fewer than 36 reports had appeared in the literature in America since 1940, when only three indigenous cases have been recorded in British medical journals during the same period. A fourth British case, the chemical aspects of which were fully investigated, was recorded by Prunty (1946) in an American journal.

In man clinical porphyria occurs in the form of two distinct syndromes—congenital porphyria (Garrod, 1922) and acute porphyria.

Congenital Porphyria

This is a very rare disease that develops during foetal life. It is usually recognized in early infancy, and persists in the adult as a permanent disorder of metabolism. Transmission is thought to occur by the inheritance of a gene possessing recessive characteristics (Mackey and Garrod, 1926). Salient features are the excretion of burgundy-coloured urine and a disabling degree of photosensitivity of skin and exposed mucous membranes. Brown pigmentation of bones and pink discoloration of deciduous and permanent teeth have occasionally been recorded (Mackey and Garrod, 1926). Exposure to bright sunlight leads to blistering of unprotected skin and the formation of ulcers, indolent healing of which results in permanent disfigurement by scar tissue. Corneal ulceration due to similar action of trauma may lead to seriously impaired vision. Both splenomegaly and hepatomegaly have been recorded as transitional features in childhood. In this condition excess of uroporphyrin I is excreted.

Acute Porphyria

The symptomatology of this disease, which affects adults, differs entirely from that of the congenital variety. Acute porphyria occurs more frequently in women than in men, and the onset is most often during the third decade. It is probable that the symptoms of acute porphyria are merely acute manifestations of a latent chronic metabolic disorder whose asymptomatic phase can be detected only by special investigation of the excreta. The acute and dramatic manifestations of the classical syndrome appear either spontaneously or as a result of prolonged ingestion of certain drugs, of which sulphonal is most commonly incriminated. It thereafter may pursue a prolonged relapsing course, which often ends fatally. Many recorded cases have been sporadic examples, but recent

Examinations in Perth Green, Oxford House and University College, London, are held for students for studying social conditions there. The student is brought into intimate contact with the life of the community with the working or serving behind the scenes. The course is held on July 1-24. The fee is 4 guineas, and the student is provided with the necessary equipment. Further information may be obtained from the Vice-Chancellor, Oxford House, 1, The Quadrant, Oxford.

an increasing number of reports have indicated that the disease may occur as a familial condition (Nesbitt, 1944). There are factors in the case history recorded below which strongly suggest a familial incidence. It is thought that the inheritance of this disorder is by transmission of a dominant gene (Gates, 1946) whose degree of penetrance is small. Hence this undesirable characteristic may be acquired from a parent who discloses no clinical or metabolic abnormality.

The symptoms of acute porphyria tend to be remarkably stereotyped. The initial attack may be preceded by a prodromal period during which weight is lost and asthenia is pronounced. During this phase various *mental disturbances*—most frequently depression, irritability, or suicidal tendencies—have been notable features. *Abdominal symptoms* follow. There is usually severe para-umbilical colic or lower abdominal cramp-like pain, often associated with nausea and vomiting. Obstinate constipation amounting to a paralytic ileus is constantly present. The abnormal colour of the urine is usually noticed only after the onset of these symptoms, but frequently the significance of this observation is masked by the presence of concomitant icterus. Occasionally patients will admit having excreted dark urine intermittently long before the onset of the illness. A raised blood pressure is a consistent feature at this stage. It is often as high as 180/120, and its discovery in a young adult presenting severe abdominal pain without other localizing features should lead to examination of the urine for porphyrins.

Recovery may occur without further progression of the disease, but relapses are usual, and eventually in about half the cases evidence of *involvement of the central nervous system* appears (Waldenström, 1937). Coma, psychosis, delirium, amaurosis, and epileptic attacks are frequently associated with the more characteristic progressive impairment of motor function. Isolated cranial-nerve palsies, localized weakness of peripheral muscle groups, and more generalized motor involvement develop. Although paraesthesia is usually a marked feature, cutaneous sensibility remains intact. The intensity of the muscular weakness may fluctuate unaccountably, and spread of the paresis to the respiratory muscles, through bulbar involvement, usually terminates the illness. Although photosensitivity and pigmentation of the skin have been recorded in acute porphyria (Nesbitt and Watkins, 1942) they are both regarded as unusual features.

Excessive urinary excretion of uroporphyrin III characterizes most cases of acute porphyria (Waldenström, 1937). On occasion, however, the urinary uroporphyrin III is within normal limits, whereas uroporphyrin I (Prunty, 1946) or coproporphyrin III (Abrahams *et al.*, 1947; Watson *et al.*, 1945) is excreted in excessive amounts.

Case Report

A British soldier aged 26, who had served in the Mediterranean area since 1942, first observed symptoms of ill-health in December, 1946. He noticed that he was lacking in energy, that his limbs, previously very muscular, were now no longer so, and that his uniform had become too loose for him. In spite of increasing weakness, he remained on duty until March 2, 1947, when he was forced to take to his bed with symptoms which were then regarded as being due to "coryza." He was a little better next day and was able to get up, but three days later he was in bed again because of difficulty in standing.

He was admitted to a casualty clearing station seven days after the onset of these acute symptoms. His chief complaints were: central abdominal pain for 24 hours and constipation for three days, a generalized weakness, difficulty in concentration during the day, and sleeplessness at night. It is reported that when first examined at the C.C.S. the patient's condition was extremely poor. He was nauseated and very drowsy; pulse 120, temperature 97° F. (36.1° C.), respirations 20. He was severely

dehydrated. The abdomen was distended, epigastric tenderness was present, but there was no rigidity. Liver and spleen were not palpable. The respiratory system was normal, as was the cardiovascular system except that the blood pressure was 140/90. The pupils were constricted, but reacted normally to light and accommodation. All the tendon reflexes were obtainable and the plantar responses were flexor. In spite of obvious muscular wasting, power was good. There was no sensory loss. A generalized superficial lymph-node enlargement was thought to be due to the septic scabies present. The urine contained no sugar or albumin. Total leucocyte count, 22,400 per c.mm. (polymorphs 92%, lymphocytes 3%, monocytes 5%).

On re-examination the following morning a generalized pigmentation of the skin was noticed. The knee- and ankle-jerks and abdominal reflexes were now unobtainable. The left plantar response was equivocal. Lumbar puncture was performed. The pressure was normal and the fluid clear. Protein amounted to 35 mg. per 100 ml. There was no excess of globulin.

During the next few days the patient's condition, which remained critical, showed little change. Slight icterus of the conjunctiva was noticed on March 12.

On March 18 he was transferred to a British general hospital. The pulse was now 104, temperature 97° F., respirations 25, blood pressure 150/100. Lethargy was still marked, but the patient responded rationally to interrogation. Loss of power in all limbs was noted for the first time. All tendon reflexes were present except for the Achilles jerk. Plantar responses were both equivocal. There was no loss of cutaneous sensibility. The intense brown pigmentation of the skin was again a subject of comment, and it was suggested that it might be of pellagrous origin. With this in mind, and with the intention of demonstrating the associated excess porphyrin, two specimens of urine were allowed to stand exposed to the light for 24 hours, but no deepening of colour was observed. Owing to subsequent lack of response to nicotinic acid therapy, no further investigations into this aspect of the problem were made, nor were any pigmentary abnormalities detected during further routine laboratory examinations of the urine. By mid-April the gradually increasing weakness had proceeded to a stage in which limb movements were almost completely absent. Speech was slurred, but there was no dysphagia. The corneal reflexes were absent, as were all tendon reflexes, although cutaneous sensation was still unimpaired. Muscles were slightly tender to pressure. Lumbar puncture was repeated. Pressure was normal; protein totalled 70 mg. per 100 ml. with excess globulin; and there were 2 cells per c.mm. By this time an extensive series of investigations had been completed. Radiographs of the chest, repeated cultures of blood, urine, faeces, and throat, blood examinations for malaria parasites, and serum agglutinins disclosed no abnormality. Fasting blood sugar was 140 mg. per 100 ml., blood urea 90 mg. per 100 ml., serum protein 5.8 g. per 100 ml., van den Bergh reaction negative, haemoglobin 95%, and E.S.R. 32 mm. in 1 hour.

At this stage 10 ml. of "eucortone" was administered each day without any therapeutic response. "Prostigmin," 0.5 mg. intramuscularly three times a day, was equally ineffective in relieving the profound asthenia. During the first few days of April the patient remained extremely feeble. There was incontinence of faeces and urine; drowsiness during the day was increasing, whereas insomnia at night remained a troublesome feature in spite of sedation with barbiturates. At times attacks of tachycardia and breathlessness occurred. A slight improvement began in the second week of May, and his condition, although still very serious, permitted transfer to England.

The patient was admitted to Redhill County Hospital on May 18. He was a mentally alert individual showing very severe emaciation and extreme loss of muscle substance. The most striking feature, however, was a dusky pigmentation, which was most marked on the face but was also present on the arms and thorax, and to a less extent on the abdomen and legs. The hair was dark brown. (It was later established that his complexion had always been fair, and that when on leave in November, 1946, the dark colour of his hair and pigmented features had astounded his relatives.) The skin was scaly, and lesions of scabies were still present. There were hyperkeratotic patches on the flexor aspects of the fingers and on the palms and soles.

Central Nervous System.—Mentality normal. Amnesic for events occurring during early part of illness. Not aphasic, but could articulate only in a whisper. Pupils unequal, right larger than left; both reacting normally to light and accommodation. Fundi normal except that the arteries and veins were abnormally contracted. Eye movements were full and visual fields normal. No nystagmus. The muscles of mastication were of normal power. Extreme weakness present in all facial muscles, particularly frontales and orbiculares oculi, so that the cornea was always exposed, even during sleep. There was severe conjunctivitis and keratitis of both eyes. The palate moved normally and there was no dysphagia. The tongue, which was normally protruded, was wasted and deeply furrowed, with coarse fasciculation evident. Sensation of taste was not impaired. The right vocal cord moved normally, the left very sluggishly. The cervical muscles were of fair power, and the intercostal and diaphragmatic movements of normal range. All four limbs were flaccid and lay in positions dictated by gravity. There were weak movements of finger flexion in the left hand only. Except for ineffectual contractions of the upper fibres of both pectorales major, the muscles activating the shoulder-, elbow-, and wrist-joints were completely paralysed. The lower limbs retained fair power in the glutei, tensorae fasciae latae, hamstrings, and posterior tibial muscles. Contractility of the quadriceps femoris, which were barely palpable as thin straps on the femur, was absent. Anterior tibial and peroneal groups likewise were totally paralysed. There was fair power of flexion of the toes. The deep and superficial reflexes were all unobtainable. The plantar responses, in the absence of contractility of the extensors of the toes, were necessarily flexor. There was no fibrillation of muscles other than the tongue. Complete faecal incontinence, but normal bladder control, was present. There was no sensory loss.

The pulse was regular 96, the blood pressure 110/80, and heart normal. There was no abnormality in the respiratory system. The liver and spleen were not palpable. The descending colon was palpable and spastic.

Investigations. The combinations of inaugural abdominal symptoms with cerebral disturbances, evidence of lower-motor-neurone paresis, and cutaneous pigmentation led to the examination of the urine for porphyrins. Spectroscopic investigation of a freshly passed specimen showed the typical double band of the zinc porphyrin complex (Chandler *et al.*, 1939). Ehrlich's benzaldehyde test (Jorgensen and With, 1947) before and after extraction of the urine with acid ether was positive, indicating the presence of porphobilinogen. An amyl alcohol extract of the urine displayed intense pink fluorescence when exposed to Wood's light, as did a specimen of faeces. Urine when first voided was the colour of sherry, and on standing it assumed a dark coffee colour in 24 to 48 hours.

Further investigations resulted as follows: haemoglobin, 95 g. (R.H.C. 4,500,000), colour index, 1.04; leucocytes, 8,000 per c.mm. (polymorphs 34%, lymphocytes 55%, monocytes 4%, eosinophils 7%); blood urea, 68 mg., fasting blood sugar 94 mg. and blood cholesterol 124 mg. per 100 ml., Kahn, trace; Wassermann +, Laughten ±. Total plasma protein, 5.25 g. (albumin 2.8 g., globulin 2.45 g.), chloride 343 mg., potassium 18.4 mg., and sodium 321 mg. per 100 ml., carbon-dioxide-combining power, 57 vols., serum bilirubin, 0.4 mg. per 100 ml. Thymol turbidity test, negative. Alkaline phosphatase, 2.4 B.S. units. Cerebrospinal fluid: pressure normal; protein, 60 mg. per 100 ml.; Pandy, trace; chlorides, 680 mg. per 100 ml.; lymphocytes 1 per c.mm.; W.R. negative; Benzoin reaction (Gunn). The electrocardiogram was normal. Sternal-catheter examination showed normoblastic haemopoiesis with evidence of hyperplasia of erythroblastic elements. The white-cell sedimentation was normal. Exposure to bright July sunlight for 45 seconds in an intense irritation of the skin and marked erythema, both of which persisted for an hour. Exposure to a mercury-vapour ultra-violet lamp for half an hour had no effect.

Family History. The patient's mother stated that she had no history of any urinary abnormality in herself or in her family. Her father had experienced attacks of colic. The patient's father died at the age of 29. The maternal grandfather, who was a painter by occupation, died at 25. The cause of death was "painter's

colic." One sister, two stepsisters, and a stepbrother were healthy, as was the patient's son, aged 6 years. An attempt to investigate the urine of these individuals met with formidable opposition. Nevertheless specimens were obtained from the patient's son, mother, and sister. No abnormal pigments were detected in the urine of the son and mother, but that of the sister was deeply coloured, darkened slightly on standing, and reacted positively with Ehrlich's benzaldehyde reagent after ether extraction, indicating the presence of porphobilinogen. Schlesinger's test on the same specimen was negative.

Progress.—During the two months that the patient remained at Redhill County Hospital there was a slow but steady improvement in his state of nutrition, and his sleep habit rapidly reverted to normal rhythm. Except for return of contractility, so slight as to be ineffective, in muscles which previously had been quite inert, increase of muscle power did not occur. There was a considerable decrease in the depth of colour of the urine when first passed, and the final depth after standing was less than it had been on admission, but the spectral bands did not indicate that any reduction of porphyrin excretion was occurring. The improvement noted appeared to be independent of the treatment given, which consisted in the serial intramuscular administration of liver preparations, folic acid, and calcium gluconate.

Five 24-hour specimens of urine were collected between June 15 and 19 and submitted to Prof. C. Rimington, who confirmed the presence of excess porphyrin and identified it as uroporphyrin III. Coproporphyrin was present in normal amounts. The excretion of uroporphyrin on the five days was 9.7, 9.4, 8.6, 8.3, and 9.5 mg. respectively. The patient was transferred to an E.M.S. hospital near his home on July 14. A progress report from that hospital stated that a relapse had recently occurred, during which power in all muscles, except those innervated by the cranial nerves and those subserving respiration, was quite absent. Colic and nausea were again conspicuous features, as was a marked hypotension, the latter responding to eucortone.

Comment

This case, which presented many of the typical features of acute porphyria, illustrated particularly clearly the nature of the diagnostic problem confronting the clinician when neurological symptoms and signs are pre-eminent. When abdominal symptoms predominate, as they often do, errors in diagnosis have led to injudicious laparotomy. The difficulties in the differential diagnosis of these rare cases presenting a tangle of features referable to many of the bodily systems may be totally resolved by the discovery of abnormal pigments in the urine. Nesbitt (1944) states that "the diagnosis of acute porphyria will be made only if it is borne in mind." The view that acute porphyria is an inborn familial metabolic disorder is supported by the evidence in the above case.

It is thought probable that the grandfather's fatal illness was acute porphyria and not "painter's colic," which it may closely simulate. Porphobilinogen was demonstrated in the urine of the apparently healthy sister, emphasizing that it is important to search for latent porphyria among relatives of the acute case. These individuals should be warned not to take drugs which have been known to precipitate the acute condition. According to Dobriner and Rhoads (1940) the following drugs are suspect: sulphonal, "trional," sulphonamides, barbiturates, arsenicals, alcohol, phosphorus, selenium, and lead. It is noteworthy that, although there is no direct evidence of any causal relationship, mepaeirine had been taken by the patient as a malarial prophylactic during the previous three summers. His critical condition prevented investigation of the effect of a provocative dose of this drug.

Although pigmentation and photosensitivity were marked features of this case, both of these effects are rare in acute porphyria (Mason, Courville, and Ziskind, 1933).

Summary

An example of acute porphyria occurring in a young man is described. Abdominal and mental symptoms and neurological signs were present. Pigmentation and photosensitivity were conspicuous features. There was some evidence of a familial distribution of the disease.

I am indebted to Dr. G. H. Jennings for his encouragement and permission to publish this report; to Prof. C. Rimington for his kindness in performing the assays; to the R.A.M.C. officers whose notes furnished the basis of the early part of the case history; and to Miss E. W. M. Johnson for her help with the biochemical investigations.

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A CASE OF ACUTE MONONITROBENZENE POISONING

by

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Mononitrobenzene, or oil of mirbane, is a yellow oily liquid which on account of its strong smell is also known as "artificial essence of bitter almonds." Since it was first prepared early in the nineteenth century many cases of poisoning with this substance have been recorded—by absorption through the skin, by inhalation, or when taken by mouth.

Poisoning by skin absorption has followed the use of soap scented with it (Nicholson, 1862), spilling the fluid on the clothes (Loeb, Bock, and Fitz, 1921; Hamilton, 1919–20; Letheby, 1863–4), or application to the hair of anti-louse preparations made with it (Wolpe, 1920; Bohland, 1919; Schultz, 1915). Shoe dyes often contain nitrobenzene as a solvent, and the wearing of recently dyed shoes before they are properly dry has led to many cases of poisoning. Muehlberger (1925) has reviewed the literature on this subject and pointed out that aniline is the solvent most commonly employed, and may give rise to similar symptoms. Levin (1931) has reported a case of orthotoluidine poisoning caused in the same way. Marking-ink also may be prepared with nitrobenzene or aniline, and babies seem to be very easily affected by newly marked napkins: Rayner (1886) first reported a series due to aniline, and Ewer (1920) and Thomsen (1921) have reported cases due to nitrobenzene. In many of these episodes inhalation may have contributed to the intoxication: acute poisoning due to inhalation alone is relatively infrequent, but Stevenson and Forbes (1942) and Stevens (1928) have reported cases following the use of nitrobenzene in bed-bug exterminators.

Poisoning by ingestion has occurred in numerous ways. The majority of cases are accidental, either errors in dispensing (Carter, 1936; Leader, 1932; Thomas, 1926) or mistakes by patients as reported by Chapman and Fox (1945), where furniture polish containing nitrobenzene was taken instead of an alkaline stomach mixture. Hogarth (1912) published a case following the rubbing of nitro-

benzene on the gums as an anodyne for toothache. Other cases have arisen from taking alcoholic drinks which have been contaminated with the substance (Loeb, Bock, and Fitz, 1921; Scott and Hanzlik, 1920) or from drinking a nitrobenzene preparation when intoxicated (Adler, 1934; Wandel, 1919). Food contaminated with the liquid is a rare cause (Hilbert, 1915), though Taylor (1864) reported the case of a woman who tasted the flavouring she was going to use in some pastry and developed nitrobenzene poisoning. Curiosity on the part of children accounts for some cases (Nobécourt and Pichon, 1924); a few are suicidal (Fullerton, 1930; Schild, 1895); and on many occasions the liquid has been taken as an abortifacient, usually without success (Güntz, 1930; Schnopf, 1927; Spinner, 1917; Schild, 1895).

Chronic poisoning is usually industrial. Workers in aniline plants may develop symptoms from nitrobenzene inhalation; it is less common than aniline intoxication, but is more dangerous when it does occur. Engel (1934), Balzac *et al.* (1930), Hamilton (1919–20, 1921), and Letheby (1863–4) have discussed industrial nitrobenzene poisoning, and Adams (1912) has described an unusual case of non-industrial chronic intoxication.

Case Report

The patient, a Polish girl aged 19, was admitted to University College Hospital on July 23, 1947. About three months previously, while she was in Germany as a displaced person, she had married an English soldier, who brought her to London and left her with her mother-in-law while he returned to his unit. She did not get on very well in her new home, and partly out of curiosity and partly, one suspected, hoping to get her husband repatriated she decided to taste the fluid in a bottle labelled "poison." This bottle had been bought by her late father-in-law many years previously and was lying about the house; her husband had warned her that it was poisonous and forbidden her ever to touch it. About 6.30 p.m. on July 22 she poured some of the fluid into a glass and sipped it; she felt nauseated, and vomited several times during the night. The next morning she was seen to be blue, and was therefore sent to hospital.

When seen at 3 p.m. on July 23 she was fully conscious and well orientated. She showed "blue-grey" cyanosis and was vomiting repeatedly, the vomit being bright yellow, but without smell. She was afebrile; pulse rate 90; respiration was of normal depth and rate, but the breath smelt strongly of almond essence. Physical examination revealed no other abnormalities. The urine was dark in colour and became darker on standing; it contained a trace of albumin and did not reduce Benedict's reagent.

The stomach was washed out with saline, after which the vomiting ceased. Oxygen inhalations failed to affect the cyanosis, and blood withdrawn from a vein was brownish in colour and shown to contain methaemoglobin. 20 ml. of 0.5% solution of methylene blue was injected intravenously and within 30 minutes the patient's colour was restored to normal.

The next day (July 24) her breath still smelt of almond essence and continued to do so until July 27. The cyanosis was then nearly as deep as before the injection of methylene blue, but it did not seem to be inconveniencing the patient. Oral methylene blue, 2 gr. (130 mg.) four-hourly, was given for two days, and subsequently ascorbic acid, 100 mg. four-hourly, but neither of these seemed to accelerate the disappearance of the cyanosis, which ceased to be detectable on July 29. The urine on July 25 was of normal colour, but still contained a trace of albumin.

On July 29 it was observed that the patient was faintly icteric, and that a severe haemolytic anaemia was developing (see Chart). On July 30 and 31 she passed urine that was almost black, and spectroscopic examination showed that it contained haemoglobin and methylene blue; a sample of plasma on the latter date contained methaemalbumin and haemoglobin. Red cell fragility showed haemolysis starting at 0.48% saline and complete at 0.28%, and a blood film revealed very marked anisocytosis, polychromasia, punctate basophilia, and six

calculated red cells per 100 white cells. By July 31 her blood pressure had fallen from its initial level of 110/85 to 98/50 and her pulse rate had risen to 104; it was therefore decided to give a transfusion of 2 pints (1.136 litres) of blood. Her condition subsequently improved rapidly, and she left hospital on Aug. 8. When seen on Aug. 25 she had no symptoms.

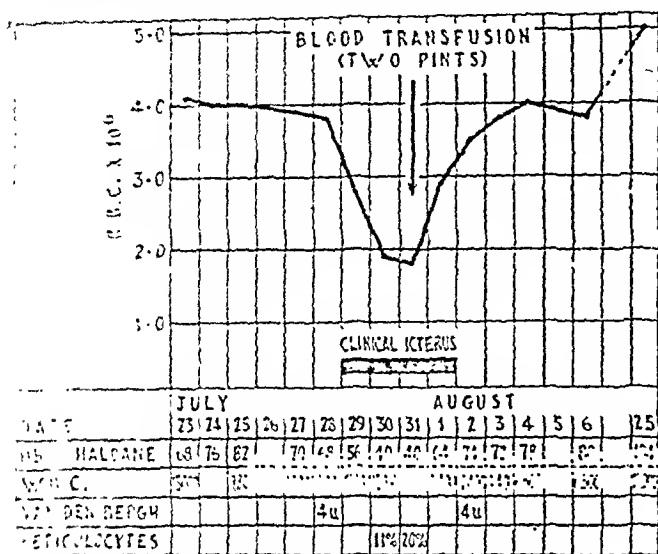


Chart showing haemolytic action of nitrobenzene.

The bottle from which the fluid was taken contained a yellow oily liquid smelling strongly of almond essence and rather indistinctly labelled "nitrobenzene." That the bottle contained nitrobenzene was subsequently confirmed chemically. It was impossible to ascertain the purpose for which it had originally been obtained.

Discussion

Nausea and vomiting are the first symptoms after the oral ingestion of nitrobenzene; they develop within a few minutes and are followed in from one to twelve hours by the appearance of cyanosis and in severe cases by neurological symptoms. In cases of poisoning by skin absorption or inhalation the cyanosis develops more rapidly. It is now generally considered that the cyanosis is due to the development of methaemoglobin in the red blood cells, although many earlier investigators—for example, Loeb, Bock, and Fitz (1921)—were unable to detect methaemoglobin in the blood, and postulated the development of a nitrobenzene haemoglobin compound. Hamblin and Mangelsdorff (1938) devised a recording spectrophotometer and used this to detect methaemoglobin, which they found in the blood in all cases of nitrobenzene poisoning in amounts proportional to the clinical condition and cyanosis.

The neurological symptoms that may be seen in the early stages are progressive drowsiness leading to coma and in fatal cases respiratory paralysis. These have been attributed either to a direct toxic action of the poison on the central nervous system or to anoxaemia. Loeb, Bock, and Fitz (1921) reported the case of an unconscious patient with a blood-oxygen-carrying capacity of 6.2 volumes % who recovered consciousness on being given a blood transfusion, although cases have been reported showing spontaneous recovery from nitrobenzene coma (Güntz, 1930), it is suggestive that in this case recovery was due to improved oxygenation following the transfusion. Steele and Spark (1933) report a case of aniline poisoning with coma and cyanosis in which recovery of consciousness followed the intravenous administration of methylene blue, which converted the methaemoglobin to haemoglobin and increased the oxygen-carrying capacity of the blood. Howland and Leach (1927), in investigations of the effect of nitrobenzene on animals, found that, whereas dogs, cats, and

and guinea-pigs failed to develop cyanosis but nevertheless died. It appears therefore that, although anoxaemia may play a part in the production of neurological symptoms and death, a direct toxic action on the nervous system is an important factor.

In all moderately severe cases of nitrobenzene poisoning some haemolysis is found, starting about the fifth or sixth day. Engel (1934) mentions that the haemoglobin level may fall to 30%; Leinoff (1936) records a case in which it was 45%. Clinical icterus is present when haemolysis is severe and the spleen occasionally becomes palpable (Hilbert, 1915; Schild, 1895). The process is usually self-limiting, and blood transfusion is not often required.

Late sequelae are unusual in cases of acute poisoning, although Adler (1934) reported a case in which a neurological disturbance suggesting a lesion of the basal ganglia followed four days' unconsciousness due to nitrobenzene; and Grafe and Homburger (1914) reported a case in which mental deterioration was a sequel. It is possible that in the first case prolonged cerebral anoxia was an important factor.

Laboratory Investigations

In the early stages spectroscopic examination of the blood is useful in confirming the presence of methaemoglobin. A daily red cell count is advisable to ascertain the severity of the haemolytic process. Haemoglobin estimations are satisfactory if done by the Sahli method, but in this case only that of Haldane was available, and although the results are recorded in the Chart the presence of methaemoglobin makes them unreliable. The white blood cells may show a polymorphonuclear leucocytosis in the early stages, and Loeb, Bock, and Fitz (1921) report 40,000 per c.mm. in one case; a second rise during the haemolytic phase may also be found.

The urine initially may be dark, especially on standing; this has been noted on many occasions, and, according to Loeb, Bock, and Fitz (1921) and to Meyer-München (1905), is due to nitrobenzene being excreted as para-amidophenol. It is often said that the urine may contain a reducing substance, but this is rarely reported in case summaries, although Wolpe (1920) stated that one of his patients had 0.1% sugar in the urine the day after poisoning (method of testing not mentioned). Engel (1934) attributes this property of the urine to the presence of glycuronic acid, with which para-amidophenol is conjugated for excretion. The passage of dark urine in the haemolytic phase is unusual, although Güntz (1930) mentions it in his case.

Treatment

The recognition of acute nitrobenzene poisoning should not be difficult with the extreme cyanosis and characteristic smell, and if the history suggests oral ingestion the stomach should be washed out. If the patient is unconscious, steps should be taken to restore the oxygen-carrying capacity of the blood, a procedure which may terminate the coma although it will not affect the direct toxic action on the nervous system. Blood transfusion and replacement transfusion have both been used with good results: Chapman and Fox (1945) had a patient in semicoma who was much improved by venesection and transfusion of 3 pints (1.7 litres) of blood. In view of the ability of methylene blue to convert methaemoglobin to haemoglobin, such measures would seem to be unnecessary, although in the case of replacement transfusion it has the theoretical advantage of reducing the amount of poison acting on the nervous system. Methylene blue was first advocated as a result of animal experiments for use in cyanide and carbon monoxide poisoning. In the latter it was considered to improve cell metabolism, whereas in the former it was thought to convert

haemoglobin to methaemoglobin, which fixed the cyanide and prevented its toxic action (Wendel, 1933). However, despite this evidence, Steele and Spink (1933) used methylene blue in two cases of aniline poisoning with dramatic disappearance of methaemoglobinaemia, and Williams and Challis (1933) in one case. Subsequently Wendel (1937) agreed that it had this action in man in the dose used; and Hartman, Perley, and Barnett (1938) made a detailed study of it as an antidote for methaemoglobinaemia following sulphonamide therapy. Only two reports have been found of its use in nitrobenzene poisoning. Walterskirchen (1939) employed an unstated amount of 1% solution of methylene blue intravenously, and the cyanosis cleared in 15 minutes. and Leinoff (1936) gave 30 ml. of a 1% solution intravenously, and describes the patient as at first becoming darker blue, then within one hour the condition improved and the finger-nails became pink. He does not mention a return of the cyanosis, but this is implied in the subsequent statement that it disappeared completely in a few days. The dose given in the case reported here is much smaller than that advised by Hartman *et al.* (1938)—1–1.5 mg. per kg. The subsequent oral administration had less effect than would have been expected in view of the finding of the same workers that 1–2 gr. (0.065–0.13 g.) four-hourly controlled sulphonamide cyanosis. The use of ascorbic acid was suggested by Deeny, Murdock, and Rogan (1943), who reported on its use in congenital methaemoglobinaemia and by Carnrick, Polis, and Klein (1946) in the acquired type, although in this case it was really given too late to say whether it was beneficial.

There does not seem to be any danger in giving methylene blue in these doses, although coloration of the urine may surprise the patient and injection outside the vein may cause a severe and painful inflammatory reaction.

Subsequently the extent of the haemolytic process must be watched, and, if the haematological or clinical condition demands it, blood transfusion should be given. In the present case it is probable that the haemolysis was maximal at the time of the transfusion and that the condition would have improved satisfactorily without it.

Summary

A case of acute nitrobenzene poisoning following oral ingestion is reported. Cyanosis and haemolytic anaemia were the outstanding clinical features. Methylene blue was used in the treatment of the methaemoglobinaemia, and the haemolytic anaemia was so severe as to need a blood transfusion.

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HETEROTOPIC OSSIFICATION OF AN APPENDICULAR MUCCOCELE

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 Surgeon

AND

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By the term "heterotopic ossification" is meant the appearance of osseous tissue in an organ which has no ontogenetic relationship to the process of ossification. The spontaneous occurrence of heterotopic ossification has been observed in the most unexpected tissues and organs, as, for example, aneurysmal walls, old haematomata, laparotomy scars, injured muscles and nerves (Leriche and Policard, 1926), arterial walls (Monckeberg, 1902), tonsils (Reitmann, 1903), aortic valves (Rosenstein, 1900), the anterior chambers of the eyes (Koch *et al.*, 1939), tissues affected by elephantiasis (Kleine, 1929), and of course tumours (Leriche and Policard, 1926; Törö, 1935).

Experimentally, the condition has been obtained by ligation of the renal vessels, in granulation tissue by a variety of methods (Leriche and Policard, 1926), by grafting a portion of gall-bladder mucosa, urinary-bladder mucosa, or even gastric mucosa into various connective tissues (Cavalli, 1939; Jung and Cemil, 1935; Leriche and Lucinresco, 1935; Lucinresco and Cavalli, 1935, 1936; Santa and Maracci, 1938), or when a portion of an aponeurosis has been used to replace a defect in the urinary bladder wall (Neuhof, 1918–20; Huggins, 1931; Phemister: Copher and Key).

The mechanism of heterotopic ossification is still a matter of controversy. Conheim supported the theory of latent embryonic points of ossification; Ollier that of periosteal displacements; Busch, Macewen, and Ribbert that of the haematogenous seeding of osteoblasts. At present the hypothesis of Leriche and Policard is favoured—namely, that the principal requirements for the occurrence

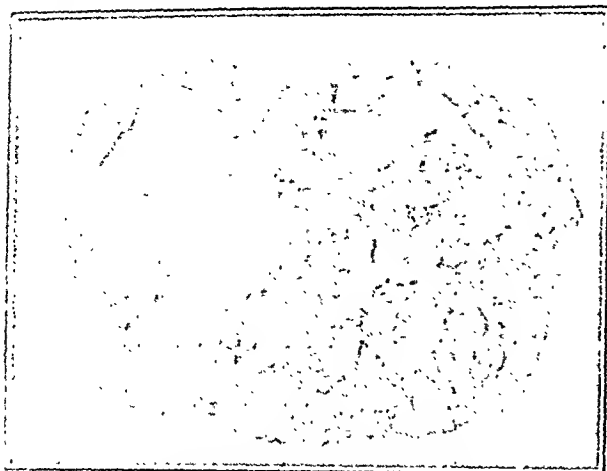


FIG. 1.—Naked-eye appearance of the tumour.

Heterotopic ossification are the creation of a granulation tissue and the deposit therein of calcium salts, the processes occurring either together or in succession.

Slowing down of the circulation, produced by venous stasis, is a factor in fibrous ossification. Ischaemia is a factor in enchondral ossification (Giuliani, 1934).

Our present work deals with a case of heterotopic ossification of a mucocele of the vermiform appendix. This had opened into the peritoneal cavity and was associated with a platynous condition of the peritoneum (Péan's disease or Werthe's pseudo-mycomatosa peritonealis). The appendix was located in the sac of an inguinal hernia. The condition was discovered at an emergency operation for strangulation of the hernia.

Case Record

The patient, a man aged 70, was admitted to hospital on the 13th of May 1946, with strangulation of a right inguino-hermal hernia. The hernia first appeared six years before and had been strangulated twice. On each occasion reduction of the hernia was successfully carried out after one or two hours. On May 14, 1946, immediately after a muscular effort, strangulation occurred and repeated attempts by the patient to reduce the hernia were unsuccessful. He was admitted six hours after the onset of strangulation. On admission his general condition was good. The bowels had moved, and an irreducible hard, non-tender tumour was found on the right side.

Operation (Radical cure "percarine" and ephedrine). The sac was dissected out and the contents found to be stony hard.

On opening the sac, a stony hard, about 7 cm. long, was found, fixed to the ommentum at its upper pole. With a view to determining the nature of this tumour, the incision was extended superiorly and the abdominal cavity opened. A large, stony hard, irregular mass was found, fixed to the posterior abdominal wall. The mass was removed and the specimen was found to be a large, stony hard, irregular mass, fixed to the posterior abdominal wall. The mass was removed and the specimen was found to be a large, stony hard, irregular mass, fixed to the posterior abdominal wall.

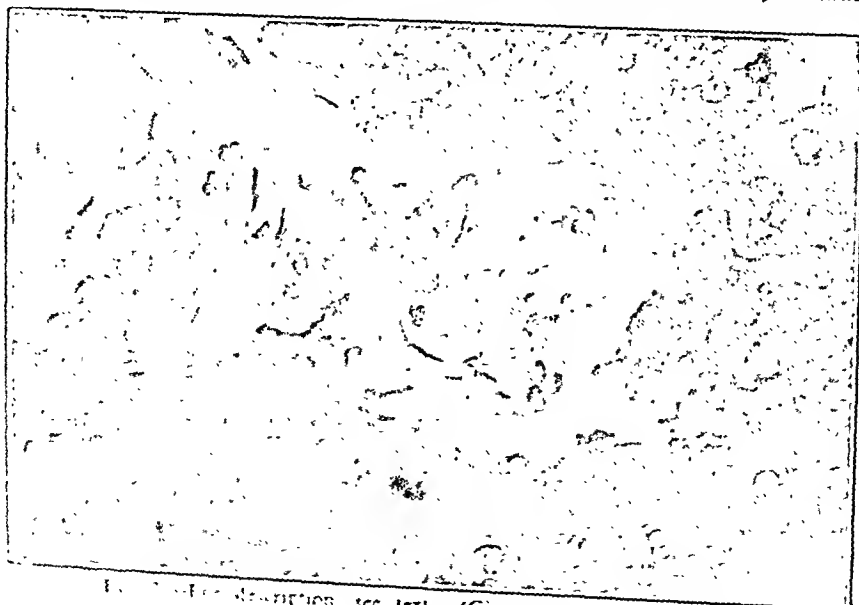


FIG. 2.—For description, see text. (Giemsa stain; Oil-immersion objective No. 60, Zeiss.)



FIG. 2.—From above downwards: smooth-muscle tissue with fragments of epithelium; granulation tissue, with areas of calcification; osseous tissue. (Mann's stain; ocular $\times 5$; objective No. 3, Zeiss.)

The osseous body was found to be in direct connexion with a remnant of the appendix, approximately 1 cm. in length. The tumour and the appendicular remnant were removed and the operation finished by the method of Bassini.

Post-operative progress was normal and the patient was discharged after 12 days. A general examination of the patient six months later was satisfactory.

Pathological Examination of the Tumour.—The tumour (Fig. 1) was ellipsoidal in shape, about 7 cm. in length, opaque to x rays, and covered by soft tissues only over its upper pole. Microscopically it was seen to be a terminal atrophic portion of a vermiform appendix, with a tendency to sclerosis. The principal mass of the tumour consisted of three main histological elements—epithelium, granulation tissue, and osseous tissue (Fig. 2). The epithelium was of intestinal type and showed areas of hypertrophy and hyperplasia as well as of atrophy. These epithelial areas occurred in islands or in long strands. In some areas there were smooth-muscle fibres in relation to the epithelium. The lumen of the appendix, where it was still visible, was filled with an amorphous material which took up a rose-red colour when stained with Mayer's mucicarmine. The granulation tissue was situated between the epithelium and the osseous tissue. It showed areas of necrosis near the epithelium and of calcification near the osseous tissue. It could be clearly seen that calcium salts were being deposited in the necrotic areas, and that ossification was occurring in the calcified zones, where osteoblasts penetrated through connective-tissue trabeculae (Fig. 3). Peripherally the osseous tissue was contiguous with and external to the calcified zones. It contained typical bone

tion tissue was situated between the epithelium and the osseous tissue. It showed areas of necrosis near the epithelium and of calcification near the osseous tissue. It could be clearly seen that calcium salts were being deposited in the necrotic areas, and that ossification was occurring in the calcified zones, where osteoblasts penetrated through connective-tissue trabeculae (Fig. 3). Peripherally the osseous tissue was contiguous with and external to the calcified zones. It contained typical bone

cells and medullary spaces having blood capillaries and scanty haemopoietic cells. The direction of the Sharpey fibres showed clearly that the osseous tissue had been subjected to continual mechanical stress.

Discussion

In retrospect the condition is considered to have been a perforated appendicular mucocoele (in the sense used by Ferret in 1876) for the following reasons. There was a gelatinous condition of the peritoneum, and the pedicle of the tumour consisted of an appendicular remnant. On section the tumour showed portions of intestinal epithelium and mucous cavities.

The case can be considered to be a fortuitous experiment presenting the following features: the presence of an epithelium in a connective-tissue medium with a reduced circulation; mucoid impregnation of the whole structure; the development of a granulation tissue and of areas of necrosis in the wall of the appendix. The regular fibrillary structure shows, further, that some of the changes are due to traction or pressure by the intra-abdominal viscera, to intestinal peristalsis, and to traction by omental adhesions.

The role of the epithelium in heterotopic ossification is known from experiments. The experimental transplantation of mucous tissues into connective-tissue media constantly results in hypertrophy and proliferation of the mucous epithelium. Sometimes the epithelium may be responsible for the secretion of a phosphatase (Lucinresco and Cavalli, 1935, 1936; Severi, 1939). Zones of necrosis are the usual sites of calcification. The histocytes of the granulation tissue represent the source of the osteoblasts. Physiological studies have long ago shown that mucous substances and mechanical irritants have an osteogenetic effect. But even now there is no explanation of how haemopoietic tissue develops in relation to areas of heterotopic ossification.

Perusal of the literature revealed reports of calcification in appendicular mucocoeles (Henke and Lubarsch, 1929; Olanescu *et al.*, 1942) and of three cases of actual ossification (Henke and Lubarsch, 1929). Two of the latter were published by Nishii and Akimoto (1928)—appendicular carcinomata associated with mucocoeles, where osseous tissue appeared only in areas free of the invading neoplasm. The third was published from the Virchow-Krankenhaus (680/1928)—a case of partial appendicular mucocoele containing in its walls osseous foci showing a regular fibrillary structure.

Summary

A case of heterotopic ossification of an appendicular mucocoele is reported. Ossification was of wide extent and was associated with the appearance of haemopoietic tissue. The mucocoele had perforated and was accompanied by a gelatinous condition of the peritoneum. The various conditions required for the onset of ossification—structural, biochemical, and mechanical—were present and are discussed. The condition was not suspected clinically, being discovered only at operation.

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Medical Memoranda

An Unusual Case of Large-Bowel Obstruction

The following case of large-bowel obstruction after perineal excision of the rectum merits recording on account of its rarity. A search of the literature failed to reveal a similar case.

CASE REPORT

A woman aged 54 was admitted to the wards of Mr R. A. Keane at the North Staffordshire Royal Infirmary on Nov. 27, 1946, complaining of pain in the centre of the abdomen for three days. She had vomited on the morning of admission. A perineal excision of the rectum had been performed nine years previously and the colostomy had functioned adequately till one year ago, when a plastic operation was carried out for stenosis of the opening. Thereafter the colostomy had again functioned normally until two days before admission. There had been no bowel action since. There was also difficulty in micturition.

On examination the temperature was 98° F. (36.7° C.), pulse 92. The tongue was furred. The abdomen was soft, and a large median swelling was visible in the suprapubic region which was tender and resonant on percussion. Normal bowel sounds were heard and there was no evidence of intestinal colic during examination. A left inguinal colostomy was present which looked quite normal, but it was impossible to introduce a finger into either opening.

Operation. Under general anaesthesia—nitrous oxide, oxygen, "trilene" and ether—a right paramedian subumbilical incision was made. A gangrenous mass of large bowel presented in the wound. This proved to be the blind efferent loop of large bowel leading from the colostomy. It was not fixed distally to the pelvic floor, but hung free in the pentoneal cavity as a pendulous sac. This sac was about 8 by 3 in. (20 by 7.5 cm.) in size, had undergone torsion at its base, and was bluish in colour. This blind end of colon was resected, leaving about a 14-in. (37.5-cm.) stump at the colostomy. Free blood-stained fluid was mopped out of the pelvis, revealing the uterus firmly attached to the sacrum by adhesions on its whole posterior surface. Sulphathiazole, 5 g., was inserted in the peritoneal cavity and the abdomen was closed with a stab drain to the pelvis. The colostomy acted profusely before the patient left the table. Examination of the specimen showed a black gangrenous mucosa; the sac of bowel contained a heavy, purty-like faecal mass about the size of an orange and with a most offensive odour. Convalescence was uneventful, and the patient was discharged home on the sixteenth day.

COMMENT

This unusual complication of perineal excision of the rectum could occur only where the distal segment of bowel was hanging free and was not fixed in the usual manner to the reconstituted pelvic floor. This and the adherence of the uterus to the sacrum suggest either that an inadequate repair of the pelvic peritoneum had been carried out or that it had broken down post-operatively. The weighty faecal mass was presumably a precipitating factor.

My thanks are due to Mr. R. A. Keane for permission to publish this case.

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Reviews

DOCTOR POL

Nicolaus Pol Doctor 1494. By Max H. Fisch. With a Critical Text of his Guaiac Tract edited with a translation by Dorothy M. Schullian. (Pp. 244; illustrated. \$7.50.) New York: Published for the Cleveland Medical Library Association by Herbert Pochner, N.Y. 21.

The contents of a medical library of early date may furnish an interesting commentary upon the contemporary state of medical knowledge. Consequently, a library which was built up during the early years of the sixteenth century is of surprising interest, and as each item in the collection to which this book refers is marked by the signature "Nicolaus Pol Doctor 1494" there is no difficulty in identifying the volumes when they are found. The date, as we shall presently show, does not refer to the book on which it is inscribed. The books and manuscripts of Nicolaus Pol originally numbered some 1,300 items, and those which still exist are now widely scattered. The present account is based upon the Cleveland Collection, which has had the following curious history.

In 1907 a young antiquarian bookseller in Munich, Maurice Fünfhäusen, sold to Dr. E. C. Streeter, of Boston, a bundle of some thirty incunabula and sixteenth-century books, each bearing the inscription of Nicolaus Pol. Twenty years later, as head of Mages Brothers, he visited Boston and bought back the collection. Catalogued and placed on sale, it was acquired for the Cleveland Medical Library through the services of Harvey Cushing and his nephew Edward H. Cushing, and once more it crossed the Atlantic. In America it remains as one of the richest treasures of the Cleveland Library. There were already 13 of Pol's books in the Yale collection, and a search in various libraries of Europe revealed many more. At San Candido, in Tyrol, 133 volumes were found. Others came to light at Innsbruck University, and a few elsewhere, although many are still untraced.

In the meantime Dr. Max H. Fisch has rendered useful service by publishing a catalogue of Nicolaus Pol's library so far as it is known. The work is, however, much more than a mere catalogue of this fine medical library of Renaissance date. From the scanty data available he has been able to construct a brief biography of the man himself. The place and date of his birth are uncertain. Tyrol, about 1470, is a rough guess. But we do know that in 1487 he was appointed Court Pharmacist to Duke Sigismund at Innsbruck at the beggarly salary of twenty florins a year, and in 1495 he became physician to the Emperor Maximilian at a hundred florins a year. The documents ratifying this appointment is preserved at Innsbruck and is reproduced as Plate I in this work. The date 1494, appended to each of his signatures in his books, may possibly have been the year to which he started medical practice. Certainly he was in no position to buy many books then. Between 1513 and 1520 his doings are revealed in a number of letters between Pol and Veit Bild, a monk of Augsburg, who appears to have acted as Pol's agent in purchasing books. A number of books are mentioned in the letters, including those of the Spanish astrologer Ramon Lull. Twenty works by Lull are included in the present list. It seems probable that Pol was a member of the commission sent to Spain by Cardinal Lang in 1517 to study the native treatment of syphilis, and from this mission there emerged his tract *De Morbo Gallico*, written in 1519 and now reproduced in full in Latin and English (pp. 50-97). The excellent translation is the work of Dorothy M. Schullian. The discovery of peruvian wood, taken with a much reduced diet, was a valuable alternative to mercury, which killed and maimed. No doubt Pol passed from the service of Maximilian to that of Charles V; certainly he continued to practise at Innsbruck, and there he died in 1532.

The second half of the book contains a list of the known works of Pol, a list of the libraries and of their present location. Among the titles are notably Aesop's *Fables*, 14 works of the *Practica*, and 11 of Villanova's *Regimen of Salerno*. There are also some of the *Practica*, Bartholomaeus Anglicus's *De*

Pulsibus, John of Gaddesden's *Rosa Anglica*, Guy de Chauliac's *Chirurgia*, Sir Thomas More's *Utopia*—one is tempted to continue, for the very names have a fascination, but the variety already obvious. It is a catalogue most attractive to the bibliophile. Four of the lovely bindings are reproduced as plate and there are excellent portraits of Maximilian, Cardinal Lang and Jacob Fugger. Other plates depict the guaiacum plant and its preparation as explained in Pol's book, as also in the more famous tract of Ulrich von Hutten. Unfortunately there is no portrait of Nicolaus Pol, who, to judge from his library, must have been one of the leading medical scholars of his time. This beautiful book reflects high credit on author and publisher alike.

DOUGLAS GUTHRIE.

GUIDE FOR STUDENTS

Symptoms and Signs in Clinical Medicine. An Introduction to Medical Diagnosis. By E. Noble Chamberlain, M.D., M.Sc., F.R.C.P. Fourth edition. (Pp. 464; 346 figures, of which 19 are in colour. 30s.) Bristol: John Wright and Sons. 1947.

The bewilderment of the first few weeks in the medical ward is an emotion so intense that most medical men can recall it for years afterwards. It may be that the introductory course now ordained by the General Medical Council prepare the clerk for his ordeal, but the need for some elementary written guide remains. Dr. Noble Chamberlain's book is designed to meet this need, and a measure of his success is given by its having passed through four editions and five reprintings in less than twelve years. Such popularity suggests that the book provides the student with what he believes he needs and forestalls criticism.

There are difficulties in reviewing a book addressed to a group of which the reviewer is not a member, for all teachers must hold their own views on what the student starting medicine should be taught. These views may differ not only from those of other teachers, but also from those of the student himself. Dr. Chamberlain's approach is conventional and unexceptionable, but the danger of this method is of reducing the patient to a disarticulated collection of systems and organs. Man would consider to be inadequate his definition of diagnosis as implying "knowledge of the organs or tissues affected by disease, and of the pathological changes which have taken place in them." His introductory chapter might with advantage stress the importance of the patient as an individual and a biological unit in the social structure. These are aspects which the student appreciates only when he is plunged into practice and finds himself no longer surrounded by "cases of mitral stenosis" but by sick people. The descriptions of methods of examination and of physical signs are excellent, and most of the half-tone illustrations apposite and well produced; some of the colour plates are less successful. This edition will continue to guide the student satisfactorily through the maze of his first period in the medical wards.

R. BODLEY SCOTT.

NURSING OF CHILDREN

Textbook on the Nursing and Diseases of Sick Children for Nurses. By various authors. Edited by Alan Moncrieff, M.D., F.R.C.P. Fourth edition. (Pp. 744; 154 illustrations. 30s.) London: H. K. Lewis and Co. 1947.

The new edition of this excellent book on the nursing and care of sick children is larger by 100 pages and has a number of new illustrations; one, or two contributors have been changed, but it has been thoroughly revised; but it is substantially the same book, and bears on every chapter the authoritative stamp of Great Ormond Street. Although the book is well known and established, it deserves something more than a brief notice of commendation. Its purpose is to serve as a manual for student nurses training in children's hospitals and to prepare them for the examinations necessary for entry on the State Register of Children's Nurses. Its excellence is partly, perhaps largely, due to the happy combination of the medical, surgical, and nursing staff of Great Ormond Street Hospital in planning and writing it. In the preface we come across the phrase "scientific

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WHAT WE HAVE GAINED

The statement by the Council drawn up at the end of its last meeting on May 5 after consideration of the results of the plebiscite was printed on a loose sheet which was inserted into last week's *Journal*. As the number of general practitioners voting No in answer to Question B was far short of the 13,000 required if collective opposition to the Act was to be continued, the Council is recommending the Representative Body to be prepared "to co-operate in the new service on the understanding that the Minister will continue negotiations on outstanding matters, including terms and conditions of service for consultants and specialists, general practitioners, public health officers, and others." The Council also resolved to accept the Minister of Health's invitation to enter immediately into discussions on the details of the promised Amending Bill, and on other outstanding matters. The Council's decision has been widely hailed by the Press as wise and statesmanlike. That this decision was right finds support in the correspondence columns from that Nestor of medical opinion, Dr. Alfred Cox, who was Medical Secretary of the B.M.A. in 1911 and retired after long years of service in 1932. His views, we believe, will carry great weight with the representatives who are to attend the Special Meeting on May 28. "Our best policy," Dr. Cox believes, "is to accept the verdict of the plebiscite ungrudgingly and to urge those doctors who join the Service that they will receive the whole-hearted support of the Association in making the Service a credit to the profession." He recalls the famous observation made by the *Westminster Gazette* in 1912 and refers to the comment made in the *Economist* about a fortnight ago. "Undoubtedly the doctors have won a big victory, for Mr. Bevan does not easily climb down to the extent that he has done."

Some correspondents have taken this *Journal* to task because of the content and tone of the leading articles that have appeared since Mr. Bevan's statement in the House of Commons on April 7. We avoided using the words of the *Economist* because it seemed ungracious to crow over Mr. Bevan when he made a generous gesture in unexceptionable terms. But our critics seem not to have realized that the situation has changed since December of last year, and indeed, since the time when Mr. Ernest Brown, Liberal National Minister of Health in the Coalition Government, put forward his proposals for a health service in 1943. We may recall that the Coalition Government proposed that general practice should be carried on by a health service, manned by whole-time full-salaried doctors, and that the right to private practice. The young doctors would enter this service at a salary of £400 a year, and the bulk of the 46 would not ordinarily

be earning more than £1,200 a year. We have only to contrast the scheme put forward by a Liberal Minister of Health with the present scheme to see what great changes have been made as a result of the intermittent negotiations that have been going on for the past five years. The Central Medical Board in Mr. Brown's and in Mr. Willink's scheme had wide powers over the general practitioner, including the power of appointment. The first move away from this situation was to devolve on Local Executive Councils with full professional representation the principal responsibility for selecting men for vacancies in general practice. Mr. Bevan has now finally devolved this responsibility where it should properly lie—the general practitioner himself, who has the right to choose his partners and assistants. Mr. Bevan, too, has accepted the Spens Committee recommendations on remuneration for general practitioners, which go far beyond the mean proposals of Mr. Ernest Brown.

When Mr. Ernest Brown and Mr. Willink were Ministers of Health the B.M.A. strongly opposed the idea that the new health service should be administered by local authorities. There was particular objection to the municipal control of hospitals, and as an alternative it was advocated that they should be administered in regions based on universities. The opposition was so effective that the municipalization of the hospital service was abandoned and the regional idea was accepted. Mr. Brown would have allowed in his scheme no private practice to the general practitioner. The B.M.A. successfully resisted this, and Mr. Bevan in his Act has granted the right to private practice to general practitioners and to consultants and specialists. Free choice of doctor being incompatible with a full-salaried service, the B.M.A. won its point that payment should be principally by capitation fee, and Mr. Bevan now has removed the objectionable feature of the universal basic salary, which many people with reason saw as an attempt to control certification. When the Negotiating Committee met Mr. Bevan in December of last year it presented a fully argued case on the ambiguities of Sections 35 and 36 of the Act. Mr. Bevan then took no notice of these objections, but has since set up a legal committee to inquire into them with the promise of amendment in the terms of the legal committee's findings. Another point pressed upon Mr. Bevan was that health centres should be the subject of experiment. Mr. Bevan, though pressed on by the Socialist Medical Association and its supporters, has refused to be hurried in the matter of health centres. In the first place, building materials and labour will be more usefully employed in providing new houses, and in the second place he has agreed with the B.M.A. view that further inquiry is needed. Mr. Bevan has met the professional demand for free expression of opinion on all aspects of the Service, and will put in the contract an assurance that this will be safeguarded. He has, too, promised to submit Regulations in draft to the B.M.A. Although he retains his power of negative direction, he has restricted this by agreeing that any doctor should practise where he likes in those areas not defined as being over-doctored. In fact, when we review the situation as it has evolved since the first plans of the Coalition Government were made known, it

is clear that the medical profession has by its tenacity in negotiation made very considerable gains. There was a fear in the early months after the publication of the Beveridge Report that the Government would introduce only the medical part of its social security plan, and the B.M.A. stated¹ that it would co-operate with the Government if Parliament "decided to accept the assumptions of the Report and to put into operation the proposals of the Report, taken as a whole. . . ." The conditions of co-operation have been fulfilled.

The medical profession has not succeeded in persuading Mr. Bevan to grant the right of appeal against the decision of a tribunal of the Minister to remove a man from the Service. It has failed to persuade the Minister to remove his power of negative direction, and it has failed to remove from the Act the prohibition against buying and selling public practices. This last point is one of much importance to general practitioners. But Dr. Cox has put the matter in a nutshell when he writes: "To continue to oppose the working of the Service because we have failed on the goodwill issue would be to fly in the face of what is possible." In addition to the reasons he gives to support this statement there is the fourth and compelling reason of the economic position of the young man entering general practice to-day. The ownership of goodwill was a defence against a full-salaried service and also gave to the owner the right to choose his partner or assistant. Mr. Bevan, by his own decision, has made the introduction of a full-salaried service under the present Act impossible, and he has restored to the general practitioner the right to choose his own partner and assistant.

It would seem that some of our correspondents do not have a "whole-hearted desire," or, indeed, any desire at all, for a comprehensive medical service available to the whole community. This is a tenable position, but it is not the policy of the British Medical Association. The Representative Body has accepted a service available to 100% of the community. Valid arguments can be brought against the inclusion of the whole population in a National Health Service, but again the exclusion from such a service of 10% or 15% of the population is not B.M.A. policy. We recall the observations made by Dr. H. Guy Dain, the Chairman of Council, at the Special Representative Meeting two years ago.² As reported, he said "that in his view the question of proceeding to get anything less than 100% was dead. Their opponents would be delighted to see them come out and claim that the Service should be for less than 100%. He would not say that he was in favour of 100%, but he had never seen any method of dividing the population for a complete medical service, though it might be done with the present restricted N.H.I. service." Through its representative organization the medical profession has since the publication of the Beveridge Report reiterated its desire for the comprehensive medical service available to the whole community that was the fulfilment of Beveridge's Assumption B. A succession of Ministers of Health have yielded ground in the face of the B.M.A.'s sustained opposition to certain of their proposals. Mr. Bevan, in the light of his own statements and of the

policy of his own Party, has by his promise of an Amending Bill and other concessions in written answers to questions gone a considerable way to meeting the demands of the medical profession. He has offered a compromise, and compromises are the traditional English way of settling disputes. For the medical profession to reject the compromise and to be intransigent would cost it the support of public opinion. The B.M.A. Council, viewing the situation as a whole, has made what is widely acclaimed as a wise decision in recommending the Representative Body to co-operate with the Government in launching the new service. Much remains to be done, and the profession's negotiators will need its support and trust in moulding the new service through the vigilant oversight of Regulations and in securing satisfactory terms and conditions. During the past months the medical profession has shown its strength and has shown, too, that it can use it with wisdom.

WAR AND MEDICAL RESEARCH

The Medical Research Council has performed a useful service in bringing together in the shape of a Command Paper an account of the manifold work which was done under its auspices during the war. Those who live during a period of great events seldom appreciate the magnitude of such events until later when the opportunity arises to see them in retrospect. Every month or every week during the years of the war seemed to bring to the fore some outstanding piece of medical investigation in one or other field, but it is only when these investigations are described in a connected narrative that we are able to realize how numerous they were, what an enormous field of inquiry they covered, what an army of experts was enlisted, and how decisive many of the results were in the conquest of disease, in the protection of those exposed to unusual hazard and in the rehabilitation of those who had suffered wounding or other injury.

The pace of medical science is accelerated in wartime. The slow-growing plant of medical research undergoes a forcing process. This is due in large measure to national urgencies, requiring instant solutions of problems which otherwise would have been attacked more leisurely. But there is another reason why medicine, both medical research and medical service in general, makes advances during war. War is a challenge to medicine. Medicine is concerned with the saving of the individual life and the reduction of suffering. With the outbreak of war the nations concerned are delivered over to destructive forces with which the single life counts as nothing at all. The impulse to go forward with medical work of any kind is due in part to the desire to fortify threatened ideals and to save something for sanity in a mad world. Yet by a strange irony medicine itself contributes enormously to the very effectiveness of the war machine. It enables men to sustain the struggle as they never would if the resources of medicine were not available, and even when they fall wounded it restores and re-equips them so that often they can go into the fighting line again. In the campaign in North-Western Europe in 1944-5 it was estimated that if the British soldier wounded in the field of battle came into

¹ *British Medical Journal*, 1943, 1, 193.

² *British Medical Journal Supplement*, 1946, 1, 133.

the hands of the medical service the chance of his survival was about 93% and of his recovery to a degree fitting him for a reasonably wide range of employment 84%. Until the final stage of atomic bomb devastation it could be said that advances in methods of destruction had been matched by advances in saving life. Thus medicine may be said to prolong and intensify the combat. It can even force military decisions. The effective introduction of malaria suppression by mepacrine was decisive in the overthrow of Japan, as it permitted military operations to be conducted successfully whereas otherwise they would have been impossible.

Much of the work described in the Medical Research Council report, reviewed on other pages, will be familiar to our readers owing to the fact that during the war years there was constant publication. Only a very partial censorship descended upon medical achievements. This is shown by the fact that there are not far short of two hundred references to wartime papers published in the *British Medical Journal* alone.

The report surveys the work done on the treatment of wounds and injuries and of war diseases, the work on nutrition, the investigations which come under the term "personnel research," the emergency services, such as those concerned with immunological supplies and with blood transfusion, the preparation and maintenance of biological standards, and much more. A great deal of the work done, such as the organization of a public health laboratory service, remains as a legacy bequeathed by war to peace. One golden thread runs through all the narratives. Those engaged in medical research of one sort or another not only have their outstanding abilities and often uncommon genius to the national effort but served with a personal devotion, a courage, and a sacrifice in their laboratories or wherever it might be, worthy of the similar qualities shown by the men in the fighting Forces. Those concerned at the National Institute for Medical Research, for example, were studying the physiological effects of high oxygen tension, which meant entering a pressure chamber; 300 such "dives" were taken with a fine disregard of personal distress. At the same centre the problem of protection against flame was being studied and tests on certain skin paste called for a high degree of personal courage. So with the experiments on "climatic physiology" carried out in "hot rooms" at the Admiralty, involving a tremendous strain on those concerned, with frequent heat collapse and stamps. Soon after the outbreak of the war, when it was evident that rationing on a scale to which the British people had never been accustomed would have to be enforced, the two members of the staff of the Department of Experimental Medicine at Cambridge intimated that they and certain attached workers were prepared, in advance of compulsory rationing, to subsist voluntarily for a period of six weeks on a very restricted dietary scale, suddenly imposed in order to observe its physiological and psychological effects on the health of adults of both sexes. Their diet was planned to correspond exactly with those of the troops to be expected to be available for the general population under very severe blockade conditions. The diet which these workers accepted was more severe than that which was afterwards proved to be necessary, but

their experiment materially influenced subsequent policy concerning food rationing. Another example was afforded by the twenty volunteers—conscientious objectors to military service—who served as subjects for experimental transmission of scabies and who later collaborated in important dietetic experiments, subsisting on a diet as deficient as possible in vitamin A and carotene. There were also volunteers who underwent experimental infection with jaundice in pursuit of the investigation of infective hepatitis. Some of these were rheumatoid arthritis patients who hoped that an attack of jaundice might relieve their condition—as it did temporarily—but others were inspired by the pure zeal of the investigator.

The report includes an extended tribute to three distinguished men in medical research, two of whom died during the war (Sir Patrick Laidlaw and Sir Thomas Lewis) and the third (Sir Henry Dale, O.M.) retired from the service of the Council after being a member of the staff for twenty-eight years. It is considered worthy of note at a time when the question of attracting the best brains to scientific work in the Government service is being much debated and reported upon that three such men as Laidlaw, Lewis, and Dale, of the highest international fame in medical research, should have given their best years, with an average period of a quarter of a century, to the service of the Medical Research Council.

THE MYSTERY OF THE EOSINOPHIL

An increase in circulating eosinophils is a feature of a number of disorders which otherwise appear to have little in common. There are groups of conditions, such as allergic diseases of all kinds, parasitic infestations, and cutaneous eruptions, in which we can at least say that sensitization, a metazoan parasite, or a visible skin disease links the group together. But outside these categories come a number of other conditions which appear to have nothing to do with the three main groups. One of these is lymphadenoma: enlargement of lymph glands with eosinophilia nearly always leads to the diagnosis of that disease. The eosinophilia may be very marked indeed and extend to 50% or more of the total leucocytes, themselves abnormally increased. Some have felt that this implies an allergic background, and attempts, apparently unsuccessful, have been made to prove sensitization by intradermal inoculation of lymphadenomatous material. It is probable that in this disease the eosinophilia in the blood is the result of an overflow from the eosinophil deposits in the affected lymph glands, and that it is therefore analogous to the lymphocytosis in lymphatic leukaemia. Eosinophilic leukaemia may be considered as a disorder linking the true leukaemias and lymphadenoma, and lymphadenoma should be looked upon as one of many possible forms of malignancy in an organ with many functions and an eventful embryonic career.

Sometimes, however, eosinophilia with enlargement of lymph glands occurs in serum sickness and may be confusing. The presence of heterophilic antibodies to sheep cells differentiates the two conditions—the test for these is so unpredictable and apparently irrational that it recalls some of the methods of mediaeval medicine in its more esoteric phases.

Allergic eosinophilia is most variable in its appearance. Many patients with severe asthma have no eosinophilia; on the other hand, there may be marked eosinophilia in patients who react acutely for the first time to certain drugs or foodstuffs.

Symptomless eosinophilia is most often due to metazoan parasites, and in certain parts of the world where helminth infestation is universal eosinophilia is equally common. In the tropical belt of Africa infestation by *Filaria perstans* is both symptomless and practically universal, at least in some areas, and the eosinophils may amount to 70% or more of the circulating leucocytes. It should be remembered that amocbiasis does not cause eosinophilia—protozoa never evoke a response which is essentially metazoan. For some time to come helminth infestation must continue to be carefully excluded in adult males with eosinophilia, particularly in those who, interned in Japanese prison camps, so commonly contracted hookworm and *Strongyloides* infestation.

A further condition commonly associated with eosinophilia is periarteritis nodosa. This disease is to-day recognized to be more common than was once believed, and a proportion of the cases recover. Unless a biopsy is possible on a skin nodule the diagnosis of the condition must always be a guess; but eosinophilia is commonly encountered, and where albuminuria, fever, and eosinophilia are found together this disease must at least be considered. The contemporary view is that the condition is allergic, and the eosinophilia certainly gives this some support.

Of recent years there have been separated certain other conditions, all rare, in which eosinophilia is present in tissues or circulating blood and where some authorities have thought it possible to define clinical entities. One such condition is eosinophilic granuloma of skin, detailed studies of which have recently been published.¹ Clinically the disease is stated to be a chronic and usually self-limited condition in which doughy, firm, reddish-brown tumours form in the skin. The diagnosis is essentially a laboratory one, since eosinophilia of the order of 50% is present in the circulating blood and also in the actual lesions. The condition is strikingly similar histologically to periarteritis nodosa, since the lesions occur in relation to small blood vessels and perivascular tissue. Allergy has also been confirmed in some cases; for example, a *Trichophyton* was grown from the feet of a patient, and trichophytin extracts gave positive intradermal reactions.

A much-disputed eosinophilic disorder of the lungs was described by Löffler² in 1932, and a similar condition, commonest apparently in India, is known as "tropical" eosinophilia. A survey of the latter condition has recently been made by Joseph,³ who considers the two disorders distinct. But in certain cases such as that described by Perlingiero and György⁴ infestation with roundworms has been present. Indeed, so many types of worms pass through the lungs at one stage of their life cycle that pulmonary symptoms due to their presence are inevitable. Very definite proof that a parasitic infestation is absent must be demanded before

accepting these disorders as new entities. The discovery of mites in the sputum of patients must be accepted with abundant reserve. Entomologists tell us that their peace of mind is constantly being undermined by reports of mites in sputum, urine, or faeces. The truth is that mites are everywhere and easily fall into containers later filled with pathological material.

Eosinophilic granuloma of bone is a much more distinct entity. It was first described by Finzi⁵ in 1929, and something under fifty cases have been recorded. It is now generally agreed that the condition is one stage in the development of a disturbance of lipid metabolism, and that the clumsily named Hand-Schüller-Christian disease is essentially the same disorder at an earlier stage. Other conditions in which tissue or blood eosinophilia may be present are numerous, but in most of them the eosinophilia is erratic and of most uncertain significance. In the whole gastro-intestinal tract, for example, acute inflammation is often eosinophilic; in widespread secondary malignant deposits blood eosinophilia has been recorded, but is not the rule; eosinophilia in blood and tissues occurs in some cases of radium sickness; and on occasion eosinophilic pleural effusions are found which appear to have no common aetiology or prognostic significance.

There is, in fact, no apparent link between all the varied conditions in which eosinophils are a prominent feature. But it is worth remembering that ignorance about the function of all other leucocytes, except the polymorph, is as great. No one has suggested what function a basophil cell or a monocyte may be expected to carry out. Lymphocytes amount to 40% of circulating cells, yet few haematologists would like to be dogmatic about their purpose. If the eosinophil is a mystery, it is at least in good company.

POLICY FOR PEOPLES

The relatively high birth rate in this country in 1946 and 1947 has silenced temporarily the talk of a persistent and cumulative decline in population. Not long ago the view was put forward that the population of Great Britain might well be declining by a quarter or more in each generation before the next half-century was out. It was even predicted that by 1948 there would be some fall in total numbers: this has not occurred, and a large decline seems now more remote. Predictions in this field, of course, cannot be much better than guesses. This is borne out by a table which appears in a report on *Population Policy in Great Britain* just published by P E P (Political and Economic Planning).¹ Five different assumptions are made regarding mortality and fertility trends in England and Wales during the next hundred years. If we take the most pessimistic of them it leaves us with a population at the end of that time of something like 14 millions, and if we take the most optimistic we have a population in the 'forties of the next century of 43 millions, which is very much what it is at present. According to the results of some research at Princeton University the population of the British Isles may have fallen by 1970 from something over 50 millions to under 47, while that of Soviet Russia (its pre-war territories

¹ *Population Policy in Great Britain*. A Report by P.E.P. (P.E.P., 16, Queen Anne's Gate, S.W.1. 15s. net.)

¹ Weidman, F. D., *Arch. Derm. Syph., Chicago*, 1947, 55, 155; Lewis, G. M., and Cornia, F. E., *ibid.*, 1947, 55, 176; Lever, W. F., *ibid.*, 1947, 55, 194; Dolan, J. P., *ibid.*, 1947, 55, 212.

² Löffler, W., *Arch. Derm. Syph.*, 1932, 79, 368.

³ Joseph, K. S., *ibid.*, 1946, 81, 515.

⁴ Perlingiero, G., and György, P., *Amer. J. Dis. Child.*, 1947, 73, 34.

⁵ Finzi, G., *Monatsh.*, 1929, 9, 239.

only it will have risen from 174 to 222. These are interesting exercises in what the statisticians call "projection," but the unknown factors are so many that the results must be subject to heavy discounts.

During the recent war there was a relatively high level of fertility in this country. The "baby slump" of the 1914-18 war was not repeated. In the Netherlands during the year after liberation the birth rate was higher than ever before in their history; in France it was the highest for a quarter of a century, and it rose even in Germany. Evidently if there is a "retreat from parenthood" it is not an orderly and continuous retreat; there are hesitations and retracings. Nevertheless, the practice of family limitation has spread gradually from groups of the highest social standing to all classes of the population in this country and in a large part of western Europe. With wider opportunities for advice on birth control a fall in the birth rate is only to be expected, though with relatively fewer people dying a decline in population can be temporarily avoided. For a time birth control and death control may keep in step. But the childless marriage and the one-child marriage will be more frequent; there will be fewer unwanted children and fewer intentional abortions; and if it should come about that all parenthood is voluntary so much the better both for parents and offspring, but without some policy at national level the numbers of the population may fall catastrophically.

The term "population policy" would have scandalized our forebears, who took bitter exception even to Malthus's well-intentioned proposals for postponed marriage, not to speak of the neo-Malthusian advocacy of control of fertility by contraception. There are individualists who maintain that no attempt should be made to influence people's reproductive behaviour. Authoritarian banning of non-injurious contraceptives is now out of the question, and mere exhortation to people to have more children is futile. A population "drive" would cover itself with ridicule. Parliament cannot deal with the unborn generations as it deals with the gas industry or with doctors. But a population policy directed to the encouragement of parenthood can be pursued in ways which are very ably set forth in this P E P report. One measure is obviously financial assistance to parents by means of maternity grants, family allowances—the present family allowances, in the opinion of P E P, should be doubled—social insurance, and tax rebates. These of course should be accompanied by the provision of suitable houses and other environmental health services. A case might also be made out for low-interest marriage loans. These measures for the encouragement of parenthood which are already in being to a greater or less extent, can be advocated on grounds of social justice apart from their effect on prospective population; but, as someone has remarked before, if children are not had for love they are likely to be had for money. Over and above all this there is something imponderable—the raising of the birth rate in this line. A large family was once the subject of respect; later it became a subject of jest, and even of scorn, and the ground of imprudence. There are signs, however, that the bringing up of children is enjoying a new respect. His Pers. Mr. Quigley is now a more

The principal proposal in the P E P report hinges on the National Health Service, from which P E P expects a great deal. The Service, it says, provides the setting for a revolutionary advance in personal health care of the individual and family. It even gives the Minister of Health the additional portfolio of Minister of Population. Within the National Health Service it desires to see a Family Welfare Service in which the general practitioner, fortified perhaps by a code of practice prepared by the British Medical Association, will be the pre-marital adviser. Well, we pause there. It is admitted at once, of course, that the health of the parties is an important element in conjugal success, but it is not the only element, and to make the general practitioner apparently the sole marriage counsellor argues too wide a view of the practitioner's functions and too restricted a view of marriage. If there is to be a recognized system of marriage guidance it will require not one counsellor but a whole board—doctor, priest, eugenicist, economist, and perhaps several others, including, for the present at any rate, a house agent. Compulsory pre-marital medical examination, as one would expect, finds no acceptance. Apart from other objections, it would raise in an acute form the question of professional secrecy.

On the difficult matters of contraception and abortion P E P has much to say. It is of opinion that local authority clinics should not be limited to giving contraceptive advice to married women on medical grounds only, and that in principle such advice should be freely available, though it acknowledges that doctors in dealing with unmarried women may have to make exceptions in particular cases. In giving contraceptive advice generally doctors will help to foster the new attitude to parenthood without which a positive population policy based on democratic principles is bound to fail. As for abortion, the Interdepartmental Committee took the view that induced abortion could be justified for one reason only, to protect the woman's physical and mental health. The compilers of this report hold that the case for legalized induction, with the woman's consent, on certain eugenic grounds, especially of course having to do with mental defect, is very strong; but safeguards are necessary to prevent too wide an interpretation of "eugenic grounds." The most radical approach would be to make abortion available to every woman who desired it, provided there were no medical objections to the operation. It is recognized, however, that religious, ethical, and practical objections to the general legalization of abortion are much stronger than the objections to contraception. Contraception, unlike abortion, does not involve the actual destruction of human life.

This and other aspects of the population question must await further advances in medical knowledge and the crystallization of public opinion. The Minister of Health has recently stated in Parliament that the long-awaited report of the Royal Commission on Population may be completed this year, and it will be interesting to compare this with the P E P report. The latter can be commended for not losing sight of quality in pursuit of numbers, and for pleading not only for larger families but for a new attitude towards the family which should govern all discussion of social reform.

ACUTE PORPHYRIA

Failure to diagnose acute porphyria may lead to an unnecessary laparotomy in a seriously ill patient, and this undesirable error can be avoided only if the disease is considered as a possibility in the differential diagnosis of acute abdominal pain. Sudden onset of pain, with vomiting, constipation, and pronounced tachycardia, strongly suggests a surgical or gynaecological emergency (the patient is often a woman), especially when accompanied by guarding or rigidity in the lower quadrants of the abdomen, but when these signs and symptoms are due to acute porphyria doubt about the precise cause will usually arise. Abrahams, Gavey, and MacLagan¹ have observed that a urinary infection may also confuse the diagnosis. Elsewhere in this issue Dr. E. Petrie describes a case of acute porphyria and draws attention in his introductory remarks to the paucity of reports in British medical literature about this condition, which probably occurs more frequently than is generally realized.

The diagnosis can be firmly established only by examination of the urine, the appearance of which may be misleading in that the characteristic darkening to a port-wine colour does not appear if the urine is alkaline. Attacks frequently begin at the time of the menses, and coloration could be ascribed to contamination,² an error that may be increased by confusion between the absorption bands of haemoglobin and the zinc complex of porphyrin, which is probably the form in which porphyrin is always present in the urine in these cases. Provided due regard is paid to its distinction from urobilinogen, which may also be present, as Discombe and D'Silva³ and others have found, the reaction of the urine with *p*-dimethylaminobenzaldehyde is apparently pathognomonic of the condition.³

Dr. Petrie's case is another example of the usual sequence of events which, curiously, are so "remarkably stereotyped." Symptoms and signs of central nervous involvement were present, with emphasis on the loss of motor function. In view of the fact that in affected individuals the condition is latent between attacks, or in others it may remain latent, it is obviously important to prevent them from taking drugs widely held to precipitate attacks. The drugs most incriminated are the barbiturates, sulphonal, and "trional." Hence the sedation of these patients, especially during the often-encountered phase of respiratory weakness, may become a difficult problem. Other substances also under suspicion are sulphonamides,⁴ alcohol,⁵ and lead, which sometimes all produce type III coproporphyrinuria in normal individuals. Recently Brunsting and Mason,⁶ working at the Mayo Clinic, have made a careful study of four patients, all alcoholics, with hepatic impairment and lesions of the skin. Although the aetiology of this condition is obscure, the observations of these workers may lend support to the view, re-emphasized by Prunty⁷ and based on other evidence, that the disease might be one of disordered hepatic metabolism. Other recent studies have raised doubt whether Waldenström's uroporphyrin III, found in this condition and held to be typical of acute porphyria, is in fact a chemical entity and not largely composed of uroporphyrin I.⁸ This would be more in accord with the increasing number of reports of cases from the United States which combine features of both acute and congenital porphyria. Both conditions can

still be regarded only as "inborn errors of metabolism," and elucidation of the nature of the errors still requires considerable biochemical investigation.

NEUROMUSCULAR SYSTEM IN RHEUMATOID ARTHRITIS

The peripheral nerve symptoms in rheumatoid arthritis—muscle weakness and atrophy, numbness and paraesthesiae, and trophic changes in the skin—are features of the disease which led at one time to the belief that it originated in the central nervous system. This gave place to the view that an infection attacked the joints and that the other symptoms were secondary to this. Of recent years further research has shown that the joint symptoms are part of a general systemic disease and not the primary lesion. As far back as 1903 Llewellyn Jones¹ noticed that disturbed muscle function frequently preceded local evidence of joint disease, and this observation has received strong support from the demonstration by Steiner *et al.*² in the U.S.A., and by Gibson, Kersley, and Desmarais³ in this country, of local accumulations of cells in the nerve sheaths and the interstitial tissue of the skeletal muscles. In the neighbourhood of these small and scattered lesions local degenerative changes affecting the axons and medullary sheaths of the nerves can be seen, and there is often extreme thinning of the muscle fibres accompanied by increase in the interstitial connective tissue.

Morrison, Short, Ludwig, and Schwab,⁴ of the Harvard Medical School, have made an extensive investigation of the neuromuscular system in rheumatoid arthritis, using electro-myographic tracings and histological studies in a group of patients with well-marked rheumatoid arthritis. Patients with other forms of joint and muscle disease as well as healthy individuals formed a control series. They found no specific lesions in the central nervous system, but more pronounced alterations of the kind attributed to ageing than in controls of the same age. These changes were seen chiefly in the lateral projections of the anterior horns. Lesions were found in the peripheral nerves in 26 out of 31 cases and in the muscles in 8 out of 14 cases, thus confirming the findings of previous observers. Following careful research for involuntary muscle activity, fibrillation or fasciculation, spasticity, spread of tendon reflexes, voluntary and reflex muscle contractions, and neuromuscular influences in general, these workers concluded that lesions of the lower motor neurones were responsible for the muscle changes and neurological signs. Retrograde degenerative changes were found in the posterior root ganglia in several cases, confirming the observations of Penny⁵ in 1913. In a very interesting case of arthritis affecting only one side certain reactions were noted in the forearm muscles of the opposite side, the joints then uninvolved. The following week the patient developed pain and arthritic signs in the unaffected hand—a very suggestive sequence of events.

ACCOMMODATION AT ANNUAL MEETING

The accommodation at Cambridge for the Annual Meeting of the B.M.A. is limited. In order that the arrangements may run smoothly we would ask those who intend being present to notify the Executive Officer as soon as possible. The form for doing so appears at p. 123 of the Supplement this week.

¹ *British Medical Journal*, 1947, 2, 327.

² *Ibid.*, 1945, 2, 491.

³ Watson, C. J., and Schwartz, S., *Proc. Soc. exp. Biol., N.Y.*, 1941, 47, 393.

⁴ Rimington, C., and Hemmings, A. W., *Biochem. J.*, 1935, 33, 960.

⁵ Watson, C. J., and Larson, E. A., *Physiol. Rev.*, 1947, 27, 478.

⁶ *Proc. Mayo Clin.*, 1947, 22, 489.

⁷ *Arch. Intern. Med.*, 1946, 77, 623.

⁸ Watson, C. J., Schwartz, S., and Hawkinson, V., *J. biol. Chem.*, 1945, 157, 345.

¹ *Arthritis Deformans*, 1909. Bristol: John Wright.

² *Amer. J. Path.*, 1946, 22, 103.

³ *Ann. Rheum. Dis.*, 1946, 5, 131.

⁴ *Amer. J. med. Sci.*, 1947, 214, 33.

⁵ *Brit. Comm. Study Spec. Dis.*, 1913, 4, 43.

MEDICINE IN THE 1939-45 WAR

REPORT OF MEDICAL RESEARCH COUNCIL

The Medical Research Council has gathered into a report running to 450 pages a brief account of the many-sided research which it sponsored or otherwise assisted during the war. A vast amount of actual research was promoted by the Council, much of it with the object of supplying quick answers to newly emerged and urgent problems; it advised Government Departments and the Services on the application of scientific knowledge in the medical field, and it was responsible for many administrative tasks which a scientific organization was best fitted to carry out. Medical research in the war had three objects: (1) to maintain the health of the Armed Forces and civil population, particularly by the prevention of infective diseases and malnutrition; (2) to advance all methods for rapid restoration of wounded and sick; and (3) to elucidate the conditions required for the highest possible efficiency of fighting personnel and industrial workers. The Council worked through 44 committees, in which advisers and experts of the greatest experience and ability were employed.

On almost every page of this report the reader will feel that he has read the same thing before. The bibliographies appended to the various sections make it seem that almost everything brought forward has already been the subject of a special publication or of a paper in a medical journal. The hand of the censor certainly did not lay heavy here. During the war 24 special reports of the Medical Research Council were issued; in addition there were 17 war memoranda, presenting a concise summary of current knowledge on subjects of urgent practical importance under war conditions. Innumerable papers were published from the National Institute for Medical Research and from the Council's external research establishments, over twenty in number. In the bibliographies in the report we find references to no fewer than 174 papers published during the war in the *British Medical Journal* alone, and there are many others in our more specialized contemporary journals.

One of the Council's achievements was the *Bulletin of War Medicine* in 60 parts from September, 1940, to August, 1946, which formed an international exchange of medical information especially for Service medical officers cut off from direct access to original publications. The traditions of this wartime *Bulletin* are being maintained on an expanded basis by the new monthly abstracting journals brought out in the editorial department of the *British Medical Journal*.

Most of what appears in this report will be familiar, but it is useful to have it brought within a pair of covers in a readable and well-documented form. The following summary will remind readers of how much was done for medicine in this country by the Medical Research Council under the guidance of its executive, Sir Edward Mellanby.

Wounds and Injuries

A War Wounds Committee was appointed by the Council during the campaign in Flanders and France in 1940, when, owing to the speed of the enemy's advance westward, large numbers of wounded had to be transferred to Britain before adequate surgical attention could be given to their injuries. The very large expert committee, with six subcommittees concerned respectively with anaerobic wound infections, burns, chemical and crush injuries, vascular injuries, and pathological changes, worked under the chairmanship of the late Sir Charles Wallace and later under that of Sir Ernest Rock. Among its first acts was the publication of a pamphlet on the prevention and treatment of gas gangrene and the control of the production of toxoids for the active immunization of troops against the more important clostridia of the disease. Gas gangrene, however, proved to be one of the least serious forms of wound infection, important only because of the danger it involved to life and because of the need of the prevention and treatment of other types of wound infection which was much wider in its scope and

was attended by a very much higher degree of clinical success. The report reviews the development of wound treatment during the war, as exemplified particularly by the treatment of limb wounds in the British Army, and then summarizes current opinions of the uses and limitations of the sulphonamides and penicillin in the prevention and treatment of wound infection.

The following is given as a fair summary of current views on this last subject:

(1) Sulphonamide drugs, applied locally or given systemically (or both), are of only limited value in restraining the development of local infection in wounds; but are of definite value in preventing the systemic spread of streptococcal infection from a local focus such as a wound or burn. Both penicillin and the sulphonamides are effective in treating such systemic streptococcal infections on the rare occasions when these occur.

(2) The local use of sulphonamides will control infection by susceptible bacteria in superficial wounds; in deeper wounds these drugs, however administered, often fail to prevent or cure a local infection. The sulphonamides, used locally, are of value in preparing superficial wounds or burns for early skin-grafting, and penicillin, used locally, systemically, or both, is still better for this purpose.

(3) Penicillin has some outstanding advantages over the sulphonamides; it is effective against a wider range of Gram-positive bacteria; it is not antagonized by the presence of pus, it can be given systemically in large doses without serious danger of toxic effects, and it can be injected locally with less risk into body cavities. One of its comparative disadvantages is that it cannot economically be given by mouth. The combined use of penicillin injections and of sulphonamides by mouth has not been shown to give better prophylactic results against wound infection than the use of penicillin injections alone.

(4) Neither penicillin nor sulphonamide prophylaxis is a substitute for early and efficient primary surgical treatment of the wounded, but penicillin is a very valuable adjunct to surgery.

(5) Neither penicillin nor the sulphonamides will prevent the occasional development of gas gangrene in limbs deprived by injury of their blood supply and containing damaged and ischaemic muscle tissue.

(6) Neither penicillin nor sulphonamide therapy is effective against the Gram-negative bacteria which may infect wounds or burns at a relatively late stage (the stage of sloughing). For these cases alternative methods of treatment are necessary, of which irrigation with sodium hypochlorite solution is probably among the best at present available.

The report reviews the studies on hospital cross-infection, emergency amputations, and war fractures.

Burns, Brain and Nerve Injuries, etc.

A wide programme of research on the pathology and treatment of burns was sponsored by the Council during the war, and it soon became apparent that the problems of burns and their systemic effects were so manifold and complicated that an intensive system of co-ordinated laboratory and clinical research was required. Special reference is made to the experimental investigations in Prof. R. A. Peters's department at Oxford on "burns toxæmia" and the metabolic effects of burns; also to the work of the Burns Research Unit at Glasgow Royal Infirmary which led to the development of a first-aid cream containing penicillin and a sulphonamide drug for the elimination of streptococci. This preparation—"Glasgow No. 9 Cream," as it was called—was widely adopted for the treatment of Service and civilian casualties.

The Brain Injuries Committee, under the chairmanship of Prof. E. D. Adrian, examined the problems of the psychological state of patients after head injury, the relationship of head injury to subsequent epilepsy, the use of encephalography as a diagnostic measure, the prevention and treatment of headache and other complications, and the rehabilitation of brain-injured patients. Similarly a Nerve Injuries Committee, under Brigadier G. Riddoch, prepared memoranda on methods of testing for peripheral nerve lesions and the assessment of their recovery, and also sponsored investigations into the value of operative treatment for sciatica caused by prolapsed intervertebral disk.

Traumatic shock was the subject taken by another group, which surveyed the existing state of knowledge on that subject and directed the resumption of active research. A great volume of clinical, pathological, and experimental evidence regarding the different manifestations and treatments of shock due to wounds and burns was accumulated, but the compilers of the report say that there are many gaps in knowledge to

be filled, and the implication of many of the more important studies made by British, American, and other workers during the war requires correlation.

"Thus the precise roles of haemorrhage, of plasma loss, of tissue damage, of associated biochemical changes, and of nervous influences in producing the altered haemodynamics causing acute illness after injury, require to be established and integrated; and the relationship of renal failure in the 'crush injury syndrome' to other forms of 'traumatic' and 'non-traumatic' anuria, and perhaps to the toxæmia deriving from the infective muscle necrosis of gas gangrene, has still to be fully elucidated."

But the main pieces of the puzzle have been fitted together, and if in peacetime the interest in the reactions of the body to injury can be maintained, and the opportunities for research afforded by traffic and industrial accidents can be effectively used, substantial advances may come in the near future.

War Diseases

The Council supported or co-ordinated important programmes of research concerning malaria, the typhus fevers, infective hepatitis and serum jaundice, and tuberculosis. The two outstanding contributions to medical research on malaria during the war period have been the effective introduction of malaria suppression by mepracine and the synthesis by British workers of "paludrine." Mepacrine was strategically decisive in the overthrow of Japan, permitting military operations to be conducted successfully in hyperendemic malaria areas. The vast potential importance of D.D.T. as an insecticide and larvicide in malaria control must also be recognized.

In 1944 the Scrub Typhus Commission was set up, travelled to the headquarters of the Supreme Commander South-East Asia, and undertook an active campaign to reduce the incidence of the disease, which had reached alarming proportions. A vaccine against scrub typhus was found to give a fair degree of protection to mice, and, although there was still lack of positive scientific evidence of protection in man, the position in the South-East Asia Command was so urgent that mass production of the vaccine was undertaken and the material sent out east. The sudden end of the war against Japan, however, prevented the assessment by the Army of the efficiency of the vaccine. Further field trials among civilian population have been organized, and the results, when available, should be of great interest.

The investigation of infective hepatitis proved most arduous. In spite of some promising results the transmission of the virus to animals has not yet been achieved with certainty. It was necessary to use human volunteers, and patients with rheumatoid arthritis were mostly chosen because it was known that the symptoms of that condition were sometimes relieved by an attack of jaundice. That was indeed borne out by the experiment, but the remission was only temporary; and it was clear that while jaundice was a useful research "tool" for the study of rheumatoid arthritis it could not be recommended as an effective treatment, and research on these lines was abandoned. The two most important discoveries made in connexion with this disease were that the virus is present in the blood of post-arsenical jaundice, and that the virus is excreted in the faeces in infective hepatitis. Without a susceptible animal, however, it is impossible to bring the research to the final goal of a prophylactic vaccine.

The report recounts the work done in wartime tuberculosis by the introduction of routine mass radiography, also the investigations on what is now recognized as a third mammalian type of tubercle bacillus—the murine type (the vole acid-fast bacillus). Plans for a field control to determine the prophylactic value in man of B.C.G. and of the vole bacillus are being considered.

Louse infestations were studied on a large scale, but with the advent of D.D.T., which played a large part in checking the Naples typhus epidemic, the troops engaged in the fighting on the Continent after D-Day were kept virtually free of lice. It is recalled that D.D.T. was first synthesized in 1874, but not until 1940 had its insecticidal properties been appreciated; and even then it was used only in Switzerland on a limited scale against agricultural pests. Not until early in 1943 was its large-scale production begun as an insecticide against one of the minor horrors of war. Scabies was also the subject of thorough investigation. The parasite was shown to be usually transmitted

by intimate personal contact, and as a result the disinfection of bedding has been given up by many progressive public health authorities, who now concentrate attention on the persons infested and their immediate contacts. It has been shown that when properly applied one treatment with benzyl benzoate emulsion will cure the disease in very nearly 100% of cases, so that disinfection of clothing and bedding is unnecessary.

Development of Penicillin Therapy

Eighteen pages of this report are devoted to the history, and development of penicillin therapy. The investigations on penicillin at the Sir William Dunn School of Pathology, Oxford, were supported by the Council from the beginning of the work which led to the introduction of penicillin into medicine as a chemotherapeutic agent. The early laboratory experiments at Oxford are narrated—the protective experiments in animals, the establishment of the "Oxford unit" of penicillin activity, the early efforts to increase production, the clinical trials, the use of penicillin in war wounds and burns (conditions which in the early stages had first priority at a time when the amount of penicillin available sufficed only to supply each of four centres with about 6 million units of penicillin monthly), and the gradually extending availability until by 1944, when the invasion of Normandy was about to begin, there was ample penicillin for all who needed it. By that time the Army Medical Service was able to organize on the widest possible scale prophylactic treatment against sepsis by parenteral injections beginning within 24 hours of wounding. The high quality of war surgery and the provision of penicillin reacted upon each other. Much of the success attending the use of penicillin was due to the very efficient surgery and such surgery again received a stimulus because surgeons who were provided with penicillin were able to suture even the most severe wounds without the danger of major sepsis.

"Almost the whole of the work on which the present knowledge of penicillin therapy is based was done in Great Britain and the United States. Although penicillin was a British discovery, United States workers had the advantage of enormously greater supplies of the drug in its early years, and in many centres in America had begun before anyone outside Oxford had handled penicillin in England, and American output reached a spectacular level while ours was little more than a mere trickle. Only when American penicillin was placed at the free disposal of our fighting Services was it possible for British clinicians to use it on an adequate scale. Nevertheless, it was in the early days of scarcity that the most substantial contributions to knowledge were made by British investigators, and these, almost without exception, were working on behalf of the Council."

The setting up of the Penicillin Clinical Trials Committee, under the chairmanship of Prof. H. R. Dean, is described. This committee was set up in the early part of 1943, its function being to increase knowledge of penicillin therapy by developing improved technical methods of administration and by extending the range of use of the drug to include conditions in which experience of its action was lacking; of these latter conditions many were caused by bacteria known to be susceptible *in vitro* to the action of penicillin. The committee had to steel its heart against humanitarian considerations because for many months the scarcity of penicillin was such that treatment had to be refused to cases in which it would no doubt have been beneficial but would not have advanced knowledge of the action of the drug. There was not nearly enough penicillin even to treat the cases of staphylococcal septicaemia which came to the committee's notice, and of all diseases this is the one which most imperatively demands penicillin treatment.

The most recent activity of the committee has been to investigate the treatment of subacute bacterial endocarditis on a scale large enough to provide information as to the system of dosage best suited to the disease. A preliminary report on this investigation (*British Medical Journal*, 1946, 1, 381) showed clearly that while the scale of penicillin dosage appropriate to diseases other than subacute bacterial endocarditis is usually ineffective in that condition the administration of larger doses for 28 days or more can almost always cure it in its early stages.

The Wartime Drug Position

Some interesting history is contained in the section of the report which deals with the drug position in wartime. Those

who lived through the 1914-18 war will remember that a serious position arose owing to the shortage of certain drugs the supply of which up to then had been forthcoming from German chemical firms. In 1939 steps had been taken to ensure an accumulation of adequate stocks of natural and synthetic medicaments of foreign origin. The large-scale manufacture and supply of certain antitoxins and other immunological products for which there was likely to be a heavy demand under war conditions was also undertaken. British equivalents of the more important synthetic drugs and diagnostic agents hitherto obtainable only from enemy countries were manufactured here, and when considered advisable—that is, when the chemical identity of the British substitute with its foreign prototype was not entirely identical—were submitted to special clinical trials. Thus mepacrine was substituted for the German "atebrin," pamaquin for "pamaquine," bromethol for "avertin," soluble hexobarbital for "evipan sodium," iodoxyl for "uroselectan-B," phenylephrine for "bilsselectan," and pethidine for "dolantin" or "dialtol," a synthetic substitute for morphine.

A Therapeutic Requirements Committee was set up under the chairmanship of Prof. L. J. Witts, on which the three bodies producing official drug formularies were represented—namely, the Pharmacopoeia Commission, responsible for the *British Pharmacopoeia*; the Pharmaceutical Society, for the *British Pharmaceutical Codex*; and the Insurance Acts Committee of the British Medical Association, for the *National Formulary*. The functions of this committee were to advise the controllers of the import and manufacture of drugs which were vitally necessary and must be supplied at all costs. It informed the medical profession, more particularly the key people responsible for formularies, indents, and quotas, of such important drugs were scarce and must be used economically. Generally it dealt with the problems which inevitably arose when any form of restriction is practised. Instances are given of the changes in therapy which gave rise to supply problems of varying degrees of complexity, such as the replacement of sulphur by benzyl benzoate in the treatment of scabies, the replacement of tannic acid by sulphonamides and penicillin in the treatment of burns, the sequence of safrol, lethane, and DDT in the treatment of louse infestation, and the use of thiouracil, thiothiouracil, and methyl thiouracil in the treatment of hyperthyroidism.

The more permanent effects on prescribing produced by the war's activities during the war remain a subject for speculation. In general they were the acceleration of changes which would have come more gradually in peacetime, an acceleration which was in line with expert direction and the avoidance of vested interests and unsupported tradition. Single substances and active principles were used instead of tinctures and mixtures; the many hospital pharmacopoeias, which are chiefly of historical interest, were replaced by the *National War Formulary* of the Ministry of Health. The use of foreign or proprietary names was discouraged. Synthetic chemicals were substituted for galenic drugs. Bismuth only gave way to magnesium trisilicate and aluminium hydroxide in the treatment of dyspepsia, boric lint was replaced by the sulphonamides and penicillin. Production of needless varieties of hypnotics and local anaesthetics was temporarily checked. Finally, a demand was created for disinterested accounts of the increasingly rapid developments and changes in pharmacology, and their scientific application to the practice of medicine.

The Drug Requirements Committee recently appointed by the Ministry of Health has now taken over the functions, as applied to post-war conditions, of the Therapeutic Requirements Committee, which was discharged on the completion of its wartime task.

Nutritional Standards

At the outbreak of the manner in which rationing was introduced, the nutritional investigations which preceded it, and the work which led to a recasting of Service rations and for the armed troops, and for tropical climates. In 1943 a committee was appointed under the chairmanship of Dr. A. N. Richards to examine the nutritional state of the people in the United Kingdom during the war. The main index of the nutritional state was taken to be the haemoglobin content of the blood. In a survey of 11,000 adults and 3,000 children were examined. A smaller number of serum protein estimations were made. From these it was concluded that the nutritional state was generally good, though an effort was made to maintain the haemoglobin levels of young

children, pregnant women, and the poorer members of the population.

The work of the Accessory Food Factors Committee was concerned with the composition of wartime bread and the vitamin content of various foodstuffs, but the work of the Food Rationing (Special Diets) Committee, with Sir Edward Mellanby as its chairman, was the most exacting and difficult of all. This committee had the task of organizing food rationing for invalids. It received, as was to be expected, innumerable special applications for extra rations, often from sufferers from rare diseases or from variants of illnesses for which extra rations had already been refused. Each case was considered individually, specialist advice was sought where necessary, and a written statement was made of the reasons for or against granting extra rations. The body of rulings which accumulated from these decisions came to play an important part in the system of rationing. The committee must often have been gravely troubled when it came to deciding the order of priority in the claims of invalids for extra rations when the humanitarian impulse was to grant them all if only there was a sufficiency of food available. Certain principles were laid down: that extra rations should be granted only on the grounds of therapeutic necessity; that in deciding between competing claims preference should be given to those invalids with better chances of recovery or those who required special rations to maintain active health; and that extra rations should not be allowed for the construction of those traditional dietaries for invalids and convalescents which, however comforting to the patient, are without known effect on the ultimate outcome of his disease. The heartburning and the depression which must have resulted among invalids and their doctors as a result of these decisions can be imagined; but the nation was at war, and civilians, including invalids and convalescents, were in the front line in more senses than one. Except for an extra allowance of tea to the elderly, they, with hopeless invalids, the insane, and the mentally and physically defective, were denied any concessions unless they suffered from another condition which itself qualified for extra rations.

Special Diet Problems

As a result of seven years of rationing a unique experience was acquired of rationing as applied to invalids. Some of these results are set out. A generous allowance of fat was provided to meet the needs of diabetics because, by greatly restricting their intake of carbohydrate and substituting fat, they can avoid or restrict the use of insulin. Patients with pernicious anaemia were as a rule refused fresh liver, because experience has shown that treatment with fresh liver is far less efficient than the parenteral injection of liver extract. Fresh liver was allowed only where there was a supposed sensitivity to the extracts.

Patients with tuberculosis had been accustomed to receive a full diet, particularly one rich in fats. Certain studies undertaken just before rationing began to be severe showed, however, that fat had no advantage over carbohydrate; also that after two to three months on a high-fat diet the appetites of tuberculous patients declined and their weights fell, effects not observed on a high-carbohydrate diet. Carbohydrates being available in ample quantities, the committee held a watching brief, and after further inquiries and reports the only special rations allowed in tuberculosis were 2 pints of liquid milk daily in active—i.e., unhealed—tuberculosis, and later, when the cooking-fat ration was reduced, supplies to these patients were continued at the previous level.

An outbreak of alleged "food sensitivity" following the institution of rationing caused a good deal of trouble. As soon as it was announced that butter was to be rationed, innumerable margarine-sensitive people made application for extra butter, but the number of applications declined abruptly as soon as it was known that these people would be put through a test requiring them to distinguish margarine from butter when the taste was disguised. Similar complaints of sensitivity coincided with—in some cases actually anticipated—changes in the type of flour. Tests here gave little support for the view that persons can be sensitive to National flour but insensitive to white flour. Applications were made for condensed milk because of alleged sensitivity to raw cow's milk. In such cases the applicant's doctor was advised to order the milk to be boiled, and the measure appeared usually to suffice.

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MEDICINE IN THE 1939-45 WAR

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The proposal to add calcium carbonate to National flour evoked a storm of protest. Diverse ill effects, ranging from the development of arterio-sclerosis to nephrolithiasis, were predicted. One eminent physician wrote alleging that he and his whole family were being poisoned by the added calcium whereas calcium salts were first added to the flour three months after the receipt of his letter! Actually the amount of calcium added to flour was hardly more than that needed to compensate for the amount of phytic acid it contained.

The Special Diets Committee is now anticipating the period of derationing, though it is already evident that any amelioration in the food supply position will develop slowly and piecemeal. But plans should be laid in advance so that, with increase of supplies, distribution can be made to the best advantage. All the conditions for which extra rations have been refused have been analysed and classified according to the order of priority in which the refusals should be rescinded. This is good news for chronic invalids and perhaps also for those people who have a sensitivity for certain foods, even though in the view of the experts such sensitivity is more imagined than real.

Various Emergency Services

A section of this report is allotted to what is called "Personnel Research," chiefly in connexion with the fighting services. This included studies of suitable clothing or armour for fighting men in widely different environments, and of the physiological and psychological adjustments which it is possible to make to hazards and unusual situations. Health research in industry was undertaken by the Industrial Health Research Board, and included studies in ventilation and air hygiene, heating, industrial psychology, and diseases due to inhaled dusts or poisonous fumes.

Among the emergency services set up was one for the co-ordination of the supplies of serological products and the provision of large stocks of polyvalent gas-gangrene antitoxin and reserve supplies of a number of vaccines and sera. The emergency public health laboratory service has been placed on a permanent basis to meet peace-time calls. In this service during the war special studies were made of non-pulmonary tuberculosis, cerebrospinal meningitis, and cross-infection in hospital wards.

The organization of the blood transfusion service called for careful planning. The four London emergency blood supply depots, situated at Luton, Maidstone, Sutton, and Slough, enrolled 128,320 donors during the five years of war. Research was also carried out on precise methods of blood grouping, and on the rare accidents which followed transfusion, and the measures to be taken to meet it. Another activity was the setting up of a possible risk of post-transfusion jaundice and the measures to be taken to meet it. Another activity was the setting up of a hospitals radon centre at Barton in Bedfordshire, where the radon plant, in view of the danger of the dispersal of radioactive substances by enemy action, was kept in safety in deep caves. Radium was lent to the centre by the Radium Commission and by St. Bartholomew's, and the three radon plants at Barton dealt with about 9,500 requests for radon for use in treatment or research.

Many Research Teams

The remainder of the report is a summary of the work done by each of several institutions—the National Institute for Medical Research, twenty or so external establishments, permanent or semi-permanent, the temporary units, and other research groups. At the central institute at Hampstead and the laboratories at Mill Hill work was done on problems connected with traumatic shock, underwater physiology, influenza (a continuing research throughout the war), air-borne infections, chemotherapy of virus diseases, anaerobic and other wound infections, immunization against tetanus, diphtheria, and gas gangrene, and on certain problems in biophysics and biological chemistry. Here also much work was done and made available. Three new standards were provided and made available at Hampstead during the war—those for the National Institute for Medical Research, an out-station of the National Institute was the Common Cold Research Unit at Salisbury. In the Departments of Clinical Research at University College and Guy's studies were made of the symptoms of shock in air-raid casualties. At the Neurological Research Unit at

Queen Square various factors connected with high altitude flying were investigated. At the Otolological Unit at the same hospital work was done on deafness and hearing-aids. The Birmingham Accident Hospital had a unit concerned with the epidemiology, prevention, and treatment of wound infection, and at the same hospital and at the Glasgow Royal Infirmary other units studied the control of infection in burns and scalds. In a research unit at Hammersmith Hospital an experimental comparison was made between gamma rays and x rays in the treatment of cancer of the mouth and throat; a full report of this experiment has been prepared for publication. Important dietary studies have been carried out in the Department of Experimental Medicine at Cambridge, at the Nutrition Building at Mill Hill, and at the Human Nutrition Research Unit at the National Hospital, Queen Square. At the Dunn Nutritional Laboratory, Cambridge, an analysis was made of fortified products such as vitaminized margarine and special food preparations. Several establishments were devoted to research on health in industry, notably the Department for Research in Industrial Medicine at London Hospital, the Applied Physiological Department at the Cambridge, and the Industrial Physiology Department at the London School of Hygiene and Tropical Medicine. At the London School also the effects of bombing on the civilian population and the protective value of shelters and other precautionary measures were studied.

The special work on diseases of children carried out by members of the Council's staff at the Queen Elizabeth Hospital for Children, London: on the pathology of the nervous system at the London Hospital, on biologically effective radiation at the Strangeways Research Laboratory, Cambridge, and many other investigations deserve permanent recognition. About 250 special investigations by outside workers, individuals or small teams, were supported by grants from the Council. The main burden of the editorship of this well-compiled report has fallen upon Dr F. H. K. Green, formerly Publications Officer, and now Assistant Secretary of the Council.

PUBLIC HEALTH CENTENARY

To commemorate the centenary of the Public Health Act, 1848, and in particular the appointment of Sir John Simon as the first medical officer of health for the City of London, the Lord Mayor and Corporation gave a dinner at Guildhall on May 7. The Minister of Health, Mr. Aneurin Bevan, was present with three of his predecessors, Lord Addison, the first Minister of Health, Lord Kennet (formerly Sir Hilton Young), and Mr. Ernest Brown. With the help of the archivists of the City a series of exhibits was arranged illustrating the Corporation's interest in public health, especially in water supply, cleansing of streets, and abatement of grosser nuisances, far back as the thirteenth century.

Mr. Aneurin Bevan proposed "The Pioneers of Public Health." The task which the reformers had faced in 1848, he said, was formidable. They were opposed by many vested interests. "Property and bumbledom fought together to deny the child the right to live." No one at that time thought of public health as a good investment. Even the great political figures of the day withheld their support from this cause. John Bright spoke only once on this subject, and that was to oppose a measure of smoke abatement. The pioneers whom Mr. Bevan asked the company to honour were Edwin Chadwick, John Simon, and William Farr. Chadwick fearlessly made public the conditions under which the industrial population was existing, and in doing so incurred much enmity. John Simon, who after seven years in the City became medical officer of the Privy Council, and finally first medical officer of the new Local Government Board, designed many administrative measures to alleviate social evils. William Farr, the statistician, might be described as the first to show the advantage of a Government scheme of national health insurance, and in his unceasing efforts for preventive medicine this son of a farm labourer had been a source of inspiration right down to our own time. To these names Mr. Bevan added the name of one politician, Lord Morpeth, afterwards Earl of Carlisle, who introduced the Public Health Bill in 1848.

Sir George Elliston, chairman of the Public Health Committee, proposed the health of the guests, to which the first of three responses was made by Lord Addison. Lord Addison recalled that with the assistance of the late Sir Robert Morant and Sir George Newman he was called upon to draft the provisions relating to maternity and child welfare which found their place in the budget of 1914. So much was the new service appreciated that early in 1917 a committee was set up consisting of Lord Milner, Mr. Arthur Henderson, Mrs. Beatrice Webb, and himself to consider the question of the establishment of a Ministry of Health. It took only two weeks to arrive at a unanimous report, but difficulties arose when it came to the actual establishment of the Ministry, and terms had to be made with local authorities and approved societies, so that not until 1918 was blessing formally given to the project. He became the first Minister in 1919, and was succeeded by Lord Melchett in 1921.

Responses were also made by the Bishop of London, who spoke of the function of the Church in the field of public health, and by Sir Alfred Webb-Johnson, who reminded the company that Sir John Simon was not only a pioneer in public health but a great surgeon, and indeed one of his predecessors in the presidency of the Royal College. Sir Alfred touched briefly upon present or subsiding controversies, as did Lord Balfour of Burleigh, chairman of the Medical Research Council, who wished goodspeed to the Minister and to the medical profession in their endeavours to bring in the new health service. Lord Balfour proposed the health of the Corporation, and the Lord Mayor (Sir F. Michael Wells) replied.

SEA AND AIR PORT HEALTH AUTHORITIES ANNUAL CONFERENCE

The forty-ninth annual conference of the Association of Sea and Air Port Health Authorities of the British Isles was held at Swansea on May 12, 13, and 14, under the presidency of Commander William Evans, chairman of the Swansea Port Health Committee. The delegates were welcomed by the Mayor Councillor Sir William A. Jenkins, J.P. At the annual general meeting held on the first morning of the conference Alderman L. E. Mooney, of Newport, was elected president for the year 1948-9. Dr. H. C. Maurice Williams, of Southampton, was re-elected honorary secretary, and Dr. W. M. Frazer, of Liverpool, honorary treasurer.

Golden Jubilee

To mark the Association's fiftieth jubilee, Dr. Nicolas Gebbie, port medical officer to the Hull and Goole Port Health Authority, gave an address entitled, "The Romance of the Port Health Service and of its Association." The idea of forming the Association, he said, was conceived by the Hull and Goole Port Sanitary Authority, which with other authorities realized that concerted action was needed to safeguard the health of seafarers. The first president was Dr. Fraser, a general practitioner and chairman of the Hull and Goole authority. Dr. Gebbie described the work carried out by port health authorities, and he reminded the conference that a further problem had developed during recent years—namely, the prevention of the introduction of infectious disease by air traffic. He described some of the early outbreaks of cholera in this country. The disease was unknown outside Asia until 1817; it then spread to the West in four great waves, reaching England via the four main lines of travel from India: through the Arabian Sea to the Arabian routes to Russia; by the Gulf of Persia to Suez and Egypt, and across the Caspian to Russia; by the Red Sea, thence to Egypt and the Mediterranean; and by the Trans-Caspian railway and the Black Sea to the Crimea. The infection came to England via the Mediterranean and Germany through the North Sea ports in 1817, 1818, 1819, and 1820. In the 1831-2 epidemic there were 21,000 deaths in England and 6,000 in Scotland. Further outbreaks occurred in 1846-7, in 1854, and in 1855-6. The Association was founded by a

Lambeth clergyman to insure his parishioners against cholera during the 1854 outbreak.

Port sanitary authorities were the first line of defence against cholera, and their defence was strengthened by the formation of their Association in 1898. The work of the Association had extended with that of its constituent authorities, and its advice had been sought on many occasions by national and other bodies.

Naval Hygiene

Surgeon-Captain Hugh M. Willoughby, deputy medical officer of health, Port of London, described his experiences as a hygiene officer in the Royal Navy at Alexandria. During his first two years in the Eastern Mediterranean there was no major epidemic of infectious disease. A few cases of dysentery occurred, but the incidence was kept low owing, in his opinion, to the ban on the eating of salads, melons, and fruit such as strawberries. Referring to "gyppy tummy," the speaker considered bacteriophage useful both as a prophylactic and in treatment provided that it was made from a local strain of the infective agent.

The incidence of malaria was low. There were only 29 cases reported during 1940, the majority infected in Crete and Greece. One of the greatest problems was supplying fresh water to Tobruk. All fresh water had to be conveyed in carriers previously used as oil and petrol tankers. Owing to good propaganda and recreational facilities, the incidence of venereal diseases in Alexandria was lower than in any home port in England.

Cholera in Egypt

Dr. R. Barrett, of the Ministry of Health, read a paper on the Egyptian cholera outbreak of 1947 and its effect on civil aviation. Egypt had suffered two epidemics of cholera in the past century. The first, in 1902, resulted in 34,000 deaths in a population of 5 millions. This epidemic was traced to the clandestine return of pilgrims from Mecca. Egypt had always been a centre of international sea and land traffic, and was now also an important centre of air traffic. Air routes radiated from Cairo to all parts of Europe, Asia, and the Far East, Australia, New Zealand, Africa, and North and South America.

For climatic and economic reasons Egypt was a country where at certain seasons cholera could develop in epidemic form. Its sudden reappearance in 1947 caused considerable anxiety. The epidemic appeared to have no connexion with the pilgrimages to Mecca. The first cases were notified as food-poisoning and occurred in a native village with a primitive sewerage system and a water supply that came from a shallow well. The main occupation of the inhabitants consisted of cultivation dates, pressing them into cakes, and selling them to other villages in Lower Egypt. In spite of immediate precaution the disease spread to the neighbouring villages and provinces until all the provinces in Upper and Lower Egypt, with one exception, were reporting cases of cholera. The last case was reported on Dec. 31, 1947, and six weeks later Egypt declared herself free from cholera. The total number of deaths in the outbreak was 10,383 in a population of 10 millions. It was significant that the disease did not get a hold in any of the cities where water supplies and sewerage systems were of modern design. The Egyptian Government took elaborate precautions to prevent the epidemic from spreading.

Dr. Barrett said that it was a matter for speculation whether the epidemic ended as a result of the seasonal drop in atmospheric humidity and the fall in temperature or because of the preventive measures introduced. The need for international agreement on measures for the sanitary control of aerial navigation was well demonstrated by this epidemic.

Aircraft having a case of cholera on board must undergo medical inspection, isolation of the sick, and surveillance of passengers and crew for five days (the internationally agreed incubation period), disinfection of passenger effects and parts of the aircraft, and disinfection of the drinking water. Medical inspection of all passengers and crew and surveillance for five days was also prescribed for any aircraft from an infected area. Only in one instance was a suspected case of cholera reported in an aircraft, at Darwin, and that was not confirmed bacteriologically. The only measures, therefore, that should have been imposed on any other aircraft or passengers were medical

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inspection and surveillance. In fact, during the time of the epidemics seven countries closed their frontiers to air traffic from Egypt. Another stopped air traffic to deal with any cases of cholera. Others restricted air traffic to one airfield.

Inoculations against cholera did not provide absolute protection, and therefore inoculated passengers were still subject to surveillance under the Conventions. The procedure adopted for inoculation varied, some countries insisting on two inoculations, others requiring certificates to state the number of vibrios injected. Two countries insisted upon negative stool examinations before entering. The effects, therefore, on air services were severe, and many of the countries introduced measures outside the scope of the requirements of the International Conventions. Such difficulties did not normally arise with maritime traffic, and this was a problem for which both Governments and airlines would have to find a solution. He suggested that there should be a standard procedure and that the vaccine should be standardized, as in the case of yellow fever.

During the conference the delegates visited several places of interest, including docks at Swansea and Port Talbot, the National Oil Refinery, Skewen, the Metal Box Factory at Neath, and the Imperial Chemical Industries Works at Warrarwydd.

NATIONAL HEALTH SERVICE DESIGNATION OF LONDON TEACHING HOSPITALS

Mr. Aneurin Bevan, the Minister of Health, has made the National Health Service (Designation of Teaching Hospitals, No. 2)* Order, 1948, under the provisions of the National Health Service Act, 1946, designating 26 teaching hospitals in the London area. The 26 designated hospitals comprise a total of approximately 60 constituent hospitals. The names of all the hospitals concerned are given in the Order.

Each designated teaching hospital will be administered by a new Board of Governors, who will shortly be appointed by the Minister when he has considered the nominations and recommendations of various authorities and organizations who are concerned.

The teaching hospitals so designated under the Act have been given a separate identity and status, and in addition to their primary function of treating the sick they will provide facilities for clinical teaching and research in accordance with the needs of the undergraduate medical and dental schools and post-graduate institutes of the University of London.

As the group comprising each teaching hospital will be one entity for formal administration it has been necessary in some cases to give it a new title. But the Minister would wish the names of the constituent hospitals, many of which are of long standing and have valuable associations and traditions, still to be used for everyday purposes.

The first Order, made early in April, designated Teaching Hospitals in the Provinces.

Hospital or Group of Hospitals (2)	
Title (1)	
The Royal Hospital of St. Bartholomew	The Royal Hospital of St. Bartholomew, E.C.1 (including the Alexandra Hospital for Children with Hip Disease, and the Zachary Merton Convalescent Home, Northwood).
The London Hospital	The London Hospital, E.1 (including the Croft Home, Reigate, the Marie Celeste Annexe, Reigate, the Zachary Merton Annexe, Banstead, the London Hospital Annexe, Brentwood, and the Herman de Stern Convalescent Home, Felixstowe).
	Queen Mary's Maternity Home, Hampstead, N.W.3.

Hospital or Group of Hospitals (2)	
The Royal Free Hospital	The Royal Free Hospital W.C.1 (excluding the Eastman Dental Clinic).
	The London Fever Hospital, N.1.
	The Elizabeth Garrett Anderson Hospital, N.W.1 (including the Rosa Morrisson House, New Barnet, and the Garrett Anderson Hospital Maternity Home, Belsize Grove).
	The Hampstead General Hospital and North-West London General Hospital, N.W.3.
	The Children's Hospital, Hampstead, N.W.3.
	The North-Western Hospital (L.C.C.), Hampstead, N.W.3.
University College Hospital	The North London or University College Hospital, W.C.1 (including the Obstetric Hospital and the Royal Ear Hospital, Huntley Street, W.C.1).
	The Hospital for Tropical Diseases, W.1.
	St. Pancras Hospital (L.C.C.), N.W.1.
The Middlesex Hospital	The Middlesex Hospital and Cancer Wing, W.1 (including the Middlesex Branch Hospital and Hulke Endowed Convalescent Home, Clacton-on-Sea).
	The Woodside Hospital for Functional Nervous Disorders, N.10 (including the Country Branch, Welders House, Chalfont St. Peter, Bucks).
	The Hospital for Women, Soho Square, W.1.
	The British Red Cross Society's Clinic for Rheumatism, Peto Place, N.W.1.
Charing Cross Hospital	Charing Cross Hospital, W.C.2.
	Harrow Hospital, Roxeth Park, Harrow-on-the-Hill.
	Wembley Hospital, Fairview Avenue, Wembley.
St. George's Hospital	St. George's Hospital, Hyde Park Corner (including the Adamson Morley Convalescent Hospital, Wimbledon).
	The Victoria Hospital for Children, S.W.3 (including the Victoria Convalescent Home, Broadstairs).
	The Princess Beatrice Hospital, S.W.5.
	The Royal Dental Hospital of London, W.C.2.
Westminster Hospital	Westminster Hospital, S.W.1 (including the Westminster Hospital Convalescent Home, Chatham Park, Sussex, the Westminster Hospital (Parkwood) Convalescent Home, Swanley, Kent, and the Yarrow Home of Westminster Hospital, for Convalescent Children, Broadstairs, Kent).
	The Infants Hospital, S.W.1.
	The Gordon Hospital for Diseases of the Rectum and Colon, S.W.1.
	All Saints Hospital, S.E.11.
St. Mary's Hospital	St. Mary's Hospital, W.2 (including Joyce Grove House, Nettlebed, Oxon., and Adair Lodge, Aldeburgh).
	Paddington Green Children's Hospital, W.2 (including the "Clear Springs" Convalescent Home and the "Pinecroft" Convalescent Home, Lightwater, Surrey).
	The Princess Louise Kensington Hospital for Children, W.10 (including the Convalescent Home, 19-20, South Terrace, Lintonhampton).
	The Samaritan Free Hospital for Women, N.W.1.
	The Western Ophthalmic Hospital, N.W.1.
	St. Luke's Hospital for Advanced Cases, W.2.
Guy's Hospital	Guy's Hospital, S.E.1 (including the York Clinic, Nuffield House, and "Holmesdale," Nuffield, Surrey).
	The Evelina Hospital for Sick Children, S.E.1 (including the Eleanor Wemyss Recovery and Convalescent Home, Crazies Hill, near Reading).

*Statutory Instruments, 1948, No. 979: National Health Service (Designation of Teaching Hospitals (No. 2) Order). H.M.S.O., price 1d., post free 2d.

Table (1)

Hospital or Group of Hospitals (2)

King's College Hospital	King's College Hospital, S.E.5 (including the Baldwin Brown Convalescent Home, Camberley).
	The Royal Eye Hospital or Royal South London Ophthalmic Hospital, S.E.1 (including the Royal Eye Hospital Branch, Surbiton).
	The Belgrave Hospital for Children (including the Belgrave Hospital Convalescent Home, Minstead, Hants).
St. Thomas's Hospital	St. Thomas's Hospital, S.E.1.
	The Royal Waterloo Hospital for Children and Women, S.E.1.
	The General Lying-in Hospital, S.E.1.
	The Grosvenor Hospital for Women, S.W.1.
	The Roffey Park Rehabilitation Centre, Horsham, Sussex.
The Hammersmith, West London, and St. Mark's Hospitals	Hammersmith Hospital, W.12.
	West London Hospital, W.6.
	St. Mark's Hospital for Cancer, Fistula, and Other Diseases of the Rectum, E.C.1.
The Hospital for Sick Children	The Hospital for Sick Children, W.C.1 (including the Tadworth Court Branch Hospital, Tadworth, Surrey, "Runabouts" Convalescent Home, Chipping Norton, Oxon., and the Sarah Louise Convalescent Home, Hove, Sussex).
The National Hospitals for Nervous Diseases	The National Hospital, Queen Square, W.C.1 (including the National Hospital Convalescent Home, Finchley).
	The Maida Vale Hospital for Nervous Diseases, W.9.
The Royal National Throat, Nose and Ear Hospital	The Royal National Throat, Nose and Ear Hospital (including the Central London Hospital Division, W.C.1, the Golden Square Hospital Division, W.1, and the Dame Gertrude Young Memorial Convalescent Home, Castle Bar Hill, W.5).
The Moorfields Westminster and Central Eye Hospital	The Moorfields Westminster and Central Eye Hospital.
The Bethlem and Maudsley Hospital	The Bethlem Royal Hospital for Nervous and Mental Disorders, Beckenham.
	The Maudsley Hospital, S.E.5.
St. John's Hospital for Diseases of the Skin	St. John's Hospital for Diseases of the Skin, W.C.2.
The Hospitals for Diseases of the Chest	The Hospital for Consumption and Diseases of the Chest, S.W.3 (including the Brompton Hospital Sanatorium, Frimley, Hants).
	The London Chest Hospital, E.2 (including the London Chest Hospital Annexe, Arlsey, Beds).
The Royal National Orthopaedic Hospital	The Royal National Orthopaedic Hospital, W.1 (including the Country Branch and Convalescent Branch, Stanmore).
The National Heart Hospital	The National Hospital for Diseases of the Heart, W.1 (including the Country Branch, Maid's Moreton, Bucks).
St. Peter's and St. Paul's Hospitals	St. Peter's Hospital for Stone and Other Urinary Diseases, W.C.2.
	St. Paul's Hospital for Urological and Skin Diseases, W.C.2.
St. James's Cancer Hospital	The Royal Cancer Hospital (Free), S.W.3.
Queen Charlotte's Maternity Hospital	Queen Charlotte's Maternity Hospital, W.7.
The Chelsea Hospital for Women	The Chelsea Hospital for Women, S.W.3 (including the Chelsea Hospital Convalescent Home, St. Leonard-on-Sea).
The Eastern Dental Clinic	The Eastern Dental Clinic, W.C.1.

Reports of Societies

GENERALIZED DISEASES OF BONE

At a meeting of the Section of Medicine of the Royal Society of Medicine on April 27, Dr. MAURICE DAVIDSON presiding, the subject presented was generalized disease of bone in adults. There was no general discussion.

Dr. E. F. SCOWEN spoke of the effect of endocrine disorders on bone diseases. Wherever bone was formed the final part of the story must be the formation of a matrix which later became calcified. In the first place there might be a normal or an excessive quantity of matrix formed which might be irregularly calcified or not calcified at all—a condition arising from a disturbance of calcium or phosphorus metabolism. Another condition might arise from excessive resorption of bone even though bone formation was proceeding normally. Lastly, there might be failure of formation of the osseous matrix. This might not be complete, and, if partial, such bone as was formed might be formed normally and calcify normally, so that a condition of osteoporosis occurred. Dr. Scowen proceeded to show a number of photographs and radiographs illustrating endocrine abnormalities as reflected in bone changes. Certain changes seen in acromegaly had received little attention. In the thoracic spine irregular new bone formation might be seen, with decalcification behind it, giving rise to a curious appearance when the spine was viewed as a whole, the thoracic vertebrae appearing very much larger than the upper lumbar vertebrae. In the adult as a result of the stimulation of excessive bone production the vertebrae were still capable of producing a good deal of new bone, but such formation was often localized to the middle and lower thoracic vertebrae.

Method of Classification

Dr. J. F. BRAILSFORD said that the conditions which led to generalized diseases of bone might be grouped under five headings: (1) dysplasias and dystrophies which began in foetal or infantile life, and were of varying severity, some being incompatible with the continuance of life, while others were so slight that the victim survived into old age and the condition was discovered only incidentally on some radiographic examination; (2) generalized conditions of bone due to disturbance in some other organ—for example, renal disease; (3) generalized diseases of bone due to deficiencies and endocrine and blood disorders, for example, osteomalacia, hyperparathyroidism, anaemia, or leukaemia; (4) conditions which attracted attention during the major part of the illness only by the occurrence of a local lesion; and (5) a group of conditions in which the patient, who had been perfectly well, began to have pain and aching in the limbs, but for a year or even two years without perceptible radiographic changes—a group including syphilis and carcinomatosis. Dr. Brailsford suggested that the radiography of the hand facilitated the separation of these generalized conditions from conditions which, for the most part localized, gradually spread to other bones. Radiologically two types of reaction were seen, namely, the reaction which brought about a diminished density of the bone and the reaction which produced an increased density. In some conditions both reactions occurred, one after the other. By using the classification he had given he thought that these generalize diseases of the skeleton could be put into something like order.

It had been stated that hyperparathyroidism was a condition which in the majority of cases revealed itself by renal complications. That had not been his experience. The most striking feature was decalcification of the terminal phalanges, absence of compact tissue, and the formation of cysts in one or two of the bones. The formation of cysts in that type of osteoporosis was not seen in the same way in any other condition. On one condition approached it, namely, severe renal osteodystrophy, in which there was a history projected from childhood into the later years of life, with bones which had been deformed very early in life. In hyperparathyroidism the architecture of normal bone was presented, apart from lack of compact tissue whereas in renal osteodystrophy there was likely to be deformity.

REPORTS OF SOCIETIES

Correspondence

The characteristic feature of Paget's disease, which began as a localized lesion, was the tearing away in a V-shaped fashion of the periosteum from the adjacent living bone. Paget's disease might involve every bone in the skeleton, but normally this was not so. It might be that the head, spine, pelvis, and femur were extensively involved, yet on examining the bones of the hand only one metacarpal might be found affected, the rest of the bones being normal.

Sir HAROLD FAIRBANK referred to some unusual cases. Osteogenesis imperfecta might, for example, be of interest in a adult patient. One severe case, pre-natal in origin, was in a girl who never walked at all until 12 years of age, and sustained many fractures later on; she was now a dwarf aged 31, but was able to get about and carry on office work. A woman of 72 with "marble bone" was admitted to hospital with a minor head injury, and only then was the extreme density of the bones discovered. She had carried on for many years with practically no bone marrow at all. As an example of endocrine disorders he described the case of an intelligent well-proportioned dwarf of 46, most of whose epiphyses were still ununited, and the radiographs of whose skull showed what was apparently a partially calcified cyst of the pituitary.

ABDOMINAL PAIN

At a meeting of the Manchester Medical Society on April 7 Prof. JOHN MORLEY delivered his presidential address—"Second Thoughts on Abdominal Pain."

He recalled that the thesis he had advanced in 1931 followed James Ross's teaching of the dual nature of abdominal pain; but while accepting Ross's visceral pain he had suggested that the referred pain and the associated muscular rigidity, so far as the peritoneal cavity was concerned, were due to irritation of the parietal peritoneum. This conclusion was based largely on the clinical phenomena observed in cases of acute appendicitis. Recent injection experiments had confirmed the accuracy of these views. The initial visceral pain in acute appendicitis was transmitted through the splanchnic nerves but the second or localized pain was peritoneal. Pain in the shoulder-tip area felt or stimulating the phrenic nerve terminals in the diaphragm was a striking special instance of the radiation of pain from the parietal peritoneum, and, like the superficial pain in the right iliac fossa in appendicitis, could be modified by subcutaneous injections inducing analgesia of the area of referred pain.

The work of Lewis and Kellgren on referred pain was reviewed. Although Lewis claimed that there was no essential difference between deep somatic and visceral pain, his own experiments failed to produce any reflex contraction of the rectus abdominis muscle on stimulating the gastro-intestinal tract. The method used by Bentley and Smithwick to produce visceral pain by inflating a balloon in the jejunum before and after splanchnic neurectomy for hypertension was described. The afferent nerve fibres from their way to the cord, but through the splanchnic nerves on their way to the cord, had they could not properly be described as sympathetic had been suggested by Bentley and by Bonney and Pickering had been suggested that the inflammatory change associated with a peptic ulcer endowed the affected area of the stomach with a tenderness on direct mechanical pressure that was never found in the stomach or duodenum which was not inflamed.

The long controversy on the exact mechanism of the pain in peptic ulcer had ended in exposed nerve endings in the effect of hydrochloric acid acting on accompanying areas of the ulcer as the true explanation. Recent work on the ones of skin described by Wernöe as accompanying areas of referred pain had cast grave doubts on the general problem of pain. The bearing of cardiac pain on the occurrence of these visceral pain was discussed; Chester M. Jones and Henry Cohen had suggested a theory of summation of stimuli from both visceral and somatic sources as the most probable explanation of the phenomena of referred pain. Although they had failed to ignore the temporal factor in the summation of impulses, some such hypothesis would probably displace the time-honoured theory of an "irritable focus" in the cor-

Strength of the Profession

SIR,—The cumulative effect of the various plebiscites suggests some parallels and comparisons with the N.H.I. struggle which seem to me worthy of consideration. In 1912 we held no plebiscites of the whole profession, for only the general practitioners were directly involved, but we took a great deal of trouble to ascertain what they were prepared to do and the end result was not flattering to our efforts. If we had had then the clear indications which the recent plebiscite gives we might have been spared the humiliation which followed the declaration in December, 1912, that the R.B. considered the Act unacceptable, derogatory, and unworkable. On that day as Medical Secretary I had in my possession a flood of letters and telegrams from Divisional secretaries all over the country which told me that the local doctors were flocking to the panel because they had come to the conclusion that the concessions gained by the Association made it well worth their while to do so. The Association, influenced by some eloquent "diehards," refused to hear this evidence. Within a week requests for a Special Meeting came in from many Divisions. The meeting was held and the resolution rescinded—too late to prevent the Association from appearing foolish and inconsistent. Is history to repeat itself? It should not do so because the latest plebiscite shows that already a very considerable number of doctors have come to the conclusion either that it will be worth their while to join or that they cannot afford not to do so.

An interesting parallel is that in 1912 the Press and our chief opponents, the Approved Societies, told us we had won a great victory, but we preferred to concentrate on the comparatively minor points we had failed to achieve. The *Westminster Gazette* said: "We all admire the man who does not know when he is beaten. The trouble with the B.M.A. is that it does not know when it has won." In the *Economist* of April 24, 1948, I read the following words which reflect a considerable body of Press and public opinion. Undoubtedly the doctors have won a big victory, because we have easily climbed down to the extent that he has done.

I do not think we have won a big victory, because we have failed to hold what to my mind would be the chief security against a whole-time salaried service—namely, the right of private property in the goodwill of medical practices. But if the have wrung out the concession that this will not be introduced by Regulation or without a new Act of Parliament. But if the Labour Party should be returned to power at the next election they will be greatly tempted to carry out their declared policy, and in my opinion the best way of preventing this is to use the interval for providing such a satisfactory service that the public would be against any attempt to unsettle the profession once more.

In my opinion—and I say it with regret—to continue to oppose the working of the Service because we have failed on the goodwill issue would be to fly in the face of what is possible. I have three reasons for saying this: (1) we should not have behind us the number of general practitioners we have declared to be necessary for the continuation of opposition; (2) we have no friends for this principle in any of the political parties, and precious few if any in the Press; (3) and, to my mind conclusive, there is a very considerable number of general practitioners who (to my amazement) do not think it is a thing worth fighting for.

As an old medical politician, loving a good fight, I have never seen any good in refusing to face facts and in continuing to try to get the unattainable. I believe our best policy is to accept the verdict of the plebiscite ungrudgingly and to assure those doctors who join the Service that they will have the whole-hearted support of the Association in making the Service a credit to the profession. If we accept this policy much remains to be done, and time is short. The Regulations under which doctors will work must be examined, bringing to bear the unique Regulation-making experience gained in over 30 years of the N.H.I. And this experience will be equally valuable to the consultants and specialists who have no similar experience but

will all have to work under Regulations. And of course those doctors who choose to stay outside the Service must be assured of the help of the Association. Vigilance will be needed to ensure that neither they nor their patients will be penalized for their independence.

There never was a time when a strong Association was more necessary, not only for the protection of the doctor but for that of his patients. The great power and prestige earned by our Association during the past few years must not be frittered away, and I think that having proved that we can put up a good fight, and not abandoning our arms, we can do our best work now in the constructional field.—I am, etc.,

L. F. S. W. J.

ALFRED CON.

Balanced Statement

SIR.—To anybody who has followed the editorials of the *B.M.J.* during the past two months those of the last three issues must be a subject of derision. It is now an open secret that the Council was deeply divided on the question of the Minister's concessions: the minority was a considerable one. If we accept the best possible interpretation of their case we are nevertheless convinced that they must have known that the result of their decision must be disastrous—i.e., that the minority action would bring defeat to the majority. The attitude taken by the majority also deserves condemnation. It is true that Dr. Dain at Shrewsbury spoke in the old familiar style, but his letter (April 24, p. 805) was a confirmation of that "careful and balanced statement issued by the Council." This "balanced" statement, as the majority of the Council knew perfectly well, was bound to confuse the doctors' minds. If, then, this argument is well grounded, both the majority and minority deliberately committed themselves to a course of action which of necessity would deeply divide the profession as they themselves were divided.

What is not so clear is the manner in which the minority has captured editorial policy in the last three issues of the *B.M.J.* No impartial reader could say that these were "well balanced." The words may be this or that, but the horrid smell of appeasement comes up from all of those three articles. The *B.M.J.* is dividing the doctors, and it is doing so deliberately. On the eve of battle no general could maintain the morale of his troops by making a well-balanced statement which reflected the indecision and revolt of a minority of his high-ranking officers. The *B.M.J.* and the B.M.A. up to and including April 10 stimulated and sustained our effort admirably. We had the Independence Fund, all the material, all the organization, groups were formed under their conveners; meetings and rallies were held. Then the leadership faltered and failed. The half-hearted "balanced statement" took its place—for what good reason? Dr. Dain said at Shrewsbury on April 18: "Those who have studied the matter most do not consider that the doctors would be properly safeguarded by the Minister's proposals." Lord Horder, writing to the *Daily Telegraph* on April 22, said: "The situation so far as concerns the freedom of the doctors . . . remains unchanged. The Minister remains all-powerful." These men were in a majority. Why then the abdication of leadership?

Was the *Manchester Guardian* almost right on April 16 when it said: "The B.M.A. has to consider its position not only in the current negotiations but as the continuing spokesmen of a large part of the profession. . . . If a good number of doctors are brought by Mr. Bevan's belated concessions to change their mind, and enter the Service in any case (as seems probable) will the B.M.A. and the rest stay outside, its present strength will be reduced if it leads its following solidly into the scheme of entry, its strength and its negotiating power." The way is being laid for a coming announcement in the *Lancet*: "The profession has decided to accept," or "The profession is insufficient to warrant a continuation of the struggle," or "It is clear that may be superficially true the hard fact is that by means ever so subtle, 'balanced' statements which mislead the reader and a clever course of action the doctors were conditioned to accept the Service." Will you be good enough, Sir, to let the doctors know that you have printed so much about freedom of choice, and that of these things, you have achieved little

worth while. The doctors will be just as much the servant of the State machine as if the B.M.A.'s campaign had never started.—I am, etc.,

Burnley, Lancs.

H. SIMPSON,
Public Relations Officer,
Independence Committee.

Special Procedure for Regulations

SIR.—I believe that the vast majority of the profession learned with deep satisfaction that the Chairman of Council, in his speech to the Representative Body on March 17, had declared that "the overall considerations which determined 90% of doctors to record their disapproval of the Act had been that the Minister's power under the Act was absolute," and that "that power would lead to the enslavement of the medical profession which will come to be controlled in effect by the officers of the Ministry." Precisely the same feeling prompted the resolution passed by the Royal College of Physicians of London on March 22 which asked for a "special procedure," by way of a committee, that would serve as a check on Regulations. How urgent such check is becomes apparent from Sect. 66 of the Act, which empowers the Minister and his successors to determine by Regulations alone "the qualifications, remuneration, and conditions of service" of doctors and dentists and other employees under the Act.

When the Minister on April 7 made his statement in the House offering, in response to a request by the Royal College of Physicians, "to make it clearly impossible to institute a full-time salaried service by Regulation alone," I asked him if he would also take into consideration the second resolution passed by the College, asking for a "special procedure" committee. The Minister promised to do so. In his subsequent written answer to the B.M.A., which had endorsed the College resolution, the Minister declared that there is such a committee in operation, but he did not name it.

I am informed by the Table Office, and independently by the Lord Chancellor, that the Committee indicated is the "Statutory Instruments Committee," established by Parliament in 1944. The present chairman of that committee, in a letter (dated May 6) which lies before me, declares that its function "is to inquire only into the technical correctness of Regulations, and not into their merits." It is thus obvious that it would be wholly unfitted to perform the duties desired by the resolution cited. I submit that the demand for effective fulfilment of the request made by the resolution should be fully met in the Amending Act.—I am, etc.,

House of Commons.

E. GRAHAM-LITTLE.

Representation of Consultants and Specialists

SIR.—It is clear that there is widespread anxiety among consultants and specialists as to the most suitable body which should represent their views and interests. There is at present a choice between the Royal Colleges, the B.M.A. Consultants and Specialists Committee, the Association of Major (Non-undergraduate Teaching) Voluntary Hospitals, the London Consultants Committee, etc., and now we have proposals, on the one hand, from the British Medical Association for new central and regional consultants and specialists committees elected along democratic lines, and, on the other hand, from the leader writer of the *Lancet*, a new body based largely upon the Royal Colleges and teaching hospitals, with no evidence of a democratic constitution.

Under these circumstances, and particularly in view of the present emergency, the undersigned members of this hospital strongly support the immediate formation by the British Medical Association of new central and regional consultants and specialists committees, provided that they consist solely of consultants and specialists, with an independent secretariat, that their decisions should not be subject to being overruled by the Representative Body, and that these should be taken as being the policy of the Association in matters relating solely to consultants and specialists.—We are, etc.,

C. HEYGATE VERNON,
Chairman, Medical Council, Royal Victoria
and West Hanpts Hospital, Bournemouth.

N. F. ADENEY,
Vice-Chairman.

C. E. P. MARKBY,
Hon. Secretary.

Bournemouth.

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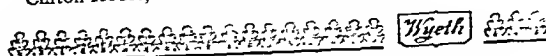




Fig. 1

GANGRENE OF TOES

Repair of Skin with Cross-flap Replacement

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CASE HISTORY. — 16/11/45 Excision of gangrenous area and raising of delayed skin flap on R. calf. Pressure dressing, and penicillin cream to L. foot daily. 4/12/45 Flap on R. calf raised and attached to raw area on L. foot. Fixation in Gypsona with flap relaxed. (Figs. 2 and 3). 15/12/45 Sutures removed from flap graft. Showing satisfactory healing. 24/12/45 Under local anæsthetic flap detached from calf to foot; sutured in position. Remainder of flap sutured back to calf. 22/1/46 Complete take of graft. Penicillin applied. Commenced foot exercises. 29/1/46 Wound soundly healed. Dressing discontinued. Patient commenced walking. 11/2/46 Excellent result flap graft. No pain. Walking well in normal shoes. R. foot normal. No fibrosis of gastrocnemius. Discharged. (Fig. 4). *In the belief that it will be of general interest, details of this authentic case are published by T. J. Smith & Nephew Ltd., of Hull, Manufacturers of Elastoplast and Gypsona.*



Fig. 2

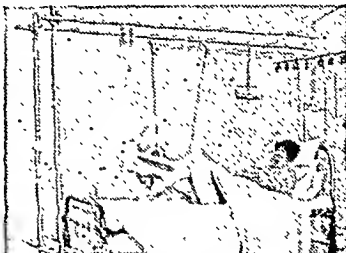


Fig. 3 (Top)



Fig. 4 (Below)

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Right to Own Practice

SIR.—I am horrified and most disappointed by the tone of your leader in the *Journal* of April 17 (p. 737). The Minister of Health has consistently vilified and abused the medical profession since he first introduced his Bill. There are very many doctors who are in no way committed to, or in favour of, a comprehensive medical service, which is entirely a political movement with a Communist or State capitalism basis. If it was ever suggested by the B.M.A., it is so much the worse. I do not recollect that such a matter ever came to my notice as a member of the B.M.A. for over twenty years. The sole guarantee of freedom for any doctor is the right to own his own practice and to buy and sell as required. This right is recognized in any community which is not based on ideas of State capitalism, and if we give in on this point we cease to be independent individuals but automatically become State servants working on Government premises for a Government salary. Capitation rates are only a salary in a disguised form. It has been often said that the politicians would be more than a match for the doctors, and if the B.M.A. accepts the Minister's proposals, at their face value our Negotiating Committee has let us down.

Why all this anxiety to obtain a good press? The general public in this area are almost entirely against this State service, which is entirely politically inspired for the purpose of controlling doctors and public alike. I sent my contribution of £100 as advised as a means to winning our fight for freedom, not on the expectation that the B.M.A. would let down the doctors, and if we give in to the Minister now on account of his transparent and miserable concessions I shall be sadly disillusioned. There is no Government with any support from any part of the population except the Communists who could advocate the confiscation of my practice for a paltry 2½% per annum on its computed value, and any man or any association who permits this to happen is guilty of a completely immoral and illegal act. Before any plebiscite is taken full time must be allowed to discuss this latest attempt to put the State above the individual, and to degrade our country still further by nationalization for nationalization's sake. Once the medical profession goes down, the rest of the country will follow and we shall have lost a glorious opportunity of proving to the world that this country is not in favour of State capitalism. If we accept this Act, we are betraying the entire country.—I am, etc.,

R. MCINTOSH RATTRAY.

J. MCINTOSH RATTRAY.

Towards a Whole-time Salaried Service

SIR.—For a long time, especially during the last few years, we have been concerned in endeavouring to maintain the freedom of medicine and of its practitioners. To that end we have enunciated certain principles which have been approved and, up to now, adhered to by a practically unanimous profession. I do not intend to try to assess the relative importance of these principles or conditions; I will deal with one which, although mainly concerning general practitioners, cannot but be of importance to the whole profession. This is the question of the right of doctors to retain the ownership of their practices. For brevity, and I hope for clarity, I will speak only on its effect on the maintenance of freedom and independence.

Many of us are greatly concerned that this principle appears to have dropped somewhat into the background and that a number, perhaps a large number, of doctors consider that the Minister has met our requirements. If the profession agrees to surrender this principle, it is difficult, if not impossible, to see how our freedom or independence can be maintained even during the next few years and still more difficult to imagine how further attacks can be repelled in the future. This Socialist Government is committed to endeavouring to promote a whole-time salaried State service, and it is only the strongest pressure (the February plebiscite) which has made it decide that "the time is not ripe" and that its effort must be postponed to a more opportune time. Fresh attacks will be made at a future date by another Socialist Government or by one that is not predominantly Socialist, for we must remember that the present Act really dates back to a Coalition Government. In any case we can expect no support for our contentions from any form

of Government if we consider the widespread feeling against us on this matter in all parts of the House.

How can we hope to meet a proposed whole-time salaried State service when it is next launched if we have already sold our practices to the State? Consideration of the fact that medicine has continuously progressed in its beneficent work during many centuries, and that Governments and Ministers are ephemeral in their frets and fumes, ought to be a salutary thought for those on both sides of this controversy and a help to due perspective.—I am, etc.,

SHERBORNE, DORSET.

THOMAS MCCARTEN.

Fix Remuneration

SIR.—In a circular recently received from the London Executive Committee paragraph 3 states that payments to doctors will be made "out of a central pool . . . to be adjusted at the end of two years." There are first charges to be paid from this pool as well as from the amount paid to each individual Executive Council before the doctors can be paid. No *per capita* sum is mentioned. No Spence Committee recommendation is quoted. The doctors are to be remunerated out of the balance, whatever that may be, and even that is subject to revision.

When Lloyd George's National Health Insurance Act came into force the doctors were paid, I think, *according to* *memorandum* 13s. 6d. This was reduced to 8s. 6d. and increased to 10s. by Regulation. Are we to have the same "giggling again"? The agreed *per capita* fee should be fixed by an Act of Parliament and not reduced by the act of a Minister.—I am, etc.,

London, W. 2.

R. GALWAY MURRAY.

Alternative Service Suggested

SIR.—The long-drawn-out controversy between the present Minister of Health and the medical profession is becoming increasingly distasteful to everybody and not least to the doctors, who are being distracted from their work of healing by the exigencies of a bitter political conflict which is none of their seeking. Mr. Bevan has manoeuvred himself into a position from which it must be very difficult for him to retreat, though he can hardly blame anyone but himself for this. Is it too much to hope that even at this late hour he might prove himself to be a great statesman by setting aside party considerations and political bitterness, and by approaching the medical profession with the request that they should outline to him their ideas upon the best ways of improving the medical services of the nation?

In South Africa the profession were approached in this way, and were invited to elect a committee to draw up a plan for a national medical service. When a scheme had been produced and was approved by the profession as a whole, the Union Government, after careful examination, found it good, accepted it—and appointed the chairman of the committee Minister of Health. It sounds simple, does it not? But it was statesmanship of a high order—the sort of sound political common sense which has come to be associated with the name of Smuts.

It has long been the concern of the medical profession in Great Britain to ensure that nobody here should go short of the best kind of medical attention because of lack of means, but it has also been their concern that no rigid system should be clamped down upon the people of the country by compulsion and maintained by the threat of legal sanctions. Such a thing is utterly alien to the British way of life.

May I briefly outline a scheme which would, I am sure, meet with the approval both of the great British public and of the medical profession?

(1) The organization of hospital services over natural hospital areas centred on universities, so that these foci of research and education could influence the whole service.

(2) The extension of National Health Insurance benefit to include as of right, specialist and consultant services (domestic when necessary), diagnostic and pathological facilities, physiotherapy, and other treatment in hospitals and nursing-homes.

(3) When this had been effected and was in efficient operation, the scope of National Health Insurance to be extended to include the wives, children, and dependants of insured patients and of all other like economic status. Here it might be useful to consider raising somewhat the present income limit for admission to National Health Insurance, and, coupled with this, there should be an agreed scheme to allow "contracting out" for those who wish it—a scheme of grants in aid, for voluntary contributors, etc.

(4) Government health centres, as became possible, to be set up in the towns, and their functioning studied.

(5) A joint advisory body, with freely elected medical members, to be set up to study ways and means of improving and adding to the service as time went on and opportunity offered.

(6) The improved service to be introduced by stages, according to the money and personnel available at the time, and no attempt to be made to introduce at one leap a fully fledged comprehensive service regardless of the existence or otherwise of suitable premises, personnel, staff, medical and surgical personnel, and equipment. Failure to attempt to do so, as at present proposed by the Government, would result in as much chaos and as disastrous a failure as that which has resulted from an attack on Festung Europa launched in 1942 in response to irresponsible demands chalked upon walls to "win the second front now."

Mr. Bevan is intelligent enough to realize full well what chaos will be felt from an attempt to implement his Health Service Act on July 5, and I believe that he also knows that it will be quite impossible to give a deluded public one tithe of the gifts and benefits he has so rashly promised them. Before it is too late, then, I urge him to think again and so to reap the gratitude of a grateful nation and the enthusiastic co-operation of a great profession—I am, etc.,

A. VICTOR RUSSELL.

doctors buy and sell the goodwill of their practices instead of demanding the sole monopoly of this valuable commodity by the State.

It is very probable that Mr. Bevan will in reality be pleased at the prospect of doctors so early becoming the tenants of local authorities and living and working in council houses and prefabs as comrades of the propertyless proletariat. There is little difference between this and the health centre idea, which is primarily to make the doctor's surgery one of many rented from a local authority. The basic idea of the commonplace mind is that the masses are really very stupid and will soon believe that one doctor is just as good as another however much they may at present claim the right to choose their own doctor.

It has been held by the various medical agencies that the prestige of doctors is invariably lowered in the eyes of their patients if they are obliged to live and practice in council houses and prefabs, but as the Government have set themselves irrevocably against the buying and selling of practices this levelling down of general practitioners as a profession must inevitably follow, with disastrous effect on the recruitment of G.P.s to the new Service and the standard of service rendered.—I am, etc.,

Slough, Bucks.

N. C. HYPHER.

Payment for Work Done

SIR,—I quite agree with Mr. W. Adams, who at our last meeting described the N.H.S. as a gigantic fraud. I for my part will brook no interference between me and my private patients, whom I regard as friends. How would Mr. Bevan like it if I suggested that we reversed matters and undertook to pay each of our patients, say, 20 visits a year—no less and no more—on condition that we drew as much money as we wanted when and how we liked. We might limit it to, say, £10,000 a year. If it is fair one way it is fair the other. My own view is that if we must have a scheme it should be on the lines of the National Deposit Society, whereby the doctor marked down each item and was paid accordingly, so much a visit, etc., by the Society—i.e., paid for work done.—I am, etc.,

E. BLAKE GARLAND.

Conflicting Advice

SIR—Now that the voting is over I would wish to draw attention to one matter which appeared to me unfortunate. Taking the chair at a general meeting of practitioners in my area, among the correspondence there was read out a memorandum sent by a group of members of the Association stating that they were either members of the Council or Representatives, and advising the meeting to vote as they had done before. Whilst agreeing that a Representative has a right to express his own opinion to his constituents, I much regret that certain members of the Council should sign and agree to circulate a document the contents of which did not tally with the advice given by the Council and circulated with the plebiscite papers, unless such publication had been agreed to in Council.—I am, etc.,

PEARSE WILLIAMS.

Doctors' Houses

SIR—Dr. F. T. Wright and G. H. Rosedale (May 1, p. 855) have mentioned serious issues in their letter. I beg leave to elaborate one point, namely, the doctor's house and surgery. And this day or retire from general practice the well-known fact that of long-established doctors' houses will disappear and the doctor will have to face ever-shifting doctors' houses. This must occur if doctors are obliged to sell their houses in order to avoid Government legal action for attempting to sell goodwill with their houses. It is not likely that any sensible N.H.S. doctor will buy or build a new house and surgery and waiting-room accommodation. Nor will the Government, in its capacity as Minister of Housing will be likely to provide for G.P.s to become tenants of local authority houses and work in council houses and prefabs. The Government will have to face the fact that for the present circumstances the only way to solve the problem is to let the Government decide to let

Appeal to the Courts

SIR.—I am astonished at the decision of the Council of the British Medical Association. We should not willingly accept service under the Health Act unless we can appeal to the courts. If we are treated justly there will be no need to appeal to the courts, but the fact that we are not allowed to appeal to the courts indicates that the Minister of Health intends to treat us unjustly. If he intends to be fair he should be willing to amend the Act to allow appeal to the courts.—I am, etc.,

Liverpool.

H. E. ROAF.

Students' International Clinical Congress

SIR.—In July this year an International Clinical Congress of Medical Students—the first of its kind—is to be held in Britain under the auspices of the British Medical Students' Association. Up to date 130 delegates from 30 different countries have accepted our invitation, and a programme of lectures, visits, and ward rounds in various teaching hospitals, discussions, and entertainments for the visitors has been arranged to take place in the Universities of London, Oxford, and Birmingham.

The organizational expenses of the Congress have been met by grants from the British Medical Association and the International Union of Students. The response to invitations so far shows, however, that delegates from many countries are experiencing difficulty in meeting the necessary expense of the attendance. The British Council has generously agreed to cover the Congress fee for a number of delegates, but many countries will have to remain unrepresented unless further support is forthcoming.

May we therefore appeal through your columns for contributions from individual members of the public or from societies which have at heart the furtherance of friendship and understanding of students from all over the world, so that this important event will be truly international in character. Cheques will be gratefully received by the Treasurer, Students' International Clinical Congress, the British Medical Students' Association, B.M.A. House, Tavistock Square, London, W.C.1.—We are, etc.,

JOHN A. RYLE.

Honorary President of the Congress.

STEPHEN DRANCZ.

President of the British Medical Students' Association

HERBERT E. REISS.

London, W.C.1.

Chairman of the Congress Organizing Committee.

Temperature Records and Ovarian Activity

SIR.—Dr. Mary Barton (April 24, p. 806) has not convinced me that I should take rectal rather than oral temperatures. When I use basal temperature records to help me to determine whether a cycle is ovular or non-ovular, the "occasional deceptively low reading due to extraneous factors such as mouth-breathing" is not going to deter me unless she can produce a series of cases in which simultaneous oral and rectal temperatures have been recorded which show that the patients' mouth-

Idiosyncrasy to *d*-Tubocurarine Chloride

SIR.—We have knowledge of a case similar to the first one mentioned in the article on this subject by Drs. T. Cecil Gray and John Hulton (April 24, p. 784). We feel that the term "idiosyncrasy" is a mis-nomer in so far that it does not explain the mechanism operating. Recalling the close analogy between curare and myasthenia gravis and the great tendency of curare to lead to respiratory failure, it is reasonable to draw the inference that the action of curare is greater on the intrinsic and extrinsic respiratory musculature than on the rest of the musculature of the body.

Prof. Prescott and Organe¹ suggest and offer evidence that the hypoxia may occur when intubation is performed in a curarized patient. Prescott also stresses the initial action of curare on the brain stem, which controls vagal activity. As Organe has shown that bronchoscopy in the curarized patient does not predispose to cardiovascular failure, we are then forced to the conclusion that these deaths have their origin within the respiratory system.

The blocking of the normal neuromuscular response at the vocal nerve endings within the bronchi (Hering-Breuer reflex) by curare must exert a profound influence on the mechanism of respiration, and is closely analogous to an acute attack of myasthenia gravis, exhibiting similar symptomatology and complications. Even if we do not invoke the hypothesis of a possible bronchospasm, we have to recognize that the passage of tube or bronchoscope into air passages that are in a state of areflexia will not give rise to the expiratory effort associated with normal intubation, and we have no guarantee that the normal mechanism will return in a patient already suffering from some initial degree of respiratory obstruction which might be caused by a carcinoma of the bronchus.

It is to be noted that the second case quoted by Gray and Hulton showed no signs of respiratory obstruction and recovered. We feel therefore that the question of "idiosyncrasy" can be explained on normal physiological grounds. Furthermore, it appears to us debatable whether curare should be used in bronchoscopies if there is any evidence of respiratory obstruction.—We are, etc.,

T. HOWELL HUGHES.
D. HEWSPEAR.

REFERENCE

¹ *Proc. R. Soc. Med.*, 1947, 40, 593.

Curare and Bronchial Spasm

SIR.—The use of *d*-tubocurarine chloride and thiopentone anaesthesia for bronchoscopy seems to have become a fairly well-recognized method. It has often occurred to me that the continued use in this technique of a drug which depresses the respiratory centre together with a drug which has the capacity to paralyse the respiratory muscles involves considerable danger, as it is impossible to inflate the lungs with oxygen during the procedure and the only alternative, which is to inflate the oxygen through the side tube of the bronchoscope, is far from satisfactory. In addition, most of the patients who are sent to us for bronchoscopy are in poor physical condition and are unlikely to withstand any degree of anoxia. I have used this method for some time without misfortune, but I now feel obliged to give an account of a recent experience.

A male patient, a man of 67, was admitted to hospital complaining of increasing dyspnoea, and a productive cough. His exercise tolerance was very poor and there was slight orthopnoea. Arterio-systolic blood pressure was 160/90 mm. Hg. The heart was considerably enlarged to the right. The blood pressure was 190/120. There had been some weight loss of 15 lb. He was found to have a pleural effusion on the left side and he was running an intermittent pyrexia. A diagnosis of carcinoma was suspected.

On the 11th of April, a man of 67, was admitted to hospital complaining of increasing dyspnoea, and a productive cough. His exercise tolerance was very poor and there was slight orthopnoea. Arterio-systolic blood pressure was 160/90 mm. Hg. The heart was considerably enlarged to the right. The blood pressure was 190/120. There had been some weight loss of 15 lb. He was found to have a pleural effusion on the left side and he was running an intermittent pyrexia. A diagnosis of carcinoma was suspected.

After a further 0.1 g. thiopentone had been given the bronchoscope was passed easily. All respiratory movement ceased. The thorax was compressed a few times while the surgeon withdrew the bronchoscope from the right main bronchus into the trachea. The pulse volume became weak quite suddenly and slight cyanosis developed. The bronchoscope was withdrawn and a Magill tube passed. No time was wasted during this procedure, but by the time the tube was in position the patient was grey and pulseless, and I have a vivid recollection of a grey pharynx with the cords in the cadaveric position.

The mixture of nikethamide, prostigmin, and atropine was administered easily through the Gordh needle, while continued unsuccessful attempts were made to oxygenate the patient by bag pressure from a Boyle's machine, and I wish to stress the fact that it was quite impossible to inflate the patient's lungs. No heart beat could be detected. While an attempt was being made to perform cardiac puncture one inspiratory "twitch" of the diaphragm was seen, and from that moment the lungs could be inflated easily. The pulse returned immediately with good volume, and his colour improved rapidly. The patient's first attempts at spontaneous respiration were in the form of Cheyne-Stokes respiration. He was returned to the ward 55 minutes after the commencement of anaesthesia, and oxygen was administered from a B.L.B. mask. When examined 30 minutes later a left facial palsy was detected, and all the signs of a spastic paraplegia, with increased tendon reflexes, positive Babinski, and clonus on both sides, were evident. A cerebral thrombosis was suspected. Nicotinic acid was administered intravenously and intramuscularly. By evening he had recovered almost completely. The following morning his only complaint, apart from "not feeling too good," was of slight precordial pain. All neurological signs had disappeared. He was discharged from hospital after seven days.

While there were no gross signs of cardiac failure before bronchoscopy, it is obvious from the history that the cardiac reserve was small, and it is likely that there were marked atheromatous changes in the coronary arteries. With the added effect on the myocardium of toxic absorption from the affected lung it is not surprising that a short period of anoxia was sufficient to produce cardiac failure. The cerebral changes were presumably anoxic in origin. It seems certain therefore that the dose of *d*-tubocurarine chloride should have been considerably reduced, or the use of this drug dispensed with altogether. It was, however, surprising and disturbing that even when the patient was in extremis, flaccid and grey, it was impossible to force oxygen into the lungs. I feel certain that I was dealing with a spasm of the smaller bronchioles, as at that stage no striped muscle could possibly have resisted attempts to ventilate the lungs. Whether this hypothetical spasm was due to curare or to thiopentone, or to some other factor, I am not competent to judge.—I am, etc.,

Manchester,

MICHAEL M. BOYLE.

Erythroblastosis and Kernicterus

SIR.—The annotation on erythroblastosis and kernicterus (May 1, p. 843) must not pass without comment lest it be assumed by readers not engaged in this work that the theories there outlined are founded on accepted facts. Surely the annotation is wrong in stating that the staining of nerve cells causes their degeneration. It is generally accepted that the sequence of events is, first, damage to and degeneration of the nerve cells and, secondly, icteric staining of the damaged nerve tissue by circulating pigment; this is entirely analogous to the coloration of cerebral lesions by vital staining in experimental animals.

The hypothesis that the different clinical varieties of haemolytic disease are explicable on the grounds of differences in the quality of the maternal iso-antibodies is not borne out by a study of a large series of cases. In my experience the type of foetal disease cannot be predicted with certainty by determination of the quality of the maternal antibodies. The most that can be said is that a high titre of blocking antibodies is likely to be associated with hydrops foetalis and still-birth. In a recent publication on this subject I gave illustrative case histories in which the lack of correspondence between type of antibody and foetal disease is clearly shown (Cappell, 1947).

Wiener's theory that icterus gravis neonatorum is due solely to anti-Rh agglutinins which are "milked into the foetal circulation in the course of labour" is a piece of arm-chair philosophy which is accepted by no competent pathologist experienced in this work (cf. Potter, 1947). If it were true it would be possible to prevent icterus gravis by caesarean birth

—a possibility unfortunately abundantly refuted by experience. The statement that the changes of *icterus gravis* are due to agglutinative thrombi in the vessels of liver, bone marrow, and brain is only an attractive speculation which is, unfortunately, divorced from reality and is in direct conflict with all the morbid anatomy of the disease. The post-mortem appearances provide unmistakable evidence of long-continued pre-natal haemolysis, and the extra-mullary haemopoiesis which is so conspicuous a feature of many cases cannot conceivably have developed only after birth.

In conclusion I can only agree with the last sentence of your annotation, but this is just what the American writers cited have failed to do; instead they have promulgated a theory based on pure speculation without a shred of clinical or pathological evidence to support it.—I am, etc.

The University, Glasgow

D. F. CAPPELL

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- CapPELL, D. F. (1947). *Brain* 70, 486.
Potter, E. L. (1947). *Br. H. K. Lewis*, London.

Iridocyclitis Treated with Benadryl

SIR—I found the letters of Dr. Bernard Shaw (Feb. 7, p. 275) and Dr. J. Moss (Feb. 21, p. 367) on this subject interesting. A parent of mine here, an ex-naval officer, has had recurrent attacks of iridocyclitis for many years and has seen several specialists in addition to many general practitioners.

The condition always occurred at night, and he died from the service in submarines during the Kaiser's war. He always referred to it as "periscope eye." I usually refused a morphine and heard that the various specialists have advised a varied range of treatment, from arsenicals and period to period, irrigation, prostatic massage, and injections of milk. Last year he had an attack which I treated for a short time with sulphur, iodine, but as there was no obvious response I put him on to injections of "acetylarsan" and emetine. This attack lasted for 12 days and was the shortest he had had then.

This month he surprised us all by a fresh attack, but in the left eye for the first time on record, which rather upset the periscope analogy. I was afraid that occurring in a new eye it might be more severe than before, but I treated it with atropine and hot spoon bathing as before, emetine and acetylarsan, and "benadryl" in addition. This attack is the shortest he has had, and he was clear in one day this time. I cannot say for certain whether the benadryl actually shortened the time, but its soothing and soporific effect was a great help and the patient appreciated it very much.

The rationale of emetine is that he has suffered in the past from dysentery, and in this colony a great percentage of people sooner or later suffer from chronic amoebiasis and require emetine periodically.—I am, etc.,

Nairobi, Kenya Colony.

G. DUNDERDALE.

Barium Enema and Acute Intussusception

SIR—Drs. Brenda Morrison and Donald Court are to be congratulated on their excellent account of "Acute Intussusception in Childhood" (April 24, p. 776), but as stated in the annotation (p. 794) "some may differ from them" on their attitude to barium enemata as an aid to diagnosis and as a method of treatment.

As quoted by Morrison and Court, the papers by Nordentoft, Nyberg, and Hipsley¹ show that the barium enema can be of great value both in diagnosis and treatment of early acute intussusception.

In two such cases which I saw as surgical registrar at the King George Hospital, Ilford, barium enemata were found to be of value.

Case 1. A well-nourished baby boy, aged 7 months, was admitted 14 to 15 hours after the onset of what seemed to be spasmodic abdominal pain. There was no vomiting, nor was there any blood detected on rectal examination; while the abdomen, though carefully palpated, held no definite lump.

An enema was slowly administered, under anaesthesia, using a very thin mixture of barium; the progress of the barium was followed by viewing with a screen, and the invaginated loop of ileum was clearly seen to "unfold" itself as far as the ileocaecal junction, when the ileum seemed to "jerk" itself back to its normal position. Two days later the child was home, fully recovered.

Case 2. This child was also suspected of having an early (18 hours) acute intussusception, but again the signs were not sufficient to warrant operation. A barium enema confirmed the diagnosis,

and also appeared to reduce the intussusception, though no "jerk" was seen. In this case, however, pain and vomiting recurred after a short interval, and at laparotomy an early ileocaecal intussusception was found. Reduction in the usual way was followed by uneventful recovery.

These cases illustrate how a barium enema can be of value in diagnosis in the early stages of intussusception, and when the picture is not presented. In Case 1 it was of obvious value as a mode of treatment. Though a failure as treatment in Case 2, the diagnosis was confirmed and no harm resulted.

In this way early cases can be diagnosed, instead of being allowed to become late cases by the "wait and watch" method of observation; whilst in addition to the diagnosis being made the condition may be cured at the same time—thus making operation unnecessary. According to Babcock, 60% of intussusceptions are reducible in the first 24 hours, on hydrostatic pressure—I am, etc.,

London N.W.6

Philip H. Wynn

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- ¹ *Acta radiol. Stockh.*, 1943, 22, 434.
² *Ibid.* *chap. record*, Supp. 80, 1943, 23, 1.
³ *Surgeon*, 1937, 1, 225.
⁴ *Text B. of Surgery*, 1935, W. B. Saunders Co. Philadelphia and London.

Late News

SIR—Being a weekly reader of the *Journal* I am sure, reading a week and more behindhand, you made it none the less important to members. This delay is added to when the *B.M.J.* is delivered by post till Monday or Tuesday, and then the day's delay press gets in first with the news. The importance of news which reaches client or patient, and then the doctor to whom in these anxious days it may be of great importance. What has taken place at Council or B.M.J. meetings, or at local meetings, or what entered into the *Journal* department, he gets late perhaps after the event.

Members, being a daily scattered, find it hard to get the *Journal* for ungarbled facts for which they are entitled. In these days, when things move so fast, it is a pity that a column or part of one be given in the *Journal* to the members, and it seems greater in importance than ever before. The "Late News" Summary, framed by the *Journal* department of the Association under the watchful eye of the Editor, thus to publish happenings from local as well. Headquarters sources.—I am, etc.,

B. BENJAMIN

S. W. TOWN SMITH

Association of Medical Record Officers

SIR—The need to improve the technique of medical record keeping has frequently been a subject of discussion but until comparatively recently little organized action has been taken. What is recognized that the standard of clinical records is and must remain a medical responsibility, it is thought that this responsibility could be lightened, and medical time and expense saved, by the provision of trained lay assistants. With this end in view an Association of Medical Record Officers has now been inaugurated and it is felt that the medical profession will give their co-operation and guidance whenever it is sought, as they have always done in such matters in the past. Two of the Association's aims are:

(1) To promote the development of techniques in medical record keeping, to diffuse among the members and others all information and technical and general knowledge from time to time available regarding the keeping of medical records or of use in connexion therewith.

(2) To provide opportunities by means of lectures, discussions, or other intercourse among the members for the exchange of information and opinions regarding the method, processes, and technique of medical record keeping.

Training courses for lay personnel already responsible for medical records are being organized in several of the Regions as an interim measure preparatory to a more comprehensive scheme of training. Records officers interested in these training courses and in membership of the Association are invited to get in touch with the honorary secretary.—We are, etc.,

B. BENJAMIN,

Statistician, Public Health Department,
London County Council (Chairman of Council)

ELSIE FOYLE,

Records Officer, Christie Hospital and Holt
Radium Institute, Watford Road,
Manchester, 20 (Hon. Secretary).

POINTS FROM LETTERS

Holidays Patients

Dr. P. LEONARD LEY (Great Yarmouth) writes: I am well aware that neither the Government nor the B.M.A. Council has the time or the knowledge to consider details under the New Health Act. A real problem has just occurred to me. How are doctors at seaside resorts expected to deal with the doubled populations presented to them during the holiday months?

New Act Necessary

Dr. A. R. EATON (London, S.W.3) writes: . . . Do please demand something up of the Act for five years, during which we might be called upon to help the Government to evolve something good, and avoid the notion, and avoid the eternal disgrace of being accessory before the fact of the introduction of a scheme which will certainly not be a new Act is absolutely necessary.

British Medical Libraries

Mr. ALFRED L. GOODALL (Hon. Librarian, R.F.P.S., Glasgow) writes: I was very interested to read the article of Mr. W. R. Le Fanu on "British Medical Libraries" (April 24, p. 798). I write to call attention to a library which Mr. Le Fanu does not mention—that of the Royal Faculty of Physicians and Surgeons of Glasgow. In its historical section this collection is in many ways unique and worthy of an important place in British medical libraries.

In current periodical literature we subscribe to over 180 journals, including many not easily obtainable elsewhere in Britain. It is available to Fellows of the Royal Faculty, to postgraduate students, and to members of the Royal Medico-Chirurgical Society of Glasgow. In association with the Royal Society of Medicine our collection is available to all research workers, and we have a microfilm reader making the world literature easily reached through the Royal Society of Medicine or the Surgeon-General's Library.

Ambiguity of Act

Dr. J. W. BARNETT (London, S.W.7) writes: . . . We must insist, and keep the B.M.A. up to it, that all amendments (not concessions) proposed by the B.M.A. should be accepted. In addition all clauses of the Act should be further examined and amended to ensure removal of the ingenious and deliberate ambiguity which is such a feature of the Act and allows the Minister full scope to adjust it as he likes and when it suits him. Even when all the amendments are accepted, operation of the Act should be postponed till the Minister has provided at least part of the tools for the job—i.e., extra hospitals, beds, and nursing and domestic staff. Without these essentials the Act must fail in operation, and well the Minister knows it. He also knows that he will have to explain its failure to Parliament and the people. That is easy. He has insulted and deceived the medical profession and refused all amendments, and of course the wicked doctors who decline to work an Act will be made the scapegoats. . . .

Penal, Carcinoma

Dr. G. P. CHARLWOOD (Johannesburg) writes: I was interested to read Mr. W. Sampson Handley's letter (Dec. 20, 1947, p. 1050) and the subsequent correspondence. I saw seven cases of carcinoma of the penis in India. In every one the prepuce was loaded with cancer. In none had the patient ever drawn back his prepuce. Circumcision should certainly be performed for those who prefer to work with it.

Representation of Profession

Dr. C. HOWARD WATSON (Sheffield) writes: At a Group meeting in Sheffield recently the recent development in the situation caused by the Minister's offer to introduce an Amending Bill was discussed. Much alarm was caused by Lord Moran's speech in the House of Lords in reply. What authority or right has Lord Moran to say that any reasonable doctor should accept the terms and now expect him to make the Act a success? Lord Moran, eminent as he may be, does not represent the profession, and particularly the general practitioners. . . . The meeting also expressed the opinion that the Council should be urged to stand out firmly for the retention of the current and past standards of practices. This principle is of far more importance than any of the others, and on this principle the interests of the patient and the liberty of the doctor depend.

Carbon Monoxide and Cancer

Dr. J. W. FRANK (Manchester) writes: It is a striking fact that the production of cancer in experimental animals is associated with the production of a focus of carbon monoxide in the lungs. If carbon monoxide is the end product of the process, then the production of cancer in any part of the body outstrip the production of cancer in the lungs. It is therefore of interest to note that the production of cancer in the lungs is associated with the production of carbon monoxide in the lungs.

Obituary

PROF. A. H. BURGESS, M.Sc., F.R.C.S., LL.D.

We announce with regret the death of Prof. A. H. Burgess, who was for many years Professor of Clinical Surgery in the University of Manchester. Prof. Burgess died suddenly, at the age of 74, on May 6 in Edinburgh, where he was attending the annual conference of the Association of Surgeons of Great Britain and Ireland, of which he was at one time President. In 1929 he was President of the British Medical Association.

Arthur Henry Burgess was born at Shelford, Lancashire, on Feb. 2, 1874. After leaving school he spent a year in a shipping house in Manchester before entering Owens College, where he graduated B.Sc. in zoology in 1892. In this same year he won the Dauntsey entrance scholarship in medicine and was the Dalton Natural History prizeman. He was awarded the junior and senior Platt Exhibitions in Physiology in the next two years. Burgess continued with his work in zoology and took the M.Sc. in 1895. A year previously he had also won the Victoria University scholarship in medicine. He took all the medals for class examinations, and concluded his brilliant undergraduate career with the Turner Medical and Dumville Surgical Prizes for 1896.



[F. W. Schmidt]

the year when he graduated M.B., Ch.B. with first-class honours. The conjoint examination Burgess took in his stride at the same time. Resident surgical posts in the Manchester Royal Infirmary, the Royal Children's Hospital, and Crumpsall Municipal Hospital followed over the next few years, and he took the F.R.C.S. in 1899. He was then appointed visiting surgeon to the Crumpsall Hospital, and honorary surgeon to the Children's Hospital and to the Christie Cancer Hospital.

Burgess introduced modern methods in the practice of surgery in Manchester. He was taught to operate in a long apron with a bib held by tapes round the neck, with rolled-up sleeves and ungloved hands. He adopted at Crumpsall the all-enveloping white overall with a gap only for the eyes. This was such an innovation that a cartoon appeared in the students' *Gazette* showing Dr. E. S. Reynolds, then medical superintendent of the hospital, gazing in mild surprise at this apparition. Burgess was also depicted holding a cystoscope half as long as his own tall self, for he was the first surgeon in the city to become proficient in the use of this instrument. He also gave special attention to intestinal surgery in the days of Murphy's button and Senn's decalcified bone plates, experimenting on the cadaver with various methods applied to a gut which he had dissected out, filled with water, and suspended from a height in order to produce the required pressure. Burgess was one of the early operators for acute appendicitis, and impressed the Manchester Medical Society at one of its meetings in 1907 by showing four specimens that he had removed that day: in each of these cases the appendix was gangrenous. In 1912, in a paper published in the *Journal*, he analysed 500 consecutive cases operated on for acute appendicitis.

Elected honorary assistant surgeon at the Royal Infirmary in 1905, Burgess continued in active work there until 1934, when he retired on reaching the age of 60. His last appearance as a member of the active staff took the form of a clinical round on S5, which was attended by many of his colleagues and a score of his former house-surgeons.

Burgess soon became well known as the leading young surgeon in Lancashire and built up a large consulting and operative practice. Tall and spare in build, he was no dawdler over his work, as the elderly accident-room nurse found when

Dr. ERNEST MAURICE FRAENKEL died on April 20 after a short illness. Dr. Fraenkel was educated at the Universities of Breslau, Munich, and Freiburg. He had been a professor of medicine in the University of Berlin, and was on the staff of the University Clinic, the Charité Hospital, and the Rudolf Virchow Hospital there. Like many other physicians he came to this country in 1932 since it was impossible for him to continue his work in Germany. He was first of all at the Westminster Hospital as a John Proffit research worker. Most of his work at this time was concerned with the Rous carcinoma and with the filtrability of the tubercle bacillus. He took the L.M.S.S.A. in London in 1936, and shortly afterwards was working at the L.C.C. laboratories on the significance of moulds in certain cases of asthma. He was naturalized in 1940, and during the war was in practice in Buxton. On his return to London in 1945 he was made consulting allergist to the L.C.C., and published a number of papers in this and other journals on allergy, bronchial asthma, and related subjects. He was a physician with a philosophic outlook, and some of his ideas were held to be in advance of his time. The sympathy of those who knew him will be extended to his wife and to his daughter.

Universities and Colleges

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M.D. F. D. 1895, R. D. Yeare, N. Southwell, E. J. Crisp,
 M.B., B.Ch., J. C. E. Payne, *R. S. Smylie, *F. S. Mellows, J. L. Hansell,
 A. D. Pearce, F. A. Ryan
 M.B., *F. D. 1892
 The following members of M.D. was conferred in April, by diploma, on Mrs. H. E.
 D. 1895, F. D. 1892

UNIVERSITY OF DUBLIN

COLLEGE FACULTY OF PHYSICIANS AND SURGEONS OF
GLASGOW

[illegible]

Medical Notes in Parliament

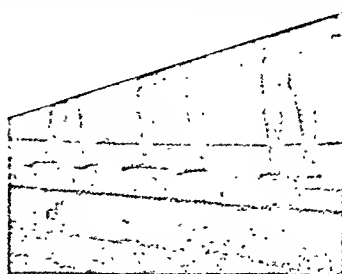
NATIONAL HEALTH SERVICE

Mr. BEVAN repeated his statement of April 15 that Circular 3/48 did not "indefinitely postpone" all provision of health centres. Some local health authorities were already preparing proposals for providing health centres in accordance with the guidance given in the Circular. He did not understand the reference to "alternative accommodation."

Alien Practitioners

Mr. BEVAN answered that registration was conditional on residence in the United Kingdom. These practitioners could

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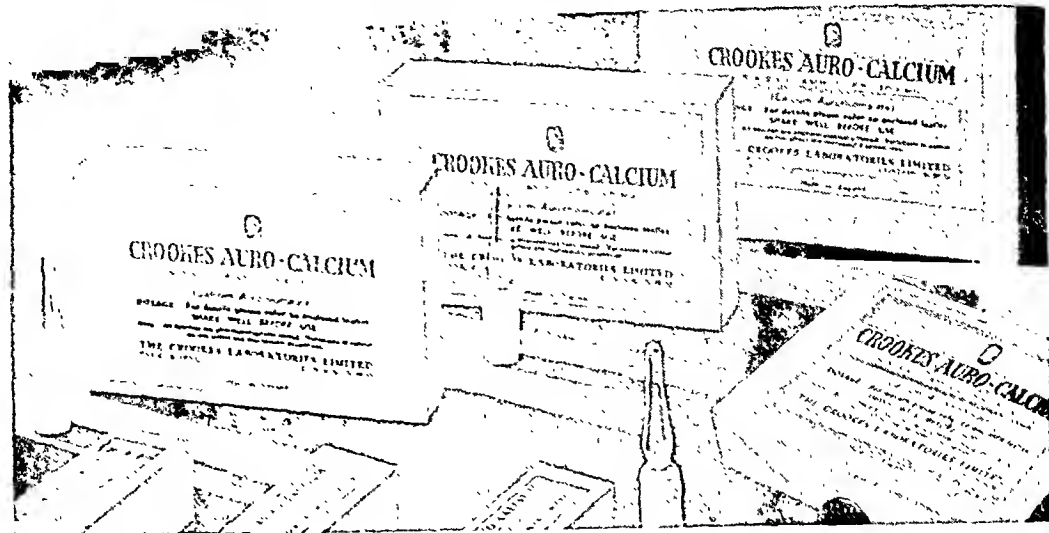
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ENGLAND AND WALES

A.—Crude Death Rates (all causes) and Case and Death Rates for Chief Notifiable Diseases. Years 1938, 1939, 1945, and 1946

1946																	
Year	All Causes	Typhoid and Paratyphoid Fever		Cerebrospinal Fever		Scarlet Fever		Whooping-cough		Measles		Diphtheria		Acute Poliomyelitis and Acute Poliomyelitis		Dysentery	
	Death Rate	Case Rate	Death Rate	Case Rate	Death Rate	Case Rate	Death Rate	Case Rate	Death Rate	Case Rate	Death Rate	Case Rate	Death Rate	Case Rate	Death Rate	Case Rate	Death Rate
1938	11.6	.03	.003	.03	.016	2.41	.003	7	.026	2	.037	1.53	.049	.04	.006	.10	.003
1939	12.1	.04	.003	.03	.012	1.83	.004	7	.030	2	.007	1.14	.052	.02	.003	.10	.003
1945	12.6	.01	.001	.03	.014	1.89	.002	1.64	.018	11.67	.019	0.46	.018	.02	.003	.10	.003
1946	12.0	.03	.001	.05	.012	1.35	.001	2.28	.020	3.93	.005	0.29	.011	.02	.003	.15	.003

B. Total Deaths (including Non-civilians) from Respiratory Tuberculosis and Pneumonia

Year	Respiratory Tuberculosis	Pneumonia, all Forms
1938	21,282	27,467
1939	21,542	23,403
1945	20,013	19,934
1946	19,365	20,215

C. Death and Notification Rates per 1,000 total (Live and Still) Births

Year	Postnatal Fever and Pyrexia	
	Case Rate	Death Rate
1938	14.41	0.70
1939	14.48	0.63
1945	10.02	0.24
1946	8.50	0.18

Notes.—(1) Rates for 1938 are based on civilian and non-civilian data and for 1939, 1945, and 1946, on civilian data only.

(2) Rates for notifiable diseases for 1938 and 1939 are based on original notifications; those for 1945 and 1946 are based on original notifications corrected for later amendments of diagnosis.

(3) The number of cases of whooping-cough and measles in 1938 and 1939 is not available. Notification of these diseases was not compulsory until 1944.

not be registered under the Act while serving abroad. If they subsequently took up residence it would be open to them to apply.

Deaths from Notifiable Diseases

Mr. SKEFFINGTON-LODGE requested on April 29 figures showing the trends in regard to the death rate and the chief notifiable diseases, compared with the most satisfactory statistics for pre-war years.

In reply Mr. BEVAN furnished the above tables.

Position of Assistants

On May 6 Mr. BOWDEN asked the Minister of Health if a doctor now employed as an assistant could on July 5 commence a separate practice from his principal, providing patients wished to be placed on his panel and the district was not considered to be over-doctored, or must he commence outside of the area in which he was now practising as an assistant?

Mr. BEVAN said that with the agreement of the Medical Practices Committee an assistant could on or after July 5 practise as a principal in any area under the National Health Service, but the agreement of the Committee would not relieve him from any restrictions imposed by any personal legal agreement previously entered into with his principal.

Doctors' Wives

Sir WALDRON SMITHERS on May 6 asked whether Mr. Bevan had studied details which had been sent him about the position of doctors' wives under the Health Act. Mr. CUTHBERT asked what answer the Minister of Health had given to the request by the League of Doctors' Wives asking him to postpone the introduction of the National Health Act until he had the necessary buildings, equipment, and trained personnel. Sir JOHN MELLOR asked whether Mr. Bevan would provide assistance for those doctors for whom, and for whose households, the National Health Service would cause increased secretarial work, telephone attendance, and aggravate domestic disturbance.

In reply to the three questions Mr. BEVAN said that, as he had told those concerned, he thought there was a tendency to overestimate the effect of the new Service upon the position of doctors' wives. In any case he did not believe that they on reflection would wish to deprive the rest of the community of the benefits of the scheme by postponing the appointed day.

In reply to a further question Mr. BEVAN said that if it was found that extra work was thrown on doctors' wives and they found it burdensome, the Government would consider what help it could give in the provision of domestic service. He reminded Members that there were other wives with onerous burdens as well as doctors' wives.

Cost of the Service

Mr. ODEY on May 6 asked why the new Health Service information leaflet did not state the weekly cost of the stamp contribution. Mr. BEVAN said the National Health Service was

not dependent on a stamp contribution, which was a matter for National Insurance.

Mr. ODEY asked for an assurance that Mr. Bevan was not influenced by the fact that much of the new Health Service would not be available for twenty years. Mr. BEVAN said that in every part of the world there must be limitations on health services because of their dependence on the medical and physical resources available. If, as Members asserted, the Ministry would be unable to give the service, then, obviously, there would be no cost. The cost of the service which the Ministry was able to give was borne from the National Exchequer and not from insurance contributions.

Col. STODDART SCOTT asked whether Mr. Bevan said the £200,000,000 which the Health Service would cost was coming entirely from rates and taxes with nothing out of the weekly contributions.

Mr. BEVAN replied that it would come almost entirely from the Exchequer and the rates.

Col. STODDART SCOTT: The right honourable gentleman says "Almost."

DENTAL SERVICES

Sir HUGH LUCAS-TOOTH moved on May 5 that the National Health Service (General Dental Services) Regulations, 1948, dated March 12, be annulled. At the start of the debate Sir Hugh asked that the sitting be suspended owing to the absence of a Minister to reply.

Passing to the Regulations he said that under Subsection 1 of Section 40 in the National Health Service Act, 1946, councils for counties and county boroughs were to arrange with dentists for providing services at a health centre or otherwise. Under Subsection 2 the Minister was to make Regulations carrying out that general intention. The Regulations would deal with the preparation and publication of lists of would-be practitioners in the dental service and would leave it open to every dentist to say whether he wished to come into the scheme. The Regulations were to confer the right on any person to choose his own dentist and to establish a Dental Estimates Board for approving estimates of the cost of treatment. This Section had not been amended in its passage through Parliament.

The White Paper which had been published with the Act stated that dentists would normally be able to start treatment without further reference and subsequently to submit a claim for payment from public funds. Since the Act became law discussion had gone on between the dentists and the Ministry, but there appeared to be a complete breakdown in the negotiations. Two main points were the question of clinical freedom and the question of remuneration. The Minister insisted that the remuneration of dentists should be by fixed fees; the provisions on the subject in the Regulations were wholly the responsibility of the Minister. At this point Mr. Bevan entered the House.

Proceeding, Sir Hugh said that dentists practising in private surgeries would have to send their estimates to the Dental

Estimates Board. All estimates for dental treatment for the whole country whether requiring prior approval or not had to go to a single board of a chairman and eight members. Estimates were divided into those which could be completed without obtaining the approval of the Dental Estimates Board and those requiring prior approval. He was informed that 75 per cent of the work of the dentist fell in the second class. Sir HUGH estimated that in an ordinary practice at least two out of three would require prior approval. There were twelve hundred practising dentists, so something like 150,000 prior approvals would have to be given weekly.

Blood and Vulcanite

One member from the Spens Committee had not yet reported. The Populations stated in effect that every dentist would be paid a single flat rate for each item of treatment whatever his skill or experience. If a low basic rate was paid without regard to skill, the better dentist would stay out and the only one who came into the scheme would be those rudely labelled as the "blood and vulcanite" type. He suggested there should be a classification with a higher rate of charge and the dentists could choose into which classification they went.

SIR WAVELL WAKEFIELD felt there had been discourtesy and there was a strong feeling of dissatisfaction at what had taken place.

MR BEVAN said that was the second or third time that the representatives of some part of the medical profession had made this statement. If it was repeated he would publish the verbatim report of the exchanges between him and representatives of the medical profession. All these conversations had been confidential and he was quite helpless when a stupid statement like that of Sir Wavell's was made.

SIR WAVELL WAKEFIELD said he was making a statement of the dental profession felt.

MR BEVAN. It is untrue.

SIR WAVELL WAKEFIELD said Mr. Bevan referred to the medical profession but that he had spoken of the dental profession. He asked Mr. Bevan what were his intentions about dental work which was done by independent qualified dental technicians. He pointed to the provision in the Regulations that as a condition of obtaining general dental services a person should, as required by the Board, submit himself to examination by a dental officer. He thought those words reflected on the professional skill of the dentist. He asked whether members of the Dental Estimates Board would be full-time or part-time members of the Board and for what period they would be appointed.

No Plebiscite

MR BURN, said the great mass of dentists did not wish to submit themselves until they knew what remuneration they could get. To say that they opposed the scheme was nonsense. Up to the present there had been no plebiscite and no democratic method of judging their views. If there was to be a National Health Service there must be a Dental Estimates Board to adjudicate between patients and dentists and between the Government and the dentists. The great mass of cases would go through the Board without any need for professional opinion at all. The Minister had followed almost word for word the suggestions of the British Dental Association of what should require prior approval. When he himself had suggested that Schedule A should include crowns and inlays, members of the Control Committee of the Dental Profession turned down the suggestion because they believed some members of the profession were not capable of carrying out all types of crowns and inlays without prior approval. When more skilled work required prior approval by the Dental Estimates Board there could be a varying fee for each item.

MR BURNES said the Regulation embodied all the worst fears of what would happen to a professional service when the Government took hold of it.

D. H. B. MORAN, referring to the Second Schedule, said that he was first of all that the removal of infected teeth and the removal of infected treatment and reference to the Dental Estimates Board was one that very few fractured jaws could be treated. It seemed unnecessary to include fractured jaws in the list of cases which would not receive emergency treatment.

Government Reply

MR BEVAN, in reply to the debate, said the Regulations would set a standard of service and Mr. Bevan was not going to set a first-class standard of service. He was going to set a standard of service for the general health. He did not think that the Government would be mainly paid for out of the pocket of the patient. He would like to reduce to a

minimum the intervention of the Dental Estimates Board. There was a striking similarity between the proposals in the Regulations and those advocated by the profession early in 1946. The Minister had indicated his view that in ordinary cases the reply of the Estimates Board would come back within a week. The Board would not see every estimate and pass it. Its job was to supervise a large staff which would deal with these estimates, the majority of which would be capable of being dealt with by means of rules.

He did not know any answer to the problem of special payment for the man who was doing particularly good work and he would be glad to hear further views on the point. Regarding shops for the repair of dentures the Ministry intended that they should not be included in the service. All repairs under the National Health Service would be under the supervision of dentists. It was not the intention of the Government to put any financial limit on expenditure, other than the limits laid down in the Regulations. It desired that whatever was clinically necessary should be done. Dentists had not, at the moment, been asked to join the scheme. The Regulations had been tabled because the Government felt that they should be discussed. The wording of the Second Schedule had been prepared in consultation with the profession. An x-ray examination which cost more than two guineas but was urgent would not necessarily have to go to the Dental Estimates Board.

On a Division the Regulations were approved by 147 votes to 45.

Air Ambulances

Answering in the House of Lords on April 27 questions by Lord FAIRFAN OF CAMERON on the provision of air ambulance services from islands off the coast of Great Britain, Lord NATHAN said that at present county councils in Scotland were responsible for air ambulance services but that the Department of Health for Scotland would assume this responsibility on July 5. He was taking steps to secure and extend the provision by British European Airways of adequate ambulance services to islands off the coast of Great Britain. These services, however, depended upon the provision of adequate landing grounds, and that provision was not the responsibility of the Ministry of Civil Aviation but of the health departments or local authorities. Air ambulances were at present available to Islay, Tiree, Barra, Benbecula, Stornoway, Orkneys and Shetlands, South Harris, North Uist, Isle of Man, Scilly Isles, Alderney, Jersey, and Guernsey. Consideration was being given to extension of the service to the islands of Mull, Coll, Colonsay, Fair Isle, and Foula.

British European Airways used D.H. Rapides, which could be quickly converted into air ambulances. The Rapides in Scotland were based on Renfrew and Aberdeen, and those for services off the English coast from bases at Speke, Land's End, and Jersey. In addition the Royal Air Force had two aircraft fitted as air ambulances for the movement of sick Service personnel. These could also be used in emergency to transport civilians. The numbers conveyed from the Scottish islands were 94 cases in 1945; 146 cases in 1946; and in 1947, 168 cases. An air ambulance could be summoned by telephone or telegraph by any doctor whose name was in the list supplied to the British European Airways Corporation by the Department of Health for Scotland. A recent failure to convey two patients from the Island of Westray occurred because the air strip there was insufficient for the safe operation of a D.H. Rapide.

Industrial Injuries.—The National Insurance (Industrial Injuries) Bill which was published on April 30 is designed to forestall difficulties which further study of Section 14 of the National Insurance (Industrial Injuries) Act, 1946, has shown may occur. This section provides a special hardship allowance to an industrial pensioner who by reason of his injury is likely to be permanently unable to return to his old job and for the time being unable to follow employment of an equivalent standard. With recent advances in rehabilitation, doctors may be reluctant to say that a man would never be fit again for his regular occupation. The Bill will therefore authorize the payment of the allowance of 11s. 3d. a week while measures of rehabilitation are being tried.

Overproduction of German Doctors.—Replying on May 3 to Mr. SOUFREVILLE HASTINGS, Mr. MAYHEW said certain universities in the British Zone last year offered to take a number of students who claimed to have been refused admission to Berlin University, providing they did not count against the maximum strengths laid down for their medical faculties. The Control Commission could not approve this, as to do so would go directly counter to their policy of preventing the overproduction of men and women for the medical profession, which was already overcrowded. The students must therefore take their chance of acceptance by the Zonal universities in competition with other candidates for places within the permitted strengths of the faculties.

No. 17

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended April 24.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included), (b) London (administrative county), (c) Scotland, (d) Eire, (e) Northern Ireland. Figures of Births and Deaths recorded under each infectious disease, are for: (a) The 125 great towns in England and Wales (including London), (b) London (administrative county), (c) The 16 principal towns in Scotland, (d) The 13 principal towns in Eire, (e) The 10 principal towns in Northern Ireland. A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	43	—	5	17	1	2	64	8	31	3
Deaths	—	—	—	—	—	—	—	—	—	—
Diphtheria	179	13	42	17	4	175	22	50	25	9
Deaths	—	—	—	—	—	—	—	—	—	—
Dysentery	252	29	16	—	—	61	4	19	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica, acute	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	43	6	2	—	—	33	16	1
Deaths	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years	—	—	—	—	—	—	—	—	—	—
Deaths	33	3	6	17	—	72	9	14	19	1
Measles*	9,092	1,147	296	117	47	7,962	408	235	46	36
Deaths†	—	—	—	—	—	—	—	—	—	—
Omphaloma neonatorum	52	1	9	1	—	75	8	24	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever	3	—	2(B)	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenza	593	31	1	6	3	647	43	5	9	5
Deaths (from influenza)	10	1	1	2	—	21	5	3	—	—
Pneumonia, primary	192	32	19	32	7	34	231	25	16	12
Deaths	—	—	—	—	—	—	—	—	—	—
Polio-encephalitis, acute	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Polymyositis, acute	16	2	5	1	—	6	2	—	5	—
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever	—	—	9	—	—	—	—	10	—	1
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever	131	14	11	3	—	136	8	11	—	2
Deaths	—	—	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	1,555	113	257	41	35	892	76	150	22	42
Deaths*	—	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid fever	4	1	—	2	—	6	1	—	3	1
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough*	3,227	271	55	56	20	2,044	256	322	74	20
Deaths	11	—	—	1	—	15	2	6	3	—
Deaths (0-1 year)	317	36	42	23	10	472	71	65	21	17
Infant mortality rate (per 1,000 live births)	—	—	—	—	—	—	—	—	—	—
Deaths (excluding stillbirths)	4,581	725	621	193	121	4,788	755	574	212	132
Annual death rate (per 1,000 persons living)	—	—	12.5	12.2	—	—	—	11.9	13.4	—
Live births	8,701	1393	1115	361	272	10,155	1626	1317	444	351
Annual rate per 1,000 persons living	—	—	22.5	22.6	—	—	—	26.5	28.0	—
Stillbirths	219	26	33	—	—	266	33	30	—	—
Rate per 1,000 total births (including stillborn)	—	—	29	—	—	—	—	22	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county) and Northern Ireland.

§ Polymyositis and polio-encephalitis for England and Wales are combined.

|| In England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Inoculation against Plague and Typhus in International Quarantine Practice

The World Health Organization Expert Committee on International Epidemic Control decided on April 17 to ask the Executive Secretary of the Interim Commission of W.H.O. to make known to National Health authorities the following: "The Committee strongly emphasized the fact that, whatever its value as a measure of individual protection within the area of a plague epidemic, anti-plague vaccination had no place as a quarantine measure in the international control of the disease"; also "the Committee was strongly of opinion that vaccination against typhus, although it conferred considerable protection to the individual, was not justified as an international quarantine measure." The Committee agreed that the use of insecticides with a residual action should be the chief measure of international action against these diseases.

These views coincide with those expressed on Oct. 16, 1947, by the W.H.O. Expert Committee on Quarantine—views which, endorsed by the Interim Commission, read as follows: "The Committee stressed the fact that inoculation against plague or typhus cannot be required under existing Conventions, and observed that such measures had little value for the protection of countries receiving travellers from infected areas. In its opinion disinsection of the travellers and their belongings by means of D.D.T. or other efficient insecticides would be more efficacious in preventing the importation of these diseases."

Quarterly Return for England and Wales

The Registrar-General's Quarterly Return for the quarter ended Dec. 31, 1947, was published on May 13. The infant mortality rate was 39 per thousand related live births. This was the lowest rate ever recorded for a fourth quarter in this country, being 4 per thousand below that for the fourth quarter of 1946 and 10 per thousand below the average rate for the fourth quarters of the ten preceding years. The birth rate in England and Wales during this fourth quarter of 1947 was 17.8 per thousand compared with an average rate of 15.2 for the fourth quarters of the five years, 1941-5. Stillbirths represented 2.4 per thousand total live and stillbirths, which is 3.4 lower than the rate for the fourth quarter of 1946. The death rate was 11.0 compared with 11.3 for the corresponding quarter of 1946 and an average of 11.5 for the fourth quarter of 1941-5. There were no cases of smallpox notified and no deaths from smallpox registered during the quarter.

Discussion of Table

In England and Wales the chief features of the returns were the large rises in the notifications of dysentery 142 and diphtheria 43. An increased incidence was also recorded for scarlet fever 245, while a decrease was reported in the incidence of measles 589 and of whooping-cough 161.

The decline in the notifications of measles occurred mainly in the counties surrounding London: in the north there was an increase. The largest falls were London 213, Essex 76, Middlesex 70, Kent 62; the largest rises were Durham 164, Lancashire 130, Warwickshire 116.

A rise in the incidence of scarlet fever was recorded in most areas except the south-eastern and south-western regions, where a fall of 28 occurred; the largest rises were Lancashire 60 and London 37. The largest variations in the trends of diphtheria were increases of 18 in Lancashire, due to the experience of the county boroughs, and of 12 in Yorkshire West Riding, due to a heightened incidence in the rural districts. The largest changes in the returns of whooping-cough were an increase of 54 in Warwickshire and a decrease of 52 in Lancashire.

A series of fresh outbreaks of dysentery was responsible for the large increase in the notifications of this disease, which reached the highest total for two years. The new outbreaks included Derbyshire, Chesterfield M.B. 68; Sussex, Hastings C.B. 36; London, Kensington 16; Durham, Sedgfield R.D. 12; Middlesex, Tottenham M.B. 11. The other large returns of dysentery were Yorkshire West Riding 39 (Sheffield C.B. 24) and Lancashire 35 (Oldham C.B. 8, Whiston R.D. 8).

In Scotland infectious diseases were slightly less prevalent during the week. The largest falls in incidence were dysentery 31, measles 19, and diphtheria 11. The returns for dysentery were the lowest for five months and the total for diphtheria was the lowest for four months.

In Eire the notifications of measles rose by 21, while the notifications of whooping-cough fell by 13. The rise in the incidence of measles was fairly general throughout the country, excluding the county boroughs, for which a slight fall was recorded.

In Northern Ireland only small variations in the totals of notifications were recorded. The notifications of scarlet fever declined by 11 in the county boroughs but rose by 8 in the remainder of the country.

Week Ending May 1

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,538, whooping-cough 1,654, diphtheria 134, measles 10,169, acute pneumonia 546, enteric fever 57, acute poliomyelitis 13, dysentery 119, paratyphoid 3, and typhoid 12.

Medical News

Lapley Memorial Prize

The Lapley Memorial Prize, value £21, is open to competition for officers of the Colonial Medical Service who are serving, or who have served, in West Africa. The prize will be awarded for the best paper submitted on a topic falling within one of the following subjects (special consideration being given to original work): (a) tropical medicine or surgery; (b) tropical hygiene and sanitation; (c) tropical entomology and parasitology. Papers, which may consist of either published or unpublished work, should reach the Assistant Dean, London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, London, W.C.1, by Oct. 1.

Oliver Memorial Fund Award

Dr. R. R. Race, director of the Medical Research Council's Blood Group Research Unit, is this year's recipient of the Award of £50 by the Oliver Memorial Fund for Blood Transfusion for his researches into blood groups. The honorary treasurer of the fund (Mr. I. W. Mills, National Provincial Bank, Ltd., Holborn Circus, London, E.C.1) informs us that a similar amount will be awarded next year.

Alleged Cancer Cure

A committee appointed by the Australian Government to inquire into an alleged cure for cancer advocated by Mr. John Braund, a dentist of Sydney, has found that it amounts to an outstanding public mischief. The committee said that the treatment included injections of alum, and that in no case it had investigated had Mr. Braund proved to them that he could cure cancer.

Awards for Cancer Research

The David Anderson-Berry Prizes for 1947 have been awarded to Dr. P. C. Koller, of the Royal Cancer Hospital, London, and Dr. Paterson Paterson, Director of the Holt Radium Institute, Manchester. Prof. Sir William Wright Smith, President of the Royal Society of Edinburgh, presented the prizes on May 3. Dr. Koller's award was for his work on the effect of irradiating tissues with radium, and Dr. Paterson's for his contributions to determining radioactivity.

British Schools Exploring Society

The North and Quebec Expedition, leaving on Aug. 4 and returning on Sept. 25, needs an honorary physician and an honorary surgeon. Applications are invited for these posts. The entire cost to each member will be £130 plus about £10 10s. for personal equipment. Applicants should apply as soon as possible to the honorary secretary, White House, Old Oxted, Surrey, if possible suggesting a day when they could come up to London for an interview.

The Almoner

The Hospital Almoners' Association first published a *Year Book* in 1924. In 1947 the *Year Book* was replaced by a small quarterly *Almoner*. The Institute of Almoners, with which the Association is affiliated, has now published the first issue of a monthly journal, *The Almoner*. This includes messages from Sir Wilson Paterson and Sir Alfred Howitt, the President of the Institute, a selection of short articles and a review by Prof. Alan Howitt of the interim report of the Royal College of Physicians on the practice of social and preventive medicine. The price of the journal is 6d., and copies may be obtained from the Institute of Almoners at Tavistock House (North), Tavistock Square, London, W.C.1.

NHS Superannuation Scheme

The Ministry of Health has issued a pamphlet entitled "Superannuation Scheme for the National Health Service." It is an explanatory booklet for the superannuation scheme and contains details of the scheme and a list of the members of the scheme.

Imported Food Amendment Regulations

The Minister of Health and the Minister of Food have jointly made Regulations amending the Public Health (Imported Food) Regulations 1937 to allow the importation of mutton and lamb carcasses from which a lymphatic gland has been removed. The amendment will bring the Regulations into line with present-day practice in exporting countries.

Joint Tuberculosis Council

The main subject considered at the February meeting of the Joint Tuberculosis Council was the action of various Regional Hospital Boards in deputing the overseeing of regional tuberculosis work to medical officers charged with other duties. An instance was mentioned of the appointment of a medical officer in one region to supervise infectious-disease hospitals as well as the tuberculosis service, and also an advertisement for a medical officer whose work would be "mainly concerned" with tuberculosis. The Council felt that the Ministry of Health should have advised Boards to accept and implement the recommendations of the Council published last year, the chief feature of which was the appointment in every region of a regional chest physician, who should have both administrative experience of a high order and clinical ability at specialist level.

Wills

Dr. Brian Arthur McCubbin, of Portsmouth, left £2,997; Captain Bernard Henry Mooring Aldridge, R.A.M.C., £2,092; Dr. George James Rutherford, of Worthing, late Government medical officer in Ceylon, Nigeria, and the Gold Coast, £1,913; and Dr. Maximilian Walter Geffen, of Hampstead, £1,457. Mr. Augustus William Churchill, vice-chairman of J. and A. Churchill, Ltd., medical publishers, left £93,183.

COMING EVENTS

National Society of Children's Nurseries

A conference, convened by the National Society of Children's Nurseries (Norfolk House, Norfolk Street, Strand, London, W.C.2) will be held in the Conference Hall, County Hall, Westminster Bridge, London, S.E., on Friday, May 21, from 10 a.m. to 4.30 p.m. The morning session will be devoted to "The Training and Examination of the Nursery Nurse"; Dr. William Moodie will speak on "the need for training in child care," and Dr. Elizabeth J. Findlay will discuss administrative problems in training the nursery nurse. The general subject for discussion at the afternoon session will be "The Well-being of the Child"; Dr. John D. Kershaw will speak on team-work in child health, Dr. Neil R. Beattie on the care of the whole child, and Miss Mary Darlow on the well-being of Colonial children. Admittance to the conference is free, by ticket obtainable from the secretary of the society at the above address.

Medical Photography

The Medical Group of the Royal Photographic Society will hold its first exhibition of medical photography at the Royal Society of Medicine, 1, Wimpole Street, London, W., from Monday, May 24 to Saturday, May 29.

West London Hospital Medical School

The first Simpson Smith Memorial Lecture will be delivered at the West London Hospital, Hammersmith Road, W., on Thursday, June 10, by Mr. Norman Tanner on "Haematemesis and Melaena: an Investigation of the Place of Surgery in its Treatment."

B.C.G. Congress

The Institut Pasteur will hold the first International B.C.G. Congress in Paris on June 19-23. Topics to be discussed include the experimental study of B.C.G. and its use in human and veterinary practice. Further information may be obtained from: Secrétariat Général du Congrès du B.C.G., Institut Pasteur, 25, Rue du Docteur Roux, Paris XVc.

American Public Health

The 76th annual meeting of the American Public Health Association will take place on Nov. 8-12 at Boston, Massachusetts. Information may be obtained from the Association's Executive Secretary, Dr. R. M. Atwater, 1790, Broadway, New York, 19.

SOCIETIES AND LECTURES

Tuesday

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—May 18, 5 p.m. "Erythema-squamous Eruptions," by Dr. H. J. Wallace.

Wednesday

GLASGOW UNIVERSITY: DEPARTMENT OF OPHTHALMOLOGY.—May 19, 8 p.m. "Wounds of the Cornea," by Dr. W. O. G. Taylor.
HARVILL SOCIETY OF LONDON.—At 26, Portland Place, London, W., May 19, 8.15 p.m. "Clinical Research in Medical Education," by Prof. W. M. Arnott.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Convalescent Measles Serum

Q.—What are the dangers of using convalescent measles serum in a child up to 3 years of age as regards (1) immediate reactions in the nature of serum sickness, (2) remote reactions such as anaphylaxis and rhesus immunization? How can such reactions be guarded against and treated should they occur? Would it not be advisable to give the parents of any child so treated a note to say what had been done so that it could be handed to any doctor who in later years might propose to give the patient any other serum treatment?

A.—Convalescent measles serum or the more concentrated globulin used for the prophylaxis or attenuation of measles in young children will not cause immediate or more remote reactions like anaphylaxis or serum sickness, because the serum is a homologous and not a foreign protein. The risk of inducing an antibody response in an Rh-negative child (about 15% of the population) will occur only if the whole blood of an Rh-positive person is used. As this last procedure is not common in practice and the risk is a small one there seems little point in "earmarking" any child who receives such treatment.

Desensitization to Sulphonamides

Q.—Is desensitization to sulphonamides of any value in practice? How long does it last? Does desensitization to one sulphonamide desensitize to other members of the group? What is the best method to use?

A.—Sensitization to one of the sulphonamides is often specific for that particular drug, and another sulphonamide may be given with impunity. If this is not so, nothing can be done: there is no method of desensitization. If such drugs are withheld for about two years the sensitivity usually disappears spontaneously.

Fouchet's Test

Q.—What is the technique of Fouchet's test as employed in infective hepatitis and allied conditions? Is this test of value?

A.—Fouchet's reagent, which is used to detect bilirubin in urine and serum, is.

10% aqueous ferric chloride	10 ml.
Trichloroacetic acid	25 c.
Distilled water	100 ml.

For serum, place 1 to 3 drops of serum on a porcelain tile or dish, add an equal volume of reagent, and observe for twenty minutes. If the bilirubin concentration exceeds 2 mg. per 100 ml., a green or blue colour appears, the speed with which the colour develops indicating the concentration of the bilirubin. A few sera give a colour with little more than 1 mg. per 100 ml.

For urine, to about 10 ml. add 5 ml. of 10% aqueous barium chloride, mix and filter. A heavy precipitate should form; if it does not, add a few drops of ammonium or sodium sulphate solution. When all the liquid has passed through, unfold the filter paper and spread it on a piece of blotting paper. Allow one drop of reagent to fall on the precipitate, and observe for about fifteen minutes. A green or blue colour develops if bile pigment is present.

The writer uses the test as a routine method for urine, as it is the most sensitive of all practicable methods. For serum, it is less sensitive than the van den Bergh test and is not quantitative; its value is that it can be used to confirm a diagnosis of jaundice when no laboratory facilities are available. If it is positive in serum and negative in urine the possibility of a haemolytic jaundice should be considered.

Thursday

BRITISH INSTITUTE OF RADIOLOGY.—At Reid-Knox Hall, 32, Welbeck Street, London, W., May 20, 8.30 p.m., "The Abdominal Emergencies and Use of the Direct Radiograph," by Mr. J. N. Young and Dr. J. E. Bannen.
EDINBURGH ROYAL INFIRMARY.—May 20, 4.30 p.m. Honyman Gillespie Lecture: "The Genesis of Chronic Peptic Ulcer," by Prof. Ian Aird.
UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHARMACOLOGY.—At Physiology Theatre, Gower Street, London, W.C., May 20, 5.15 p.m., "Enzymes and Drug Action," by Mr. J. F. Danielli, Ph.D., D.Sc.

Friday

BRITISH INSTITUTE OF RADIOLOGY.—At Reid-Knox Hall, 32, Welbeck Street, London, W., May 21, 5 p.m. Meeting of medical members: 8 p.m., "Trends in Therapy Equipment Design," by Mr. A. J. Minns and Mr. D. H. Donaldson, M.Sc.
FACULTY OF RADIOLOGISTS.—At Royal College of Surgeons, Lincoln's Inn Fields, London, W.C., May 21, 2.15 p.m. Skinner Lecture: "The Natural History of Malignant Disease," by Sir Stanford Cade, F.R.C.S.
ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS. 58, Queen Anne Street, London, W.—May 21, 5 p.m. William Meredith Fletcher Shaw Memorial Lecture: "Contracted Pelvis," by Prof. J. M. Munro Kerr.
WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—At South Kensington Hotel, 41, Queen's Gate Terrace, London, S.W., May 21, 7.30 for 7.45 p.m. Dinner meeting. Some colour films of plastic surgery from Prof. Kilner's Clinic.

Saturday

NUTRITION SOCIETY.—At London School of Hygiene and Tropical Medicine, Keppel Street, London, W.C., May 22, 10.30 a.m. Open scientific meeting and annual general meeting.

APPOINTMENTS

Robert George Hogarth, C.B.E., F.R.C.S., has been appointed Deputy Lieutenant for the County of Nottingham.
Leslie George Housden, M.D., has been appointed part-time to the Ministry of Health to advise on the development of schemes for teaching parentcraft.
Dr. Housden qualified in 1923 and proceeded M.D. (Lond.) ten years later. He was awarded the Sir Charles Hastings Clinical Prize in 1932. He has studied and written on mothercraft and child welfare.

BAAR, H. S., M.D., Ph.D., Pathologist, Children's Hospital, Ladywood Road, Birmingham.
HECTOR-JONES, DAVID, M.P.C.S., L.R.C.P., D.M.R.D., Honorary Assistant Radiologist, Hampstead General and North-West London Hospital, Haverstock Hill, N.W.
JETERISS, D., B.M., B.Ch., M.R.C.O.G., Assistant Surgeon to Obstetric and Gynaecological Department, Royal Devon and Exeter Hospital, Exeter.
WADE, PHYLLIS, M.B., B.S., D.M.R., Radiotherapist-in-charge, Royal Free Hospital, Gray's Inn Road, London, W.C.1.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Alexander.—On April 29, 1948, to Nancy (née Walmley), wife of Dr. F. G. Alexander, Birmingham General Dispensary, Small Heath, a sister for David.
Batty.—On May 5, 1948, to Rourdhill Nursing Home, Leicester, to Joan, wife of Dr. A. M. Feren, Bury, a son.
Ferguson.—On March 31, 1948, at Douglas, to Frances (née Wright), wife of Dr. A. M. Ferguson, a son—Robert Garrett Allen.
Henderson.—On April 10, 1948, at Edinburgh, to Dr. and Mrs. Ian R. Henderson, 10, Milton Drive, a daughter.
Hovenden.—On April 24, 1948, to Mary (née Powell), their second child, a daughter, at Carmarthen, Barrow, S.W.
Hovenden.—On April 24, 1948, at 43, Newlands Avenue, Radlett, Herts., to Daphne, daughter—Kate.
Mintley.—On May 6, 1948, at 43, Newlands Avenue, Radlett, Herts., to Daphne, daughter—Jennifer Jane.
Mintley.—On May 6, 1948, at 43, Newlands Avenue, Radlett, Herts., to Daphne, daughter—Jennifer Jane.
Young.—On April 28, 1948, at the Gables Nursing Home, Aylesbury, to Joyce (née Kellow), wife of A. R. C. Young, M.R.C.S., L.R.C.P., a son.
Leader, R.A.F., a son.

MARRIAGE

Key.—Winfield.—On May 4, 1948, H. A. Kent, Captain, R.A.M.C., and Mrs. Kay Winfield, widow of Flying Officer K. B. Winfield.

DEATHS

Beaumont.—On April 23, 1948, at Brandon, Suffolk, Edward Vincent Beaumont, M.B., B.S.
Burgess.—On May 6, 1948, at Edinburgh, Professor Arthur Henry Burgess, M.Sc., F.R.C.S., LL.D., of Ashlea, Cheshire, aged 74.
Chapman.—On May 7, 1948, at Moore Park, Cardross, Katharine Mary Chapman, L.R.C.P., S.E., L.R.F.P.S.Glas.
Dawson.—On May 2, 1948, at Carmarthen, Gwynon Davies, M.C., M.R.C.S., L.R.C.P.
Gray.—On May 6, 1948, at Edinburgh, John Alexander Gray, M.B., Ch.B., M.D., aged 71.
Hayle.—On May 4, 1948, at 25, Liverpool Road, Chester, Geoffrey Hahnemann, M.D., aged 71.
Raison.—On May 8, 1948, at Queen Elizabeth Hospital, Cyril Alban Raison, M.B., F.R.C.S., of 58, Harborne Road, Edgbaston, Birmingham, aged 56.
Scoones.—On May 5, 1948, at Rosedale, Hythe, Kent, Harold Edward Scoones, M.R.C.S., L.R.C.P.

Hay-fever due to Ragweed Pollen

Q.—An American suffering from a severe form of hay-fever due to ragweed pollen intends to visit Europe (British Isles, France, Switzerland) this summer. He asks whether ragweed pollen is present in these countries, and, if so, which are its months of flowering?

A.—The ragweeds (*Ambrosia* spp.) are native to North America and exist in Europe only as introductions. Five species have been noted at various times and places in Great Britain as native or adventitious plants, usually in the neighbourhood of ports. One—namely, Short Ragweed (*A. artemisiifolia*)—is known to have been established at one time at St. Anne's, Lancashire. The same species is reported as having occurred in France, mainly near certain ports, and also at a number of distinct localities in Switzerland. Ragweed pollen is easy to recognize, but only one grain has ever been seen on the thousands of slides the writer has exposed in various places in Great Britain since 1941. Unless an American visitor happened by mischance to walk into a colony of ragweed such as may perhaps exist here and there it is extremely unlikely that he would be exposed to this type of pollen in Europe. The months of flowering in Europe, as in U.S.A., are August, September, and October.

Diluent for Dimethyl Phthalate

Q.—What simple and easily obtainable solvents should be used for diluting dimethyl phthalate for application to the face and body?

A.—Dimethyl phthalate can be applied undiluted to the skin without harm. It is probably desirable, however, to use some diluent, especially for persons with sensitive skins. The amount of diluent should not be greater than 60% or the dimethyl phthalate will cease to be satisfactorily effective. Practical tests of certain diluents forming ointments and emulsions are described in a "Report on the Control of Midges," issued by the Department of Health for Scotland (H.M.S.O., 1946, 2d.), and reviewed in an annotation in the *Journal* of April 3 (p. 651). Several of the formulae recommended are now commercially available. One of the most satisfactory is as follows:

Lanette wax	5 g.	Oleic acid	..	27 ml.
Triphenylamine	9 ml.	Dimethyl phthalate	100 ml.	
		Water	100 ml.	

Treatment of Hirschsprung's Disease

Q.—What is the best treatment for Hirschsprung's disease in a young boy? Is sympathectomy still thought to give satisfactory results and, if so, what type of sympathectomy is indicated? Is treatment by spinal anaesthesia alone of any value?

A.—The pendulum of the treatment for Hirschsprung's disease is probably in process of swinging away from sympathectomy towards various forms of colectomy—in view of the generally satisfactory long-term results of the former. Sympathectomy is, however, still considered the treatment of choice in most centres. The two variations most favoured are: (a) bilateral division of the lumbar splanchnics (2-4 in number) and (b) lateral sympathectomy of the inferior mesenteric artery. The previously popular presacral neurectomy has been largely abandoned because of its side-effects in producing sterility and (possibly) because of its concomitant effect on the rectal musculature. Spinal anaesthesia alone has been reported by Telford and Scott (*British Medical Journal*, 1939, 2, 1224) as giving dramatic and lasting relief. No explanation of this phenomenon has ever been forthcoming.

Neuro-circulatory Asthenia

Q.—On the I.L.M. I have seen many cases of neuro-circulatory asthenia, especially in young married women. How can one best test to differentiate this condition from other conditions, and what is the most effective treatment?

A.—Neuro-circulatory asthenia, with its many synonyms, is a complex of mental, heart, and effort syndrome, is now generally regarded as a functional nervous disorder. The symptoms of this condition will be seen, on analysis, to be a mixture of the features of an anxiety state, the

hysteria" may be preferable. There is thus no distinction to be made between neuro-circulatory asthenia and anxiety neurosis; the first is an anxiety neurosis in which cardiovascular symptoms are more prominent than usual. Effective treatment is as difficult as for other anxiety states. The problem is well discussed by Paul Wood in his Goulstonian Lectures for 1942.

Retropubic Prostatectomy

Q.—My recent hospital statistics suggest that the public are beginning to appreciate that the modern operation of retropubic prostatectomy is reasonably safe. Such a realization will undoubtedly lead to an earlier seeking of advice by men in their early fifties—a goal towards which we have been aiming. Does this operation produce sterility and/or atrophy of the testes?

A.—It is doubtful whether the introduction of a new technique of prostatectomy will lead to a much earlier carrying out of the operation. Attention is drawn to the condition of enlargement only when symptoms of obstruction arise, and these are often delayed until the sixties and seventies. But even if retropubic prostatectomy were eventually to become the operation of choice, it would not materially affect the incidence of post-operative sterility. After enucleation the mechanism of ejaculation is usually destroyed, so that the semen seeps back into the bladder and is passed in the next specimen of urine. The patient is therefore generally sterile but cases of paternity after prostatectomy are by no means unknown. Atrophy of the testes should not be a sequel of the operation.

NOTES AND COMMENTS

Stability of Penicillin.—Mr. J. RAWLINGS ELLIOTT (Chief Pharmacist, Charing Cross Hospital) writes: In the reply concerning the stability of penicillin ("Any Questions?" April 17, p. 769) I would point out that some of the statements made are not in accord with usually accepted information. Lamellae and pastilles are supplied in a gelatin base which contains a certain amount of water, and therefore the penicillin in them is liable to undergo hydrolysis and become inactivated. Penicillin creams are actually thick emulsions containing water as the continuous phase, and the subject to the same decomposition; in fact the N(W)F monograph states clearly that the product must be labelled "Keep in a Cool Place" and "Use Within Seven Days." Lozenges, ointments, tablets, and oily suspensions, on the other hand, are prepared from ingredients free from moisture and may be stored at room temperature for several weeks, or in a refrigerator for a considerably longer period. It is important that the difference in keeping properties of the cream and ointment described in the *Pharmacopoeia* should be recognized if waste is to be avoided.

Exercise in Middle Age.—Dr. NOEL ALDER (Coleshill, near Birmingham) writes: Might I add to the exercises recommended for the middle aged and elderly ("Any Questions?" April 24, p. 816) one which is perhaps the most generally useful, entertaining, and least strenuous—namely, ice skating, especially figure skating? In contrast to walking exercises, which are often boring and even tiring unless taken on level ground, skating, in which friction is reduced to a minimum, requires a much smaller effort whilst training a much greater variety of muscles. In addition to those of the lower limb (extensors, flexors, rotators, ab- and adductors), a skater is constantly using his neck, shoulder, arm, back, and abdominal muscles—the mind being occupied with the fascination of learning or perfecting new figures. Measured rhythmical movements, poise, and balance, which can be acquired without great difficulty, will offer all the benefits of gentle exercise with the least amount of exertion. I can vouch for this from personal experience—I am in my 64th year—and from contact with others who still enjoy skating in the sixth and seventh decades of their lives.

Correction.—Since reporting "The Tragedy of Mount Scopus" (May 1, p. 869) we have learnt that Dr. Dostrovsky was not killed. Dr. Miszurski, the deputy administrator of the Cancer Department of the Hadassah Hospital, was among those killed.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Allooloy, Westcent, London*. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* and Authors desiring REPRINTS should communicate with the Publishing Manager, B.M.A. House, Tavistock Square, W.C.1, on receipt of proofs. ADVERTISEMENTS should be addressed to the Advertisement Manager, B.M.A. House, Tavistock Square, London, W.C.1 (hours 9 a.m. to 5 p.m.). TELEPHONE: EUSTON 2111. TELEGRAMS: *Drilmmedads, Westcent, London*. MEMBERS' SUBSCRIPTIONS should be sent to the SECRETARY of the Association, EUSTON 2111. Telegrams: *Medisecra, Westcent, London*. B.M.A. SCOTTISH OFFICE: 7, Drumshugh Gardens, Edinburgh.

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY MAY 15 1948

THE ASSOCIATION AND PUBLIC HEALTH

A meeting of the Public Health Committee of the Association was held on April 30, with Dr. James Fenton in the chair. The Chairman of the Committee and the Executive Secretary of the Society of Medical Officers of Health gave a report of a meeting with the officers of the Ministry which they had attended in the position of county district medical officers in relation to schemes of decentralization. The question of compensation of suitable and acceptable alternative work without loss of status or salary was not provided for those displaced by such schemes had been discussed, together with superannuation and other matters. After hearing the report the Committee agreed to leave it to the Chairman and the Secretary to decide what amendments should be framed and submitted to the Ministry.

With regard to the Medical Practitioners (Fees) Regulations and the Association's claim for a revision of the fees for doctors called in by midwives, it was reported that fresh proposals were put forward by the Ministry differing in certain respects from the old Regulations, notably in the inclusion of a post-natal examination in the main fee. The Ministry's proposals did not fully meet the Association's claim, but certain improvements were made after more than one discussion, and agreement was eventually reached, subject to the reservation, recognized by the Ministry, that if after experience of the Regulations the fees were not found to be satisfactory in certain respects the matter should be looked into further.

The Committee had before it a list of fees recommended by the Association as payable by local authorities but not yet negotiated with local-authorities associations. It was pointed out that when the Spens Committee report appeared, which was expected in a few weeks' time, there would be a firmer basis on which to approach these associations, and it was agreed that the matter be taken up next session. Another matter which was postponed until negotiations began on the remuneration of specialists after publication of the Spens report concerned mileage allowances. While the mileage allowance was adequate for short journeys, it was less than adequate for long ones in view not of the cost of the car but of the absorption of the consultant's time. A consultation for a local authority entailing a total journey of 70 miles was mentioned, and it was pointed out that with domiciliary consultations long journeys might have to be undertaken with some frequency.

A recommendation made to local authorities in its area by the Lancashire and Cheshire Provincial Council on the consolidation of salaries and bonus of officers in their employment was mentioned. This recommendation imported a differentiation between male and female staff. In view of the Association's stand in respect of equal pay it was agreed that such differentiation could not be accepted, and that local authorities should be informed.

It was reported that the agreement on a modification of the interim revision of the salaries of medical officers in mental institutions had been ratified by the Council of the Association and by the Mental Hospitals Association and the bodies representing local authorities. The Chairman said that the increases for mental hospital officers were in line with the second interim Askwith recommendation. Dr. Buchan, in the name of the

Committee, thanked the Chairman, Dr. Fenton, for the great amount of work he had undertaken on this question of interim revision.

A letter from the County Councils Association was considered stating that, while in general the principle of local negotiation was not approved, the remuneration of public assistance district medical officers appeared to be a special case in which local negotiation was the best method of arriving at agreed salaries. The Chairman reminded the Committee that it was the decision of the Association originally that these salaries should be locally negotiated in view of the existing differences. It was agreed to intimate this decision to the Divisions and to ask the local-authorities associations to inform their constituents.

HEARD AT HEADQUARTERS

Maternity Benefit Regulations

The new Maternity Benefit Regulations have been discussed between representatives of the Insurance Acts Committee and the National Insurance Advisory Committee, whose chairman is Sir Will Spens. Under one clause of these regulations the Ministry has power to require a woman to submit to a medical examination in any case in which the correctness of the certificate is in question, and the deputation was anxious to know whether this meant that the medical practitioner's certificate could at any time be queried and a further examination ordered by an officer of the Ministry without reference to the woman's own doctor. They were told that the provision is designed to meet cases of abnormally delayed births in which circumstances suggest that a second medical opinion should be obtained. It will be the practice of the officer of the Ministry to consult the doctor or midwife informally when the confinement has not taken place by the date expected, and in the event of a second opinion the woman's doctor or midwife will be invited to be present. Another point made by the deputation was that the powers given to a midwife to determine a medical issue should be subject to more control than is provided in the draft regulations. Their fear was that similar powers might be extended to State registered nurses, and they urged that no reference for a second medical examination should be made without the knowledge of the patient's doctor, and that informal consultation between the medical referee and the midwife was undesirable. Sir Will Spens has undertaken to consider the submissions.

Interviewing Technique

There has recently been an amusing correspondence in an American medical journal on the opening remark to be used by a doctor in interviewing a patient. The crude, "What is the matter with you?" invites the reply, "That is what I came to you to find out," but it is possible to say, "What's the matter?" in a tone so solicitous that the patient responds automatically. The favourite question of one doctor from the Mayo Clinic is, "In what way have you been suffering that made you decide to seek medical counsel?" which would make many patients

test dazed at once. A warning is given against the omnibus question, "Tell me all about this pain: when it started; where you feel it; in what direction it extends." That should be broken up into small pieces. Sometimes it is necessary to get to know what a patient drinks, but it can hardly be approached with the words, "Are you a heavy drinker?" Better begin by asking how much he smokes, then his consumption of coffee, and so by a painless bridge to alcohol. As the general frankly says: "In building and getting a practice few will prove handier than a deft interviewing technique."

CERTIFICATES OF VACCINATION AND INOCULATION FOR PERSONS TRAVELLING OVERSEAS

There has recently been some confusion about the instruction issued by shipping companies and air lines to persons travelling to certain countries overseas that the certificates of vaccination or inoculation which they are required to produce on disembarkation must be countersigned by a medical officer of health. This requirement has been discussed with representatives of the Ministry of Health, and that department has now issued a circular to local authorities in England and Wales clarifying the position.

The difficulty has arisen because certain countries require evidence that the certificate of vaccination produced by a person disembarking at their ports of entry is genuine—that it has in fact been given by a registered medical practitioner in the country of issue. The World Health Organization is considering the position so that nations may agree on the matter, but in the meantime it is necessary to help travellers from the United Kingdom to meet the requirements of foreign powers and thus avoid the inconvenience of submitting them to a period of quarantine.

The evidence most readily accepted by authorities overseas is that given by a public health authority and identified by an official rubber stamp. The Ministry has therefore asked local authorities to arrange that anyone who requires to have a certificate of vaccination or inoculation authenticated for purposes of travel may have it stamped at the offices of the medical officer of health. It is suggested that for this purpose the stamp should bear the words "Signature of doctor authenticated" and the name of the local authority. The officer authorized to affix the stamp will be familiar with the signatures of the doctors practising in the area, or able to compare them with a list obtained for the purpose.

No responsibility rests upon the M.O.H. or his department to certify that the vaccination or inoculation has been properly carried out or, indeed, that it has been carried out at all, but solely to testify that the person signing the certificate is a registered medical practitioner. The responsibility for the accuracy of the certificate remains with the practitioner who issues it.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

- Metropolitan Borough Councils.**—Fulham, Hackney, Poplar.
- New-County Borough Councils.**—Dartford, Radcliffe (limited to future appointments), Tottenham, Walsend.
- Urban District Councils.**—Denton, Droylsden, Houghton-le-Spring, Hutton-with-Roby, Portlady, Redditch (restricted to future appointments), Tyldesley.
- Urban Sanitary Districts.**—Motherwell and Wishaw.

RETURN TO PRACTICE

The General Medical Council announces that the following have returned to practice: Mr. F. J. Radley-Smith, M.S., 10, St. Paul's Hospital, London, W.1; Mr. S. G. Chayton, M.B., 10, St. Paul's Hospital, London, W.1.

H.M. Forces Appointments

ROYAL NAVY

Surgeon Lieutenant J. Weir to be Surgeon Lieutenant-Commander.

ROYAL NAVAL VOLUNTEER RESERVE

Surgeon Commander F. E. Stabler, V.R.D., has been placed on the Retired List in the rank of Surgeon Commander.

Surgeon Lieutenant-Commander R. W. Smith has been placed on the Retired List.

Surgeon Lieutenant J. G. Craddock to be Surgeon Lieutenant-Commander.

Temporary Surgeon Lieutenant E. O. Davies, D.S.C., to be Surgeon Lieutenant.

Temporary Surgeon Lieutenant G. H. D. McNaught has been transferred to List II of the permanent R.N.V.R., in the rank of Surgeon Lieutenant.

Temporary Acting Surgeon Lieutenants R. T. W. McCall, P. H. Thorneycroft-Hall, and D. E. T. Laird to be Temporary Surgeon Lieutenants.

ARMY

Colonel J. R. N. Warburton, M.C., late R.A.M.C., has retired on retired pay and has been granted the honorary rank of Major General.

Colonel T. L. Dun, D.S.O., M.C., late R.A.M.C., having completed four years in the rank is retained on the Active List (superannuated).

ROYAL ARMY MEDICAL CORPS

Lieutenant-Colonels J. Higgins and W. I. F. Powell have retired on retired pay and have been granted the honorary rank of Colonel.

Lieutenant-Colonels J. A. C. Kidd and F. Holmes, O.B.E., having attained the age for retirement, are retained on the Active List (superannuated).

Major J. A. V. Nicoll has retired receiving a gratuity and has been granted the honorary rank of Lieutenant-Colonel.

The surname of Lieutenant-Colonel R. G. Martyn is as now ascribed and not as stated in a *Supplement* to the *London Gazette* dated March 30, and *Supplement* to the *Journal* dated April (p. 102).

Captains (War Substantive Majors) A. D. Young, D.S.O., and T. E. Field, M.B.E., to be Majors.

Captains D. H. R. Montgomery, M.C., H. W. Peek, and Montgomery to be Majors.

Short Service Commissions.—Captain J. H. Gibson has retired and has been granted the honorary rank of Major. Captain F. C. Sayer, M.B.E., has retired on retired pay. Lieutenants W. Brodie, H. Binnie, J. Carswell, D. A. Chadwick, J. W. Clark, T. Dungav, K. D. Foggitt, G. H. Field, J. D. Llewellyn-Jones, J. MacLear, F. R. D. Minett, and J. M. Hughes to be Captains.

TERRITORIAL ARMY

ROYAL ARMY MEDICAL CORPS

Major S. W. Barber has been granted the acting rank of Lieutenant-Colonel.

Captain (War Substantive Major) R. P. Kemp to be Major, and has been granted the acting rank of Lieutenant-Colonel.

Captains (War Substantive Majors) M. W. Gonin, D.S.O., T.I. and J. P. Parkinson to be Majors.

Captain (Acting Major) V. K. Drennan to be Major.

Captain W. E. Tucker, M.B.E., to be Major, and has been granted the acting rank of Lieutenant-Colonel.

Captains A. F. Alsop, H. J. Bell, M.B.E., R. W. Evans, and M. I. Braybrooke to be Majors.

Captain H. J. Gilbert has been granted the acting rank of Major. Lieutenant (War Substantive Major) D. MacD. Lyon, O.B.E., from Emergency Commission, to be Captain, and has been granted the acting rank of Major.

Lieutenant (War Substantive Major) G. E. W. Wolstenholme, O.B.E., from Emergency Commission, to be Captain.

Lieutenant (War Substantive Captain) J. C. Tainsh, from Emergency Commission, to be Captain, and has been granted the acting rank of Major.

Lieutenants (War Substantive Captains) T. C. MacInnes, B., Robinson, D. S. Dick, H. W. W. Good, J. F. Bereen, J. D. Henderson, and R. H. Ramsay, from Emergency Commissions, to be Captains.

LAND FORCES: EMERGENCY COMMISSIONS

ROYAL ARMY MEDICAL CORPS

War Substantive Major A. J. Warren has relinquished his commission and has been granted the honorary rank of Lieutenant-Colonel.

War Substantive Captains E. A. Kahn and D. C. Ross have relinquished their commissions and have been granted the honorary rank of Major.

War Substantive Captains R. M. Wiltshire, W. J. E. Darling, R. W. Jash, and S. W. R. Hutton have relinquished their commissions and have been granted the honorary rank of Captain.

Short Service Commissioners, Specialists.—War Substantive Major G. J. Dixon has relinquished his commission and has been granted the honorary rank of Lieutenant-Colonel; War Substantive Captain M. J. Bennett-Jones has relinquished his commission and has been granted the honorary rank of Major; War Substantive Captain F. G. W. Marson has relinquished his commission and has been granted the honorary rank of Captain. War Substantive Captain J. Y. D. Wakeham has relinquished his commission on account of disability and has been granted the honorary rank of Captain.

Lieutenants T. Hart, R. M. Duncan, K. D. Woolas, W. D. G. Tellam, S. S. Lawson, B. S. Cooper, P. W. Darby, A. Deuchars, R. B. Forbes, A. Goldberg, W. Garrett, E. G. Green, A. W. I. Hall, P. Holliday, M. M. Herbert, R. Houston, J. J. Hopkinson, K. Hughes, Jones, R. M. Inglis, D. H. Johnson, G. Jarratt, P. D. Kelsall, E. MacDonald, J. K. McMyn, F. McKerracher, R. R. W. Mirrey, J. R. Milne, A. McClelland, N. A. Oppenheim, D. A. Richmond, M. D. M. Reilly, J. A. Stoll, A. H. Swinbank, J. S. Scott, M. Symons, J. S. Swallow, J. H. M. Thomas, R. W. E. Watts, B. A. Woodger, J. T. Wright, D. Yuille, O. E. Owen, C. G. Teverson, H. A. Scott, M. P. Durham, and T. Wilson to be Captains.

To be Lieutenants: A. P. C. Bacon, C. W. Bird, J. H. Brenner, G. H. H. P. Croasdale, G. C. Davies, P. H. Foster, G. R. Freedman, D. Gall, H. H. Hayes, G. J. S. Herdman, P. W. S. R. Kennedy, R. H. A. MacGrath, H. L. T. G. Heron, R. R. Kennedy, R. H. A. MacGrath, H. L. Matthews, H. J. Moss, C. W. A. Murray, M. Skoblo, D. Walker, and J. B. Walker.

WOMEN'S FORCES

EMPLOYED WITH THE R.A.M.C.

War Substantive Captain E. K. Wacher has relinquished her commission and has been granted the honorary rank of Captain. Lieutenants E. M. Hargreaves, S. M. Dineen, and A. Faulkner to be Captains.

To be Lieutenants: Major J. G. Allen and Marie Killingworth

ROYAL AIR FORCE

B. Cohen to be Squadron-Leader (Temporary).
W. G. Thomson to be Flight-Lieutenant (Temporary).
To be Flight-Lieutenant (Temporary): A. G. Barnett, R. F. Jennison, D. V. Thomas, and W. Waugh.
To be Flying Officers (Temporary): A. Ashcroft, D. G. Boyle, W. R. Brown, R. E. Snow, S. Goldin, J. B. Lyster, R. M. H. McMinn, R. C. O. Saunders, I. McN. Walter, A. J. White, D. G. V. Whittingham, H. D. Young, and R. E. V. B. Young.

ROYAL AIR FORCE VOLUNTEER RESERVE

Squadron-Leader D. C. Devitt has resigned his commission, retaining his rank.

WOMEN'S FORCES

EMPLOYED WITH THE MEDICAL BRANCH OF THE R.A.F.

Flight-Lieutenant J. M. MacKay has resigned her commission, retaining the rank of Squadron-Leader.

INDIAN MEDICAL SERVICE

Colonel J. R. Kochhar has retired.
Lieutenant-Colonel D. P. Bhargava, O.B.E., has retired.

SPECIAL LIST (EX-INDIAN ARMY) BRITISH ARMY

Colonel N. Briggs, C.I.E., has retired.
Lieutenant-Colonel G. M. Moffatt, O.B.E., has retired and has been granted the honorary rank of Brigadier.
Lieutenant-Colonel D. Tennant has retired and has been granted the honorary rank of Colonel.

Majors (War Substantive Lieutenant-Colonels) W. M. Wilson and E. Parry have retired and have been granted the honorary rank of Colonel.

Majors W. S. Empey, O.B.E., P. A. Hubbard, A. M. Mackenzie, O.B.E., and W. C. Templeton have retired and have been granted the honorary rank of Lieutenant-Colonel.
Captains D. S. Wilson and A. S. Brown have retired and have been granted the honorary rank of Major.

COLONIAL MEDICAL SERVICE

The following appointments have been announced: G. W. R. MacGregor, L.R.C.S., L.R.F.P.S., and L. Goodman, F.R.C.S., Medical Officers, Gold Coast; C. S. Pitt, M.R.C.S., and A. R. Watson, M.B., Medical Officers, Kenya; J. J. Barton, M.B., Medical Officer (Temporary), Nigeria; R. M. Dowdeswell, M.B., Assistant Director of Laboratory Services, British Guiana; B. E. C. D.T.M.&H., Director of Medical Services, Uganda; J. M. A. Lowson, Hopwood, M.B., Medical Officer, Grade A, M.B., M.R.C.P., D.T.M.&H., Superscale Medical Officer, Grade A, Federation of Malaya; L. J. Charles, M.B., D.T.M.&H., Medical Officer of Health, Jamaica; G. C. Young, M.R.C.S., D.P.M., Specialist (Alienist), Uganda.

Association Notices

B.M.A. ANNUAL MEETING

CAMBRIDGE, JUNE 25 to JULY 2, 1948

When completed, the following form should be sent to the Executive Officer, Local B.M.A. Office, Guildhall, Cambridge

Form of Application for Accommodation

NAME (Block Letters).....

ADDRESS (Block Letters).....

I hereby authorize you to book on my behalf the accommodation detailed below and I undertake to pay for it in advance. (The rates are: Colleges £1 2s. daily with full board: Town Lodgings 9s. daily, Bed and Breakfast.)

...Single Room(s) (male) from the night of

till the morning of

...Single Room(s) (female) from the night of

till the morning of.....

...Double Room(s) from the night of.....

till the morning of.....

I would prefer Room in ".....College or in Town Lodgings"

*State College preferred or Town Lodgings

Signed.....

Date.....

Please give the following additional particulars:

Are you a graduate of Cambridge?

If so, what College?.....

Do you intend to bring a car?

Which Scientific Sections do you propose to attend?.....

Please remember to bring Ration Books or Emergency Ration Cards, Towels, and Soap. When booking is completed an account will be sent to you

PROPOSED WEMBLEY DIVISION

Notice is hereby given by the Council to all concerned of a proposal to form a Wembley Division comprising the area of the Borough of Wembley.

The proposed new Division will form part of the Metropolitan Counties Branch. Any member affected by this proposal and objecting thereto is requested to write to the Secretary of the Association by June 12, 1948, stating the objection and the ground therefor.

CHARLES HILL,
Secretary.

Branch and Division Meetings to be Held

METROPOLITAN COUNTIES BRANCH.—At B.M.A. House, Tavistock Square, London, W.C., Tuesday, June 1, 2.30 p.m. Ninetieth Annual General Meeting. Agenda: Report of Branch Council for 1947-8; report of Branch representatives on Central Council, 1947-8; election of officers for 1948-9; address by incoming President.

STAFFORDSHIRE BRANCH.—At Town Hall Annex, Burton-on-Trent, Thursday, May 20, 6.30 p.m. Annual general meeting. Presidential address by Dr. H. Vernon-Jessop: A Brief Outline of the History of Medicine from the Babylonian Period to the Sixteenth Century A.D. 7.45 p.m., annual dinner.

Willis, R. A.: Pathology of Tumours. 1948.
Wofenden, R. C.: Health Services in England. 1947.

disease and even complete occlusion of a large coronary vessel may be quite painless. Some other factor must exist to account for the occurrence of pain in some cases and not in others.

Anginal Pain and Normal Heart

There have gradually accumulated many accounts of patients with typical anginal pain from disease of tissues in the neighbourhood of the heart and in whom the heart is normal. These include:

Acute Mediastinitis or Mediastinal Abscess.—This results in severe pain substernally and between the shoulder-blades, and it may also pass down the arms and into the neck. Allbutt described a case of tuberculous mediastino-pericarditis with such symptoms.

Mediastinal Tumours.—These may cause pain substernally, between the shoulder-blades, and passing into the arms. It may be constant, intermittent, or paroxysmal (French, 1924).

Pneumo-mediastinum.—The presence of air in the mediastinum may cause temporary and often paroxysmal excruciating substernal pain passing into the arms, neck, jaws, and teeth (Scott, 1937).

Para-oesophageal Hernia of Stomach into the Mediastinum.—Roesler (1939) states that this may cause typical angina. An example of this is the following case.

Case 1.—A woman aged 57 attended the Royal Cancer Hospital under the care of Dr. P. E. T. Hancock on Nov. 18, 1947. Two years previously and a few days she had developed epigastric and substernal pain passing to the inter-scapular region and into both arms, especially the left. The pain came on about a quarter of an hour after meals, lasted about an hour, and was sometimes accompanied by vomiting. In addition she had periodic attacks of numbness and tingling in one or other digit of the left hand quite apart from the original attacks. The pain disappeared after two months but had returned a month before attendance. Its features were the same as during the previous attack. It was of considerable severity and made her afraid to eat. Three weeks previously she had vomited a small amount of "coffee-ground" material. Her appetite had disappeared and she had lost 7-8 lb. (3.17-3.62 kg.) in weight. On examination, apart from some slight tenderness on palpation in the middle of the epigastrium, no abnormal physical signs were to be made out. The blood pressure was 140/80 mm. Hg. No abnormal degree of peripheral arteriosclerosis was present and the cardiac apex beat was not displaced. The electrocardiogram was normal. A barium meal, however, showed the presence of a para-oesophageal hernia of the fundus of the stomach into the mediastinum to the left of the cardia. A fractional test meal revealed hypochlorhydria. The blood count showed: red cells, 4,040,000 per c.mm.; Hb, 62%; C.I., 0.77. She was treated under an ordinary peptic ulcer regime, including 10 minims (0.6 ml.) of tincture of belladonna half an hour before meals. Within two months her symptoms had completely disappeared and she had regained her former weight. A second barium meal showed no change in the radiological appearances.

Partial or Complete Oesophageal Rupture Within the Mediastinum.—Jackson and Jackson (1935-6) report that this causes typical angina. Mere distension of the oesophagus may have a similar effect.

A Dissecting Aneurysm of the Aorta in the Mediastinum.—While the dissection is taking place typical anginal pain may occur (Allbutt, 1915).

Spontaneous or Artificial Pneumothorax.—Anginal pain resulting from spontaneous pneumothorax has been described by Ontaneda *et al.* (1937) and from artificial pneumothorax by Lord (1925), Ballou and Francis (1929), Hamman (1934), and others. Obviously a unilateral pneumothorax may cause considerable displacement of the mediastinum when the latter is slack.

Pneumonia.—Anginal pain may occur during an attack of pneumonia (Kelman, 1919; Wassermann, 1920). In this illness the mediastinum may either be displaced or be the seat of glandular enlargement and inflammation.

Aneurysmal Dilatation of the Pulmonary Artery.—Anginal pain resulting from such a lesion has been described by Henschen (1905), Bedford (1929), and others. The disease may occur in comparatively young people, when it is often congenital in nature and unaccompanied by anoxia. The coronary vessels may then be completely normal and there is no question of involvement of their ostia by disease. The pulmonary artery lies within the mediastinum, and during its enlargement presses on the mediastinal tissues.

Aneurysmal Dilatation of the Aorta.—Angina is very commonly associated with such a lesion even in the absence of any evidence of aortic insufficiency. It is usually attributed to co-existing coronary disease or to involvement of the ostia of the coronary arteries by the aneurysm or a syphilitic process. The electrocardiogram may show no evidence of myocardial disease. The mediastinal structures are always disturbed, however. Mechanical distension of the aorta in dogs failed to give rise to anginal pain (Sutton and Lueh, 1930), though this developed when the periaortic tissues were damaged. It seems probable, therefore, that disease of the artery wall itself is not responsible for the anginal pain, but that pressure on periaortic structures is important.

Diaphragmatic Flutter.—This may give rise to paroxysmal anginal pain passing to the arms (Winkler 1933; Hofbauer, 1933; Porter, 1936). The electrocardiogram may be normal between the attacks but show an inverted T wave during them.

Pressure on the Diaphragm by Distension of the Stomach or Colon with Gas.—This may cause anginal pain localized to the left chest and arm (Lurje and Stern, 1931, and others). It may perhaps displace the mediastinum.

Disease of the Gall-Bladder.—This not uncommonly causes typical anginal pain, which may disappear when the gall-bladder is removed.

There is interference with the aeration of the blood in the lungs in many of the above conditions, as in cases of pneumonia or pneumothorax. A tuberculous mediastinal abscess is usually secondary to lung disease. A mediastinal tumour or an aneurysm may likewise cause collapse of a portion of the lung. Yet the complete lung on one side may be removed without causing angina. Moreover, in such conditions as pneumomediastinum, para-oesophageal hernia of the stomach, aneurysmal dilatation of the pulmonary artery, disease of the gall-bladder, or mediastinitis there is no suggestion of anoxia or of disturbance of the coronary arteries. In all the above conditions there is either disturbance of the mediastinal connective tissue by inflammation, pressure of one of the contained tubes or a gastric hernia, or displacement due to unilateral pressure of air in the pleural cavity, or there is disease of the diaphragm and the gall-bladder. Embryologically the connective tissue of the mediastinum, diaphragm, and gall-bladder all originate from the septum transversum. All such mechanical or inflammatory lesions cause a reflex arterial hyperaemia in the affected tissues. This means increased numbers of impulses in the appropriate vasodilator pain fibres in the posterior roots.

Other Causes of Anginal Pain

Apart from the above causes anginal pain may result from coronary sclerosis. It may also accompany hypertension (whether essential or renal in type or due to adrenal medullary or cortical tumours), aortic regurgitation or stenosis, mitral stenosis, and paroxysmal auricular fibrillation or tachycardia (see King, 1941; White, 1944). In such conditions the pain is usually brought on by physical exertion, flatulence, a heavy meal, or emotional upset. It may tend to occur during sleep. It is sometimes accompanied by flushing, and is occasionally followed by the appearance of herpes zoster in the segmental areas affected by the pain (see White, 1944). Anginal pain may also result from coronary thrombosis, acute cor pulmonale due to pulmonary infarction, cardiac trauma, the tearing of a papillary

myocardium (Todd, 1848; Glendy and White, 1936; Payne and Hardy, 1937), acute toxic myocarditis, hydatid infestation of the heart (Evans, 1832), metastatic tumours of the myocardium (King, 1941), abscess of the heart, and many other inflammatory states of the myocardium. Such pain may be the result from general disturbances, such as anoxia, anaemia, exposure to carbon monoxide, trichlorethylene ("trilene"), pentnucleotide, and nicotine, hyperinsulinism, Graves's disease, the injection of adrenaline, or anxiety states. It may constitute a tabetic crisis or occur as a withdrawal symptom in morphine or cocaine addicts.

The coronary vessels are surrounded by unmyelinated fibres, which accompany them to the various tissues of the heart. Some of these fibres must conduct vasodilator impulses. It is well known that the exposed heart is insensitive to painful stimuli. Sutton and Lueth (1930) showed that cutting, piercing, tearing, or pinching the myocardium or distension of the ventricle did not give rise to pain. On the other hand, tightening a ligature around the coronary vessels resulted in pain referred to a limb. Such a ligature included the unmyelinated fibres lying on the coronary vessels. Painting the vessel proximal to the ligature with 80% alcohol before this procedure prevented the onset of pain.

Gorham (1943) showed that tension on the coronary vessels may cause cardiac pain without producing any electrocardiographic signs of ischaemia. This suggests that the impulses giving rise to pain originate in the walls of the coronary arteries. By analogy with other blood vessels it would be expected that cardiac pain would result from excessive activity in coronary vasodilator fibres running in the posterior nerve roots. This is confirmed by the following observations.

1. Anginal pain is abolished by section or blocking of vasodilator pain fibres of D1-4 (5) on the corresponding side.

2. A lesion of any tissue of the body, including the heart, leads to local arterial vasodilatation, whether the lesion is due to infarction, trauma, or an infective agent. Exposure of an organ to anoxia, anaemia, or carbon monoxide has the same effect. This vasodilatation results from increased activity in the vasodilator pain fibres. When the agents affect somatic tissues pain results. When they cause dilatation of the pial and cerebral vessels a headache may appear. When they affect the heart they may cause angina. Thus infarction often leads to anginal pain and changes in the electrocardiogram. Trauma to the heart may likewise cause anginal pain and changes in the electrocardiogram similar to those of coronary thrombosis (King, 1941). Anoxia, anaemia, or carbon monoxide poisoning may have the same effects. Rupture of a papillary muscle which is followed by inflammation and vasodilatation leads to severe angina. Acute toxic myocarditis is accompanied by pronounced coronary vasodilatation and often substernal anginal pain. Bacterial and other infections and hydatid infestation involving the heart may also cause angina (King, 1941). In all these anginal states there occurs a transient or permanent coronary arterial vasodilatation. After infarction this is maximal in the first few hours, and it is at this time that the anginal pain is at its height.

3. A rise in blood pressure increases the work of the heart and so results in vasodilatation in the coronary vessels. It also produces a reflex vasodilatation throughout the body by way of the sympathetic nerves. This is shown by the high colour of the skin of many hypertensives. The vasodilatation in the pial and cerebral vessels causes headache. This generalized vasodilatation must augment the increased activity in the coronary vasodilator fibres caused by increased work. In such cases of hypertension angina is common.

4. In tabes there is destruction of the pain fibres in the posterior nerve roots. A tabetic crisis is painful and is accompanied by vasodilatation in the affected organ or tissue. It is usually followed by small haemorrhages. In some cases such as the following a form of an anginal attack.

5. During the withdrawal of drugs from morphine or cocaine addicts there is a general vasodilatation in all organs and angina pectoris frequently occurs.

6. An anginal attack often occurs in sleep when there is a general vasodilatation in the skin and other organs.

7. A heavy meal causes vasodilatation in the stomach and neighbouring tissues. It may induce an anginal attack in a subject of the disease.

8. An anginal attack may be accompanied by flushing of the face and upper part of the body—evidence of increased activity in vasodilator fibres.

9. Emotion often causes vasodilatation in tissues, and may induce an anginal attack in a subject of the disease or in one with a normal heart.

10. The injection of insulin not infrequently causes flushing of the skin and sweating (both signs of activity in cholinergic fibres), and one of its early effects is to produce increased gastric peristalsis, which is abolished by the application of atropine (Best and Taylor, 1943), and is thus due to activity in cholinergic nerve fibres. At the same time it often produces a migrainous or other type of headache. The hormone evidently stimulates cholinergie, including vasodilator, fibres. Not uncommonly it may induce an anginal attack, even in a person not normally subject to them.

11. In cases of Graves's disease there is increased activity of the heart, but also a notable vasodilatation in the tissues of the upper half of the body involving the mediastinum as well as the skin. Angina may occur on effort.

12. Nicotine likewise produces a general vasodilatation and not uncommonly headache. It is a well-known cause of anginal attacks.

13. Trichlorethylene, like other anaesthetics, causes general vasodilatation. It may induce angina, suggesting that the latter is due to excessive activity in vasodilator pain fibres.

14. In a case observed by me the intravenous injection of pentose nucleotide, a powerful vasodilator, into a patient with no sign of cardiac disease produced a typical attack of angina.

15. A coronary thrombosis with anginal pain may be followed by herpes zoster in the areas where the pain is felt. This indicates increased activity in vasodilator root fibres.

16. An attack of brachial radiculitis in a subject with no evidence of heart disease may cause angina of effort, which disappears when the radiculitis clears up. Such cases have been described by Nachlas (1934), Josey and Murphey (1938) and others. An example which I saw in the recent epidemic of brachial neuritis is here described.

Case 2.—An Army officer aged 26 was seen on Feb. 1, 1943. Three months before, while sleeping under canvas and exposed to damp, he developed severe aching and stiffness in the neck. His regimental medical officer diagnosed rheumatic torticollis. After heat and massage treatment the next month the aching spread to the shoulders and down both arms, especially the left. The pain was particularly severe at night and kept him awake. On rising there occurred stiffness, redness, and swelling of the hands and neck, crepitations in the shoulder-joints. The finger-tips tingled and felt numb. The arms felt weak and ached, especially after use. The symptoms persisted in spite of the heat and massage treatment. Three weeks before being seen he began to experience great distress on walking only 80 yards (metres) at an ordinary pace. This was accompanied by a constricted feeling round the upper thorax and a feeling of pressure under the upper sternum with pain, which passed down the inner side of both arms to the fourth and fifth fingers, especially on the left side. The pain was accompanied by a burning, tingling sensation in these fingers. The symptoms caused the patient to stop walking and would pass off within about half a minute, though the burning and tingling in the fingers persisted considerably longer.

Examination showed a marked tenderness on pressure of the cervical and brachial nerve roots, which felt thick. Pressure produced a tingling sensation in the fingers. The fingers were somewhat swollen, with thickening of the interphalangeal joints. The hands and forearms were reddened and

Power in the upper limbs was normal and there were no changes in the tendon reflexes. There was a marked hyperalgesia in the skin of the upper limbs and a distaste for handling of the limbs. No sensory loss could be made out. Crepitations were present on movement of both forearms and back of the hands produced an intensely disagreeable "triple response," which persisted for over an hour. In other parts of the body this procedure produced only a normal flare. A radiograph of the heart and cervical spine showed no abnormality, and an electrocardiogram was normal. The blood pressure was 120/80 mm. Hg and the pulse regular.

The patient was advised to rest in bed lying flat with the arms in slings, and acetyl-salicylic acid, 10 gr. (0.65 g.), was given three times a day. After a month the pains and the anginal symptoms had disappeared, though the hands were still swollen on waking in the morning. After a further month, using the limbs as little as possible, there was still slight swelling of the hands on waking. When seen a year later his symptoms had completely disappeared.

In this case there was no evidence of coronary disease, but the arm was painful and hot, and its tissues showed marked vasodilatation. The flare of the triple response was very easily obtained on the affected skin. This vasodilator nervous activity must involve deep tissues supplied by the affected roots and D 1-2 roots, supplying the coronary vessels.

Conclusion

In all cardiac conditions in which angina or coronary pain is experienced there is evidence of excessive activity in the vasodilator pain fibres passing to the coronary vessels, and this is evidently the origin of the anginal pain. Lesions of the derivatives of the septum transversum have also been shown to cause angina. Their nerve supply from the posterior nerve roots is established very early in development, and the nerve supply of the derivatives is therefore closely related if not identical. The mediastinal tissues are supplied with vasodilator fibres by way of D 1-5 posterior nerve roots, which also supply the heart. Lesions of these, as of other tissues, result in an increased activity in the vasodilator fibres passing in the same nerve roots as supply the coronary vessels. Hence any lesion of either mediastinum or heart which causes an increased activity in vasodilator pain fibres may result in angina. Such a conception brings angina into line with other painful vasodilatation in blood vessels. Thus angina is not directly due to anoxia or to vasoconstriction but to excessive attempts at vasodilatation.

The activity of any organ, including the heart, is accompanied by a reflex hyperaemia and by arterial vasodilatation, which occurs through the agency of vasodilator nervous impulses. The afferent nerve endings are stimulated by metabolites. Coronary sclerosis prevents vasodilatation during increased cardiac activity and allows the collection of metabolites. These cause excessive numbers of reflex impulses in the coronary vasodilator pain fibres in an attempt to produce further vasodilatation, and it is this excessive nervous activity which appears to give rise to the pain in such conditions.

Summary

Evidence is adduced to show that anginal pain may be caused by disease of both the tissues of the mediastinum and the heart. It seems to be due to excessive activity in the vasodilator pain fibres in the posterior nerve roots passing to the mediastinal structures and the coronary vessels, and it is not necessarily due to anoxia.

I would like to thank Dr. P. E. Thompson Hancock for permission to publish the details of Case 1.

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TOLERANCE LIMITS TO RADIANT HEAT

BY

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AND

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Radiant heat, a combination of visible and infra-red radiations, plays an important part in the practice of physiotherapy. In spite of this widespread use there have been few studies on the optimal and curative effects of measured amounts of radiant heat. The usual method of regulating the dosage of radiant heat is briefly to adjust the source used (incandescent filament bulb or resistance-wire heating element) at a distance from the patient's skin so that he feels comfortably warm but will be free from any hazard of burn. Since the conditions under which a burn will occur are poorly defined, it is necessary always to err on the side of safety.

It is perhaps not generally realized that heat is more easily administered by radiation than by convection and that accurate dosage can be prescribed (Evans and Mendelsohn, 1945a). A series of investigations carried out in this department and at the Clarendon Laboratory, Oxford, have led to the development of a suitable instrument for measuring radiation flux, including all visible and infra-red radiation (Evans and Mendelsohn, 1944, 1945b). The aim of the present investigation was to use this thermoradiometer for the determination of tolerance limits of the

Some of the beneficial effects of radiant heat are thought to be due to an analgesic action. It was hoped that this might be subject to direct experiment by comparing the sensitivity to series of pin-pricks of the area during exposure to radiant heat with that of a control area previously reported as equivalent in sensitivity. Of 39 subjects tested in this way, 29 reported that pin-prick felt duller over the exposure area. Of the remainder only one subject reported that pin-prick was sharper over the exposed area, while nine could detect no difference. Though this is a rather gross and approximate method of testing, it was believed to indicate that heat had a definite blunting effect on pain sensibility. This did not spread to areas with similar nerve supply, under these conditions at least, and thus would appear to be an effect on peripheral nerve endings.

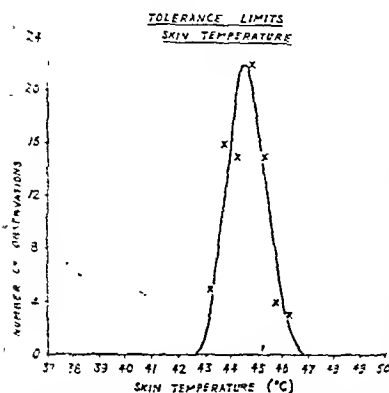


FIG. 1.—Skin surface temperatures at tolerance limits for combined series (80 observations) arranged in 0.5° C. groups, and plotted as a distribution curve. The peak of the curve is seen to occur at about 44.5° C., and the scatter is small.

tions at least, and thus would appear to be an effect on peripheral nerve endings.

The measurements of tolerance limits, expressed in terms of the equilibrium skin temperature and radiation flux, showed a surprising uniformity. In fact our results indicate the presence of a well-defined general tolerance level in normal subjects. The observations have been presented as distribution curves, Fig. 1 showing skin temperatures ($^{\circ}$ C.) at tolerance limits, and Fig. 2 showing radiation flux in pyrrons. The main equilibrium skin temperature at tolerance

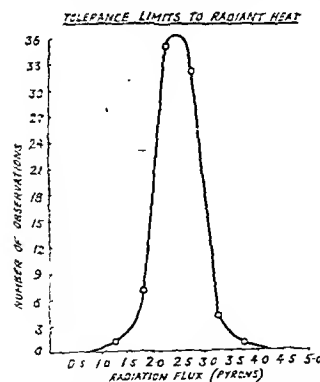


FIG. 2.—Data for radiation flux at tolerance limits for combined series (80 observations) arranged in 0.5 pyrron groups, and plotted as a distribution curve. The peak of the curve is seen to occur at about 2.4 pyrrons, and the scatter is small.

outline the lamp was raised and lowered several times before the final level of maximum radiation with comfort was decided, and each time the subject stated his tolerance to be at an almost identical level, although it was difficult or impossible for him to judge visually the distance of the lamp from the skin.

The difference in tolerance limits between the epigastrium and the interscapular area was small though statistically significant. The mean values of the observations on the epigastrium were 44.3° C. and 2.5 pyrrons compared with 44.9° C. and 2.6 pyrrons for the interscapular area (see Figs. 3 and 4). A difference of this small degree, when viewed in the light of clinical practice, would not necessitate separate dosage schedules for these areas. However, a significant difference does indicate that differences in skin structure or function, such as thickness, adiposity, pigmentation, richness of sweat glands and of nerve endings, may influence tolerance limits even though only in a small degree. The exact influence of these factors remains to be determined.

These findings are interesting when compared with previous reports. Carl Sonne (1929) studied the tolerance of five subjects to visible and short infra-red radiation for an exposure area of 3 cm. diameter on the inner side of the forearm, and found a value of 3.1 pyrrons. Laurets and Foster (1937), in a study of the tissue temperature gradient under radiant heat, found that most of their subjects could tolerate 1.8 pyrrons from an incandescent source, but they do not state that this was the maximum tolerable. Mayneord and Tulley (1943), using a different type of thermo-radiometer, in a series of 25 patients undergoing heat treatment found that there was a wide range of radiation intensities tolerable from 0.6 to 3.6 pyrrons, but most values were about 2 pyrrons. The skin temperatures were not reported. Elkins and Sheard (1941) found that, with a 250 -watt heat lamp, skin temperature of 41 – 43° C. over the foot and knee could be tolerated without discomfort, but the radiation intensities were not specified.

The present findings indicate that a fairly definite tolerance limit may be determined for normal subjects under standard conditions. With such a definite value as a guide, conclusions may be drawn regarding approximate dosage levels in clinical practice. Directions for treatment intensities as given in some textbooks of physiotherapy would probably produce incident radiation flux of less than 1 pyrron (Krusen, 1941; and Kovacs, 1945). A few measurements were carried out on patients undergoing clinical treatment, and the radiation flux varied from 0.75 to 1.5 pyrrons. Probably the present dosage of radiant heat is inadequate (Elkins, 1946) and could be increased with

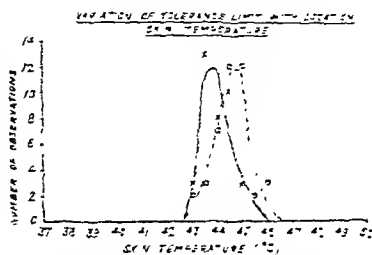


FIG. 3.—Separate distribution curves plotted for skin temperatures at tolerance limits for epigastric (continuous line) and interscapular (broken line) areas under standardized conditions. A statistically significant though small variation occurs between these two distributions.

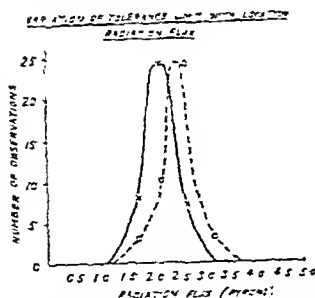


FIG. 4.—Separate distribution curves plotted for data of radiation flux at tolerance limits for epigastric (continuous line) and interscapular (broken line) areas. Again a statistically significant though small variation occurs between these two distributions.

Three adult female Africans each inadvertently received intravenously 10 gr. (650 mg.) of sodium bismuth tartrate aqueous solution. Two of the women collapsed and died with

two minutes, whilst the third collapsed after about six minutes and then appeared unconscious, cold, and with a barely perceptible and irregular radial pulse. No convulsions were observed in any of the patients. The survivor was given 1 ml. of nikethamide subcutaneously, and artificial respiration was applied. She recovered consciousness and was detained for observation.

Post-mortem examinations were performed upon the two fatal cases, but nothing of note was discovered except a remarkable and quite unusual degree of flaccidity of the heart, the musculature appearing otherwise normal. In both cases the lungs were extremely congested. At this time the true nature of the accident was not realized and the livers were sent to the Government analyst, who subsequently reported the presence of bismuth therein.

Because of this report, the survivor was treated with "amctor" and intravenous salines, but signs of bismuth poisoning rapidly appeared and a blue line was visible on the gums on the third day. Diminution of urinary output occurred almost at once, and complete anuria resulted on the fifth day. Intravenous sodium sulphate solution caused excretion to recommence and increase daily until 16 oz. (450 ml.) was passed on the tenth day, when death occurred. All urine passed after admission contained albumin, red blood corpuscles, and casts. The blood-urea estimations showed a rapid rise to a maximum of 240 mg. per 100 ml. on the seventh day, falling to 203 mg. on the day of death.

Post-mortem examination disclosed marked blue gingivitis. The abdomen contained about a litre of clear pale amber fluid. The liver was enlarged, soft, and covered with recent fibrinous adhesions which anchored it to the surrounding viscera. The kidneys were both very pale and swollen, with fine punctate haemorrhages on the surface. The lower colon and rectum were inflamed, with small haemorrhagic spots. No other finding of note was discovered. Microscopy of the kidneys revealed almost complete destruction of the tubular epithelium, with many granular and fatty casts. The liver showed little histological change, but both kidneys and liver contained quantities of extremely finely divided fat throughout the tissue.

The relative quantities of bismuth given and demonstrated by the analyst were as follows:

	Mg. Bismuth per kg. Body Weight	Mg. Bi per kg. Liver
Case 1 (immediate death)	13	40
Case 2 (.	10	30
Case 3 (delayed death)	11	23

I wish to record my thanks to the medical officers concerned for the courtesy of access to Case 3 and the clinical notes, to the Government analyst for the chemical estimations, and to the Director of Medical Services, Gold Coast Colony, for his permission to publish this report.

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"The National Assistance Bill provides ample scope for the two classes of administrators—voluntary and governmental—to plan and work together," Mr. John Edwards, Parliamentary Secretary to the Ministry of Health, told the Lancashire County Citizens' Advice Bureau Conference at Manchester recently. He pointed out that after July 5 it would for the first time be possible to put up old folks' homes not to receive the destitute only but to house and provide care and attention to persons, whatever their financial resources, whose age, infirmity, or other circumstances required it. Under the Bill local authorities would also have to provide temporary accommodation for those in urgent need. "In these days of evictions, and with recent memories of flood, storms, and enemy action, I need not define this duty more precisely." The new Bill explicitly laid down that a local authority could contribute to the fund of any voluntary organization providing recreation or meals for old people.

A CASE OF MURINE TYPHUS IN LONDON

BY

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In recent years there have been a small number of recorded cases of typhus fever in Britain, but all appear to have developed on board ship or within a few days of returning from an area of endemic typhus (Beach and Rennie, 1925; Agnew and Kyles, 1944). The following case is of interest as the patient had not been out of this country for over thirty years.

Case Report

The patient, a Russian-born Jew aged 61, was admitted to the Metropolitan Hospital under the care of Dr. Norman Hill on June 14, 1947, the ninth day of his illness. While at a cinema he had complained of sudden headache and was shivering. Next day he was confined to bed with fever, slight cough with scanty sputum, and severe headache, which remained the dominant symptom throughout his illness. He was treated at home with sulphadiazine, but the fever continued and he became delirious and prostrated. His breathing seemed to be "short" and difficult at times. On the seventh day a rash appeared being first noticed on the arms.

On admission the patient presented a picture highly suggestive of typhus fever despite the fact that careful examination showed no signs of louse or flea infestation, flea-bites, or excoriations. He was in low delirium, from which he could be roused, but could give no history and complained only of severe headache. He had a vivid and profuse maculo-papular rash on limbs and trunk, but not on the face, palms, or soles. The rash at first faded on pressure, though later it did not. The conjunctivae were suffused. He was dehydrated, had a dry skin and a dry tongue with thick blackish fur, and passed a small quantity of highly concentrated urine. The pulse was rapid and feeble. B.P. 90/70 P. 110. T. 101° F. (38.3° C.). There was passive congestion of the lungs, with a poor percussion note and fine crepitations at both bases. There was slight stiffness of the neck and back, but no other C.N.S. signs were found.

The cerebrospinal fluid contained 17 cells per c.mm., mostly lymphocytes, protein, 40 mg. per 100 ml.; chlorides, 700 mg. per 100 ml. A blood count showed 11,000 white cells per c.mm. (polymorphs 71%). The blood urea amounted to 50 mg. per 100 ml. on the tenth day. A radiograph of the chest confirmed the passive lung congestion. The Weil-Felix reaction on the eleventh day of the illness showed agglutination with *Proteus* OX 19 at a dilution of 1 in 125. Three days later the titre had risen to 1 in 500, thus confirming the diagnosis. No agglutination was obtained against OX 2, and against OX K the titre remained at 1 in 25.

On the twelfth day the temperature fell by crisis to 96° F. (35.6° C.), and remained at that level for three days before returning slowly to normal. He vomited many times on the day of the crisis and became incontinent of urine and faeces. For two days he remained very ill and collapsed, but thereafter his general condition improved steadily. His mental state improved slowly, but one week after the crisis his cerebration was still very slow.

He was later transferred to the Park Hospital, Hither Green, under the care of Dr. H. S. Banks, at whose request an investigation of the patient's serological reactions was made by Dr. Janet S. F. Niven at the National Institute for Medical Research. Using rickettsial suspensions as antigens, a positive reaction for murine (flea-borne) typhus was obtained, the antibody titre against the murine rickettsiae being 1 in 2,560, against louse-borne (epidemic) rickettsiae 1 in 640. Sera taken at later stages during and after convalescence showed a steady fall in agglutinating antibody with approximation of homologous and heterologous titres. The complete results of these and tests with similar South African sera will be published later by Drs. Gear and Niven.

The patient had left Western Russia 36 years ago. He did not admit to having had typhus fever or any febrile illness while

in Russia. He was employed as an egg-tester at the London docks, and two weeks before the onset of his illness had been despatched with a cargo of eggs arriving by ship from Poland—a journey which took seven days. He was quite definite that he had never had any louse infestation, but did admit to being bitten frequently by fleas while at work. The Ministry of Health intended to carry out a rickettsial survey of the rats in the docks, but could find no rats in that area.

Comment

The fact that the patient was a Russian-born Jew with no louse or flea infestation was suggestive of Brill's disease, which occurs sporadically along the North-east American seaboard amongst immigrants born in Eastern Europe. In these cases no louse or flea infestation could be found despite an illness characteristic of typhus fever. They were thought to be examples of murine typhus, but Zinsser (1934) after prolonged epidemiological and clinical studies considered them to be recrudescences of louse-borne typhus fever acquired at an earlier time of life in endemic typhus areas of Eastern Europe. Plotz (1943) showed by complement-fixation tests that these cases were serologically identical with louse-borne typhus. It is surprising that similar cases have not been recorded in this country despite a steady influx of Eastern Europeans since the first world war.

The present case, however, was subsequently shown by agglutination tests to be of the murine (flea-borne) type. This is normally enzootic in rats and can be transmitted to man by the flea vector. Brigham (1943) has brought forward evidence suggesting that mice may also act as carriers. If this does occur it must be uncommon, as other workers have on many occasions been unable to demonstrate mice infestation in areas of murine typhus where rats were infected. No examination of mice in the docks was made in this case.

As there was no rat infestation in that area of the docks, and as the disease is endemic in Poland, it seems reasonable to assume that the source of infection was the Polish ship. The egg-packing cases may possibly have been flea-contaminated either before loading or during transit. None of the patient's fellow workers were infected.

Although the man had a large number of contacts during the incubation period the risk of further human spread was small, as the typhus was of the murine type and flea infestation was apparently transient. No further cases were reported.

Most thanks are due to Dr. Norman H. Hill and Dr. H. S. Banks for their help and advice, and to Dr. Janet S. F. Niven for her help with the serological results.

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TWO CASES OF TETANUS NEONATORUM

BY

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Tetanus neonatorum is a rare condition in this country and reports of its occurrence are hard to find. While occasional cases are recorded in foreign literature, the late reported in this country appear to be those of Johnston (1928) and Renton (1918). The occurrence, therefore, of two cases within two months prompted us to put them on record, together with an indication of the possible source of infection in one case.

Case Reports

Case 1.—The patient was a normally delivered male child born at home under the care of a district midwife. He was admitted on the eighth day with a 24-hours history of difficulty in feeding, apparently due to trismus. On examination he was seen to be extremely rigid, and the examination itself stimulated the onset of spasms of tetanic type. The umbilicus, from which the cord had separated before admission, showed a slight purulent discharge with surrounding inflammatory reaction. Aerobic culture of the pus produced a profuse growth of *Staphylococcus aureus*, but anaerobic culture revealed no *Clostridium tetani* at this stage. The case was diagnosed as tetanus neonatorum, and vigorous antitetanic treatment was started. The infant appeared to improve for two days, but collapsed and died on the third day after admission.

Post-mortem examination showed the picture of death from asphyxia. There was, in addition, evidence of mild inflammatory reaction around the umbilicus, while beneath the umbilical scar was a small bead of thick pus. The Gram stained films from the pus failed to reveal *Cl. tetani*, but anaerobic culture of the umbilicus and ligamentum teres produced a mixed growth of organisms from which virulent *Cl. tetani* was isolated.

Case 2.—This case occurred about seven weeks after that just described, and affected a male child 9 days old, also born at home. In this case labour had been difficult and there was first some suspicion that the symptoms were due to birth injury. However, after admission to hospital the clinical symptoms became typical. This child also died on the third day after admission in spite of vigorous treatment. Post-mortem examination revealed essentially the same picture as that seen in Case 1, but *Cl. tetani* was not isolated from the post-mortem material.

Investigation

The occurrence of these two cases, both delivered by different district midwives, led to investigations into the origin of infection. These were carried out by Dr. Ruth Bell, senior assistant medical officer of health in charge of maternity and child welfare, and Prof. D. T. Robinson, Liverpool City bacteriologist, to whom our thanks are due for the information given below.

The instruments, gauze, lint, ligatures, and dressings used by midwives were all cultured, but failed to reveal the presence of *Cl. tetani*. Both mothers, however, had sprinkled their infants' umbilical stumps with baby powder—of a different make in the two cases. These were obtained and cultured. The powder used on Case 2 gave a good growth of virulent *Cl. tetani*, but none of the organisms were isolated from the powder used on Case 1. Accordingly several samples of powder of the same brand as that used by the mother of Case 2 were obtained from various chemists in the city. In addition several other

Before Parliament exempts certain drugs from the provisions of the Pharmacy Act, 1933, the relevant provisions, which are set out in detail in Notice No. 78M, issued by the Commissioners of Customs and Excise, in relation to the exemption of the containers and contents of the containers, are those which consist of the following:—(a) any monograph in any form, (b) any monograph, or (c) any monograph, or (d) any monograph, or (e) any monograph, or (f) any monograph, or (g) any monograph, or (h) any monograph, or (i) any monograph, or (j) any monograph, or (k) any monograph, or (l) any monograph, or (m) any monograph, or (n) any monograph, or (o) any monograph, or (p) any monograph, or (q) any monograph, or (r) any monograph, or (s) any monograph, or (t) any monograph, or (u) any monograph, or (v) any monograph, or (w) any monograph, or (x) any monograph, or (y) any monograph, or (z) any monograph, or (aa) any monograph, or (ab) any monograph, or (ac) any monograph, or (ad) any monograph, 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brands of baby powder were obtained to act as controls. All the samples of powder of the brand used in Case 2 showed the presence of numerous anaerobic organisms, though *Cl. tetani* was not isolated, while the control powders gave no such growth.

The makers of the suspect powder were approached and submitted the various raw materials used in its manufacture. These were: aluminium silicate (kaolin), magnesium silicate, boric acid, and perfume. The last three ingredients proved to be blameless, but from the kaolin an anaerobic spore-bearing bacillus was isolated, which, however, proved to be avirulent on animal inoculation. The use of this kaolin in the manufacture of the powder was discontinued by the manufacturers.

Summary

Two cases of tetanus neonatorum are described. Investigation of the origin of the infection suggests that the dusting powder used in one case may have been the cause. The origin of infection in the other case remains uncertain.

Our thanks are due to Prof. N. B. Capon for permission to publish the case histories; to Prof. W. M. Frazer for permission to use the results of the public health investigations; to Prof. A. W. Downie for carrying out virulence tests on the post-mortem material, and to Prof. Sheehan for advice in preparing these notes.

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Medical Memoranda

Fat Indigestion in a Breast-fed Infant

This case seems worthy of record because the mother had a higher percentage of fat in her breast milk than I can find recorded, and because it demonstrates an uncommon cause of feeding difficulty in the breast-fed infant.

CASE HISTORY

The patient, a female infant aged 3 months, was brought to me with a complaint of vomiting, frequent large motions, and of crying after feeds. The birth weight was 8 lb. 8 oz. (3.85 kg.) and the weight at 3 months 12 lb. 13 oz. (5.81 kg.). The child was fully breast-fed with four-hourly feeds, and the history of vomiting and indigestion dated back to the end of the first month. At that time the vomiting was not troublesome, but it rapidly became quite severe; concurrently the motions became copious and more frequent than normal—up to five a day—but they remained normal in colour and consistency. Crying, with drawing up of the legs after feeds, became troublesome, especially in the latter part of the day, and in view of these findings the difficulty was thought to be due to overfeeding. The time at the breast was therefore cut down, boiled water being given before feeds to diminish the amount of milk sucked. These measures improved the vomiting considerably, the motions became more normal, and the rate of weight increase was diminished; this seemed to confirm the diagnosis of overfeeding.

At 2½ months, however, the vomiting became more severe again, the motions were frequent and green, and for the first time there was some weight loss. At 2½ months large friable curds began to appear in the vomits and in the motions, and a test feed at this time showed no evidence of overfeeding. The possibility of fat indigestion was considered, and this was confirmed by an analysis of a 24-hour specimen of breast milk, which showed a fat content of 7.4%. It was decided to wean the baby, as the mother had been losing weight steadily throughout lactation, and this was thought to be connected with her high fat loss through the milk. She made a point of saying that she took very little fat in her diet, and this corresponds with the finding of other workers that the diet has very little influence on the composition of breast milk.

The baby was weaned on to a modified National dried milk with a low fat percentage initially, and within a week the motions reverted to normal and the vomiting ceased, as did the crying after meals. The baby gained weight normally, and when she was last seen at the age of 8 months she weighed 18 lb. 9 oz. (8.42 kg.) and there had been no further difficulty with feeding.

A rather unusual feature of this case was that, in spite of a gross excess of fat in the breast milk, the indigestion was never severe enough to cause any significant loss of weight.

DISCUSSION

A survey of the composition of human breast milk in 21 cases of feeding difficulty in breast-fed infants was reported by R. C. Jewesbury (1937). He found a variation in the fat content of between 2.9% and 6.7%. The value of 7.4% in the case recorded above is unusually high, being 2.5% more fat than is present in Jersey cows' milk. The high fat value undoubtedly was the cause of the vomiting and curdy motions, as these cleared up completely after the infant was weaned. I would like to make it clear that weaning is not the usual practice in these cases, for they often respond to the giving of a protein preparation immediately before each feed and to being kept at the breast. In only a few cases is weaning necessary, and then as a temporary measure, the infant being fed on expressed breast milk from which the fat has been skimmed. Weaning in the above case was resorted to only because of the excessive loss of weight by the mother, which was thought to be due to the heavy loss of fat through the breast milk.

The method of obtaining the 24-hour specimen of milk is perhaps of importance, because the composition of breast milk is known to vary widely both with the time of day and even with the time during the feed at which the specimen is taken. This specimen was obtained in the following manner: at the 6-a.m., 2-p.m., and 10-p.m. feeds two teaspoonfuls were expressed from the first breast before the feed began and two teaspoonfuls from the second breast after the baby had finished sucking; at the 10-a.m. and 6-p.m. feeds one teaspoonful of the "middle milk" was expressed from each breast. Three specimens made up the 24-hour sample, and the fat content of the total amount was estimated.

Finally, it must be emphasized that "the milk disagreeing with the baby" is a very rare cause of difficulty over breast-feeding, and that cases thus labelled, and so often weaned as a result, are most commonly really due to overfeeding or underfeeding.

J. D. L. RENFOLD B.M., M.R.C.P.

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A Case of Multiple Embolism with Repeated Embolectomy

Below is recorded a case of repeated embolism in a patient with heart disease, in which embolectomy was performed twice within 14 days, with a successful result.

CASE REPORT

Mrs. J., aged 64, was admitted to St. Helier Hospital, Carshalton, at 12 noon on Nov. 23, 1946, having suddenly lost consciousness while on a trolley-bus with her daughter. At the time of admission she was completely unconscious, with stertorous breathing and generalized flaccidity. At 3 p.m. she regained consciousness and vomited some bilious material. It was then found that she had a past history of rheumatic fever in her teens, and had been taking digitalis at intervals over a long period. She had had occasional "dizzy spells," and at one time had been in bed for six months on account of heart disease.

On examination she was obviously an extremely sick woman, with dyspnoea, cyanosis, and marked oedema of the legs. The heart was enlarged, with signs of mitral and aortic disease. The pulse was irregular and the blood pressure 160/100. The liver was grossly enlarged, pulsating, and tender, and there were crepitations at the bases of both lungs. A diagnosis was made of advanced aortic and mitral disease with congestive failure and a small cerebral embolism.

At 5 p.m. on the same day the patient complained of coldness of the left hand. This was soon succeeded by pain in the whole limb, with definite duskeness of the skin. No arterial pulsation could be detected below the upper part of the left brachial artery, while the whole limb was blue, cold, and painful. The pulse at the right wrist was easily palpable. At this stage I was asked by the house-physician to see the patient. As she appeared to be desperately ill I waited for a couple of hours in the hope of spontaneous improvement in the left arm. After this time the local condition was no better, and an embolectomy was undertaken.

First Operation (Nov. 23).—Under local analgesia the brachial artery was exposed in its upper third. It was found to be pulsating in the whole length of the wound, and the embolus was not palpable. The adventitia was stripped from the artery, and a second incision

was then made in the lower part of the arm. The artery was found to be contracted and non-pulsatile, and the embolus was found under the upper corner of the incision. The artery was opened with a fine needle, which on removal was found to be $\frac{3}{4}$ in. (1.9 cm.) long. Blood was allowed to escape for a moment to wash the artery through. As the vessel was still in spasm suturing was by no means easy. The usual technique was employed.

Post-operative Course and Treatment.—She was given 200 mg. of dicoumarol and 10,000 units of heparin at once, followed by 5,000 units of heparin six-hourly for six doses. By this time the prothrombin index was 70% of normal and the prothrombin time was 45.4% above normal. Treatment for the heart condition was also employed. The patient was desperately ill for some days, and it seemed doubtful if she would survive. The pulse at the left wrist became faintly perceptible some fourteen hours after operation. She responded to treatment for her heart condition, and six days after operation her general condition was greatly improved and she had a strong pulse at the left wrist.

On Dec. 4 she had a sudden attack of dyspnoea with pain in the chest, which was attributed to a small pulmonary embolus; presumably thrombosis had also taken place in the right auricle. On Dec. 7 she had a sudden sharp pain in the right leg, which became cold and blue from the knee downwards. Pulsation was present in both femoral arteries and in the left dorsalis pedis artery. Vigorous pulsation could be felt in the right popliteal artery as far down as the middle of the knee-joint, where it ceased abruptly. A diagnosis of popliteal embolism was made.

Second Operation (Dec. 7).—Again under local analgesia the right popliteal artery was exposed and an embolus measuring $1\frac{1}{2}$ in. (3.75 cm.) in length was removed from the bifurcation of the artery. Dicoumarol and heparin were employed in similar dosage to that after the first operation. The leg rapidly recovered normal colour and warmth, and pain was relieved. Although the dorsalis pedis was not palpable, it was obvious in a few days that the circulation of the limb was satisfactory. The wound gaped after removal of stitches and had to be resutured on Jan. 21, 1947, under local analgesia. The heart condition improved gradually, and no further embolism had occurred when the patient was discharged on March 10, able to walk and take a moderate amount of exercise. Throughout the whole illness she had been an extremely plucky and co-operative patient.

Most surgeons now recognize the merit of early embolectomy in such cases, but there may still be many practitioners in this country who are inclined to adopt conservative measures, thus losing the six to ten vital hours within which a successful operation may be performed.

I am indebted to the physicians of the hospital, especially Drs. Bourd and Jelliffe, who undertook the medical treatment of the patient.

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The "Kang Cancer" of North-West China

The "kang," or heated brick-bed, of Northern China has been described by many travellers, but the common and striking form of epithelioma associated with its habitual use has received little notice in the literature of malignant disease.

I spent the early part of 1947 at Lanchow, the chief city of Kuan Province in North-West China, and encountered "kang cancer" on five occasions; I was assured by many people that it is a common and widespread clinical entity throughout that area. The "kang," or oven-bed, is widely used by Chinese, Tibetan, and others to counteract the intense cold of winter in the high altitudes. It takes various forms, but is usually built of bricks or mud, and forms a hollow platform, 18 in. (45 cm.) deep in height, covered with loose wooden boards. Sometimes the bed has to be moved to make up the fire; sometimes an external grate in the outer wall of the house allows it to be heated up from outside. The fuel used may be coal, charcoal, or dung. The whole platform is covered with felts and quilts, and forms not only a communal bed but the place where the occupants of the house spend their leisure and eat their meals.

From personal experience—I have, when travelling, slept on such kang beds in Chinese and Tibetan households—I can understand the prevalence of such a bed, even though it is a source of discomfort and the acrid smoke escaping from the grate is a nuisance at times.

"Kang cancer" is a squamous-celled carcinoma arising in the skin over the great trochanter, and is probably in most cases a malignant degeneration occurring in a chronic burn scar. It may be compared with the much better known "kangri" epithelioma of Kashmir, which is caused by the constant irritation of a small portable brazier. Occasionally the "kang cancer" may arise over the os calcis or the olecranon, but I have not seen it in either of these sites.

Of the five cases that I saw one was an enormous ulcer of the thigh and buttock associated with malignant recurrence after late surgery, three were papillomatous tumours with broad bases and without ulceration, and the fifth was a small scirrhous ulcer with a nodular floor and raised irregular edges. The first four occurred in middle-aged men and were all in the right hip region. The fifth was in a very old woman and was on the left side. All except the first were treated by radical excision and skin-grafting.

A TYPICAL HISTORY

Mr. S. K. Wang, a Chinese opium-smoker aged 60, came from Lo Tu village (Tsinghai). He stated that he always slept on a kang, in which he burnt horse dung, and that he always slept on his right side. His only complaint was of a lesion over the right great trochanter which had been present for four years. He was quite healthy, apart from a large papillomatous tumour (see photograph) growing in the skin over, but not adherent to, the right great



FIG. 1

FIG. 2

Papillomatous epithelioma ("kang cancer") in a 60-year-old Chinese opium-smoker.

trochanter. The inguinal lymph glands were not abnormally palpable and were soft. Operation was carried out on May 28, 1947, under spinal analgesia, and consisted of wide excision of the tumour together with $1\frac{1}{2}$ in. (3.75 cm.) of skin all round and all tissues down to and including the deep fascia. Thiersch grafts were applied after three days, and the subsequent progress was uncomplicated.

COMMENT

The association with opium smoking is to be noted. A man is naturally more likely to burn himself unawares while under the influence of this drug, and it is presumed that the "kang cancer" is caused by chronic irritation (by friction and heat) of a burn cicatrix rather than by a carcinogenetic stimulant in the smoke. The development of epitheliomata in scars has been known since Marjolin's classical description in 1828. Two types of epithelioma occurring in scars—papillomatous and ulcerating—were described by von Brunn (1903), and correspond with the two types in my five Lanchow cases. The prognosis of such epitheliomata is relatively good. This, as pointed out by Iwamoto (1926), is because the underlying scar tissue discourages penetration by the neoplasm, which tends instead to spread out on the surface.

My acquaintance with this lesion was made during a quite brief visit to inland China. I am sure that anyone interested in the condition and permanently resident in this region could easily collect a large series of cases and study in much greater detail this locally abundant tumour, which is easily amenable to treatment and should be both preventable and easy to detect in its earliest stages.

H. T. LAYCOCK, F.R.C.S.

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Reviews

THE LIVER

Lectures on the Liver and its Diseases, comprising the Lowell Lectures delivered at Boston, Massachusetts, in March, 1947. H. P. Himsworth, M.D. (Pp. 204; illustrated. 18s. 6d.) Oxford: Blackwell Scientific Publications, 1947.

is one of the outstanding medical books of recent years. Everything that a monograph should be. It reveals the liver's intimate familiarity with the literature of hepatic disease not only of the present but also of the past century. It handles the material with the sureness of touch which can be attained only by personal work in the field. Much of it is original, and both the general outlines of the monograph and the detailed writing are models of clearness. To anyone interested in diseases of the liver it is indeed a fascinating

quarter of a century ago, as a result of the discovery of van den Bergh reaction, the pathology of the liver was seen largely in terms of the liver lobule and the biliary tract. Professor Himsworth emphasizes the circulation and the hepatic portal system, and his analysis is based on the vascular and its investing sheath of parenchymal cells. Swelling of liver cells, compression of the sinus, and ischaemia are the main factors in a large and apparently diverse group of diseases. After developing this vascular theme Professor Himsworth discusses the nutritional factors in hepatic disease. He makes a clear-cut distinction between massive hepatic necrosis, with its sequel of post-necrotic scarring, and diffuse liver fibrosis. The former results from deficiency of protein, more particularly of the amino-acid cystine; the latter from continued infiltration of the liver cells with fat and other poisons. He next considers the effects of micro-organisms and toxins on the liver and outlines the concepts of toxipathic and trophopathic hepatitis. He then discusses the syndromes of hepatic failure and makes a brief but vivid survey of the biology of the liver in man.

The virtue of this monograph lies in the elucidation and clarification of fundamental principles in the pathology of the liver, such as significance of the vascular pattern, the supply of blood and oxygen to the cells, and the effects of infiltration and swelling of the parenchyma. A criticism is that Professor Himsworth makes it all too simple. Circulatory factors may explain the distribution of massive necrosis of nutritional origin, but they hardly account for its explosive onset. Again, in reading Professor Himsworth's explanation of the protective action of thio-amino-acids in chloroform poisoning one just feels one has been the victim of a confidence trick, for his enthusiasm for his pet theory he has omitted any discussion of the part played by the sulphhydryl groups in the life of the cell and the nature of their combination with chloroform and arsphenamine.

Although we have learned a great deal about the pathology of disease of the liver, we are still ignorant of the mechanism of many of the symptoms. We do not know why patients with active hepatitis suffer from nausea and vomiting, why these symptoms may recur after the liver has apparently healed, and why they are aggravated by alcohol. We do not know why patients with chronic jaundice itch. The study of symptoms, in which the Mackenzie-Lewis school of clinical scientists excelled so much, has been much less informative than the experimental study of disease in animals. It has been a defect of clinical medicine and surgery in this country that its practitioners have not turned instinctively to the experimental laboratory for the solution of the problems which continually arise in clinical work. The crucial moment in Professor Himsworth's researches was when he decided that the best way of beginning studying T.N.T. poisoning in man was to feed T.N.T. to himself. He is to be congratulated that from this beginning he has been able to make such a notable contribution to our understanding of liver diseases in general, for in the crowded schedule of a professor of medicine of to-day these things are not done out of very special toil and enthusiasm.

L. J. WITTS.

CURRENT PSYCHOTHERAPY

Current Therapies of Personality Disorders. Edited by Bernard Glueck, M.D. Proceedings of the Thirty-fourth Annual Meeting of the American Psychopathological Association, held in New York City. (Pp. 296. 17s. 6d.) London: William Heinemann (Medical Books), 1946.

The American Psychopathological Association is to be congratulated on the wisdom of its Council in publishing this volume of papers read at its 1945 meeting. The contributions have been skilfully grouped into four sections: (I) The Modern Psychiatric Hospital; (II) The Physicochemical Techniques in Psychiatry; (III) Psychotherapeutic Techniques in Psychiatry; and (IV) Psychiatric Guidance and Rehabilitation Techniques.

The theme of the first section derives from the increasing appreciation of the social origins of the personality. The mental hospital must provide a culture which reflects that of our society in general and it must maintain many and varied relations with its community if patients are to be helped to return to society with confidence. The second section follows familiar lines and more interest will be aroused in the next section. Here are an account by Moore of his "bibliotherapy," a paper on the "Alcoholics Anonymous" movement, which is more successful as a description than as an interpretation of it, and an excellent paper by Slavson on group therapy. (In the latter, however, we note with surprise that the author has failed to appreciate the work of Bion and Rickman in this country, for he includes this under his term "mass therapy" rather than under "group therapy.") Also in this section is Lindner's evaluation of his hypno-analytic technique; unfortunately because of the author's "flashy" style it leaves an impression of uncertainty with the reader. The last section contains useful summaries of work in the adult and child fields, and there is an arresting final chapter on family guidance by L. K. Frank.

Dr. Glueck's broad vision of the tasks of psychiatry emerges in his presidential address: "The psychiatry of the future can become a significant and far-reaching prophylactic agent against the palpable confusions and perplexities of a world that is disintegrating before our very eyes." The picture of the therapeutic trends given by this volume certainly suggests that active groups of American psychiatrists are responding to this challenge by evolving theories and therapies in which the basic relationships of the individual with his social field are given full consideration.

J. D. SUTHERLAND.

OCCUPATIONAL SKIN DISEASE

Occupational Diseases of the Skin. By Louis Schwartz, M.D., Louis Tulipan, M.D., and Samuel M. Peck, B.S., M.D. Second edition, thoroughly revised. (Pp. 964; 146 illustrations and a coloured plate. 63s.) London: Henry Kimpton, 1947.

The second edition of this comprehensive textbook has additional illustrations and is a useful and full book of reference. It includes, in addition to doctrinal information on such topics as patch-testing and sensitization, carefully recorded facts from first-hand experience, together with a review of current opinion. The authors have enlarged the chapter on occupational diseases of the mouth to include occupational affections of the eye and a list of substances harmful to the eye. As might be expected, the chapter on the effects of irritant plants and woods is extensive, and the authors describe some sources of skin irritation happily unknown or uncommon in Great Britain. They discuss fully (mainly from the American point of view) the question of compensation, for information on which textbooks are so often consulted. However, the chapter on the medico-legal aspects of occupational dermatitis will appeal to readers in all countries and should strengthen the position of the doctor as an expert witness. Dermatitis from wearing apparel is dealt with fully, and many compensation cases may so arise.

The occupations described as giving rise to diseases of the skin are very wide, including those of meat porters and packers, dockers, veterinary surgeons, trappers, office workers, teachers, and salad preparers, to name only a few. The authors express the view that in most cases of mild industrial dermatitis immunity to the skin irritant will develop if work is continued with the protection of special ointments and clothing. This is of some interest, since it does not accord with the general trend of opinion in Britain. They dispose in three pages of the general

treatment of occupational diseases of the skin, and devote much space to considering the prevention of dermatitis in different industries, which leads to some repetition. One of the introductory chapters is, however, devoted to general methods of prevention under the headings of protective clothing, protective creams, and industrial skin cleansing. The investigation of occupational skin disease is described in detail, with emphasis on patch-testing to identify the causal agent or agents, but variations in the methods of work of individuals or groups is evidently of less significance than in Britain. Extensive bibliographies are given at the end of each chapter, and the index is comprehensive.

SIBYL HORNER.

ST. THOMAS'S HOSPITAL

The Story of St. Thomas's 1106-1947. By Charles Graves. (Pp. 72. 8s. 6d.) London: Faber and Faber.

The great teaching hospitals of London have on the whole been well served by historians. St. Thomas's in particular owes much to the devoted labour of the late Prof. F. G. Parsons, whose three-volume history (1932-6) is a model of its kind. Although admirably adapted to the needs of historians and antiquarians Parsons' book left room for a short popular account of the hospital designed for the general reader. The choice of so experienced an author as Mr. Charles Graves to write such a book was a happy one, and has resulted in the production of a worthy tribute to the spirit and tradition of an institution that has "survived the dissolution of the monasteries, the depredations of kings, fire, plague, and some of the worst bombing of the blitz." It was printed in Czechoslovakia, and special praise is due to the illustrations, which are well chosen and set a new standard of excellence.

In the first chapter the author tells how the Priory of St. Mary the Virgin was established in Southwark before the Norman Conquest and how it carried out its work of relieving the sick. The Infirmary, situated on the site now occupied by Southwark Cathedral, was known as St. Thomas's Spital from the time of Thomas à Becket's canonization in 1173. Mr. Graves sets the early history of the hospital against its social background and sketches in the state of contemporary medicine with great skill. The closure of the priory and hospital at the Dissolution of the Monasteries in 1540, its restoration as one of the three Royal Hospitals by Edward VI in 1553, and its fortunes during the Great Plague and the Fire of London are notable episodes in the story. Many interesting extracts are given from old hospital records and standing orders relating to methods of treatment, nurses, resurrectionists, and the exclusion of illicit beer from the wards. The beginnings of modern medicine and the growth of the teaching hospital are next described, with special reference to such great figures as Wharton, Mead, Cheselden, and Astley Cooper. There is a good account of that period of nearly a century when St. Thomas's and Guy's were united for teaching purposes, as well as of the more recent history of the medical school and the establishment of special clinics and services. Almost half the book is about Florence Nightingale and the development of modern nursing, but this section is very well done and is not disproportionately long in a book intended for the general reader. There is an inspiring account of St. Thomas's part in the war years. At this turning point in the history of British medicine it is well to be reminded of the achievements and traditions of a hospital that has given continuous service to the sick and poor of London for more than 800 years.

W. J. BISHOP.

The report of the Water Pollution Research Board for 1946 describes some of the activities of the Water Pollution Research Board at Welford, Hereford, and describes the work done on the treatment of effluents from polluted waters. Sea water is pumped into the estuary and treated with chlorine; the mussels are then collected and stored for about 16 to 20 hours, and during this time the mussels filter out a great deal of faeces and pseudo-faeces. After the mussels have been stored for 16 to 20 hours the water the mussels are free from faeces and pseudo-faeces. Research has also been conducted on the effect of the effluent on the growth of percolating filters at a sewage treatment works. The effluent is found to be free from pollution from engineering works. The report is published by the Water Pollution Research Board.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received.]

New and Nonofficial Remedies. 1947. Issued by the Council on Pharmacy and Chemistry of the American Medical Association. (Pp. 749. 21s.) London: J. B. Lippincott. 1947.

A list of preparations found acceptable by the American Council on Pharmacy and Chemistry up to Jan. 1, 1947.

The British Journal Photographic Almanac, 1948. (Pp. 16s.) London: Henry Greenwood. 1948.

Contains details and formulae of photographic methods.

Human Physiology. By F. R. Winton, M.D., D.Sc., and L. Bayliss, Ph.D. 3rd ed. (Pp. 592. 25s.) London: J. and A. Churchill. 1948.

A textbook intended primarily for medical students.

What Life Has Taught Me. By W. R. Inge and others. (Pp. 10s. 6d.) London: Odhams Press. 1948.

A collection of essays by 25 distinguished men and women.

Tuberculosis. By F. M. Pottenger, A.M., M.D., LL.D., F.A.C. (Pp. 597. 60s.) London: Henry Kimpton. 1948.

An account of the pathology, symptomatology, diagnosis, and treatment of pulmonary tuberculosis.

Practical Photomicrography. By R. F. E. Miller. (Pp. 101. 10s.) London: Percival Marshall and Co. 1948.

A practical manual for the beginner.

The Mothercraft Manual. By M. Liddiard, S.R.N. (Pp. 176. 5s.) London: J. and A. Churchill. 1948.

An outline of the principles taught by the late Sir Truby King.

A Text-Book of Midwifery. By R. W. Johnstone, C.B.E., M.D., F.R.C.S.Ed., M.R.C.P.Ed., F.R.C.O.G., F.R.S.Ed. (Pp. 570. 30s.) London: Adam and Charles Black. 1948.

The text has been revised and there is a new section on the Rh factor.

Hospital Care in the United States. (Pp. 631. \$4.50 at New York: The Commonwealth Fund. London: Geoffrey Cumberlege (Oxford University Press). 1947.

A study of the hospital services by the Commission on Hospital Care.

Inside the Asylum. By John Vincent. (Pp. 115. 6s.) London: George Allen and Unwin, Ltd. 1948.

An autobiography.

Principles of Management. By M. A. Cameron, M.A. (Pp. 2s. 6d.) London: George G. Harrap and Co. 1948.

A short discussion of management, administration, and leadership.

Die Röntgendiagnostik der Wirbelsäule. By Adolf L. 2nd ed. (Pp. 364. Paper covers, 56 Swiss francs; still 60 Swiss francs.) Vienna: Springer-Verlag. 1948.

A textbook of the radiological diagnosis of disorders of the vertebral column.

The British Encyclopaedia of Medical Practice. "Medical Progress" and "Cumulative Supplement," 1948. Edited by E. Horder and others. (Pp. 539. £2 7s. 6d.) London: Butterworths and Co. 1948.

Radon: Its Technique and Use. By W. A. Jennings, B.S. A.Inst.P., and S. Russ, C.B.E., D.Sc., F.Inst.P. (Pp. 222. 10s.) London: John Murray (for the Middlesex Hospital Press). 1947.

An account of the production of radon and its uses in medicine and industry.

A History of the Norfolk and Norwich Hospital. By A. Cleveland, O.B.E., M.D., F.R.C.P. (Pp. 179. 15s.) London: Jarrold and Sons. 1948.

The history covers the years from 1900 to 1946.

The Venereal Diseases. By J. Marshall, M.D., B.S. (Pp. 369. 21s.) London: Macmillan. 1948.

A practical manual for students and practitioners.

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ORGANIZATION FOR SPECIALISTS

For many years the British Medical Association has tried to arouse the interest of consultants and specialists in medical organization and medical politics. It has not been easy to do this, because of the absence of any consultant service for the insured population. The B.M.A. through its Hospital Committee and through its Special Groups has done much to encourage consultants to tackle on a systematic basis problems common to them all. Now that consultants and specialists (or specialists for short) are to work in a National Health Service open to the whole community they are faced with a situation that has been familiar to insurance practitioners since 1912. Consultants and specialists need a peripheral and central organization if their interests are to be safeguarded in such matters as remuneration, terms and conditions of service, scope of work, and so on. The Council of the B.M.A. has considered this problem with much care and has described in a recent issue of the *Supplement*¹ its plan for representation of specialists' interests. This part of the Council's report is reprinted in this week's *Supplement*.

The Council proposes that there should be set up Regional Consultants and Specialists (including Hospitals) Committees, and a Central Consultants and Specialists Standing Committee. In doing this it is filling a gap left in the present Act. The Act provides for the formation of Local Medical Committees in the areas of the Local Executive Councils, but provides for no similar committees for specialists. The B.M.A. is therefore setting up Regional Consultants and Specialists Committees in the areas of Regional Hospital Boards. It considers that the majority of the members of each committee should be elected by the consultants and specialists in the region, and that there should be separate representation for those practising whole-time. It proposes, too, that not less than one-quarter of those elected to the Regional Committees by the staffs of non-teaching hospitals should be part-time consultants and specialists. On these committees, too, should be representatives of Local Medical Committees, of medical officers employed whole-time by local authorities, and of medical superintendents. For the first year it is suggested that elections should be on the principle of representation of hospital staffs or groups of hospital staffs. The Central Consultants and Specialists Committee will replace the B.M.A.'s present Consultants and Specialists and Hospital Committees. The majority of the members of the new Standing Committee will be elected by the Regional Consultants and Specialists Committees, and representation will be

given to the Special Groups and to practitioners engaged in part-time specialist practice; in addition there will be members elected by the B.M.A. Council and by the Insurance Acts, Public Health, General Practice, and Industrial Medicine Committees. The B.M.A. describes this as a functional machinery not forming part of the Association's constitution but linked closely with it at the centre and also at the periphery. As with the constitution of the Insurance Acts Committee, membership of the B.M.A. is not a requirement for membership of the Regional and Central Committees. This form of organization should satisfy the most thorough-going democrat, and is based upon the long and unrivalled experience of the B.M.A. in such matters.

Some consultants and specialists have already expressed surprise² at the suggestion made in the *Lancet* that there should be set up a new organization based largely upon the Royal Colleges and teaching hospitals. It is not easy to treat the suggestion seriously, and we may doubt whether the Royal Colleges would see fit to branch out into medical organization and medical politics when there is in existence a body fitted for this purpose to which more than 90% of the consultants and specialists of this country belong. The President of the College of Surgeons, we understand, has recently reminded the Fellows of the College that by its Charters it exists primarily and essentially to promote and encourage the study and practice of surgery. In his Charter to the Royal College of Physicians Henry VIII declared his intention to institute "a perpetual College of learned and grave men who shall publicly exercise medicine." For the Colleges to embark on the formation of a new organization as is suggested by the *Lancet* would, we believe, be against the spirit and intention of their Charters and be an act of duplication wasteful of time, money, and effort at a moment when there is a grave shortage of medical men for the new service which starts on July 5. The *Lancet* seems to suggest that the new organization will decide what salary grades individual consultants shall be placed in. Any such idea would be completely unacceptable to consultants and specialists and, we may believe, to those responsible for administering the Regional Hospital Boards. The specialist working in the National Health Service will be in contract with the Regional Hospital Board, which, within the framework of the Spens Committee recommendations, will determine the remuneration to be offered for different kinds of work.

To suggest, as our contemporary does, that there might arise a conflict between the interests of the general practitioners and consultants is indeed ill-considered: and to follow this with a proposal for a consultants' medico-political organization would seem to aim at creating antagonism between two important groups of one profession. The Royal Colleges, and especially the Royal College of Physicians, have great historical traditions as bodies of learned men concerned with the intellectual standards and life of medicine. Their function is defined in their Charters and exemplified in their activities. The function of the British Medical Association in medical politics and organization is as clearly defined. The B.M.A. has its

¹ *British Medical Journal Supplement*, 1948, 1, 77.² *British Medical Journal*, 1948, 1, 950.

and possible part to play in safeguarding the interests of the consultants and specialists as it has done for the past thirty odd years for the insurance practitioner. It has set up a fully representative functional machinery for consultants and specialists in the new service. We may hope that the proposals for a new and separate organization are stillborn and that the medical profession will maintain the power in negotiation that comes through unity.

CUTANEOUS CANCER

Cancer of the skin is more common in the white than in the coloured races. This may be because it usually arises on exposed parts, especially on the face, and the pigmentation and thickness of the skin determine the degree of protection against ultra-violet irradiation, which—in the region of 2,900 to 3,340 Å—is probably important in this connexion. Those with fair hair and sensitive skins that freckle but do not tan are more susceptible than the dark-skinned. In cattle there is evidence that epithelioma occurs much more commonly upon the white areas than upon the normal hide. In surveys conducted in the U.S.A. it has been shown that in the south cancer of the skin may constitute some 50% of all primary cancers, whereas in Chicago the corresponding figure may be little more than 10%. A further survey has shown that, while in certain parts of the continent cancer of the skin in the white population may form from 20% to 40% of all primary growths, in negroes inhabiting the same areas the incidence is no higher than 2% to 4%. Europeans settling in Australia are known to be some ten times more susceptible to carcinoma of the skin than Europeans in Europe. There is, of course, great individual variation. The extreme case is that of xeroderma pigmentosum, fortunately very rare, where the tendency to keratotic and carcinomatous changes in the skin of the exposed parts develops in early childhood and may become uncontrollable before adult life is reached.

In addition to exposure and light, other forms of radiation—heat, x-rays, and radium—as well as mechanical and chemical irritation may provoke cancer. Oil and tar products are dealt with at length by Henry¹ in his monograph on cancer of the scrotum. Hieger² and others have shown that powerfully carcinogenic hydrocarbons can be isolated from pitch and tar and can be synthesized. A high incidence of keratotic and carcinomatous growths of the skin after relatively short exposure in workers engaged in the manufacture of briquettes has been observed in recent years. Arpall Campbell³ showed that road dust containing 2% tar could produce in mice cancer of the skin and produce metastases.

Exposure of the skin may determine the development of carcinoma, though long-continued exposure and contact with the more potent sources. Both basal-celled and squamous carcinomas can arise in this way, but the latter are more common. Chronic disease causing chronic inflammation, such as pyoderma, and, other things being equal,

the earlier in life the disease appears, as with lupus vulgaris, the more likely is malignant change to supervene. A combination of irritant effects is more carcinogenic than a single agent, so trauma to a scar, x-ray therapy for lupus, and similar combinations should be avoided so far as possible. For the same reason, those who are recognizably prone to cancer should avoid obvious climatic or industrial hazards.

Cancer of the skin arises most frequently between the ages of 50 and 60 and is much more common in the male—this applies particularly to epithelioma. It must be emphasized, however, that the mortality from cancer of the skin is low (under 2%), and five-year cures are obtained in something like 97% of cases. Basal-celled carcinomata are regarded as locally malignant only, though Sachs⁴ has described metastatic lesions in three cases. Occasional areas of transitional or squamous and horny-celled growth are seen in serial sections of most basal-celled carcinomata and it is sometimes difficult to classify these lesions; but it remains a fact that all cancers of the skin, including epitheliomata, are relatively benign, do not readily give rise to involvement of glands, and even then are commonly cured if treated early. This is not true of cancers involving mucocutaneous junctions or mucous membranes—malignancy is greater and the prognosis is less favourable. The smaller the lesion the better the prognosis, and in all cases only about 10% develop more than one lesion.

Methods of treatment are various and are equally effective in the hands of the experienced. Surgical excision, destruction by diathermy or some other form of electrocoagulation, radiotherapy, or a combination of these measures, are all effective provided the lesion is completely destroyed at the first treatment. Not all carcinomata are radio-sensitive, but for those that are—the vast majority—gamma-ray therapy is probably best for large lesions or for those awkwardly situated. The cicatricial form of rodent ulcer, lesions involving bone or cartilage or glands, and recurrent lesions are best treated surgically. For small lesions, in which the diagnosis is uncertain and histological confirmation required, surgical excision is preferable to preliminary biopsy.

Epitheliomata sometimes grow rapidly to the size of a large pea or a cherry in the course of a few weeks. In appearance they may resemble an acute infective lesion, such as an infected sebaceous cyst or molluscum contagiosum. This early threat of grave malignancy is not usually maintained and the response to treatment is often good. Other epitheliomata progress so slowly that they may for years be mistaken for patches of chronic eczema or psoriasis. Such carcinomata are often intra-epidermal and may remain so for years without penetration or invasion of the dermis. Paget's eczema of the nipple, Bowen's disease, "erythroplasia" of Queyrat (generally affecting the glans penis), and the multiple benign epitheliomata of the trunk described by Graham Little are examples of this chronic form of the disease, which may, however, at any time assume a more malignant phase.

The study of skin cancer suggests some individual, familial, and racial predisposition, and reveals the great

¹ *Lancet*, 1933, 1, 233.

² *Arch. Derm. Syph., Chicago*, 1946, 53, 599.

³ *Brit. J.*, 1946, 53, 397.

importance of external irritants as a cause. Elliott and Welton³ suggest that a predisposition to cutaneous cancer was inherited in 37% of some 2,000 cases recently reviewed. The satisfactory response to treatment and the low mortality are encouraging, though no doubt largely due to ease of observation, early diagnosis, and accessibility. The almost complete absence of those hideous and destructive lesions seen so often twenty and thirty years ago is a testimony to our steady advance in knowledge and in methods of treatment, to earlier diagnosis, and to the more enlightened attitude of the public.

SMEGMA AS A CARCINOGEN

Two cancer research workers in the U.S.A., Plaut and Kohn-Speyer,⁴ have recently reported that horse smegma injected into or painted on the skin of mice produces a small percentage of tumours. They state, "Carcinoma of penis does not occur in people who have been circumcised in the first weeks of life and is rare in people who have been circumcised in childhood or in early puberty. Circumcision in adult life does not affect the frequency of the disease. Phimosis seems to be a predisposing factor. Penile cancer is frequent where personal hygiene is poor; it is rarer where bathrooms are plentiful. All this has been known for decades." Much the same ideas are contained in Sir Ernest Kennaway's⁵ recent paper in the *British Journal of Cancer*, where he writes, "The failure of the operation deferred until the fourteenth year to give the protection given by it when carried out on the eighth day suggests that the train of events leading to the malignant growth is set going early in life, and that removal of the cause does not then avert the development of cancer at a much later age. Other forms of cancer are perhaps due to factors acting in youth." The inference is that smegma in the first few years of life brings about irreversible changes in the tissues of the penis.

Fishman *et al.*,⁶ at the United States National Cancer Institute, had some years ago investigated the effect of human smegma on the vaginas of 20 young mice, but obtained only negative results. Plaut and Kohn-Speyer used smegma from horses because cancer of the penis is common in that animal and because of the advantage of appreciable quantities being available. The substance was applied every two or three weeks to 400 mice (Paris R.3 strain); 190 had smegma injected into a skin tunnel the walls of which consisted of skin and panniculus carnosus, 120 had subcutaneous injections, and 88 had the suspension of the unsaponifiable fraction of the smegma painted into the tunnel or on the skin surface. About 40% of the skin tunnels broke down, and in those cases the substance was injected subcutaneously. No tumours appeared in the 120 mice receiving only subcutaneous injections of horse smegma. In the 190 in which the substance was put in the skin tunnel, five tumours developed at the site—three papillary warts and two malignant tumours. In the 88 which had smegma painted into the tunnel or on the skin surface, one wart and two malignant tumours appeared. The malignant tumours consisted of two hornifying squamous-cell carcinomas with metastases, one undifferentiated skin carcinoma, and 1 spindle-cell sarcoma with metastases. The latent periods were very short—36, 82, 122, and 247 days for the warts, 130 for the sarcoma, 220 and 423 for the two carcinomas. Control mice were tested with cerumen instead of smegma,

since, unlike the penis, the auditory meatus is very rarely the site of cancer. No tumours developed in these mice.

There is therefore evidence that smegma is a weak carcinogen, and the proposition might be put forward, No prepuce, no smegma; no smegma, no cancer. Such an over-simplification obviously invites criticism. First, absence of prepuce probably induces changes in the exposed surfaces. Thus Dean,⁷ quoted in the paper by Sir Ernest Kennaway, writes, "There must be some reason why circumcision in infancy immunizes against cancer of the penis while circumcision later in life does not. It may be that when an infant is circumcised and the glans is no longer protected by the prepuce, a denser, thicker epidermis develops, which is resistant to the formation of cancer by chronic irritation. When circumcision is performed in later years the glans may have lost its ability to produce a resistant covering, and although there is no longer irritation from retained secretions, the glans remains relatively sensitive to the contacts of everyday life." Secondly, the smegma was obtained from one site in one species and tested at another site in another species. The ideal test for the carcinogenicity of horse smegma would have been to apply it continuously to the penes of circumcised horses. Thirdly, the carcinogenic activity of the material is no higher than that of a number of other fatty substances of biological origin, which now include the unsaponifiable fractions of liver, lung, kidney, muscle, and spleen—from cancerous and non-cancerous subjects, including the liver of still-born infants—either extract of mouse mammae, unsaponifiable fraction of cow's cream and milk, some vegetable and animal oils, oestrogens, and some substances found in commercial cholesterol (prepared from cattle brain and spinal cord).

The investigation of carcinogens obtained from tissues has certain peculiar difficulties. Because of the small percentage of positive results large numbers of experimental animals must be used. Again, the nature of the responsible compounds in the complex mixtures of substances remains unknown. As an illustration of this problem, Plaut and Kohn-Speyer point out that the unsaponifiable fraction of the smegma (6%) was about as active as whole smegma. To account for this it becomes necessary to suppose that removal of 94% of the material causes no change in its carcinogenic potency.

The appearance of 8 tumours (4 of them malignant) in 400 experimental mice would represent a very low potency for a synthetic carcinogen; it would be low even for some carcinogens from tissues. For example, Schabad's⁸ best preparation (benzol extract of human cancer liver) produced 4 tumours in 179 mice (subcutaneous injection). Steiner⁹ with an unsaponifiable fraction of human liver from cancerous or non-cancerous subjects obtained 12 tumours in 56 mice, but in later experiments reported 5 in 63, 12 in 456, and 16 in 440 mice. In his most recent paper Steiner⁷ describes an unsaponifiable fraction from the livers of non-cancerous patients which was highly active—27 sarcomas produced in 46 mice. The fraction from the livers of still-born infants showed considerable potency. Des Ligneris¹⁰ applied the unsaponifiable fraction of the livers of South African Bantus to the skin of mice, and numerous skin tumours developed.

Hieger,⁹ working on liver and other tissues from cancerous and non-cancerous human subjects, obtained 11 tumours in 28 mice by subcutaneous injection of the unsaponifiable fractions, and then 5 tumours in 30 mice. Other results he reported¹⁰ in later experiments were 3 tumours in 31

¹ *Science*, 1947, 105, 391.

² *Brit. J. Cancer*, 1947, 1, 335.

³ *J. nat. Cancer Inst.*, 1942, 2, 361.

⁴ *J. Urol.*, 1935, 33, 258.

⁵ *Cancer Res.*, 1941, 1, 853.

⁶ *Ibid.*, 1943, 3, 335.

⁷ *Ibid.*, 1947, 7, 273.

⁸ *Amer. J. Cancer*, 1940, 39, 469.

⁹ *Cancer Res.*, 1946, 6, 657.

¹⁰ *Nature*, Lond., 1947, 160, 270.

move, 2 in 10, and 3 in 25; and in a large series of about 300 mice injected with commercial cholesterol 6% developed tumours—all transplantable sarcomas. Thus it is obvious that the weakly carcinogenic activity of smegma is shared by numerous other fatty substances of biological origin.

HEALTH CENTRES FOR LONDON

The London County Council received from its Health Committee on May 11 proposals for carrying out the Council's duties under the section of the National Health Service Act relating to health centres. It was stated that these were the first of a series of proposals to enable the Council to develop health centres over the whole of the county. It is not possible at present to undertake much new building, and measures must be limited to ensuring that existing general medical and dental services which might otherwise cease at the appointed day can continue. The Council plans to build one specially designed health centre and to provide nine other centres by converting existing clinics or other suitable buildings; it will also acquire buildings for general medical and dental practitioners urgently needing facilities for group practice.

Subject to the agreement of the North-Eastern Metropolitan Regional Hospital Board and the Executive Council, the L.C.C. proposes to erect on its Woodberry Down estate at Stoke Newington a health centre providing six doctors' suites and two dentists' suites for the general medical and dental services; antenatal, post-natal, and child-welfare clinics; a school treatment centre; accommodation for health education; a foot clinic; and facilities for these services, including a clinical side room. It will be equipped, maintained, and staffed to the satisfaction of the Minister, and so far as general medical and dental services are concerned a professional committee will be appointed and charges made to doctors and dentists for the use of the centre on agreed terms. The area to be served has an estimated population of 10,500, but when the Woodberry Down estate is completed some 6,000 persons will be added. People living outside the prescribed area may also attend the centre. The estimated number of potential patients by mid-1950 will be 1,100 children aged 0 to 4, 1,700 children aged 5 to 14, and 12,200 adults—more when the Woodberry Down estate is finished.

The Council intends to provide ultimately a comprehensive health centre for each area having a population of approximately 20,000, so sited that no residents need travel more than about a mile from their homes to it. The county of London will be divided into 162 health service areas each of which will require a comprehensive health centre, with, in addition, some subcentres in certain special areas.

MICROKYMATOTHERAPY

High-frequency radiations with frequencies in the region of 3,000 megacycles and wavelengths measured in centimetres were the subject of much pre-war research, but it was their value in war that led to the development of microkymatotherapy of their practical application. A preliminary report by Krusen¹ and his colleagues on the possible use of high-frequency radiations with a wavelength of 10 cm. to produce therapeutic heat omits little of the history of the radiation in an account of their development. It is stated that the 10-cm. radiations, with a wavelength of 10 cm., can be focused, but the apparatus by which they can be focused can generate only a power

too low for therapeutic application. By 1939 research workers had raised the wattage of magnetron tubes from two or three to several hundred watts, "but suddenly a such tubes became mysteriously unavailable." This puzzled the American workers, who were not aware that such tubes had become a top-secret device employed in radar. Actually much Anglo-American work was proceeding on the multicavity magnetron tube, and by 1946 it was possible to obtain such a tube with a peak output of 400 watts. Work on the medical application of microwaves could therefore be resumed.

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It appears then that use of microwaves marks a definite advance in the therapeutic application of heat. Much more accurate localization may be possible than at present, and the use of cross beams converging at a given spot must be considered. To describe this new form of physical medicine American workers have coined the word "microkymatotherapy," because so far as plain English went with the use of ever shorter wavelengths they had "run out of diminutives."

RISKS OF DICOUMAROL THERAPY

Thrombosis of the leg veins, with the pulmonary emboli which may follow, was shown by Belt¹ to be as frequent a cause of morbidity and death in medical wards as in surgical. The introduction by Crafoord² of heparin as a prophylactic against thrombosis led to a considerable reduction of thrombo-embolic complications in surgery. The cost of heparin, however, still remains almost prohibitive, and supplies are certainly nothing like adequate to allow its general use in the prophylaxis and treatment of leg vein thrombosis. For this reason other anticoagulants are being sought, and dicoumarol, which has the advantage that it can be given by mouth, is now being widely used. Dicoumarol prolongs the prothrombin time, and, though it takes about two days for this effect to develop, the first 48 hours can be conveniently covered by heparin.

One of the most important indications for treatment with anticoagulants is coronary thrombosis. If the blood can be prevented from clotting, the thrombosis may remain limited, intracardiac thrombi may not form, and pulmonary emboli, which frequently occur during the period when these patients are confined to bed, may be avoided. Glueck

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and his colleagues³ recently reported that in 44 control patients with coronary thrombosis thrombo-embolic complications occurred in 12, while in 44 treated with anticoagulants only 3 developed these complications. The mortality of the control group was 45%, while in those treated with anticoagulants it was 20%. Though these figures may not satisfy statistical demands, it is only by the accumulation of the results of careful clinical studies that final decisions will be reached on this important problem.

The mechanism by which dicoumarol interferes with the clotting process depends on its action in preventing prothrombin formation by the liver. The drug can only be given safely in hospital, as the margin between an effective therapeutic dose and a toxic dose is very narrow indeed. Furthermore, there is no easy way of standardizing dosage in any individual patient, and daily estimations of prothrombin time are necessary. There can be no relaxation of this precaution. Patients taking 200 mg. daily may retain a satisfactorily prolonged prothrombin time for ten days or a fortnight, and suddenly, without alteration of dosage, it is found that the prothrombin time has reached the danger level. Alternatively, in spite of keeping to the same dose, the prothrombin time may suddenly fall for no apparent reason, with the possible appearance of further thrombosis.

A recent report from Zurich by Koller and Pedrazzini⁴ emphasizes the danger of uncontrolled dicoumarol treatment. A patient who had received 0.3 g. of dicoumarol daily for 14 days developed epistaxis, gross haematuria, and blood in the stools. Subcutaneous and subconjunctival haemorrhages, together with other purpuric manifestations such as positive capillary resistance test and failure of clot retraction, were also present. In spite of the administration of a vitamin K preparation no change took place in prothrombin time, and it was only after a week, during which several blood transfusions were given, that the patient ultimately recovered. Liver function tests were mostly negative during this period. This report is a useful reminder of the necessity for the strictest control of anti-coagulant therapy. Fatalities are otherwise likely to occur, and the Zurich patient was fortunate to recover. Though dicoumarol seems to have earned its place in therapy at the moment, it is sincerely to be hoped that a safer anti-coagulant will be found before long.

HEAT AND HUMIDITY IN OPERATING THEATRES

In a recent issue of the *Journal* Wynne¹ discussed the difficulties associated with heat and humidity in operating theatres, and propounded a simple formula for the calculation of atmospheric dryness. He referred to the sling, or whirling, hygrometer, which is used in America as the instrument of choice for scientific accuracy, and said that in England the usual open-air method is to expose wet- and dry-bulb thermometers in a Stevenson screen, while in-doors the thermometers are simply hung in a room in comparative calm. His formula is based on the assumption that the wet-bulb thermometer is suspended in calm air. More recently Bell and Weir² have produced nomograms by means of which the relative humidity and the saturation deficit can be estimated readily from readings of the dry- and wet-bulb thermometers. These nomograms are suitable for use only when the wet-bulb temperature is that recorded by a thermometer suspended in calm air.

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mice, 2 in 10, and 3 in 25; and in a large series of about 300 mice injected with commercial cholesterol 6% developed tumours—all transplantable sarcomas. Thus it is obvious that the weakly carcinogenic activity of smegma is shared by numerous other fatty substances of biological origin.

HEALTH CENTRES FOR LONDON

The London County Council received from its Health Committee on May 11 proposals for carrying out the Council's duties under the section of the National Health Service Act relating to health centres. It was stated that these were the first of a series of proposals to enable the Council to develop health centres over the whole of the county. It is not possible at present to undertake much new building, and measures must be limited to ensuring that existing general medical and dental services which might otherwise cease at the appointed day can continue. The Council plans to build one specially designed health centre and to provide nine other centres by converting existing clinics or other suitable buildings; it will also acquire buildings for general medical and dental practitioners urgently needing facilities for group practice.

Subject to the agreement of the North-Eastern Metropolitan Regional Hospital Board and the Executive Council, the L.C.C. proposes to erect on its Woodberry Down estate at Stoke Newington a health centre providing six doctors' suites and two dentists' suites for the general medical and dental services; antenatal, post-natal, and child-welfare clinics; a school treatment centre; accommodation for health education; a foot clinic; and facilities for these services, including a clinical side room. It will be equipped, maintained, and staffed to the satisfaction of the Minister, and so far as general medical and dental services are concerned a professional committee will be appointed and charges made to doctors and dentists for the use of the centre on agreed terms. The area to be served has an estimated population of 10,500, but when the Woodberry Down estate is completed some 6,000 persons will be added. People living outside the prescribed area may also attend the centre. The estimated number of potential patients by mid-1950 will be 1,100 children aged 0 to 4, 1,700 children aged 5 to 14, and 12,200 adults—more when the Woodberry Down estate is finished.

The Council intends to provide ultimately a comprehensive health centre for each area having a population of approximately 20,000, so sited that no residents need travel more than about a mile from their homes to it. The county of London will be divided into 162 health service areas each of which will require a comprehensive health centre, with, in addition, some subcentres in certain special areas.

MICROKYMATOTHERAPY

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too low for therapeutic application. By 1939 workers had raised the wattage of magnetron tubes to two or three to several hundred watts, "but suddenly such tubes became mysteriously unavailable." This was the American workers, who were not aware that such tubes had become a top-secret device employed in radar. Actually much Anglo-American work was proceeding on multicavity magnetron tube, and by 1946 it was possible to obtain such a tube with a peak output of 400 watts. With the medical application of microwaves could therefore be resumed.

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THE WORKING OF A HEARING-AID CLINIC

BY

R. SCOTT STEVENSON, M.D., F.R.C.S.Ed.

Surgeon, Metropolitan Ear, Nose and Throat Hospital

The earliest hearing-aid was probably the hand held behind the ear, and ear trumpets and tubes go back at least 250 years. Non-electric aids, such as ear trumpets and auricles, magnify only to a slight extent—about 15 decibels—but this can be surprisingly helpful, especially to an elderly deaf person afraid of the mechanics of an electric aid. The first electric hearing-aid, which was in essentials a portable telephone, was made in 1898 in America by the Dictagraph Company; this was a micro-telephone type of aid which worked from a single low-tension battery and generally had a carbon granule microphone with a hard or soft carbon diaphragm. The micro-telephone apparatus was quite convenient to carry about, but amplification was confined to the lower notes, and so it was useful only to cases of conductive ("middle-ear") deafness and not to cases of perceptive ("nerve") deafness. In 1934 a new phase in the development of hearing-aids began with the invention in Britain (the Americans copied the idea later) of the radio-valve amplifier, using the 18-mm. type of valve. These instruments, although fairly large—rather like an old-fashioned box camera—were much more efficient than the micro-telephone type, as they could reproduce sounds over a wide frequency range. The year 1938 saw the development of the first real pocket valve-amplifier hearing-aid, employing a fairly large high-tension battery and the usual type of low-tension battery, which had to be carried in separate pockets or in a lady's handbag. During the war of 1939-45 there was a rapid development of new electrical equipment for military purposes, particularly miniature 10-mm. radio valves (used in certain types of fuses) and much smaller batteries with longer life. These lent themselves to incorporation in hearing-aids, which could therefore be made much smaller and yet give the same maximum efficiency. It was at this time that the American hearing-aid manufacturers overtook the British ones, as they were not subject to the same restrictions; but since the war British hearing-aids have recovered the lost ground, and in some cases surpass their American counterparts.

In this country, until quite recent years, the position regarding hearing-aids was a reproach to the medical profession, who were content in cases of intractable deafness to allow a deaf patient to go to one commercial firm after another until he found—or was persuaded that he had found—an aid that appeared to help his hearing. In 1929 the National Institute for the Deaf stepped in to help the deaf by drawing up an approved list of dealers in hearing-aids, who (with a few notorious exceptions) signed an agreement not to canvass, not to publish extravagant and misleading advertisements, to inform a client when no aid appeared likely to help, and to allow a reasonable home trial for a small fee. The Institute was not allowed by law to circulate a black list, nor could its approval of dealers' ethical methods cover approval of the particular hearing-aids which they sold, but it did what it could. In 1930 it set up a research committee in association with the London School of Hygiene and Tropical Medicine, and the late H. M. Wharry carried out investigations at University College Hospital on the value of the micro-telephone hearing-aids then available, employing the 4A gramophone audiometer. Mr. Wharry's preliminary report in 1932 was not followed up after his untimely death, though Dr. G. P. Crowden and the late Dr. Phyllis Tooke Kerridge did some valuable work with deaf school-children and the Medical Research Council published a report on the use of hearing-aids by Dr. and Mrs. Ewing and Mr. T. S. Littler. In 1937 the National Institute for the Deaf stimulated a new advance. At that time the only modern audiometers being used to help in the prescription of hearing-aids were in the hands of commercial firms, and to avoid this a well-wisher offered to present one to the Institute to set up a hearing-aid advice department. It was pointed out, however, by the Institute's Medical Committee that before being tested with an audiometer or trying a hearing-aid a deaf person should

have his ears properly examined, for the deafness might be due to wax or suppuration or be relieved by Eustachian catheterization or other means, and that the suggested clinic should therefore be associated with a hospital.

An Important Service to the Deaf

The Metropolitan Ear, Nose and Throat Hospital started its Hearing-aid Clinic in the spring of 1937 in conjunction with one of the afternoon out-patient clinics. It was soon found to take up an inordinate amount of time, for the hearing-aid cases required special testing of hearing and the careful fitting of instruments, and for this reason it would probably have been dropped altogether but for the enthusiasm of the then almoner (now secretary), Miss Warshaw, who saw in a hearing-aid clinic a means of carrying out an important service to many deaf patients whom the otologists were inclined to dismiss as incurable. Even during the war years the Hearing-aid Clinic never stopped, although the hospital was bombed and its out-patient department was moved temporarily, first to Watford and then to new quarters at Granville Place, W.I. At this period the patients were first examined at the daily out-patient clinics by the honorary aural surgeon in charge, and when a hearing-aid seemed indicated audiometric tests were done by the almoner and suitable hearing-aids tried and fitted by her. For a time an assistant from a reputable firm of hearing-aid dealers came one evening a week to fit hearing-aids to referred patients; but experience proved that this was not a good method of getting an unbiased choice of hearing-aid, and it came to an end after a few months. At the beginning of September, 1945, when the hospital resumed its normal peacetime activities, the Hearing-aid Clinic was reorganized, with a staff of one full-time audiometrician and one trainee.

The Hearing-aid Clinic, which at present occupies four rooms, works to an appointment system, and is open every day from 9.30 a.m. to 5 p.m. (often later), except on Saturdays, when its hours are 9.30 a.m. to 12 noon. Every patient is first interviewed by the almoner and then examined by one of the aural surgeons in his out-patient clinic (unless he brings a recent letter from an otologist), who carries out an investigation of the history of the deafness and the reasons why a hearing-aid is wanted, as well as a routine examination of the ears, nose, and throat, tuning-fork tests, voice and whisper tests, Eustachian catheterization if necessary, and arranges such pathological or x-ray examinations as may be indicated. A deaf patient considered likely to benefit from a hearing-aid is then sent on to the Hearing-aid Clinic, where an audiometric examination is made, one copy of an audiogram being filed and one put with the out-patient case-notes. The rooms used for audiometric examination are ordinarily quiet comfortable rooms with furniture in them, not a specially built bare "silence-room": this is emphasized because we have heard an otologist say that he was going to start a hearing-aid clinic when he could get a silence-room built—which may take a very long time in these days. A deafness research clinic has different objectives and requires different equipment from a hospital hearing-aid clinic—a "silence-room" is necessary at the former but not at the latter.

Training the Audiometrician

At the Metropolitan Ear, Nose and Throat Hospital we have trained our own audiometricians, and are training others. No one can do good audiometry without guidance, without experience, and without knowledge of the methods available and the problems to be met. Hallpike (1948) has said (in an *obiter dictum* at an otological discussion) that "it is not really necessary to create another branch of technical auxiliaries." On the other hand, the American otologists Lederer and Hardy (1946) wrote: "It is not good enough to assign the job [of audiometry] part-time to a medical secretary who knows no more about audiometric testing than to snap switches and turn dials. Every aspect of the work with the hard of hearing suggests the need for respecting the psycho-social behaviour of the patient, and good audiometry is no exception." And Carhart (1946) said that the interviewer who decides whether the patient is to be fitted with an air- or a bone-conduction instrument, and on which ear the aid is to be worn, "obviously must have wide training and experience." Our audiometricians are not taken from the nursing staff; it seems to us a waste, at a time when

there is a shortage of nurses, to assign a trained nurse to this work. They are well-educated (high-school standard) young women drawn to social work, who might, for example, have become hospital almoners or medical secretaries. The course has a duration of six months, and comprises training in making correct and reliable audiometric charts of the various types of deafness, in testing patients for suitability for hearing-aids, and in selecting the appropriate aid for the individual case; it includes attendance at the hospital speech therapy and lip-reading clinics. At the end of their course the students have to pass an examination in the basic principles of anatomy and physiology of the ear, the basic principles of acoustics, the physics of audiometers and hearing-aids and their mechanisms, the psychology of the deaf, the handling of deaf-mute children, and the principles of lip-reading; they must also have an adequate knowledge of medical terminology and of professional ethical conduct. It is stated on the certificate given after examination that the holder is not entitled to examine patients or fit hearing-aids except under the direction of a registered medical practitioner, and that any breach of this condition is contrary to the interests of the patient and will render the certificate liable to cancellation.

Testing by the Audiometer

Hallowell Davis, Stevens, *et al.* (1947) have stated, after extensive investigations, that it is a fallacy that hearing-aids, like eye-glasses, must be "fitted" to the detailed idiosyncrasies of the individual impairment, and that an audiogram does not help greatly in fitting a hearing-aid. We have found, as a result of our experience in the Hearing-aid Clinic, that when an audiometric examination shows a hearing loss of 30 to 40 decibels in the speech frequencies a hearing-aid becomes necessary, and a suitable aid should give a gain in speech reception of at least 40 decibels. The instruments of two years ago were not of much help with a loss of 50 decibels, but those of to-day are helpful in many cases with a loss of as much as 70 decibels. Hallowell Davis and Stevens believe that most deaf patients hear best with an aid that amplifies all the frequencies uniformly, and this conclusion is supported by the M.R.C. Committee on Electro-Acoustics, which found that the best results could be obtained with a uniform amplification of the sounds in the range of speech. We defer to these opinions, but we must say that the experience at our Hearing-aid Clinic is that in most cases either high or low frequencies have to be emphasized in the hearing-aids. It is noticeable that "nerve"-deafness patients, with a higher frequency loss, are often helped—in a way that would have been considered impossible a year or two ago—by modern aids that appear to boost the higher frequencies actually by cutting down the lower frequencies. Many cases that an otologist has diagnosed as "middle-ear" deafness because bone conduction for the 256 and 512 tuning-forks was markedly better than air conduction have been shown by the audiometer to be cases of "nerve" deafness, with marked hearing loss for the higher frequencies. Bone conduction, with masking, must always be tested with the audiometer as well as air conduction, and helps in differential diagnosis.

The audiometer is essential, not so much for the actual "fitting" of the hearing-aid, but as part of the clinical examination that gives the picture, as nearly complete as possible, of a case of deafness, and as a permanent record for later comparison. Audiometers must be regularly tested and correctly calibrated—we have four audiometers in our clinic, and one of them is usually away for calibration, retesting, or repair. In addition there is a gramophone audiometer for testing groups of children, and we have on order a "peep-show" (Dix and Hallpike, 1947, 1948) for testing the hearing of very young children.

There are now three full-time audiometricians in the Hearing-aid Clinic, and each tests the hearing and fits the patient with a suitable hearing-aid. The clinic has a "library" of hearing-aids, only those manufactured by firms on the "approved list" of the National Institute for the Deaf being included, though new instruments not on the list are tried out. The firms invited freely lend their latest instruments (we have had only one refusal, and one firm was excluded because it would not allow a discount for hospital patients), which comprise Acousticon, Amplivox, Auratone, Belclere, Bonochord, Compensator,

Multitone, and Sonotone, several types of each being available. In addition there is a large variety of non-electrical instruments, comprising single and double auricles, ear-shells, speaking-tubes, and banjo-type, bell-type, cup-type, swan-type, and expandible trumpets.

The Fitting of Hearing-aids

The patient who comes to a hearing-aid clinic wants, above all, to hear and understand the human voice, other sounds, such as music or the door-bell or the general sounds around, are less important to the average deaf person. Speech should be intelligible but not uncomfortably loud, and if possible should have a "natural" quality. The frequencies necessary for the comprehension of speech range between about 250 and 4,000 cycles per second. It is not necessary for a hearing-aid, therefore, to provide for all the audible frequencies, but if they are cut off at 3,000 some consonants, such as *f*, *s*, and *t*, are inaudible and speech is difficult to understand: when cut off at 2,000 speech is incomprehensible. In fitting hearing-aids the audiometrician speaks sentences to the patient containing first words that are low in pitch (e.g., *wall*, *hole*), then of medium pitch (e.g., *king*, *name*), and lastly high in pitch (e.g., *bit*, *face*). Words are also spoken faintly and then loudly, and the volume control of the instrument is checked. When the patient has decided which instrument to take on trial, the audiometrician, by causing extraneous noises, shows him how to concentrate on hearing what he wants to hear and to ignore the extraneous sounds. He is told to wear the instrument at first only at home and not in the street, to get accustomed first to the new sounds of familiar persons and surroundings, and only gradually to be introduced to stranger and unexpected sounds.

All existing modern hearing-aids are basically similar: there are innumerable minor differences, but the electrical instruments used in the Hearing-aid Clinic all consist essentially of a microphone, an amplifier, and a receiver. Engineering compromises are unavoidable in the design and construction of a hearing-aid, for the objectives of low cost and light weight are definitely opposed to the objectives of high fidelity, high amplification, adequate power output, and long battery life. In the United States and Canada no deaf person now thinks of using any receiver other than a midget telephone receiver fitted snugly into the external auditory meatus with a moulded plastic insert: our experience is that the disk-type of receiver, with head-band, is more efficient than the moulded insert receiver, but because it is uglier and more uncomfortable nearly all the patients at the clinic demand the plastic moulded insert, and the audiometricians are instructed in making individual moulds. Bone-conduction receivers, which were popular with carbon microphone aids, have only a limited use with the valve type of instrument: this is because they give poor reproduction of sounds above 2,000 cycles per second and because a relatively higher electrical power is needed as compared with the ordinary receiver. Nevertheless a small number of deaf patients with good bone conduction do find that a suitable bone-conduction receiver (there are three types) applied to the mastoid gives a better result than a disk or insert receiver.

Secondary considerations are important to the patient: the instrument should not be too expensive either in initial outlay or in upkeep; it should be small and light in weight, easy to manipulate, comfortable to wear; and repair and replacement service and a supply of batteries should be reasonably available. Although hearing-aids are basically similar in their mechanism, it is surprising how a patient will pick out one particular instrument as much more suitable to him than any of the others—sometimes because of qualities that appear bad to the audiometrician, such as a raucous tone that "gets through" to him, or because an instrument is the most expensive (not the cheapest), or even because he prefers the colour of the case. The patient's work has to be taken into consideration—professional, clerical, manual, home duties, and also whether a portable aid is really necessary. The audiometricians are instructed, while giving every help in choosing the most suitable aid, to leave the final choice to the patient; it is bad psychology to appear to force any particular aid on the patient even when it seems to the audiometrician the most suitable; and, in addition, comfort in hearing is as important in making a choice as is clearness.

THE WORKING OF A HEARING-AID CLINIC

BY

R. SCOTT STEVENSON, M.D., F.R.C.S.Ed.

Surgeon, Metropolitan Ear, Nose and Throat Hospital

The earliest hearing-aid was probably the hand held behind the ear, and ear trumpets and tubes go back at least 250 years. Non-electric aids, such as ear trumpets and auricles, magnify only to a slight extent—about 15 decibels—but this can be surprisingly helpful, especially to an elderly deaf person afraid of the mechanics of an electric aid. The first electric hearing-aid, which was in essentials a portable telephone, was made in 1898 in America by the Dictagraph Company; this was a micro-telephone type of aid which worked from a single low-tension battery and generally had a carbon granule microphone with a hard or soft carbon diaphragm. The micro-telephone apparatus was quite convenient to carry about, but amplification was confined to the lower notes, and so it was useful only to cases of conductive ("middle-ear") deafness and not to cases of perceptive ("nerve") deafness. In 1934 a new phase in the development of hearing-aids began with the invention in Britain (the Americans copied the idea later) of the radio-valve amplifier, using the 18-mm. type of valve. These instruments, although fairly large—rather like an old-fashioned box camera—were much more efficient than the micro-telephone type, as they could reproduce sounds over a wide frequency range. The year 1938 saw the development of the first real pocket valve-amplifier hearing-aid, employing a fairly large high-tension battery and the usual type of low-tension battery, which had to be carried in separate pockets or in a lady's handbag. During the war of 1939–45 there was a rapid development of new electrical equipment for military purposes, particularly miniature 10-mm. radio valves (used in certain types of fuses) and much smaller batteries with longer life. These lent themselves to incorporation in hearing-aids, which could therefore be made much smaller and yet give the same maximum efficiency. It was at this time that the American hearing-aid manufacturers overtook the British ones, as they were not subject to the same restrictions; but since the war British hearing-aids have recovered the lost ground, and in some cases surpass their American counterparts.

In this country, until quite recent years, the position regarding hearing-aids was a reproach to the medical profession, who were content in cases of intractable deafness to allow a deaf patient to go to one commercial firm after another until he found—or was persuaded that he had found—an aid that appeared to help his hearing. In 1929 the National Institute for the Deaf stepped in to help the deaf by drawing up an approved list of dealers in hearing-aids, who (with a few notorious exceptions) signed an agreement not to canvass, not to publish extravagant and misleading advertisements, to inform a client when no aid appeared likely to help, and to allow a reasonable home trial for a small fee. The Institute was not allowed by law to circulate a black list, nor could its approval of dealers' ethical methods cover approval of the particular hearing-aids which they sold, but it did what it could. In 1930 it set up a research committee in association with the London School of Hygiene and Tropical Medicine, and the late H. M. Wharry carried out investigations at University College Hospital on the value of the micro-telephone hearing-aids then available, employing the 4A gramophone audiometer. Mr. Wharry's preliminary report in 1932 was not followed up after his untimely death, though Dr. G. P. Crowden and the late Dr. Phyllis Tookey Kerridge did some valuable work with deaf school-children and the Medical Research Council published a report on the use of hearing-aids by Dr. and Mrs. Ewing and Mr. T. S. Littler. In 1937 the National Institute for the Deaf stimulated a new advance. At that time the only modern audiometers being used to help in the prescription of hearing-aids were in the hands of commercial firms, and to avoid this a well-wisher offered to present one to the Institute to set up a hearing-aid advice department. It was pointed out, however, by the Institute's Medical Committee that before being tested with an audiometer or trying a hearing-aid a deaf person should

have his ears properly examined, for the deafness might be due to wax or suppurative or be relieved by Eustachian catheterization or other means, and that the suggested clinic should therefore be associated with a hospital.

An Important Service to the Deaf

The Metropolitan Ear, Nose and Throat Hospital started its Hearing-aid Clinic in the spring of 1937 in conjunction with one of the afternoon out-patient clinics. It was soon found that to take up an inordinate amount of time, for the hearing-aid case required special testing of hearing and the careful fitting of instruments, and for this reason it would probably have been dropped altogether but for the enthusiasm of the then almoner (now secretary), Miss Warshaw, who saw in a hearing-aid clinic a means of carrying out an important service to many deaf patients whom the otologists were inclined to dismiss as incurable. Even during the war years the Hearing-aid Clinic continued, although the hospital was bombed and its out-patient department was moved temporarily, first to Watford and then to new quarters at Granville Place, W.1. At this period deaf patients were first examined at the daily out-patient clinic by the honorary aural surgeon in charge, and when a hearing-aid seemed indicated audiometric tests were done by the almoner and suitable hearing-aids tried and fitted by her. For a long time an assistant from a reputable firm of hearing-aid dealers came in the evening a week to fit hearing-aids to referred patients; this experience proved that this was not a good method of providing an unbiased choice of hearing-aid, and it came to an end a few months. At the beginning of September, 1945, when the hospital resumed its normal peacetime activities, the Hearing-aid Clinic was reorganized, with a staff of one full-time audiometrician and one trainee.

The Hearing-aid Clinic, which at present occupies two rooms, works to an appointment system, and is open every day from 9.30 a.m. to 5 p.m. (often later), except on Saturdays, when its hours are 9.30 a.m. to 12 noon. Every patient is first viewed by the almoner and then examined by one of the otologists in his out-patient clinic (unless he brings a recent letter from an otologist), who carries out an investigation of the history of the deafness and the reasons why a hearing-aid is wanted, as well as a routine examination of the ears, nose and throat, tuning-fork tests, voice and whisper tests, Eustachian catheterization if necessary, and arranges such pathological x-ray examinations as may be indicated. A deaf patient is considered likely to benefit from a hearing-aid is then sent to the Hearing-aid Clinic, where an audiometric examination is made, one copy of an audiogram being filed and one put in the out-patient case-notes. The rooms used for audiometric examination are ordinarily quiet comfortable rooms with comfortable furniture in them, not a specially built "silence-room"; this is emphasized because we have heard an otologist say that he was going to start a hearing-aid clinic when he could get a silence-room built—which may take a very long time in the days. A deafness research clinic has different objectives; it requires different equipment from a hospital hearing-aid clinic, and a "silence-room" is necessary at the former but not at the latter.

Training the Audiometrician

At the Metropolitan Ear, Nose and Throat Hospital we have trained our own audiometricians, and are training others; one can do good audiometry without guidance, without experience, and without knowledge of the methods available to meet the problems to be met. Hallpike (1948) has said (in an *editum* at an otological discussion) that "it is not necessary to create another branch of technical audiology." On the other hand, the American otologists Lederer and Hall (1946) wrote: "It is not good enough to assign the job of audiometry part-time to a medical secretary who knows more about audiometric testing than to snap switches and for dials. Every aspect of the work with the hard of hearing suggests the need for respecting the psycho-social behaviour of the patient, and good audiometry is no exception." And Goss (1946) said that the interviewer who decides whether the patient is to be fitted with an air- or a bone-conduction instrument must be on which ear the aid is to be worn, "obviously must have training and experience." Our audiometricians are not taken from the nursing staff; it seems to us a waste, at a time

There is a shortage of nurses, to assign a trained nurse to this work. They are well-educated (high-school standard) young men drawn to social work, who might, for example, have some hospital almoners or medical secretaries. The course is a duration of six months, and comprises training in making correct and reliable audiometric charts of the various types of deafness, in testing patients for suitability for hearing-aids, and selecting the appropriate aid for the individual case; it includes attendance at the hospital speech therapy and lip-reading clinics. At the end of their course the students have to pass an examination in the basic principles of anatomy and physiology of the ear, the basic principles of acoustics, the principles of audiometers and hearing-aids and their mechanisms, the psychology of the deaf, the handling of deaf-mute children, the principles of lip-reading; they must also have an adequate knowledge of medical terminology and of professional ethical conduct. It is stated on the certificate given after examination that the holder is not entitled to examine patients for hearing-aids except under the direction of a registered medical practitioner, and that any breach of this condition is contrary to the interests of the patient and will render the certificate liable to cancellation.

Testing by the Audiometer

Hallowell Davis, Stevens, *et al.* (1947) have stated, after extensive investigations, that it is a fallacy that hearing-aids, like eyeglasses, must be "fitted" to the detailed idiosyncrasies of the individual impairment, and that an audiogram does not help at all in fitting a hearing-aid. We have found, as a result of our experience in the Hearing-aid Clinic, that when an audiometric examination shows a hearing loss of 30 to 40 decibels the speech frequencies a hearing-aid becomes necessary, and a suitable aid should give a gain in speech reception of at least 10 decibels. The instruments of two years ago were not of much use with a loss of 50 decibels, but those of to-day are helpful in many cases with a loss of as much as 70 decibels. Hallowell Davis and Stevens believe that most deaf patients hear best with an aid that amplifies all the frequencies uniformly, and this conclusion is supported by the M.R.C. Committee on Electroacoustics, which found that the best results could be obtained with a uniform amplification of the sounds in the range of speech. We defer to these opinions, but we must say that the experience at our Hearing-aid Clinic is that in most cases either the low or low frequencies have to be emphasized in the hearing-aid. It is noticeable that "nerve" deafness patients, with a moderate frequency loss, are often helped—in a way that would have been considered impossible a year or two ago—by modern hearing-aids that appear to boost the higher frequencies actually by fitting down the lower frequencies. Many cases that an otologist has diagnosed as "middle-ear" deafness because bone conduction for the 256 and 512 tuning-forks was markedly better than air conduction have been shown by the audiometer to be cases of "nerve" deafness, with marked hearing loss for higher frequencies. Bone conduction, with masking, must always be tested with the audiometer as well as air conduction, to help in differential diagnosis.

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A "difficult" patient may be referred to the medical psychologist associated with the Hearing-aid Clinic, Dr. Hilda Weber, who also instructs and advises the audiometricians on the psychology of the deaf and on the proper approach to their problems; sometimes the psychiatrist on the staff of the hospital, Dr. Kenneth Hazell, is called in to help. It is a rule that all patients who have been fitted with a hearing-aid must be referred to the teacher of lip-reading or speech-reading on the staff of the hospital, Miss Sylvian Martin, who has two clinics weekly. Speech correction and lip-reading are essential auxiliaries to the hearing-aid—60% of words may be understood by the use of a hearing-aid alone, but up to 90% by combined hearing-aid and lip-reading. Older persons unfortunately find lip-reading more difficult to learn than do young people.

Grants to the Deaf

When an electrical aid is required and has been chosen the patient is carefully instructed in how to wear and how to use it; the type is then approved by the aural surgeon in charge of the case and the patient takes a note to the manufacturer, who supplies the specified aid on a week's (sometimes a fortnight's) trial. At the end of a week the patient returns and reports progress to the aural surgeon, consults the audiometrician about any difficulties in using the instrument, and then sees the almoner again with regard to its purchase. The manufacturers on the hospital list all allow a discount of 25% (15% on certain instruments), and the almoner assists the patient with advice about obtaining grants-in-aid. Some Approved Societies give grants, as do the Hospital Saving Association and other voluntary contributory schemes. The Royal Surgical Aid Society may give a grant, but "letters" from subscribers have to be obtained; the Hospital Saturday Fund, Church funds, and the Gentlemen's Aid Society may help with grants; and some commercial firms or employees' organizations make grants from their benevolent funds—the railway-workers and printers' organizations have been particularly good. Some City companies, such as the Vintners, Curriers, and Clothworkers, have been helpful in giving grants in certain cases, and the Goldsmiths Company in particular has helped to provide many hearing-aids for Londoners through its fund, administered by the National Institute for the Deaf. Deaf-blind patients get help through the blind organizations; children suitable for hearing-aids can obtain them free through the educational authorities; and the Assistance Board gives grants in special cases. It is claimed by the hospital almoner that no patient requiring a hearing-aid has ever had to go without it on financial grounds. When the instrument has been purchased the patient is given careful instructions on how to look after it. All patients are seen again at the clinic after three months, and retested with the audiometer; in almost every case the hearing has been found to have improved owing to the stimulative effect of a suitable aid and to the improvement in the psychological outlook.

Some Results

The time taken up by each patient at the Hearing-aid Clinic, including preliminary examination, audiometric examination, and fitting with a hearing-aid, varies from one to two hours—certainly no patient ever takes less than an hour altogether. In spite of this, and of the care taken in fitting aids, an unexpectedly high proportion of the hearing-aids are returned after the week's trial. It was primarily to help reduce this wastage that a medical psychologist was attached to the Hearing-aid Clinic.

The reasons that are given for returning a hearing-aid vary: "Found it a nuisance"—did not switch it on and off as instructed; "Dared not wear it at work—would get the sack"; "Did not want to let everyone know I was deaf"—as if people wouldn't know already; "Too old to cope"; "Could not hear when several people were talking"—needed education in listening; "Could not hear in church or at the pictures"—difficulties of acoustics explained; "Felt everyone was looking at me"—further lesson given in wearing modern aid; "Anything on or in the ears worried me"; "Too dear to buy"; "Too expensive to run"—in spite of help from the almoner; "Difficulty in obtaining suitable batteries"—this should have been only temporary; "Didn't think it worth the money"; "Wanted

rather to have an operation to cure my deafness"; "Prefer to wait for the Government aid"—especially during the past six months.

In 1946, 355 electrical hearing-aids were recommended at the Clinic, and 170 of them were returned; 120 non-electrical aids were recommended, and 62 of them were returned. In 1947, 776 electrical aids were recommended, and 256 of them were returned; 53 non-electrical aids were recommended, and 28 of them were returned. It will be noted that the proportion of non-electrical to electrical aids has greatly diminished in the past year, and the reason for this seems to be the improvements in the valve-amplifier aids, which have made them more suitable for cases of "nerve" deafness. It has been suggested that the chief reason for the return of hearing-aids is their expense, and that the advent of the Government free hearing-aid will wipe out this wastage; but an endeavour has been made to show that the financial factor has not been an important difficulty in regard to the provision of hearing-aids in suitable cases, and when the Government aid is available lack of choice may well be an additional factor in patients returning (or giving up using) hearing-aids. This wastage at our Hearing-aid Clinic has given us a certain amount of sympathy with the commercial dealers, who have argued that insistence on a preliminary trial has increased their costs and immobilized a large proportion of their stock of instruments.

There is no doubt that more time should be spent—if only it could be spared—on training patients to get accustomed to the selected hearing-aid and in listening to different sounds (songs, orchestral music, voices) and to different individuals and groups. We envy the United States War Veterans' Organization when we read that five weeks are spent in residence at Deshon, Philadelphia, and similar centres in selecting hearing-aids and training the patients to use them properly—with the result that only 5% of the instruments are returned.

Conclusions

The modern valve-amplifier hearing-aid has improved greatly in the past two years, and is able to help many cases of perceptive ("nerve") deafness as well as most cases of conductive ("middle-ear") deafness. It will probably be a still better instrument within the next five years.

The provision of a suitable hearing-aid is only part of the rehabilitation of a deaf person, and adequate training in its proper use is necessary. Training in lip-reading should always be combined with the use of a hearing-aid, and "difficult" deaf patients are often helped by a medical psychologist. Every hospital ear, nose, and throat department should be associated with a hearing-aid clinic—of which at present there are only 19 in Britain, and some of these consist in a hearing-aid dealer making periodical visits.

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The Ministry of Labour and National Service, in conjunction with the Ministry of Health, is sending three mobile nursing exhibition vans on tour in different parts of the country to encourage recruitment to the nursing and midwifery professions. The vans are fitted out partly as an exhibition with photographs, a nursing panorama, a skylight view into a model operating theatre, and a display of surgical instruments, and partly as an interviewing room in which persons interested—young people, parents, teachers, and others—may ask about pre-nursing courses, opportunities for training, salaries, or other points about nursing and midwifery. A technical nursing officer of the Ministry of Labour will be available to give advice and information.

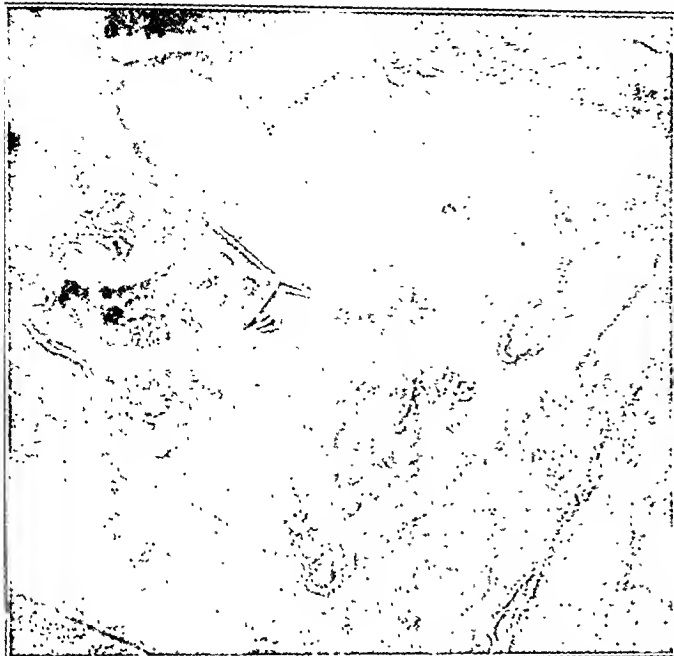


FIG. 1.—Exploration of ulnar nerve showing fusiform neuroma

MEDICAL PHOTOGRAPHY

The first exhibition of medical photography to be arranged by the Medical Group of the Royal Photographic Society can be seen at the Royal Society of Medicine, 1, Wimpole Street, W.1, from Monday, May 24, to Saturday, May 29. There are many outstanding photographs and coloured transparencies. The photographic departments of most of the larger hospitals are well represented. We reproduce on this page two of a series of three photographs taken by Miss Margaret Crossley in the department of orthopaedic surgery of the Wingfield-Morris Hospital at Oxford. Several photographs have been taken with infra-red rays and show the superficial veins, notably in lactation and in cases in which a collateral circulation is evident. Many of the photographs are of rare or unusual cases, and there are some excellent photomicrographs.

A dramatic picture of a case of anorexia nervosa is reminiscent of the Belsen "horror" photographs. Unusual items are the self-portrait of a radiologist; a picture of a celluloid cast of the blood supply to the stomach; and an enormous enlargement of a glomerulus. Perhaps the dermatologists and the ophthalmologists have contributed most to this exhibition, but there are a number of entries from gynaecological and dental departments, and almost every specialty is represented.

Medical Group

Previously medical photography had been treated as part of the province of the Scientific and Technical Group of the R.P.S., but in April, 1946, with the guidance of Mrs. Rosalind Maingot, F.R.P.S., the Medical Group was formed under the chairmanship of Sir Cecil Wakeley. The Group now has 153 members. For the present exhibition, which it is hoped will become an annual event, some 300 prints and 150 transparencies, the majority in colour, were submitted by 85 photographers, either hospital departments or individuals. Of these entries 150 prints, 75 transparencies, and 6 films and filmstrips were accepted by the judges.

The Medical Group responsible for this exhibition is very active and has already contributed a number of papers to the proceedings of the

Royal Photographic Society. It also circulates among its members two portfolios which allow all of them to see the best current work in different branches of medical photography. The interest taken in this subject has recently been revealed in our correspondence columns, where a sharp division of opinion has been reflected. Dr. Frangcon Roberts in an article in our opening pages (March 13) criticized the expansion of departments of medical photography. He has since been taken to task by some of our correspondents and supported by others. The debate continues in this issue at page 1001.

The photographs on exhibition at the Royal Society of Medicine will probably help to confirm both parties to the argument in their original views. There are some sets of photographs and transparencies of undoubted value for teaching purposes. There are also a large number of rarities which are photographically impressive, of interest to those originally concerned with the case in question, but of little or no general interest. At the same time the exhibition will allow medical men to see what assistance may be expected from the medical photographer in keeping records and in teaching.

Visual methods of instruction are being increasingly applied, and however views may differ on the limitations of medical photography this exhibition will at least serve to show the high standards which have been achieved technically. Noteworthy in this connexion are some of the photographs showing diseases of the eye.

September Exhibition

It should perhaps be recorded here too that the Royal Photographic Society will hold its 93rd Annual Exhibition at the Society's house at 16, Prince's Gate, S.W.7, during September and October. In the second part of the exhibition, which will be devoted to scientific, technical, nature, and record photography, the Medical Group will again have an opportunity to compare its own standards with those achieved by photographers working with subjects in the allied sciences. There will be a medical and surgical section, and medical and industrial radiographs will be judged separately. The scientific section of this annual exhibition always endeavours to show exhibits which illustrate the use of photography for obtaining information which cannot be secured in any other way.

FIG. 2.—Cavity in which nerve was densely adherent.



WORLD HEALTH ORGANIZATION

WORK OF THE INTERIM COMMISSION

The International Health Conference held in July, 1946, adopted a constitution for the World Health Organization which provided that it would come into force once 26 members of the United Nations had become parties to it. On April 7, with the ratification of its constitution by Mexico and Byelorussia, the World Health Organization came into being as one of the Specialized Agencies of the United Nations.

The first World Health Assembly will be convened at the Palais des Nations, Geneva, on June 24 and is expected to continue to the end of July. Delegations will be present from at least 35 nations—27 U.N. members and 8 non-members. The United States and France are the two major powers which have not yet ratified the W.H.O. constitution. In the case of the United States the Bill for ratification passed the Senate last year and had been unanimously approved in the House Foreign Relations Committee. However, the House of Representatives Rules Committee tabled the Bill by a vote of five to two. The United States has shown only slight hesitation in voting funds to the eight other specialized agencies of the United Nations. Unfortunately this Bill, which it was hoped to pass during the last Congressional session, was frozen out by more immediate problems.

W.H.O. has brought under one control the functions shared previously by the Office International d'Hygiène Publique in Paris, the Health Organization of the League of Nations in Geneva, and the Health Division of Unrra. Since July, 1946, all essential international duties have been carried out by the Interim Commission of W.H.O. The Interim Commission has managed the fund for the award of fellowships to medical specialists from war-devastated countries. It has embarked on a large public health and training programme in China. It also co-operated successfully with the Egyptian public health authorities in dealing with the recent cholera epidemic. A great deal has been written about this epidemic, but there is one point that has rarely been mentioned. Our American correspondent writes:

"When the news of the epidemic first reached this country it appeared to stimulate the business rather than the humanitarian instincts of certain of the pharmaceutical companies, and the price of anti-cholera vaccine rose to 8 cents per ml. By dint of investigations and discussions the secretariat of the Interim Commission succeeded in completing arrangements with two drug firms for the manufacture of the vaccine at a price of 2 cents per ml. They very wisely gave full publicity to these more public-spirited manufacturers and it is hoped that this will act as a stimulus to straight dealing when next the need may arise."

Expert Committee on Tuberculosis

At the fifth session of the Interim Commission held in Geneva early this year the first report of the Expert Committee on Tuberculosis was accepted for submission to the World Health Assembly. The Expert Committee, which consisted of only three members, called attention to the fact that the fight against infectious disease was a task for the whole of humanity. Fortunate and relatively healthy nations must come to the aid of stricken nations in order to help eradicate tuberculosis. The Expert Committee listed eleven principal "techniques" for tuberculosis control: (1) the determination of the extent of the problem in each country; (2) the recruitment and training of professional personnel; (3) the provision of physical facilities, supplies, and equipment; (4) health education; (5) the demonstration of practical activities in the field by well-trained teams; (6) the distribution of financial grants when necessary; (7) the development of uniform procedures in tuberculosis research; (8) the co-operation of all international organizations concerned with tuberculosis control; (9) the eradication of tuberculosis in cattle; (10) the study of the legal and epidemiological aspects of the problem of tuberculosis; (11) the review every year by the World Health Organization of the efficacy of its programme for the control of tuberculosis.

The Expert Committee on Tuberculosis is only one of eleven similar committees set up by the Commission. The others are concerned with international epidemic control; revision of the

pilgrimage clauses of the international sanitary conventions quarantine; yellow-fever; habit-forming drugs; the sixth biennial revision of the international lists of diseases and causes of death; biological standardization; unification of pharmacopoeias; malaria; and venereal diseases.

World Health Assembly

The first World Health Assembly will receive the reports of these expert committees. It is expected that the Interim Commission will be dissolved soon after the adjournment of the Assembly. The agenda also includes the selection of a Director-General for W.H.O. and of a permanent site for the organization. A number of nations have already declared a preference for a permanent site. Geneva heads the list, with New York, Paris, Washington, and London as successive choices. In the House of Commons recently Mr. Bevan said that he was considering whether it would be possible to offer accommodation in London for the 1949 World Health Assembly. The proposed budget for 1949 amounts to \$6,387,995, which is more than twice the Interim Commission's budget for the first year of its work. The largest single sum, \$1,071,690, is allotted for fellowships, medical literature, teaching equipment, and emergency medical supplies.

One of the most important functions of W.H.O.—"medical co-operation with accredited governmental and non-governmental agencies"—is the subject of a recommendation of the fifth session of the Interim Commission. The recommendation was that the Assembly should adopt the draft agreements drawn up by the Interim Commission with several U.N. Specialized Agencies. "These agreements provide that the W.H.O. shall serve in an advisory capacity in the fields of public health and medicine with the following organizations: the International Civil Service Advisory Board, the U.N. Social Commission, the U.N. Scientific Conference for the Conservation and Utilization of Resources, International Labor Organization, Unesco, and Food and Agricultural Organization."

In this connexion the apparently long delay in obtaining sufficient ratifications may prove to have been of value. Other specialized agencies of the United Nations achieved a permanent position soon after its creation. There has been a growing body of criticism of some of these agencies on the grounds that they have sponsored projects which are unnecessary, unripe, or outside the real sphere of their activity. These errors were easy enough to fall into in the early enthusiasms of the infant United Nations, and a much more deliberate start may well have saved the first World Health Assembly from such pitfalls.

Meanwhile the Interim Commission in its closing stages can look back on a record of progressive work unspoiled by lack of international co-operation. When the Commission is dissolved by the World Health Assembly its chairman, Dr. Andrija Stampar, of Yugoslavia. Dr. Brock Chisholm, of Canada, the executive secretary, and their colleagues will be able to congratulate themselves on achieving over a period of nearly two years an international outlook and a degree of international co-operation and amity which might well be copied by other delegates of the United Nations in the political field.

NEW LOOK FOR HEALTH

At the Health of the People Exhibition, which was opened in London last week by Princess Elizabeth, the Central Office of Information and the Ministry of Health have attempted to give health a new look. Their efforts have met with considerable success, for the exhibits are well designed and attractively displayed. The purpose of the exhibition is to mark the centenary of the first Public Health Act of 1848, and to record the progress that has been made since then in improving public health, leading up to the inauguration of the National Health Service later this year. In one section the spectator is confronted with a series of questions about the new health service, and is invited to press buttons to learn the answers. One of the questions is "Will Doctors Be Civil Servants?" When the appropriate button was pressed a light flashed in an empty panel—plainly a case in which the quiz-master was baffled by his own question.

At exhibitions of this kind there is a danger of so overwhelming the spectators with a mass of pictures, models, and graphs that they go away with only a confused impression of what it was all about. Skilful display counteracts this to some extent, but it was significant that on the day the exhibition opened the greatest interest was being shown in laboratory work actually being carried out in full view of spectators. In fact, there was a queue of people waiting to have their blood groups tested. The romance of Science obviously does not extend to graphs and statistics, nor to water supplies and drains.

"Visual Aids" are now very much in the fashion among educationists, and the use of films and film-strips in popular health education is certain to increase. At the Health of the People Exhibition some of the latest educational health films are being shown. One of these, "Modern Guide to Health," is a cartoon produced by John Halas and Joy Batchelor, who have been highly praised for their work by the professional film critics. Simple common-sense advice about posture, exercise, clothes, and sleep is given an original twist by the freshness of the drawings and the cleverness of technique. The same technique makes the cartoon, "Your Very Good Health," well worth seeing, but this film is frank propaganda for the National Health Service Act, and so far from being instructional might even be considered misleading.

In the future much more thought, time, and money will be spent on health education than hitherto. Prof. Andrew Topping has recently said, "I am firmly convinced that education is the greatest single factor in achieving results in the health field . . . in the promotion of health we must have a prepared and receptive community." The speed with which knowledge about health and disease can be applied depends largely on the state of public opinion. With the Health of the People Exhibition the Ministry of Health has set a useful example to local health authorities, which after July 5 will be responsible for health education.

TRAVELLING FELLOWSHIPS IN MEDICINE

The Medical Research Council invites applications for the following Travelling Fellowships for the academic year 1948-9

Rockefeller Medical Fellowships

These Fellowships are provided from a fund with which the Council has been entrusted by the Rockefeller Foundation of New York. They are intended for graduates resident in this country who have had some training in research work in clinical medicine or surgery, or in some other branch of medical science, and who are likely to profit by a period of work at a centre in the United States or elsewhere abroad, before taking up positions for higher teaching or research in the United Kingdom. The stipend will ordinarily be at the rate of £525 per annum for a single Fellow, and of £800 per annum for a married Fellow. Travelling expenses and some other allowances will be paid in addition.

Dorothy Temple Cross Research Fellowships in Tuberculosis

These Fellowships are awarded by the Council from a special endowment of which it is the trustee.

The object of the Fellowships, as defined in the trust deed, is to give special opportunities for study or research to suitably qualified British subjects of either sex "intending to devote themselves to advancement by teaching or research of curative or preventive treatment of tuberculosis in all or any of its forms." The Fellowships will, as a rule, be awarded to candidates who wish to make their studies or inquiries elsewhere than in the United Kingdom. They will ordinarily be awarded for one academic year, and provide for the payment of stipend, together with an allowance for travelling and incidental expenses. The stipend will ordinarily be at the rate of £525 per annum for a single Fellow, and of £800 per annum for a married Fellow.

Completed applications for Fellowships of either type must be lodged with the Council by June 1. Further particulars and forms of application are obtainable from the secretary, Medical Research Council, 38, Old Queen Street, Westminster, London, W.1.

IMPERIAL CANCER RESEARCH FUND ANNUAL REPORT

The forty-fifth annual report of the Imperial Cancer Research Fund was presented to the annual meeting held at the Royal College of Surgeons on April 21 with the Earl of Halifax, president of the Fund, in the chair. The Fund continues to be well sustained by the gifts of the public. Last year these amounted to £14,000—an increase of £10,000, due to a single donation of that amount. The public support is the more noteworthy because to the bulk of people these annual reports must be as remote as if they were written in one of the less familiar foreign languages.

Several members of the scientific staff have been engaged since 1939 in the study of Bittner's milk virus of mouse mammary cancer, but it is admitted that it is difficult to feel absolute confidence in the conclusions so far reached. There are some indications that infection of the mouse with the milk virus occurs by way of the lymphatics of the nasopharynx, but those concerned are hesitant to draw this conclusion because of certain experimental difficulties.

An investigation of spontaneous mammary tumours in the mouse is proceeding on the hypothesis that spontaneous mammary cancer is dependent upon the combined action of three factors—an inherited tendency, the action of oestrogen, and the presence of a virus. Experimental animals have been obtained by mating low-cancer-line females with high-cancer-line males, and in certain matings of this kind the hybrids have been found always free from mammary cancer. Experiments reported previously had indicated that adenomas in mouse mammae might be regarded as evidence of the presence of the milk factor of mammary cancer, provided that an amount of oestrogen detectable by vaginal cornification was present in the mice bearing the adenomas. An account is now given of further work in this field, which, however, has not yet reached any decisive conclusions. Quantitative data are urgently called for in the many problems involving the use of the mouse mammary gland.

Some work on the action of thiol compounds in the induction of skin cancer in mice by synthetic carcinogens is almost completed. The anti-carcinogenic property of BAL, the most potent thiol used, has been found to be much lower than its therapeutic properties in arsenical poisoning. All the thiol compounds tested, in particular BAL, are less potent as inhibitors of skin tumour induction than such substances as bromobenzene or maleic anhydride.

One of the members of the scientific staff has been engaged in a critical study of the situation in the field of viruses in relation to cancer, but this work also is not sufficiently advanced to justify a report of the findings. One problem that has arisen may be mentioned. It has been found desirable to preserve active homogenized stocks of transplantable tumours for comparative and quantitative studies. Forty years ago Salvin Moore successfully transplanted mouse carcinomata and sarcomata after exposure to the temperature of liquid air, and other workers have grown sarcomata after freezing them with CO₂ snow. The general conclusion has been that it is possible for a few cells to remain viable though exposed to freezing temperatures, and certain aspects of this problem are now being studied with the immediate objective of further improving this potentially valuable method of preserving certain transplantable tumours.

Another continuing investigation concerns the action of chemical substances on cancer. As yet no compound examined has shown a specific lethal action on cancer cells. The members of the scientific staff at Mill Hill under the Director, Dr. W. E. Gye, number eight, with one visiting research worker.

Sir Harold Gillies, consultant adviser to the Ministry of Health and Scottish Department of Health, left Britain on April 24 for a 3-weeks tour of Yugoslavia under British Council auspices. He gave lectures and demonstrations on plastic surgery at Belgrade and in provincial centres. Sir Harold is already well known in Yugoslavia, for in 1946 he was leader of the Unrra plastic surgery team there.

Preparations and Appliances

A "TRILENE" BY-PASS TAP

Dr. A. H. GALLEY, assistant anaesthetist to King's College Hospital, writes: It is now generally accepted that trichloroethylene ("trilene") must not be used during closed-circuit anaesthesia owing to the possibility of the formation of breakdown products which can produce cranial-nerve palsies. Until Marrett (*Journal*, Feb. 28, p. 403) introduced his apparatus a few weeks ago, however, there was no anaesthetic machine on the market with a safety device to prevent the use of trilene when the absorber circuit was in operation. For some time I have been engaged in designing a simple attachment which

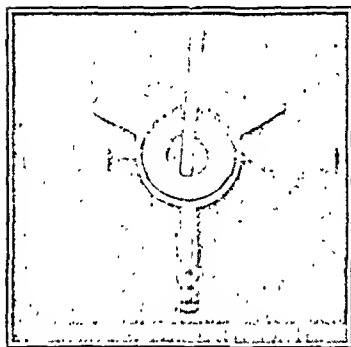


FIG. 1.—The by-pass tap.

could be incorporated into a Boyle apparatus—the most popular anaesthetic machine—to achieve this object. As will be seen from Fig. 1, it consists of a by-pass tap; and Fig. 2 shows how it can be incorporated between the ether and trilene bottles (the rubber tube cut short in Fig. 2 would normally be connected to the CO₂-absorber circuit). When the tap is turned to the left ("absorber" position) the

gases from the flowmeters and ether bottle are short-circuited to the CO₂ absorber by a permanently attached rubber tube (cut short in the photograph), thus by-passing the trilene bottle and preventing the possibility of this anaesthetic from gaining access to the closed circuit even if the trilene tap is inadvertently left "on." When the by-pass tap is turned to the right ("open" position) the machine can be used in the usual manner with the Magill semi-open rebreathing-bag assembly.

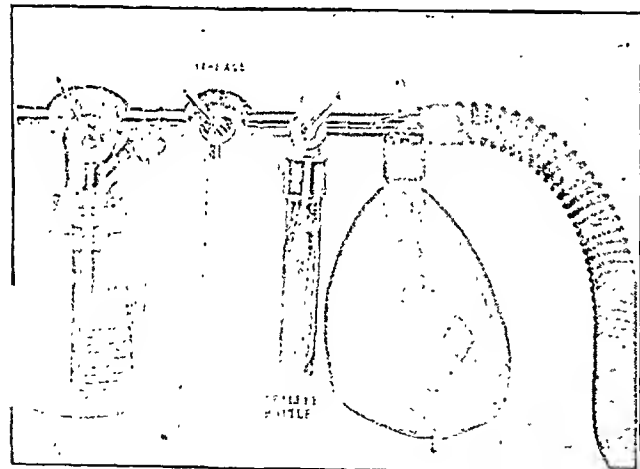


FIG. 2.—The by-pass tap incorporated into the Boyle apparatus.

It will be noted that the trilene bottle has to be the one furthest from the flowmeters in order for this device to work; some machines have the trilene (or chloroform) bottle nearest to the flowmeters, but the change-over can be effected quite simply by unscrewing and interchanging the glass containers for ether and trilene. Fortunately, Boyle's apparatus is usually built on the unit system—i.e., flowmeter unit, ether-bottle unit, etc.—and the by-pass tap has been designed as a small unit which readily fits into place (Fig. 2). The tap illustrated has been made for me by Medical and Industrial Equipment Ltd., of 12, New Cavendish Street, London, W.1, to fit their own machine, but they are able to supply a similar tap to fit any Boyle's apparatus designed on the unit system.

Reports of Societies

HYPOTHALAMUS AND WATER METABOLISM

In the Section of Endocrinology of the Royal Society of Medicine on April 28, with Mr. L. R. BROSTER in the chair, the subject under discussion was the hypothalamus and water metabolism.

Dr. G. W. HARRIS said that it was possible for the hypothalamus to influence water metabolism through the sweating mechanism, through vasomotor control, and through the pituitary gland. He confined his remarks to the effect exerted by the pituitary. Both the posterior and anterior pituitary affected water metabolism. It had been shown many years ago that the intravenous injection of posterior pituitary extract decreased the urinary flow. He described experiments with rabbits to ascertain the effects on the diuretic process of stimulating the pituitary stalk: there was an abrupt diminution in the urinary output and this antidiuretic effect was maintained for a long period. The extent of this inhibition varied according to the position of the stimulating electrode in relation to the hypothyseal tract and the intensity of the stimulation. As the urinary output fell the relative chloride output increased. As urinary output recovered, the chloride secretion fell. Most of the endocrine glands seemed to be under nervous control. The position would be clearer if it were possible to demonstrate how the nervous system affected the secretion of the anterior pituitary.

Dr. W. J. O'CONNOR described some recent work carried out by Prof. Verney on dogs, the results of which showed the effect on diuresis of changes in the osmotic pressure of the blood in the carotid arteries.

Clinical Significance.

Dr. RAYMOND GREENE drew attention to the clinical significance of these experiments. Before he knew anything about the early work of Prof. Verney and his collaborators he was impressed by the fact that extreme and prolonged anxiety in human beings did not, as was often asserted, give rise invariably to loss of weight. He had collected a series of cases in which anxiety had apparently produced a sudden and rapid increase of weight, which was in his view due rather to water retention than to true obesity. He outlined the case of a woman who was married in 1939, when her weight was 56 kg. Her husband went abroad and was missing at Singapore. As soon as the news of the tragedy reached her she began to put on weight. She was treated by a low carbohydrate diet without avail, and then with a diuretic in addition. Her weight fell slightly but did not return to its normal level. She was taken into hospital, where her weight again fell, but as soon as she went back to her job it rose again. After about a year she formed a new attachment and forgot about dieting. Her mental health improved, and her weight in a very short time went down to normal. He thought that this was an example in clinical medicine of what might be called Verney's syndrome. In response to anxiety there was an increase in the output of antidiuretic substance from the posterior pituitary and an increase in weight, which was usually taken to be obesity, but was in fact an accumulation of fluid in the body.

In the course of the discussion which followed one member asked how nervous polyuria fitted into this picture, and another whether the posterior pituitary had any effect on salivary flow. Another question was, Could this work be applied to nocturnal enuresis in children, who had water retention during the day and at night an uncontrolled polyuria. Dr. Raymond Greene said that he felt sure that the suggestion concerning enuresis was correct. He had asked mothers who brought such children to him about the colour of the urine passed during the night, and in a fair proportion of cases, though not in all, the mothers had been struck by the fact that, whereas the child passed a deeply coloured concentrated urine during the day, the urine

passed at night was so free from colouring matter that the sheets were not stained.

Dr. O'Connor said that in the experiment he had described all the dogs had been subjected to what was in effect a sympathectomy. The operation was designed to prevent nervous influences acting on the kidney. If an emotional stress was produced in a normal dog an increase in the production of antidiuretic substance was the exception rather than the rule, whereas in the partially sympathectomized dog there would be an increase. That might be of interest in connexion with nervous polyuria in that nervous excitement was not necessarily associated with increased output. He knew of no convincing evidence that the amounts of antidiuretic substance had any effect on salivary flow.

LEMPERT FENESTRATION OPERATION

RESULTS IN OTOSCLEROSIS

Dr JULIUS LEMPert, of New York, addressed an unusually crowded meeting of the Section of Otology of the Royal Society of Medicine on May 7 on his fenestration operation for the restoration of hearing in clinical otosclerosis. He showed a colour film, which ran for nearly an hour, illustrating every detail of the operation. His remarks were based upon a continuous study and analysis during the past ten years of the results of 3,700 fenestration operations, of observations made in the performance of 450 revisions, and of the histological findings in animal experiments.

Pre-operative and Operative Factors

Dr. Lempert said that, while it was important to have pure tone audiometer tests both by air and bone conduction, these must be supplemented by the tuning-fork (512, 1024, and 2048 d.v.) and voice tests. No otologist should ever perform a fenestration operation without first personally testing the patient to determine the chances of restoration of practical hearing. He should never work on the findings of another otologist. Only the development of simple uncomplicated tests would be acceptable in the long run. If following a well-performed fenestration operation an impressive improvement in hearing could not be demonstrated audiometrically, it might be assumed that the cochlear functional reservoir was incorrectly evaluated pre-operatively.

The creation of a new vestibular fenestra to replace the functionally impeded oval window resulted in improved mobilization of endolymph by air-borne sound, which in turn could result in restoration of practical hearing, if the existing cochlear nerve function was adequate. A tympanic air space hermetically sealed by the tympanic membrane was essential following fenestration so that the endolymph could be mobilized by air-borne sound out of phase. The newly created vestibular fenestra must be sealed by a viable tympano-meatal flap to protect the membranous labyrinth from degeneration, which would lead to a total loss of hearing.

Post-operative Factors

The danger of post-operative infection had been largely overcome by the use of systemic penicillin. As a result of experience gained with revisions and animal research it had been found that osteogenetic closure of the fenestra was mainly influenced by (1) the site chosen for the creation of the fenestra, (2) the inherent natural tendency for osteogenetic repair to take place in the freshly injured histological bony layer of the fenestra rim, and (3) bone dust and bone splinters left behind in the region of the fenestra gap and within the perilymphatic space.

He spoke in particular of these bone particles, which, if they were not meticulously removed, would endanger the result of the operation. Every careful otologist practising fenestral surgery must have observed that in fracturing and

pulverizing this region bone dust and splinters unavoidably fell into the perilymphatic space and were irretrievable. He was convinced that they were a much more serious threat to the maintenance of practicable serviceable hearing as a result of fenestral surgery than bone dust and splinters resting in the region of the fenestral rim. His new technique had been developed with a view to preventing the creation of bone splinters and bone dust, and he illustrated pictorially how by working with a burr the bony capsule was slowly and gradually worn down and bone dust prevented from falling within the space.

Assessment of Results

Careful post-operative testing by pure tone audiometry and its comparison with pre-operative audiometric readings was the most scientific method of evaluating the results obtained. A patient's statement that his hearing was improved following operation was acceptable only when it could be audiometrically substantiated. There was no clinical evidence of secondary cochlear nerve changes in these cases, but as such changes had only rarely been observed in the non-operated ear of the patient the conclusion that the operation prevented such changes could not as yet be drawn. Following the successful performance of the fenestral operation in one ear an improvement of hearing in the non-operated ear had never been observed.

Finally Dr. Lempert said that the balanced technique whereby the fenestra was created in the dome of the vestibule when carefully performed could result in the restoration of permanent, serviceable, unaided hearing, acceptable both to the otologist and to his patient, and there was evidence that the "bone-dust-free nov-ovalis" technique would prove to be another successful advance. He then showed by means of his film the entire technique of the operation, from the pre-operative examination of the patient to her return to the consulting-room three weeks after operation for demonstration of what appeared to be a perfect result.

Permanence of Results

No time was left for discussion, but Mr. TERENCE CAWTHORNE, Mr. SIMSON HALL, and the President of the Section, Mr. DONALD WATSON, joined in tributes to the lecturer and raised a few further points, to which Dr. Lempert replied.

Dr. Lempert said that of 100 found suitable for this operation 80 would be found immediately after operation to have had their hearing restored to the practical level for the three speech frequencies, but after two years only 60 of those 80 would be found to have maintained such hearing. In other words, 75% of those who had been successfully operated on showed the permanent result of good unaided hearing. This percentage might be increased when the cases in which bone dust had been avoided came to have their results assessed. It was necessary for the patient to stay in bed for about five days after operation; the patient could leave hospital in ten days, and a week afterwards should be going about his affairs as usual.

To avoid post-operative infection the most satisfactory means was to promote rapid healing. In the ordinary way with prompt skin grafting there should be a dry and completely healed cavity within three weeks. But there were cases which would stay dry for a while and then begin to desquamate. Some mild staphylococcal infection might occur. He had tried many things. Sulphathiazole powder answered in some cases, but not in all, and the same was true of sulphadiazine, gentian violet, and plain boric acid. The worst thing to use was silver nitrate.

In submitting patients to this treatment, Dr. Lempert continued, regard must be paid to the importance to them of unaided hearing. Quite 80% of the deafened people who came to him wore hearing-aids and could hear very well with them, but they wanted operation in order that their infirmity might not be apparent. They did not want to be seen with a "crutch," and therefore they submitted to the fenestration operation. But if they could make their social and economic contacts satisfactorily with a hearing-aid there was no justification for the operation.

SOCIAL MEDICINE

The Section of Epidemiology and State Medicine of the Royal Society of Medicine, with the president, Dr. W. S. C. COPEMAN, visited the Institute of Social Medicine at Oxford on April 23. The director, Prof. J. A. Ryle, welcomed the visitors in an introductory address in which the aims and organization of the Institute were described. The afternoon session was devoted to short communications by members of the scientific staff and to demonstrations of modern mechanical methods for recording and analysing statistical data.

Industrial Accidents

Dr. W. T. RUSSELL dealt with industrial accidents, primarily from the statistical aspect. The importance of well-designed record cards and of co-operation between operatives and supervisors in reporting all accidents, however trivial, was stressed. Before 1921 statistical records were on an industrial rather than an occupational basis, with the result that high-risk operations might be diluted or even masked by being placed in the same category as low-risk operations in the same industry. Although occupational morbidity figures tended to be influenced by selective recruitment on account of aptitude or fitness for particular types of work, they were generally more reliable than mortality rates. The old and the unfit tended to seek lighter work, and only the last occupation was recorded on the death certificate.

Despite recent improvements, due partly to legislation and partly to voluntary effort, industrial hazards remained an important factor in loss of production, with 230,000 recorded accidents and 826 fatalities in England and Wales in 1946. In a recent survey the accident and sickness records were correlated and compared at different age groups. The rates were much higher than the averages at ages under 20 years and continued to decline even after the age of 50.

Details were given of an investigation by Drs. A. M. STEWART and J. P. W. HUGHES into the incidence of tuberculosis in the boot and shoe trade in Leicester and Northampton, which is approximately twice as high as in comparable groups in other industries in these areas. This was known as long ago as 1915, when the first M.R.C. report on the subject was published. With the aid of mass radiography and detailed analyses of the collected data according to age, job, and environment, valuable conclusions emerged. Although there was little evidence to show that leather or other materials were contaminated, the homes and the working conditions in the smaller factories were far from satisfactory.

The effect of excessive fluorine in the water supplies in certain areas on the incidence of dental caries and fluorosis and on the aetiology of juvenile osteochondritis (Scheuermann's disease) was discussed by Drs. F. H. KEMP and D. C. WILSON, who showed specimens and radiographs. An animated discussion followed on the papers and on different aspects, present and projected, of the work of the Institute.

The building up of local health services of a uniformly high standard throughout London should be one of the benefits of the National Health Service, declared Mr. John Edwards, Parliamentary Secretary to the Ministry of Health, when he opened the Caversham Road Day Nursery, St. Paneras, London, recently. In London maternity and child welfare and school health services were at present subject to a patchwork of controlling bodies. The services were interrelated and should be under a common control. That was one of the things which the National Health Service Act brought about. From July 5 the L.C.C. would be responsible for providing all those services. That, besides enabling the highest degree of co-ordination to be obtained, would make possible the building up of local health services of a uniformly high standard throughout the country. Continuity of the health services for children would be secured from infancy onwards, since the County Council was both the local health authority and the local education authority. But the L.C.C. had wisely recognized that it was important that the management of those domestic health services for which they were to be responsible should not become remote and impersonal, and that the metropolitan borough councils should be linked with the work. For these reasons the County Council had decided to entrust the day-to-day management of the services to divisional health committees, of which there would be nine, each covering a portion of the county.

Correspondence

Erythroblastosis and Kernicterus

SIR,—According to the annotation on this subject (May p. 843) based on a paper by Wiener and Brody, icterus gravis due to bivalent antibodies which, though normally too large to pass through the placenta, are "milked" into the foetal circulation by the uterine contractions during labour and produce thrombosis in the foetus causing jaundice, erythroblastosis and kernicterus; whereas univalent antibodies pass into the circulation during pregnancy and produce a progressive anaemia and in severe cases stillbirth or hydrops foetalis, kernicterus not being a common sequel. Moreover, the infant with icterus gravis is normal when born, but develops jaundice and toxæmia shortly afterwards: transfusion is useless, though transfusion with Rh-negative blood of a suitable group is the best treatment for infants showing progressive anaemia and hydrops. The annotation concludes with the words, "These findings are important, and they serve as another example of the need for backing laboratory hypothesis by clinical observations."

We agree with this conclusion and suggest that it should be applied to the statements made by Wiener and Brody, while the writer of the annotation appears to accept. We would therefore ask how the following clinical and pathological observations can be explained on the theory of Wiener and Brody: (1) Icterus gravis cannot be prevented by caesarean section carried out before the commencement of labour. (2) Occasionally an infant with icterus gravis is jaundiced at birth, and the amniotic fluid and vernix caseosa are stained yellow. (3) Erythroblastosis may occur in the normal newborn baby and is frequently found in haemolytic anaemia of the newborn and is present to an intense degree in hydrops foetalis—conditions in which according to Wiener and Brody plugging of the marrow vessels does not occur. (4) Prolonged search has never revealed occlusion of blood vessels by agglutination thrombi in kernicterus. (5) Normal cells are found in close proximity to "ghost" cells in the areas affected by kernicterus. (6) The occurrence of kernicterus in babies in whom iso-immunization has been excluded. (7) Haemolytic anaemia of the newborn is not usually present at birth, but develops on the second and third day of life. (8) Kernicterus has never been found in association with haemolytic anaemia of the newborn. (9) Transfusion with Rh-negative blood has in our experience almost halved the mortality rate of haemolytic disease of the newborn.—We are, etc.,

LEONARD G. PARSONS.
H. BAAR.

Birmingham.

Poliomyelitis and Lymphocytic Meningitis

SIR,—Dr. J. Egerton Caughey (May 8, p. 903) has drawn attention to apparent discrepancies in two recent papers dealing with acute poliomyelitis for which I was wholly or partly responsible.

1. Regarding the 1941 outbreak of acute poliomyelitis amongst New Zealanders serving in Egypt, I had hoped that my reference to this in a paper read before the Royal Society of Medicine in 1945 might have shown Dr. Caughey that, though I had been unwilling in 1941 to accept his view of this outbreak, further experience of the disease had convinced me that he was right in labelling his cases of lymphocytic meningitis as non-paralytic cases of poliomyelitis.

2. In the second paper he refers to (McAlpine, Kremer, Buxton, and Cowan, *British Medical Journal*, 1947, 2, 1019) reference was made to the incidence of acute benign lymphocytic meningitis in British troops in Egypt. Three reasons for believing that these were not cases of poliomyelitis were: first, that acute poliomyelitis did not occur in epidemic form amongst British troops in Egypt between the years 1941-5; secondly, that the cases of benign lymphocytic meningitis greatly exceeded the sporadic cases of poliomyelitis; thirdly, the degree of pleocytosis in the C.S.F. was greater than in poliomyelitis, counts of over 500 cells being not uncommon.

Therefore, though I feel sure that Dr. Caughey was correct in his interpretation of the 1941 outbreak amongst the New

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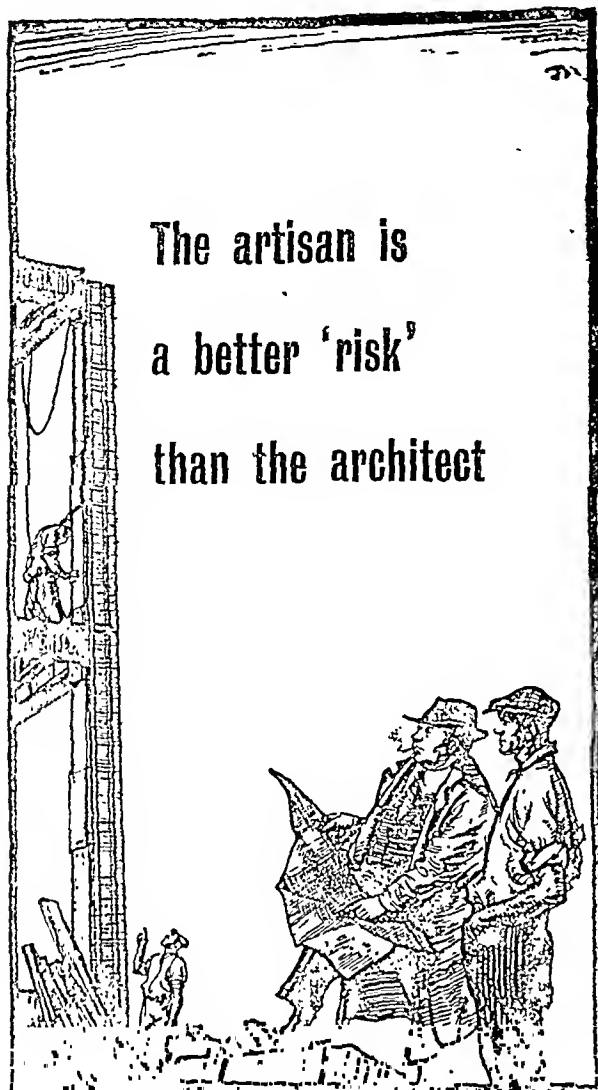
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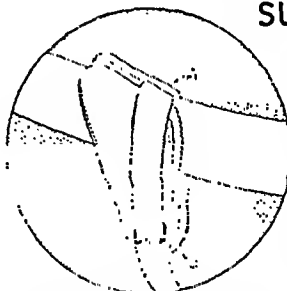
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Zealanders, I believe that another virus was responsible for the majority of the British cases of benign lymphocytic meningitis. As far as we could ascertain at the time this was not the virus of choriomeningitis.

It would be of great interest to us here if Dr. Caughey would give us his impressions of the 1947-8 outbreak of acute poliomyelitis in New Zealand, especially as to the incidence of unusual types of the disease.—I am, etc.,

London, W.1.

DOUGLAS McALPINE.

Juvenile General Paralysis

SIR.—I was very interested in the account of Dr. W. Liddell Milligan's case (May 8, p. 881), but a somewhat similar case which I encountered some years ago leads me to doubt the correctness of his conclusion, namely that a case of juvenile general paralysis had sustained a spontaneous remission.

In 1933 I was consulted by a mother regarding her son, aged 10 years 5 months, who a few months previously had begun to exhibit major epileptic attacks. In childhood, from the age of 1½ to 3½, he had suffered from "convulsions," but had been quite free from fits of any kind until he had reached his eleventh year. The patient was a well-developed, intelligent boy with no stigmata of any kind. Concomitantly with the reappearance of fits he had changed a good deal temperamentally, becoming irritable and difficult, and often refusing to go to school, etc. Purely as a "shot in the dark" I had his Wassermann reaction examined and found it +3. (The mother's and an only younger sister's were both -2. The father refused to come for examination.) I gave the patient no anticonvulsant drugs whatever, and treatment in the main consisted of three courses of bismuth ("bismogenol") separated by roughly six-monthly intervals. From the beginning of the second course no further fits developed. A subsequent W.R. gave a negative reaction. As it was difficult enough to keep up his attendances for injections I did not dare risk examination of C.S.F. About a year ago I heard from this patient regarding another matter and he has kept fit and well.

My suggestion is that Dr. Milligan's case sustained a spontaneous remission from the *symptomatic* fits of congenital syphilis (fits of all kinds, organic or idiopathic, often remit in a mysterious way), but that juvenile general paralysis was a later tragic development which possibly could have been entirely prevented by correct initial treatment. Be that as it may, this interesting case fully justifies one of Dr. Milligan's main contentions—the necessity of an all-round psychiatric training for those who undertake psychological work of any kind.—I am, etc.,

Armagh, N. Ireland.

ROBERT THOMPSON.

Acute Intussusception in Childhood

SIR.—The article on acute intussusception in childhood by Drs. Brenda Morrison and Donald Court (April 24, p. 776) should be read by all surgeons and general practitioners, as it stresses the extreme importance of early diagnosis and that once the condition is suspected admission to hospital should never be delayed. My last two cases arrived over 24 hours old; both required a right hemicolectomy on account of gangrene, and fortunately they recovered.

There is one important aetiological factor which I did not see mentioned in the article, and furthermore I am unable to find any reference to it in current textbooks of surgery or in those dealing more particularly with the surgery of childhood—that is that in every case upon which I have operated there has been present an extremely mobile caecum and ascending colon, which together with the terminal ileum were on a long mesentery. Normally, the terminal 1-2 in. (2.5-5 cm.) of ileum, the caecum, and ascending colon lose their mesentery during embryonic life and become fixed to the posterior abdominal wall, but in some 15-25% of individuals the old embryological mesentery remains, leaving an extremely mobile gut. The condition, which is slightly more common in females, predisposes to distortion, displacement, or rotation of the caecum and attacks of pain in the right iliac fossa, culminating in some cases in a volvulus (v. Gardiner, R. H., *British Medical Journal*, 1947, 1, 83).

That intussusception is largely confined to healthy first-born male children has not been my experience, as several of my cases

have been female infants. The change of feeding to a more solid form of diet at the weaning age of 6 to 9 months produces more powerful peristalsis, which fact, coupled with a mobile caecum, is in my opinion enough to initiate the intussusception. It is difficult to see how a fixed bowel can easily intussuscept.

At operation I agree that reduction should take place inside the abdominal cavity as far as possible, but it is the last "bit" which is always the most difficult to reduce. It is, however, easily delivered outside the abdomen, owing to its mobility, through a para-umbilical incision, without the trauma and shock associated with evisceration. This renders the final steps of the reduction much easier. Furthermore, if unfortunately resection and right hemicolectomy are necessary, due to gangrene, the presence of a mesentery to this part of the bowel makes mobilization an easy matter. The use of pressure enemata is an extremely dangerous procedure for two reasons: first I have known one case end fatally during the administration of the enema, and, secondly, it is impossible to tell if the intussusception has been completely reduced.

Timely diagnosis followed by careful preparation and skilled surgery are the only sure and safe measures to be employed for this serious emergency of childhood.—I am, etc.,

Aylesbury, Bucks.

RALPH H. GARDINER.

Antihistamine Drugs

SIR.—Your leader on histamine (May 8, p. 887) comments on Southwell's negative results with "anthisan" published in the same number. You seem to be much impressed by the use of inactive control tablets, and you appear to think that this in itself guarantees a true result. But this, I submit, is not the case. The control experiment can have this result only if the drug which is tested has been given in an effective amount. For instance, if, say, 1 minim of adrenaline were given to asthmatic patients, and 1 minim of physiological saline as a control, I am sure one would obtain results similar to Southwell's: some of the patients would improve remarkably with saline, whilst some of the others would get worse. Before beginning such an experiment with dummy controls one must try to find the optimal dose of the drug in question, and this can be done only individually. Unfortunately Southwell has made no such attempt, but has given the same dosage to all patients. This dosage was rather small (0.1-0.3 g.), and in addition was given over long periods in three or even four daily doses. I have found that this may cause tolerance and therefore give false results. The fact that drowsiness has been noted in only 10 out of his 42 patients makes it very probable that the dosage was insufficient. In my cases (*Lancet* May 1, p. 677), the optimal dosage was nearly always accompanied by drowsiness.

Another serious source of error is the assessment of results according to the patients' reports. Everybody who has tried to define with chronically asthmatic patients what they regard as "an attack" knows that their conception varies enormously. In most cases they are not sure where the chronic wheeze ends and the "attack" begins. If the condition is to be assessed over a long period the violent fluctuations which occur and which may not be influenced by any drug may render any assessment still more hazardous. There must be an additional objective measurement. The vital capacity is the only such measurement I know of, and it has proved to various authors and to myself a reliable standard. For instance, Curry (*J. clin. Invest.*, 1946, 23, 785) has shown that by varying doses of histamine different degrees of bronchial spasm and exactly proportionate decreases of vital capacity could be induced.

It is quite evident from my own experiments (which probably were not known to you when your leader was written) that anthisan does not benefit all asthma patients. Not all of them tolerate sufficiently large doses, and in a severe attack no dose seems to be large enough. But in a moderate degree of bronchial spasm it is often effective. If a really objective method is used, for instance intravenous injection, whilst the respiration of the patients is recorded by the spirometer and by the thoracograph of Verzar, the results can be relied upon. I have recently given doses of 0.05 to 0.1 g. in 10 experiments with 7 cases of asthma who were in a moderate asthmatic state. In 7 of the 10 experiments a striking increase (between 380 and 2,000 ml.) of the vital capacity occurred within 5 to 15 minutes. These increases could not be obtained by injections of physiological saline or glucose.

The mode of action of the antihistamine drugs, many more of which will appear in the near future, is full of problems. Their dosage varies more than that of other drugs, and the way

in which tolerance is acquired is obscure. With some of them it is difficult to find two patients who react to the same dose in exactly the same way; this holds not only for the antihistamine drugs proper but also, to a certain extent, for other substances with partly antihistamine action, like ephedrine and adrenaline. To mention only two of the many unexplained facts—why does anthisan, when given intravenously, require as long as 5 to 15 minutes until it acts? And how are we to explain that if ephedrine, "benadryl," or anthisan are given in one dose daily some of the side symptoms disappear after one or two days while other effects stay almost indefinitely?

Obviously these are very complex problems, and the question of the efficacy of these drugs cannot be solved by the use of dummy tablets and the reports of the patients. For this reason I feel that the conclusions in your leading article are premature.—I am, etc.,

London, W.C.1.

H. HERXHEIMER.

Penicillin Treatment of Scarlet Fever

SIR,—An outbreak of this disease in a large institution afforded an opportunity on a small scale of trying the method of treatment advocated by Dr. Torben Jersild, of the University of Copenhagen (Feb. 14, p. 318). Before seeing this report, 11 of the 79 cases had been treated with sulphanilamide with unsatisfactory results, inasmuch as three had unfavourable features. One had double antrum inflammation, another cervical adenitis, and the third went home after four weeks still harbouring the haemolytic streptococcus A in nose and throat and continuing to show positive swabs until nearly eight weeks from the commencement of the illness. Penicillin intramuscularly, as a snuff, and as pastilles caused a rapid disappearance of all symptoms and of the haemolytic streptococcus in the other two cases.

The remaining 68 had penicillin as recommended by Dr. Torben Jersild—100,000–150,000 units intramuscularly, twice a day, for six days. Not a single complication of any kind occurred, except in one case a penicillin rash was seen on the third day and treatment was stopped. It also had no effect in preventing recurrence of scarlet fever, for two cases had the typical rash and slight sore throat 3–4 weeks after the first attack. Penicillin treatment for three days resulted in negative swabs on the eighth day. Sixty-two gave negative nose and throat swabs when tested on or about the eighth day after the rash. Positive swabs were obtained in the six other cases; five became negative after about 14 days with further penicillin treatment for three days. One failed to respond until 24 days later, when very few haemolytic streptococci were found. A prolonged and intractable acute tonsillitis a few months previously may have been responsible for this poor result.

Most of these might safely have returned to the institution after eight days; but as it was winter a period of two weeks' isolation was adopted, and a further week for convalescence. The advantage of a shortening of the time lost through illness appears to be counterbalanced only by the objection that patients so treated may show penicillin sensitization at some future date. Rapid relief of sore throat was noticeable in all cases, and the general health excellent.

I am greatly indebted to Dr. D. D. Payne, the Medical Officer of Health, and Dr. J. Colbeck, County Pathologist, for their kind and helpful co-operation.—I am, etc.,

Harrogate.

R. F. CAMPBELL WARD.

Diagnosis of Periarthritis Nodosa

SIR,—The two cases of periarthritis nodosa described by Dr. J. M. Sutherland (May 1, p. 832) again bring out the difficulties of diagnosis. As Dr. Sutherland states in the section on diagnosis, "The possibility of periarthritis nodosa should be borne in mind in a case presenting multiple symptoms referable to several systems." Having arrived at this stage in the differential diagnosis, the problem arises as to how to clinch the diagnosis. The means of doing so fall into two groups, (a) histological section of a node or piece of muscle, and (b) visual evidence.

As regards the latter, Dr. Sutherland mentions only the ophthalmoscope, but there is another way, and that is visualization of the lesions through the peritoneoscope. Involvement of the mesenteric vessels is common in this condition, and it is easy to visualize the nodes on these vessels through a peritoneoscope. The procedure can be carried out under local anaesthesia with a minimum of disturbance to the patient. Dr. Sutherland's first patient had abdominal pain, and the necropsy in Case 2 revealed involvement of the vessels of the small intestine. It is almost

certain that Case 1 would have shown mesenteric involvement. I have described the visualization of the condition by peritoneoscopy in an article in the *Medical Press* (1947, 118, 487).—I am, etc.,

Leicester.

A. P. M. PAGE.

The Problem of Caries

SIR,—I have recently had the opportunity to read the annotation (April 10, p. 697) on "The Problem of Caries." Since you call attention to the researches of Pincus and Frisbie, which supposedly support the concept that the destruction of the enamel organic matrix is the initial caries lesion, it seems opportune to point out some of the recent evidence supporting the more widely held view that surface enamel acid production is directly related to the caries process.

In our laboratories we have made the observation that following the ingestion of refined carbohydrates the glucose (reducing substance) content of the saliva may show an immediate elevation to values in excess of 1,000 mg.%. This magnitude, depending upon the eating habits, characteristics of the food, etc., may persist in certain instances for periods as great as one hour. Stephan has demonstrated by *in vivo* methods that within two minutes after sugar solutions are ingested by caries-susceptible persons the pH of the tooth surface or within the carious cavity falls from approximately 7.0 to below 5.0. Such phenomena do not occur in caries-immune subjects.

The significance of pH values approximating 4.5 is not clearly understood. A variety of possibilities present themselves. They include: (1) This pH is critical for enamel decalcification. (2) This pH approaches the optimum for the activity of the acid phosphatase, an enzyme which has been demonstrated to be present in salivary bacteria by at least three investigators. (3) This pH approaches the optimum for many proteolytic enzyme systems, possibly for those present in organisms capable of producing caries. (4) This pH approximates the iso-electric point of the enamel protein, and the physical properties of this tissue may undergo marked alterations of importance in caries production. Any or all of these may be related to caries aetiology, but each depends on refined carbohydrate intake and bacterial acid production.

One fact seems indisputable—the diet must contain refined carbohydrates of the nature of starch, sucrose, or glucose if we are to produce experimental caries in animals. The Syrian hamster has been studied extensively by American investigators since 1942. I am aware of no single instance in which experimental caries has been reported as being produced with diets devoid of these materials. Fortification of these experimental diets with so-called protective factors has been a most ineffective caries-control measure.

It also seems pertinent to mention that the most extensive caries-control measure being used in the United States to-day is the topical application of fluorides. These have been shown repeatedly by controlled clinical studies on human being and animals to reduce dental caries by slightly in excess of 40%. Laboratory researches indicate that the application of topical fluoride results in a union of fluoride with the mineral phase of the enamel, reducing its solubility by approximately 50%, and enhancing its surface hardness. It seems more than coincidental that a substance affecting acid solubility should limit dental caries.

One cannot resist the temptation of suggesting that the most unsatisfactory aspect to research in the field of dental caries has been the constant unscientific criticism of our endeavours by many medical colleagues. In general, these gentlemen refuse to accept the view that the aetiology of tooth decay may not be comparable to that of other diseases. Such an attitude is discouraging, but understandable when one remembers the reluctance with which such fundamental disease concepts as bacterial infection, virus infection, and vitamin deficiencies were adopted.—I am, etc.,

Tufts College Dental School,
Boston, Mass.

J. F. VOLKER.

The Process of Ageing

SIR,—No doubt treatment of ovariectomized rats by various sex hormones and thyroid, as described by Dr. V. Korenchevsky (April 17, p. 728), represents valuable research work on relations and interactions of different endocrine glands and on their consequences to the metabolism of other organs, but it must be emphasized that ovariectomy itself does not produce the same effects as the physiological process of growing old in spite of certain features in common—for instance, in both cases

basophilic cells of the anterior lobe are increased and gonadotrophic hormone secretion is augmented. Loss of weight of organs can be caused by other endocrine glands or by changed influence of the hypothalamic, supraoptic, and paraventricular nuclei, and is not a symptom just of old age.

A certain difference of the body's reaction to castration and to growing old should be expected, because at the former fully functioning ovaries are suddenly removed from the system, but in the latter ovarian activity slowly has ceased, together with the loss of the ova. Further, a woman ovariectomized at the age of about 35 may live fifty more years, but a woman of 70 certainly not. Characteristics of old women, such as senile skin changes, loss of hair pigment, and growth of beard, do not commonly occur after ovariectomy, especially not involution of the whole of the body (osteoporosis, etc.), nor the pronounced emaciation often seen in senile women.

After the menopause gradual shrinkage of the adrenal cortex occurs, its function becomes weaker, and the 17-ketosteroids excretion decreases. As a result of castration, however, hypertrophy of the cortex, at least in some species, is observed. Especially in the male and in older female animals the hypertrophic phase may continue. Unlike what happens in old age, hypertrophy of the thymus occurs after castration in adult rats. Among eunuchs in Oriental countries there have been men of high intelligence who led long and active lives. Variations in fat metabolism and muscular weakness are due to individual differences in the influence of the hypothalamic centres. On the other hand, spermatogenesis is not unknown in old men of 80 or more, in spite of obvious signs of senility.

All experimental operations such as hypophysectomy, thyroidectomy, adrenalectomy, or gonadectomy have far-reaching consequences on the entire endocrine system, on the diencephalon, and on general metabolism. But the changes brought about are very different from the physiological process of ageing, which depends on two factors. (1) The life cycle and lifetime of cells of different tissues are different, and determined according to specific physiological needs. Relatively, the adrenal cortex begins to diminish in size in late embryonic life, but its extreme involution is significant of senescence. Involution of the thymus, of the pineal gland, of the gonads, and finally of the anterior lobe takes place during particular stages of life. The latest "natural" involution seems to be that of the vital nerve centres in the medulla oblongata. With this sequence the process of ageing is a very gradual one. (2) The whole endocrine system, which is of decisive importance in the ageing process, itself depends on the nervous and chemical function of the diencephalon. Because of this physiological relation all hormone therapy of ageing remains restricted within certain limits. As yet we do not know how to control and influence diencephalic activities either by chemical or physical means.—I am, etc.,

London, N.W.3.

HANS BAB.

Medical Photography

SIR.—Having spent much more time and money than I could afford on clinical photography, but without any regrets, I would nevertheless endorse the views of Drs. Francon Roberts (March 13, p. 485) and James F. Brailsford (May 1, p. 855). The hospital photographic department is an absurdity based on a misunderstanding of the function of art in medicine; or would anybody propose the employment of a biographer to take case histories?

For the clinician must take his own photographs if they are to be of any value to himself or of any use to his students; and the hospital need only provide a studio, some non-mobile equipment, and the part-time services of a technician for processing. Every university, however, should have a department for medical photography in order to provide instruction and advice on technique and to facilitate research.

The reason for the present exorbitant demand for ancillary services should be clear enough. The prudent householder uses all the electricity he possibly can in case his present consumption becomes the basis of rationing—and will not our new masters echo the cry of those who put them in power, "Never had it before, Doctor"?—I am, etc.,

Manchester.

J. H. TWISTON DAVIES.

SIR.—Dr. J. F. Brailsford (May 1, p. 855) is of course entitled to his opinion that there has been no improvement in medical photography during the past forty years, but it would be strange if this branch had stood still while all others have progressed. I cannot help but suspect a *laudator temporis acti*.

To mention names would perhaps be invidious, but it would be nearer the truth to say that while there do exist many excellent illustrations in the literature, the great bulk of pictorial work is mediocre. Blaming the editorial boards will not help if the material is not good in the first place.

The scorn which Dr. Brailsford pours on the figures quoted in his last paragraph would have borne more weight had he told us whence they emanated. There are two main reasons why output has risen, apart from the demand for teaching. First, the supply of material is improving; this held down availability in preceding years. Secondly, more uses are being found; in the control of the growth of visible tumours, for example, a controlled scale print is much less liable to error than the more usual outline sketch, and in a properly organized department is not only more accurate but actually time-saving. The photograph is free from any possibility of personal error, which may well change with the observer.

An Exhibition of Medical Photography sponsored by the Medical Group of the Royal Photographic Society is to open at the Royal Society of Medicine on May 24. May I suggest to Dr. Brailsford that he permits the committee to exhibit some of his forty-year-old illustrations? Even allowing for any deterioration of the prints due to age it should be most instructive to compare them with present-day work.—I am, etc.,

Manchester, 13.

ROBERT G. W. OLLEPENSCHAW.

Treatment of Pruritus Ani

SIR.—Dr. Alexander Orley, in his letter on the treatment of pruritus ani (May 8, p. 904), tends to indicate that in Guernsey the aetiological factors of this troublesome condition differ greatly from those which obtain in most other parts of the world. He states, "The variety of methods of treatment and the frequent therapeutic failures in pruritus ani are probably due to a lack of recognition of the fundamental cause of the complaint." This is exceedingly true, but surprisingly enough he then proceeds to remark, "This cause, however, is always the same. It is the exposure of the perianal skin to particles of faecal matter." In his series of about 50 cases he does not seem to have encountered some of the most common causes of pruritus ani, such as asthma, eczema, yeast and tinea infections, nor any of the others not infrequently discovered, such as threadworms, amoebiasis, lichen planus, gonococcal proctitis, etc.

He remarks that it usually occurs in middle and old age, more seldom in young individuals, and practically never in the young and adolescent. Of 107 cases seen by me in 1946, 19 patients were aged between 21 and 30; 32 between 31 and 40; 13 between 41 and 50; and 21 between 51 and 60 years of age.

Undoubtedly x-ray therapy is, as he says, extremely useful, but it has the great disadvantage that the patient obtains so much relief from it that should a relapse occur he is apt to importune the doctor for further treatment, and only those who have seen a number of pruritus ani patients with a complicating radiodermatitis can know what this combination means.

Finally, he remarks that a combination of x-rays and anal hygiene has been uniformly successful in over 50 cases, but it is to be regretted that he does not state what period of time he has chosen as the criterion for a cure.—I am, etc.,

Edinburgh.

REFERENCE

¹ *Edinb. med. J.*, 1947, 54, 524.

G. A. GRANT PETERKIN.

Unusual Inguinal Hernia

SIR.—In March, 1948, an African male aged about 35 years was admitted to Cape Coast Hospital. He stated that he had had a swelling in the left groin for four years. It was difficult to make out from his history whether the swelling had been self-reducing or not. Three hours before admission the swelling had increased in size, become painful, and he had vomited twice.

On examination there was a tender, tense, irreducible swelling about the size of a tangerine in the left groin, with slight protrusion through the external inguinal ring. There was no cough impulse. The condition was diagnosed as strangulated left indirect inguinal hernia.

Under hypobaric "peraine" spinal anaesthesia the diagnosis was confirmed. The hernial sac contained a loop of very congested but viable small intestine. The strangulation at the internal ring was

relieved. All attempts to reduce the gut to within the abdominal cavity failed, though a finger could easily be passed through the internal ring. A sudden subserous haemorrhage into the gut wall, stripping up the serous coat for several inches, made resection of about ten inches of gut with end-to-end anastomosis necessary. It was easy to draw down additional gut to perform the resection wide of the injured area.

Again attempts to reduce the remainder of the loop of gut failed. Laparotomy through a low left-paramedian incision revealed the reason for this inability to reduce the intestine to within the peritoneal cavity. About three inches above and internal to the internal inguinal ring there was a narrow-mouthed pouch formed by the posterior parietal peritoneum, through which the intestine passed. This pouch expanded downwards and outwards into a wide serous-lined cavity, which narrowed as it passed through the internal inguinal ring and was prolonged into the inguinal canal as the hernial sac. The abdominal mouth of this long serous-lined cavity was narrow, and, though firmly holding the loop of small intestine, was not causing strangulation. By pulling gently from above and pushing from below the gut was easily returned inside the peritoneal cavity. The abdominal opening of the sac was ligatured and the abdominal and hernial wounds closed. The patient's condition caused some anxiety for the next twenty-four hours, but subsequently recovery was rapid.

I am indebted to the Director of Medical Services for permission to publish this case.

—I am, etc.,

Cape Coast, Gold Coast

A. F. FOWLER.

Waiting for Tonsillectomy

SIR.—It is certain that the waiting-lists for admission into hospitals of children needing tonsillectomy and adenoidectomy have now reached such proportions that a desperate position has arisen. As many of us know from personal contact with the parents and reading their letters, their anxiety about the health of these youngsters is leading to acute distress; whilst to doctors whom they have consulted and who have advised the operation—often marking their notes, "Needs very early operation"—this state of things has become intolerable.

Both parents and medical advisers see the steady deterioration in these children, and just at a time of life when it is of the utmost importance that healthy growth should be encouraged and not hindered, with all the serious complications that may reasonably be feared.

I cannot see that this problem is insoluble, nor that its urgency is not obvious, and I sincerely hope that this letter will stimulate response and lead to action without delay.—I am, etc.,

London, W.1

WILLIAM IBBOTSON.

Advantages of Impure Penicillin

SIR.—In relation to the annotation entitled "The Advantages of Impure Penicillin" (April 24, p. 795), in which it is stated that it has been suspected for some time that the imperfectly purified penicillin of earlier days was more effective than the refined present-day product, and that recent experiments show conclusively that in the purification of penicillin something unknown and valuable is lost, I would mention that this conclusion was arrived at by co-workers and myself in this hospital in early 1944.

In this pioneer work aseptic pyrogen-free penicillin filtrate injected intramuscularly in human beings was followed by recoveries and clinical effects in fulminating diseases such as subacute bacterial endocarditis and meningitis which could not possibly be accounted for by the penicillin content of the filtrate, thus suggesting some potent unknown factors, probably both antitoxic and antibacterial, and immeasurable by known methods. I am not, of course, advocating a return to the filtrate, but it would appear that a wide field for further research lies open in that direction.

Unfortunately our results were not published, presumably—and possibly quite rightly—on the grounds that the idea appeared in those early days too far-fetched to be put forward as a scientific theory.—I am, etc.,

Wellhouse Hospital, Barnet, Herts.

H. R. SEGAR.

SIR.—With reference to the annotation entitled "The Advantages of Impure Penicillin" (April 24, p. 795), I beg to point out that I arrived already in 1944 at the conclusion that "in the purification of penicillin something unknown and valuable

is lost." Together with W. K. S. Wallerstein I wrote, "The effects of this suspension, in addition to the penicillin effect, are due to the presence or production of other potent bacteriostatic compounds—which are destroyed or left behind in the manufacture of penicillin" (*Nature*, 1944, 153, 380). The suspension referred to was the product "vivacillin." Preliminary animal tests with this product had been carried out by E. v. Lustig-Lendva (*Vet. Rec.*, 1944, 56, 178), whilst Dr. R. Segar, Medical Superintendent at the Wellhouse Hospital, Barnet, was the first one to submit the product to clinical tests on a large scale at his hospital.—I am, etc.,

London, N.W.4.

H. ENOCH.

Viennese Twilight

SIR.—I have received from my publisher, Heinemann and Co., London, your review (Jan. 17, p. 103) of my book, *The Art of Healing*, and I feel that this criticism should not go unanswered, as it misrepresents the whole tendency and contents of my book and misinforms the British medical profession as well as the general reader. At a time when the British medical profession is in such a predicament that a large part of the nation is disappointed enough with its accomplishments to want to make the physicians servants of the State, the medical profession should consider whether it is not itself responsible to a large extent for this shameful situation.

Those among British physicians who are not "isolationists," as the reviewer of this book, may know that in Germany and in France medical thinkers, including this author, have spoken during the last decades of a very serious "crisis in medicine," which was brought on by overemphasis of "hyperexact" detail work, over-specialization and laboratory medicine, and by neglect of the practical, erroneously called "empirical," methods of pre-Virchowian medicine, thus making the practice of medicine too fussy, complicated, and expensive. In England itself it was mainly outside of the medical profession that this harmful development was recognized. Bernard Shaw's *Doctor's Dilemma*, despite its satirical exaggerations concerning the overemphasis of the so-called "scientific," bacteriological, and surgical trend, is still valid to-day. A. Flexner, the emissary of the Rockefeller Foundation in America, has sufficiently exposed in his famous reports on "Medical Education" and "Universities" the superficiality of the present British trend.

There are in fact two principal approaches to theoretical and practical medicine. One—and this is the prevailing doctrine in England and some other countries—denies the value of the methods of our medical predecessors and looks for salvation in present and future new discoveries only, stressing at the same time the allegedly "exact" (auxiliary) natural sciences such as physics, chemistry, anatomy, experimental physiology, bacteriology, etc., while discarding all the methods (of medicine proper) of proven practical value which have been collected by earlier successful physicians from antiquity up until 100 years ago.

The second trend believes that, even more than any other science and art, medicine (which is not an exact science but collected experience) must be founded on the best of the practical therapeutic methods of the past. All the pious talk about Hippocratic ideals and Hippocratism becomes pure lip service and nonsense if we sneer at such fundamental and indispensable methods of general care as the depletion, antiphlogistic, antidyscrasic, tonic, antispasmodic, and other methods, which include properly indicated purging, sweating, bleeding, venesection, cupping, leeches, vomiting, and the utterly neglected counter-irritation.

The Constitutional Doctrine is itself divided into these two principal approaches to medicine. Julius Bauer, the author of *Constitution and Disease*, whose fatalistic philosophy is praised so highly by the reviewer of my book, is a follower of the former hyper-rationalistic, dogmatic, and hyperexact trend of dialectic materialism, which has led medicine to scepticism, therapeutic nihilism, and unnecessary incompetence in many fields. According to Bauer, constitution must be identified with heredity and therefore cannot be influenced by therapy.

On the other hand Hippocrates and all his followers, including Sydenham, Hunter, Heberden, Hufeland, and in modern times Friedrich Kraus (Berlin) and F. Martius (the original founder of modern constitutional doctrine), do believe in the possibility of influencing human constitution by therapy. I myself tried to put this endeavour into practice by combining the discarded but valuable fundamental methods of the past with modern medical standards. Scientific evidence in my *Textbook of Constitutional Therapy* (Hippocrates Verlag, Stuttgart, 7th edition, 1934). As this attempt was new, at least in our time, I tried to bring it into a teachable system and called it constitutional-therapy, an accomplishment which was given credit by the noted medical historian Dr. H. E. Sigerist,

Johns Hopkins, Baltimore, in a review of the American edition of the same book ridiculed by your reviewer. I am enclosing a copy of Sigerist's review. As Sigerist suggested that I should prove my claims in a more specialized field I published in 1946 a monograph *Treatment of Arthritis and Rheumatism in General Practice*, New York, 1946, which was warmly accepted by a large part of the American medical press (reviews enclosed). For more than 20 years I have been able to demonstrate in my clinical and private practice that the large majority of all cases of arthritis (which is osteoarthritis) can be greatly improved or completely cured in a relatively short time by these very methods of historical tradition, particularly the various forms of alteration, elimination, and counter-irritation. As is known, the treatment of arthritis is a stumbling block of modern medicine which cannot be overcome by the present allegedly "exact" and "rationalistic" medical methods.

The same applies to the treatment of stomach ulcer, gall-bladder, and kidney diseases, skin conditions, menstrual disorders, conditions of the menopause, etc. The reviewer gives fun at emetics as the means of treating schizophrenia. If he would have read the classics of the 17th, 18th, and early 19th centuries (not to speak of Hippocrates, Galen, and his followers until modern times) he would have found out that vomiting is one of the oldest, simplest, and most effective forms of shock-treatment. I have published a whole monograph on this subject in 1933, and I can prove daily the truth of this statement. Incidentally a member of a noted family in London who had been suffering from schizophrenia for many years and could not find any relief by the usual routine treatment was so greatly improved within three months last year by emetics, drastic laxatives, and hydrotherapy that he lost his spells of catatonia and maniac outbreaks and became self-controlled and sociable.

The reviewer also ironically devalues the vital importance of a regular menstrual flow for feminine health. The frequently devastating and unpredictable consequences of premature artificial menopause (brought on by indiscriminate hysterectomy or radiocastration), known to any unprejudiced observer, sufficiently refute the reviewer's remarks.

The reviewer of my book also does not believe in the diagnostic and therapeutic significance of the coloration of hair, eyes, and skin. In this respect earlier physicians and modern homeopathic physicians have much more broad-minded views. That the confidence of the public in the present form of scientific medicine actually is shattered to a large extent cannot be doubted by anyone who opens his eyes. The numerous sectarian and "eccentric" trends are only an inadequate reaction to this situation. The true scientific remedy is, as mentioned above, the combination of the erroneously discarded practical methods of the past with modern diagnosis and technique. If the reviewer does not want "to return to the mediæval mess of leeches, purges, emetics, and clysters" (to which venesection and other methods mentioned above must be added), he deprives practical medicine of nine-tenths of all effective, sometimes even life-saving, therapy which is still principally "empirical" and will be so for a long time to come, if not for ever.

These are not mere theoretical speculations but facts proved by the author and his followers in various countries for more than 20 years by the cure of just those patients which laboratory medicine has failed to heal.—I am, etc.,

New York.

B. ASCHNER.

Health Centres

SIR.—Now that the graver differences between the profession and the Minister have been resolved and the Act will in due course come into force, it may perhaps be appropriate to raise again the question of the health centre as the base of operations for the family practice of the future. The concept and purposes of the health centres have been widely accepted and approved, and one of the greatest disappointments, alike to the supporters and disputants of other main provisions of the Act, was the recent intimation from the Minister that there was no hope of early action in respect of them. Perhaps, however, we need not despair unduly and pressure may be brought to bear upon the Minister to consider at least certain important priorities.

There are, for instance, some cities, which have given particular attention to matters of health centre design and staffing, in which earlier action and the building of the first experimental centres might, for good reasons, be sanctioned. But there is one case which calls for special consideration—namely, that of the health centres to be established in close geographical proximity to, and close spiritual relationship with, the teaching hospitals. Well planned and adequately staffed with practitioner teams of appropriate experience and age constitution and the necessary ancillaries, and given responsibility for the ante-natal and maternity and child welfare work of their locality, these centres could and should become an integral part not

only of the public service but also of our evolving patterns of educational establishment having as their main concern the training of medical students and the advancement of knowledge. The staffs of such centres, given proper regard for age, training, and competence, should hold status comparable with that of the teaching-hospital staffs.

With reciprocal interest as between such centres, the clinical departments of the hospital, and university departments of social medicine (where such are in being), (a) the training of the young doctor, and (b) socio-medical inquiry in the domestic sphere could both be greatly assisted. Some of us would eventually like to see apprenticeships in approved health centres becoming statutory during the first post-qualification year and accepted as having an importance not less than that of house appointments. Here for the first time the young graduate would obtain his experience of the patient in relation to his family, his living conditions, and his work; of the varied methods and problems of family practice; and of a personal health service (especially for mother and child and adolescent) as distinct from a purely sickness service. Here, too, better recording systems, more intimate collaborations between the practitioner, the hospital, and the officers of the public health authority, and new economies of time and labour in family practice could be given their first trial. And finally, with the advantages accruing from improved relationships and new responsibilities, these health centres could come to set the standards which would ultimately be expected of other centres more remotely situated. The practice of social medicine at the family level would, in fact, have a chance to start off "on the right foot."

The first essential for an improved practitioner service, and one which has never received enough official emphasis, is a very great improvement in the conditions under which the doctor works, in his equipment, and in his sense of association with other branches of professional activity.

Will the Minister reconsider his late pronouncement in favour of urging the early design and building of health centres to work in suitable areas not too distant from each of the medical schools of the country and in intimate association with them?—I am, etc.,

Oxford

JOHN A. RYLE.

Full-salaried Service

SIR.—The B.M.A. is to be condemned for permitting the profession to fall between two stools. We are thus faced now with the bad points of both systems. The senseless overwork of the competitive system remains, but we fail to gain the benefits of the nationalized service—adequately staffed health centres and fixed hours of duty—which would put an end to the endless drudgery of general practice.

Furthermore, we now find that the B.M.A. is not able legally to act as a trade union, and in a nationalized service the need for such a protective body is glaringly necessary, and the sooner the better.

It is easy to be wise after the event, but it is obvious either that the B.M.A. should from the start have resisted all attempts at nationalizing the profession, or, having admitted the desirability of such a scheme (which it did admit), it should have sponsored a completely socialized whole-time salaried service with the abolition of private practice. For this is the only method of providing the public with adequate medical attention at all times and, at the same time, providing the doctors with fixed hours of duty. (It would of course also remove the antisocial vested interest in ill-health, as Bernard Shaw has pointed out.)

We general practitioners are agnostic at the prospect of the added work ahead of us for ourselves and our households, necessary maybe from the insurance point of view, but not necessary from the health aspect. Because of division within our ranks, our own undecided leadership, and by financial blackmail, Mr. Bevan has continued to "swing" it on us, without even the provision of health centres, the *sine qua non* of the general practitioner's compliance. The only result possible is an unsatisfied public, because there will be even less time than at present to give to the real sick, and a grossly dissatisfied profession because of added unnecessary work. Already we know only too well how we are forced to wear ourselves out not by attending the sick but rather by all the extraneous matter which force the populace to flock to our doors.

To those general practitioners who do not like the word "salary" it will be necessary to point out that in a socialized service the country would be divided into districts serviced by the requisite number of doctors, and the capitation fees would be pooled and divided. The older doctors may feel that as they grow older they should be entitled to more money, but in actual fact, because of their age, their need is less work rather than more money, especially as in a pensionable scheme the need for the latter is provided for. It is indeed the younger men who are in need of larger incomes—with families to feed, clothe, house, and educate, whereas the families of the old doctors would presumably be grown up and self-supporting, and there would no longer be the need to be over-housed with the advent of the health centre.

Now that a socialized service is upon us our needs are for less cant, hypocrisy, and sentimentality (such as goodwill, doctor-patient relationship, etc.); more understanding of present-day realities; and the formation of a strong trade union with strong leaders who will not throw up their hands in horror at mention of a "paper" strike. The "paper" strike will in fact be the only weapon of defence against any Government both on our own behalf and the behalf of our patients—should negotiations fail.

When the profession realizes—as it will in time—that the majority of patients will be "panel" patients I venture to think that it will see not only the advantages but also the necessity of a completely socialized service with its health centres and fixed hours of duty. These are two of the primary points which the general practitioner should be fighting for now—and the specialists too if they are not given them.

Now that we are committed to this scheme we might as well begin by fighting for the good of both worlds—our own as well as that of our patients. (It might be as well too to point out to them the fact, which few patients seem to appreciate, that we doctors do have our own worlds apart from them.) Just as few patients show more than passing concern of the fact that we may be working night as well as day, so we need expect no Government to be interested in our conditions of service unless we fight for them ourselves through our own trade union and the Housewives' League.

May our leaders, at this eleventh hour, be granted an understanding of present-day doctoring. Changing conditions need changed methods. Much good will be lost from the old, we know, but in compensation we have also lost much harm.—I am, etc.,

Englefield Green, Surrey.

W. E. R. BRANCH.

Terms of Service

SIR,—There is a general impression that the financial terms offered by the Government under the new national health scheme are fair and even generous. This has been stated over and over again by the Press, by Government supporters in Parliament, and even by the leaders of the Opposition. When the public reads that a doctor with 4,000 health service patients will receive £3,332 per annum, it does sound that doctors would be generously paid, and even many general practitioners are under that impression. Actually the reverse is the case and the payment offered is miserably inadequate.

There are about 20,500 general practitioners in the country, and the population for which they may provide medical treatment is about 47,750,000. Excluding the considerable number who will not avail themselves of the new Health Service, including Christian Scientists and followers of one or other of the numerous unorthodox medical cults, the numbers left to the orthodox medical practitioner cannot be many more than 2,000 a head. Many practitioners will have less, and very few can reach the maximum of 4,000, with a gross income of £3,332. Two thousand patients is probably the average a doctor has at the present time, and if he has a fair proportion of infants, young children, and old and chronic cases this is at least as many as he can look after properly without being over-worked, unless he lives in one of the densely populated districts where all his patients live within half a mile of his residence and can be rapidly and speedily visited on foot.

With 2,000 patients a doctor's gross income under the new Health Service will be £1,816, but out of this gross income he has to provide at his own expense a sufficiently large house

with a surgery and waiting-room. He will have to pay a secretary and provide for the cleaning and heating, furnishing, and decorating the premises. He will have telephone and postal expenses, and to provide and maintain for his professional use at least two cars in a rural or semi-rural district, so that one is always available. He will have to provide and maintain his instruments and medical library. If he goes on holiday he will have to pay a locumtenent about £15 15s. a week, and to supply him also with board and lodging and motor-car expenses.

If he is ill he also will have to arrange for a locumtenent. He will still have to be available to all his patients 24 hours a day and 365 days a year, or provide and pay a deputy. He will have to provide attendants for the door and telephone day and night. As his maids and secretary cannot be expected to be on duty for 24 hours a day, it follows that a doctor's wife takes their place when they are out, so that usually a doctor's wife has just as long hours of duty as her husband. Many doctors now are unable to obtain any domestic assistance. Before the war it was calculated that a third to a half of the gross income was spent in practice expenses. These expenses have all increased. This is especially the case with domestic wages, which have more than trebled.

Mr. Aneurin Bevan is offering less remuneration than that recommended by the Spens Committee. This is not generally realized. I hope our representatives are emphasizing this aspect of the new Health Service in their present negotiations.—I am, etc.,

Rainham, Kent.

DESMOND LONGFORD.

SIR,—At the Panel Conference last October, at which I was present, Dr. Dain stated in reply to questions: (1) That the Negotiating Committee had not discussed Regulations because they had not yet decided whether the profession was going to work the Health Service: (2) that they had not discussed compensation, as they had not accepted the principle of the abolition of the sale and purchase of practices.

At the time and ever since I thought it would have been better if the Negotiating Committee, instead of taking a stand on a platform of four ideological planks, three of which were rotten and have now been thrown aside, had got down to brass tacks. With a view to getting some of these tacks hammered out I have sent notice of four resolutions to my local branch of the B.M.A. which I hope will go up to the Representative Meeting:

(1) That any practitioner who has been practising midwifery prior to the appointed day shall be automatically entitled to take part in the midwifery service under the Act without applying to the Local Obstetric Committee, and that the Minister be pressed to alter the Regulations accordingly.

(2) That there shall be no alteration in the terms of service without negotiation with the accredited representatives of the professional bodies concerned, and that the Minister be pressed to include this in the Amending Act.

(3) That where a practitioner takes another practitioner into partnership he shall be entitled to receive forthwith the compensation for that portion of his practice transferred to the incoming partner.

(4) That where a practitioner leaves a practice to take up another practice elsewhere he shall be entitled to compensation for the practice he leaves forthwith.

I think these points speak for themselves, but I may add that my Local Medical Committee feel so strongly on the first point that it has refused to make any nomination to the Local Obstetric Committee.—I am, etc.,

SIDNEY F. FOURACRE,
Chairman, E. R. Yorks Local Medical
Committee.

Withernsea, Yorks.

The Young Doctor

SIR,—One reads in your columns of the acute shortage of general practitioners in the country at the present time. This surprises me, because one has only to look in the advertisements section of the B.M.J. to observe that there are frequently far more doctors desirous of purchasing practices or shares than there are wishing to dispose of them. At the same time the medical agencies say that good practices and even assistantships are very difficult to obtain. What, then, is the young doctor to do—particularly the newly released Service M.O.? These are the men whose pathetic advertisements constitute the main part of your "Practices and Partnerships Wanted"

MAY 22, 1948

columns. As a profession we are all passing through a trying phase now, but the young doctor, especially if he is married and is not yet in general practice, is in my opinion in a far worse position. He has no post (and he is quite prepared to start at the bottom of the ladder) and has no alternative but to enter the scheme, even though he may be opposed to it in principle. I do not wish to criticize my more experienced and older colleagues, but surely it is the young man now who will be the "backbone" of the profession in, say, twenty or thirty years' time, yet little is being done for him. In fact, the young man is left out of all the discussions, and what would possibly be his only means of support for some time—namely, the £300 basic salary—was one of the major points around which the acceptance or refusal of the scheme revolved. I feel that the younger doctor, particularly the ex-Serviceman, should be given every consideration by the B.M.A. in his quest to do the right thing. He cannot possibly do this while he and his wife go hungry. There are many who are only too willing to join the ranks of the profession and reduce the shortage of G.P.s but it is fast becoming increasingly difficult to do so. While their elders talk, the young men are simply registered medical practitioners, and very little else—I am, etc.,

G. J. E. ANSELL.
Flight Lieutenant, R.A.F.V.R.

Breach of Confidence
learn as I

EUSTACE SHIPMAN.

Go in Whole-heartedly

What has become of the determination not to enter the Service unless so amended as to allow entrants to retain their "four" freedoms? What leadership! What a let-down! So now, what to do? Obviously there's practically no alternative to going in. That being so, let us go in whole-heartedly, and since we *must* be Civil Servants let us have an all-embracing one. Let it be a salaried one, with graded salaries as in any other reputable service, graded by seniority and influenced by merit, with permission to indulge in private practice, if any, in our spare time, if any, and so one wherein the senior man may reap some reward for his experience and more valuable opinion as compared with that of the young just-qualified tyro in the profession. For surely a capitation method of remuneration, whereby the only way in which a more

competent senior man may make a sufficient scrabbling for more heads, is absurd and ridiculous. If it be objected that a salaried service would do away with the freedom of choice by the public, the answer is that if the public care so little for the freedoms of the doctors the latter need scarcely care about the freedom of the public. Further, since the Act is a totalitarian measure, freedom is abolished anyhow and need no longer be argued about, and since in a few years the role of the G.P. will be merely that of positive direction of a patient to the appropriate department of the general store of "trained specialists," whence he will again be directed to department and department—as long as he lasts—even the importance of freedom of choice will soon disappear, and all, save perhaps the patient, will be happy again.—I am,
etc.,
C. H. BAPPEE.

Refuse Service

E. D. BROSTER..

Postpone Appointed Day

It is difficult to see why the B.M.A. had another plebiscite at this juncture. The result has been deplorable. It strengthened nobody and only succeeded in splitting the profession and throwing large numbers of us into confusion and misunderstanding of the real purpose of the B.M.A.'s action. This was evidenced at a large meeting of medical men at Nottingham on April 25. It began with several doctors pleading that as Bevan had been so "good" as to meet us half-way we ought not to hold out any longer, but accept service. It ended with a unanimous vote (with only one dissident) against accepting service.

The last plebiscite has so far only played into Bevan's hands. It is just what he wanted—to split the profession, to throw them into confusion, to make them timid and afraid to stand out in case they should lose. He threatens them with severe penalties if they do not join in July—and to keep them in ignorance of the real facts of the situation as long as possible. We have only had our printed terms of service practically flung at us a fortnight, which will take a long time to read, digest, and discuss, thus hoping that out of the confusion we should fling ourselves at last into dear Father Bevan's arms like naughty penitent children, who had been so patient and kind in granting us one and a half of our four basic demands.

Bevan didn't give way because he loved us but because we forced him to do so when he saw 25,000 doctors pledged not to give service. Why stop now? Do let us show some of the grit which Bevan and his confrères show when they demand anything. Refusal to be rushed into the Service on July 5 does not necessarily commit us to accepting service at some later date. Don't let us act like "medical quislings" to our colleagues for fear of a little temporary gain. If we stand firmly together and decline service, we can't lose. We are bound to get what we want—i.e., professional freedom for ourselves and for the public. Don't sign in haste and repent at leisure. If Bevan beats us now, the profession will be beaten and degraded for ever. The public are being grossly misled by Bevan's present furious propaganda stunt.—I am, etc.,

Tuxford, Notts.

ALLAN DEWAR.

Postpone Service

SIR,—We voted "No" in February and frightened the Minister into making some concessions. If only we had voted "No" again just as decisively we should have frightened him into meeting all our reasonable demands. Instead of this we have been timidly retreating ever since last February as if scared by our success.

If the Council's recommendations are passed by the Representative Meeting we shall have thrown away our last vestige of bargaining power, and this at a time when the specialists' terms of service have not even been discussed. The Minister will negotiate, of course; but, with the sure knowledge that he has got the whole profession "in the bag," it must be obvious even to the most innocent doctor that it will be done in a manner even more intransigent than that of last December. Do let us realize that once G.P.s have signed on, or been recommended to sign on, the whole profession—specialists and G.P.s—will be completely powerless to influence him in any way whatever. The specialists will have had their hospitals taken over, the G.P.s will be bound by their contracts, and all of us rendered impotent by the stupidly publicized boast that "the doctors will never strike." Negotiations will be a misnomer for what will take place.

While it is now inevitable that we shall eventually have to accept service in the scheme, we must maintain some hold over the Minister until negotiations are complete. There is one way in which this can be done—a way which would satisfy the vast majority of the profession, and which could be accepted by the Minister without losing face. Let the Representative Meeting pass a resolution stating that doctors will be recommended to accept service provided the appointed day is postponed until the amending legislation has been agreed, passed, and become law; until terms of service for specialists have been agreed and settled; and until the other minor points (such as a definite, known capitation fee) have been arranged.—I am, etc.,

London, N.W.6.

RONALD KERR.

Delay Entry

SIR,—It would appear that one-half of the medical profession will be asked to relinquish conscientiously held vital matters of principle in order to facilitate an admittedly unsatisfactory start to a service which is almost universally disapproved. This is an unjustifiable concession to ask from this half of the profession. Though we cannot unite we can still co-operate and strongly support one another each in our own place.

I would suggest that all doctors unwilling to enter the Service as it is should agree to exercise their legal option to stop outside until Sept. 30. This would be of great assistance to the Negotiating Committee in keeping before the mind of the Minister the dissatisfaction of the profession. The general practitioners stopping outside would have the opportunity of bolstering up their courage—and encouraging the Minister—by collecting cards for registration on Sept. 30. The Minister would also have an opportunity to consider whether it might be useful for him to conciliate those intransigent doctors who may still be able to postpone their entry into the Service until Dec. 31.

We must give our negotiators some power to negotiate with: the profession is a useful lever. We can of course trust one another to play the game about accepting names for registration—and securing "no victimization."—I am, etc.,

G. D. FRASER.

H. D. FRASER.

Planned Chaos

SIR,—In these days of strange events a 65% vote of disapproval is interpreted by the B.M.A. Council as warranting a recommendation that we should now accept service. Thanks to our medical oligarchs and to the threat of financial sanctions it seems that orderly evolution in the British tradition must soon give way to planned chaos in the neo-European manner. The whole-hearted co-operation which could have been forthcoming in such full measure will be replaced by reluctant and apathetic acquiescence or by futile opposition. Unless there is a return to common sense at the eleventh hour many of us will apply to ourselves the adage *video meliora proboque, deteriora sequor*.—I am, etc.,

Hessle, E. Yorks

R. HERMON.

Rota of Pharmacies

SIR,—The British Medical Association has done a good job of work in connexion with the National Health Service Act and still has much to do. May we hope that in this coming task attention will be drawn to the need of patients' being able to obtain medicine at suitable hours? At present the pharmacies appear to close more or less at the same times as shops which do not supply urgent products. Can there not be a rota?—I am, etc.,

London, N.W.11.

L. S. WOOLF.

POINTS FROM LETTERS

Ante-partum Haemorrhage

Mr. W. I. C. MORRIS (Edinburgh) writes: Dr. Tim Boland (May 1, p. 859) comments upon the use of the vaginal pack in ante-partum haemorrhage, as reported in your summary (April 17, p. 748) of the Edinburgh Obstetrical Society's Meeting on March 10. On behalf of my friend and successor in Ayrshire, Dr. Richard de Soldenhoff, I would like to point out that the report (of which I blushingly admit the authorship) was extremely abbreviated. It is hoped that eventually a fuller report will be published in the *Edinburgh Medical Journal*. If Dr. Boland has an opportunity of reading this, it may be that his condemnation will be less indignant. To understand all is to forgive all.

Accidental Syphilis

Dr. M. G. KIERANS (Clones, Eire) writes: Dr. R. R. Willcox, in his interesting article on accidental syphilis (May 1, p. 850), mentions a number of ways it may be acquired. I should like to mention another. A policeman bringing a prostitute to the station is very likely to be bitten by her and so become infected. This happened to a patient of mine.

Self-government

A correspondent draws attention to the following after-dinner message of good wishes from Sir James Paget to the British Medical Association at its Jubilee meeting in August, 1882: "There has never been anything like a recession from the great principles on which it started. It has been constant in its steady advance; constant in its usefulness; constant in the influence that it has exercised upon the profession; constant, best of all, in the promotion of knowledge and good feeling amongst all the members of our calling. . . . I hold that our great anxiety, our great strife, should be, to be a self-governed profession; to know our own wants, and not to go to others to help us; to find out the remedies for ourselves; to find out by careful, patient controversy, and mutual concessions, how we may, without any external help, bring about the results which the best and the largest number of us wish for. Let us be, as all highly cultivated persons should be, self-governed. None can know so well as ourselves our need; none can know so well the remedy we require. It tells of feebleness, of cowardice, and want of self-reliance when we want to go to any parliament living to help us."—*Memoirs and Letters of Sir James Paget*, edited by Stephen Paget. London: Longmans, Green and Co. 1901. Pp. 320-1.

The April Plebiscite

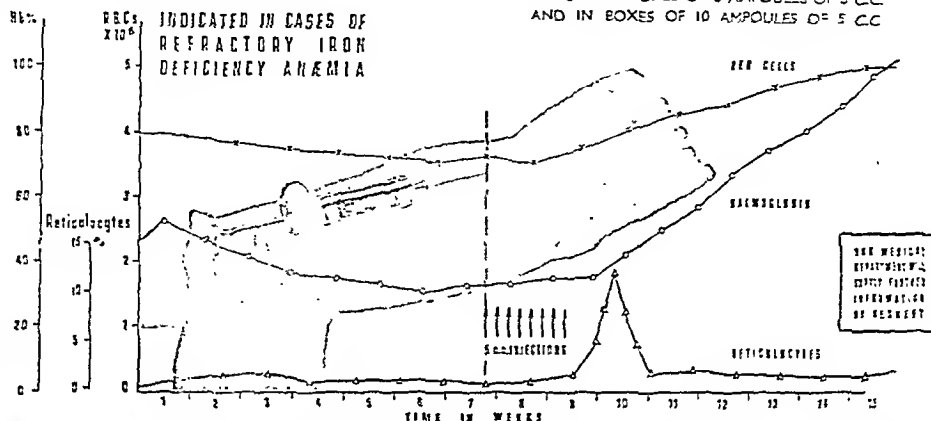
Dr. A. R. THATCHER (Bournemouth) writes: . . . It is completely incomprehensible to me that in an unmandated plebiscite, rushed through on the strength of the capitation concession principally, a number of practitioners should have panicked. Do they not realize that the time to demand a 1948 remuneration—not the 1939 Spens offered by the N.H.S.—is before they enter the Service and not afterwards when they are in the power of the Government? I sympathize with the dilemma of those in strictly industrial practices, but would urge them to await the approval of the majority before throwing away their advantages.

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Obituary

PROF. A. H. BURGESS, M.Sc., F.R.C.S., LL.D

Mr. John Morley writes: The Fellows of the Association of Surgeons of Great Britain and Ireland were greatly shocked when their president announced at the dinner of the Association on May 6 that Prof. Burgess had died suddenly after his arrival in Edinburgh for the meeting. Burgess's reputation among surgeons all over the world had been a remarkably high one for wellnigh forty years, and many of those at Edinburgh felt keenly the loss of a personal friend.

It was at Crumpsall that he made himself an expert in the use of the newly invented catheterizing cystoscope by assiduous practice on the cadaver. His senior colleagues and chief rivals in practice never mastered this instrument, and Burgess's remarkable skill in using it soon brought him the best urological work in Lancashire and Cheshire. Although urology was one of his main interests throughout his active surgical career, he never became a urological specialist but remained a supremely competent general surgeon. He had deserved early success and it came with a rush. At the early age of 31, in 1905, he was elected honorary assistant surgeon to the Manchester Royal Infirmary. Five years later he was on the senior staff. He held the post of full surgeon for twenty-four years, until he became consulting surgeon in 1934. He was appointed Professor of Clinical Surgery in 1921 and became Professor Eminentus in 1934.

No other Manchester surgeon has ever had, or is likely to have, as large a private practice as Burgess had throughout his long and strenuous life, but he never let the claims of private patients interfere with his Infirmary or University work. The strain on him must have been immense, but he had a magnificent physique and did not appear to know the meaning of fatigue. To the last he kept his erect military bearing and walked with a quick purposeful gait so characteristic of the man. He will not be remembered as a great philosopher-surgeon, or as the first to describe some new disease, but as the supreme craftsman, the surgeon (or hand-worker) *par excellence*. His greatest triumphs were rather in the operating theatre than in the consulting room or at the lecture desk. He was a good, clear lecturer and never scamped his preparation, but he lacked the tricks of rhetoric. To watch him operate, or still better to assist him, was an aesthetic and intellectual treat. His strong shapely hands possessed rare economy of movement, so that he was a quick operator without ever seeming to be in a hurry. He fought, and won, the local battle for a full aseptic ritual in the operating theatre against the views of senior colleagues who were apt to regard gloves as only needed to protect their hands from pus, and caps and masks as either fads or unnecessary luxuries. He was always keen and enthusiastic and ever on the look-out for some improvement in surgical technique. In this search his many journeys with the Moynihan Chirurgical Club, of which he was an original member and in due course president, were of the greatest value. He hardly ever missed one of its meetings, and from nearly all of them, at home or abroad, he brought back some addition to his surgical technique.

Perhaps Burgess's outstanding characteristic was his intellectual and moral integrity. He was as conspicuously upright in character as he was in carriage. No one ever suggested that he cooked his statistics, nor would he ever descend to a mean or tortuous act. His many acts of kindness and generosity to patients or junior colleagues were done with modesty and almost with diffidence. He was essentially a simple, humble-minded man, and he had an unusually happy life. Magnificent health, the consciousness of work well done that deserved and commanded success, and above all a singularly happy family life combined to secure this. The death of his wife in 1941, to whom he was as utterly devoted as she to him, inevitably left him a rather lonely man despite his lively interest in his children and grandchildren. He sought, and found, solace in work—as he was never idle—and in his gardening and music.

Mr. ARNOLD CADDY died on April 15 at the age of 81 in Melbourne, Australia. He was the son of the late Inspector-General of Hospitals and Fleets, John Turner Caddy, R.N., and was educated at King's College School when it was still in the Strand. He often used to journey to school by "penny steamer" from Battersea Pier. He proceeded to St. George's Hospital, where he qualified in 1887. Mr. Caddy held house appointments at North Lonsdale Infirmary, at Barrow, and at the Leeds General Infirmary. There he came under the influence of Mayo Robson and of Lord Moynihan, who were then beginning their successful careers. After holding these posts he returned to London, took the F.R.C.S. in 1891, and was appointed assistant surgeon to the Cancer Hospital in Fulham Road. Shortly afterwards he was offered a lucrative appointment in Calcutta as a partner of the late William Coulter. He practised there for twenty years and was on the staff of the Marwari Hindu Hospital. He then retired to Australia in 1912. Caddy had married an Australian girl, the daughter of the late Archibald Currie, of Melbourne. He forsook medicine entirely and went in for farming in Victoria. Interested in Red Poll cattle, he founded his own herd and was president of the Red Poll Cattle Association of Australia, winning a championship at the Royal Melbourne Show with his bull Chanpara Valentine. On one occasion he judged at the Chicago International Livestock Exposition. Arnold Caddy was an officer in the Calcutta Light Horse for many years, and during the first world war was in charge of a reinforcement camp of the Victorian Light Horse. He leaves a widow, two sons, and a daughter. The elder son is a gunner colonel in the British Army and is now attached to the rocket bomb installation in South Australia. The second son was in the Australian Forces and was captured at Singapore. He worked on the notorious Bangkok-Moulmein Railway and then in coal mines in Japan before he was released.

Dr. DAVID MURRAY STRATHIE died suddenly at Guy's Hospital on April 18, at the age of 28. He was born in Glasgow and educated at Rugby School, where he was head of his house and captain of the rugby XV. He was a scholar at Trinity College, Oxford, and won his rugby blue in 1939. He entered Guy's Hospital in 1940, and graduated B.M., B.Ch. in 1943. After qualification he held house appointments at Guy's for twelve months before joining the Navy. For a time he was attached to a Naval Rehabilitation Centre on the East Coast of England, and later served in South Africa. He was secretary of the Guy's Hospital Rugby Football Club in 1941-2, and captain during the season 1942-3.

Dr. CYRIL HERBERT THOMAS ILOTT died on April 26 at the age of 68 at Bromley, Kent. He retired only a month ago, and was admitted to hospital only three days before his death. Dr. Ilott was the last medical member of a family of physicians which served the Bromley area for nearly 150 years. Mr. Thomas Ilott, a surgeon, settled in Bromley in 1809. He died in 1849, and was succeeded by his son, who in his turn was followed by the father of Dr. Cyril Ilott. Dr. Ilott was educated at Tonbridge and at Caius College, Cambridge, and St. Bartholomew's Hospital. He qualified in 1906 and graduated M.B., B.Ch. two years later. He was a house-surgeon at the Metropolitan Hospital and a clinical assistant at Great Ormond Street before going into general practice with the firm of Ilott, Scott, and Grant-Wilson. He succeeded his father as Metropolitan police surgeon in 1916, and continued in that capacity until last year. During the 1914-18 war he served in the R.A.M.C. in France and Belgium until he was badly gassed towards the end of the war and had to be invalided home. He had been a member of the board of governors of Bromley and District Hospital since 1928, and in recent years was chairman of the medical staff committee. He was also a member of the Kent Panel Committee.

C. J. M. writes: The death of Dr. Cyril Ilott on the eve of his retirement was a tragedy deplored by a host of friends and colleagues at the Bromley and District Hospital; a short but oppressive illness ended a life of devoted and kindly service to patients and hospital. He had warnings of his danger, but he died in harness in the hospital around which his life had more and more centred. His death breaks the continuity of a family practice of over a century; he had maintained the tradition of intensely personal interest in every patient of whatever section of society—an interest so meticulous and sincere that the modern psychiatrist would have dismissed him as "obsessional." A similar code of honour characterized his relationships with colleagues—practitioners, consultants, nursing and lay staff—at the hospital. By all he was beloved for his sincerity, kindness, and the simplicity of outlook which so often to the superficially minded conceals a very well stored mind and a critical clinical outlook. We all say "Hail and farewell" to a very dear friend and a very good physician.

Medico-Legal

ALLEGED CONSPIRACY TO PROCURE MISCARRIAGES TWO DOCTORS ACQUITTED

The trial took place before Mr. Justice Morris at the Central Criminal Court from May 11 to 14 of Dr. Eleonore Bergmann, of Park Square, N.W., and Dr. Mary Bell Ferguson, of Devonshire Place, W., on an indictment for conspiring together unlawfully to procure miscarriage. A third defendant, Mrs. Pauline Mary Evans, who was Dr. Bergmann's secretary, was found "Not guilty" at an early stage in the proceedings and was dismissed from the case. The proceedings at Marylebone police-court were recorded in our issue of April 17 (p. 762).

Mr. Anthony Hawke, who prosecuted, said that the alleged offences with which Dr. Bergmann was charged related to the use of an instrument to procure the miscarriage of four women between Dec. 16 and Jan. 24 last. Dr. Ferguson was associated with only two of these cases. These two women first consulted Dr. Bergmann, who sent them to Dr. Ferguson, and the latter, after examination, forwarded to Dr. Bergmann a letter expressing the opinion that the operation could be lawfully performed for the reasons she indicated. The question so far as Dr. Ferguson was concerned was whether her opinion was given in good faith or was simply, as Mr. Hawke alleged, to provide a cover for Dr. Bergmann in case of emergency.

The principal evidence for the Crown was that of the four women concerned, whose names were not divulged. Their evidence was summarized in our earlier report. It was stated that the fees received by Dr. Bergmann were in the first case (a nurse) £10, in the second and third cases £75, and in the fourth case £50.

Both defendants pleaded "Not guilty." Dr. Bergmann, in reply to Mr. G. D. Roberts, K.C., her counsel, said that she was born in Germany in 1907. She qualified in 1933 and set up as a general practitioner in Edgware; afterwards she had consulting rooms in Park Square. She had never met Dr. Ferguson before they both stood in the dock at Marylebone police-court, but she had heard about her, her work at Tavistock Clinic, and her high standing in psychological medicine. She had sent a number of patients to Dr. Ferguson for her opinion. Of those which turned on the desirability of terminating pregnancy she could recall six in which Dr. Ferguson had not recommended this course, and the operation accordingly had not been performed. Of the two out of the four cases in which Dr. Ferguson was not concerned, the first was a woman who had made a partially successful attempt at procuring abortion, and on examination Dr. Bergmann was convinced that there was no foetal life. The other was a woman who had had a baby a few months previously and was afraid she was pregnant again, but on examination Dr. Bergmann found that not to be the case, and the curetting which was done was in order to clear up a uterine condition and not to terminate pregnancy. Of the other two cases, one was a haemophilic and in a shocking condition, and the other in an exhausted and anxious state, complicated by a recent attack of jaundice.

Dr. Ferguson gave evidence that she had been a member of the medical profession since 1910, and for the last twenty years had specialized in the study of mental disorders. A certain number of the cases in which she was consulted were women whose condition was complicated by pregnancy. In January two cases were sent to her by Dr. Bergmann, whom she had never met socially or professionally, and she came to the conclusion in each of these that in the interests of the women the pregnancy should be terminated. This conclusion she wrote in a letter to Dr. Bergmann. Her fee in each of these cases was the regular consultation fee of three guineas, and that was all she received in connexion with this matter.

In cross-examination Mr. Hawke took Dr. Ferguson through the various disabilities which she had set down in her letter on one of the cases and asked whether each of them—exhaustion, digestive trouble, etc.—constituted a reason for performing the operation. Dr. Ferguson replied that her opinion was based on all the various matters added up together—on the general state, not on a particular item. She admitted that she had

first suggested to one of the girls that she should have her baby and get it adopted, but that was before she went fully into her history and condition. This was a psychoneurotic girl who in addition had chest trouble, and she recommended the termination of pregnancy on both physical and mental grounds. One was always reluctant to terminate a pregnancy if this course could be avoided. She gave both certificates in complete good faith.

Mr. Roberts, for Dr. Bergmann, said that while it was vitally important that the unborn should not be unlawfully destroyed it was equally important that women whose pregnancy, if it was allowed to continue, might disastrously affect their health and endanger their life should be free and able to have their pregnancy terminated under safe conditions. It would be utterly wrong if the result of this case was to deter doctors from doing their duty. He submitted that Dr. Bergmann had full justification in each case for what she did and that she was entitled to leave the court as a member of a free and honourable profession which in all her professional life she had done everything to uphold.

Mr. E. Davies, K.C., for Dr. Ferguson, said that collusion was the essence of the charge against her. What indications were there of any sort of collusion? It was brought out in evidence that it was only after two of the women had told Dr. Bergmann that they had no doctor that she had mentioned Dr. Ferguson's name. There was no suggestion that Dr. Bergmann or Dr. Ferguson shared fees, or that Dr. Ferguson knew that the operation had been performed or where it was performed. She was a woman of unblemished reputation. Was a woman going to sacrifice nearly forty years of honourable service in her profession for six guineas?

Mr. Hawke, in a closing speech, submitted that there was evidence that Dr. Ferguson's certificates were a cloak ready to be produced at the proper time to cover an operation which to the knowledge of the person performing it was unlawful. He pointed out that Dr. Bergmann's story in the witness box, especially with regard to the case which she now said was not pregnant at all, differed from the story she had told the police inspector. The case against Dr. Bergmann was formidable, and Dr. Ferguson must be regarded as accessory to the fact of these operations.

Summing-up

Mr. Justice Morris, in summing up, pointed out that the four women who had given evidence for the prosecution were themselves parties to an alleged unlawful act, and therefore it was highly desirable that there should be corroboration. In the case of one of the women—the woman whom the defence said was not pregnant at all—there was no corroboration of her story that she was. The jury was not concerned in this case, as in so many others at that court, with unqualified people performing this operation, and it must happen from time to time that those engaged in the practice of medicine had to perform, lawfully, operations for the termination of pregnancy. Here his lordship read from the summing-up in the case of *Rex v. Bourne* (1938); although the facts in one case were not of overwhelming assistance in another, they did afford a certain guidance on principle, and it might be helpful to read a few words from the summing-up of the judge in that case (Mr. Justice Macnaghten). After pointing out that the burden rested upon the Crown to satisfy the jury beyond reasonable doubt that the defendant's procurement of miscarriage in the girl was not done in good faith for the purpose of preserving her life, the judge had continued:

"The law does not permit the termination of pregnancy except for the purpose of preserving the life of the mother. I think myself that those words ought to be construed in a reasonable sense. If the doctor is of opinion, on reasonable grounds, and with adequate knowledge, that the probable consequence of the continuance of pregnancy would indeed make the woman a physical or mental wreck, juries are quite entitled to take the view that the doctor who in those circumstances and in that honest belief operates is operating for the purpose of preserving the life of the mother."

"I fully adopt those words," said Mr. Justice Morris, "and invite you to bear them very much in mind."

His Lordship, referring to the certificates given by Dr. Ferguson, said that it was no part of the jury's duty to decide whether she had arrived at a right conclusion on the two cases. A

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

At a quarterly meeting of the College held on May 4, with the President, Dr. W. D. D. Small, in the chair, Drs. H. A. Raeburn (North Berwick), G. M. Wilson (Edinburgh), and D. N. Dobbie (Bromley, Kent) were introduced and took their seats as Fellows of the College. Drs. E. H. Duff (Selkirk) and E. K. Morris (Edinburgh) were elected Fellows of the College.

Drs. R. C. L. Batchelor (Edinburgh), C. W. Clayson (Lochmaben, Dumfries), J. F. Galpin (Coventry), R. J. McGill (New Milton, Hants), J. E. A. David (Bulawayo, S. Rhodesia), Yu Hans Tang (Hong Kong), V. Solomon (Johannesburg), G. W. Senter (Edinburgh), W. S. Thomson, Jr. (Leicester), M. R. Clarke (Capetown), C. G. Williams (Durban), K. J. Dunlop (Edinburgh), T. B. Binns (Middlesbrough), A. V. Bird (Johannesburg), R. J. G. Sinclair (Edinburgh), J. O. Forfar (Dundee), M. Medalie (Johannesburg), D. K. Stevenson (York), J. R. Fountain (West Hartlepool), I. D. B. Bottomley (Wallasey), D. Hilson (London), K. Greenwood (R.A.M.C.), B. B. Manna (Bengal), F. L. Ritchie (Sydney), H. Shrand (Capetown), and Beatrice M. Wilson (Edinburgh) were elected Members of the College.

The Lister Fellowship (value £100), for original research carried out in the laboratory of the College, was awarded to Dr. T. W. Lees (Edinburgh).

Dr. Douglas Kerr was re-elected Representative of the College on the General Medical Council for a period of five years.

SOCIETY OF APOTHECARIES OF LONDON

The fifth Joseph Strickland Goodall Memorial Lecture on Cardiology will be delivered by Prof. John McMichael, M.D., F.R.C.P.Ed., Director of the Department of Medicine, Postgraduate Medical School of London, at the Apothecaries' Hall, Black Friars Lane, Queen Victoria Street, London, E.C., on Thursday, June 3, at 5 p.m. His subject is: "The Pharmacology of Heart Failure." Members of the medical profession and senior students are invited to attend.

Medical Notes in Parliament

The Report of the Inter-Departmental Committee on the remuneration of general dental practitioners was presented to Parliament on May 11.

The Factories Bill and the Veterinary Surgeons Bill, both of which have passed the House of Lords, were read a first time in the House of Commons on May 11.

Mental Deficiency Regulations dated May 10, 1948, were laid on the Table of the House on May 12.

The National Insurance (Industrial Injuries) Bill was read a second time in the House of Commons on May 12.

National Insurance Contributions

Mr. ERROLL asked on May 13 how much of the weekly insurance contribution payable by the individual on and after July 5 would be a contribution to the Health Service.

Mr. STELLI answered that Section 37 of the National Insurance Act provided for lump sum payments to be made out of the National Insurance Fund to the Exchequer as a contribution towards the cost of the National Health Service. These lump sum payments were financed by allocating 8½d. out of each weekly National Insurance contribution paid by an employed man and 6½d. by an employed woman. In addition, 1½d. of the employer's contribution was allocated to the National Health Service. In the case of self-employed and non-employed persons the corresponding allocations were 10d. for a man and 8d. for a woman.

Special Procedure

On May 13 Sir ERNEST GRAHAM-LITTLE asked the Minister of Health which existing committee fulfilled the request by the Royal College of Physicians, which he promised to consider, for a special procedure by way of a committee to provide a check on the issue of Regulations such as would determine the qualifications, remuneration, and conditions of service of doctors and dentists under the National Health Service Act, 1946.

Mr. BEVAN replied that the present procedure, under which all Regulations had to be examined by a special committee in Parliament, coupled with his undertaking to remove from the scope of Regulations a full-time salaried general practitioner, should be sufficient to remove any apprehension on

Choose Your Doctor Now

Sir JOHN MELLOR asserted on May 12 that the phrase "Choose your doctor now" in a pamphlet to which he had drawn attention was meaningless at the present time. He asked whether Mr. Bevan knew that the London Executive Council asked inquirers to call again in a month, by which time it hoped that the difficulties would be removed.

Mr. BEVAN promised to inquire at once to find whether the London Executive Council was giving that advice. He was fairly certain that the allegation was untrue and that Sir John Mellor was misinformed. He thought all members of the House were now anxious to facilitate the starting of the Act on July 5.

Mr. ASSHETON asked if Mr. Bevan knew that whereas some propaganda put forward by his Department advised the public that lists of doctors could be found in post offices, these lists could not be found there.

Mr. BEVAN said the lists would appear in post offices and town halls as they were filled up by doctors applying to join the Service. There was obviously some delay among certain doctors at present, but they were participating in larger and larger numbers. It was to the financial interest of the doctors to get these lists filled as early as possible. As soon as the doctors had indicated their intention of participating in the Service their names would be put in the places indicated by the leaflet. He added, "We must have the support of the public and medical profession unless great inconvenience is to be caused to millions of people."

Mr. DRIBERG said public-spirited doctors in places such as Maldon had made public their intention of coming in, and the only difficulty was that the supply of application forms ran out at post offices because of the enthusiasm of the public.

Mr. BEVAN promised to see that the supplies of leaflets marched with the mounting enthusiasm. Answering Squadron-Leader FLEMING, he said the House had been speaking about general practitioners and not of specialists and consultants, who were attached to Regional Boards and teaching hospitals.

Children's Bill

The Children's Bill, which had passed the House of Lords, was read a second time in the House of Commons on May 7. During the discussion Dr. HADEN GUEST said the feeling in the minds of medical officers was that in no circumstances must the power be taken from local authorities to go into premises to see the children and to inspect the premises.

The Nurseries and Child-Minders Regulation Bill was read a first time in the House of Commons on May 6.

Mr. STRACHEY said on May 10 that steps recently taken by the Ministry of Food should ensure that reasonable supplies of the various brands of infants' foods were available in all districts. National dried milk was readily available in all areas.

A resolution approving the Purchase Tax No. 1 Order, 1948, on drugs and medicines was moved by Sir STAFFORD CRIPPS on May 6 and was carried without debate.

Exchange Control Medical Advisory Committee

Commander NOBLE on May 11 asked how many people suffering from tuberculosis and recommended treatment in Switzerland had been refused the necessary exchange during the past twelve months.

Mr. GLENVIL HALL said that of 1,317 cases considered by the Exchange Control Medical Advisory Committee since its formation in December last, 22 involving tuberculosis of all types were not considered suitable cases for which currency should properly be provided.

Shortage of Beds.—Mr. BEVAN stated on May 13 that hospital authorities returns at Dec. 31, 1947, gave the number of vacant beds for which staff was not available as 61,146. This was about 2,000 less than the corresponding figure at Sept. 30, 1947. He added that his Ministry was doing what it could to remedy the shortage of nurses.

Opticians Register.—Mr. MITCHELSON asked on May 13 whether Mr. Bevan had considered representations from the Joint Emergency Committee of the optical profession asking that provision should be made by legislation for the registration of opticians. Mr. BEVAN said that Mr. Woodburn and he proposed to set up an Inter-departmental Committee to consider and advise whether such legislation would be to the public advantage and if so how registration could best be carried out and what qualifications should be required as a condition of registration. They would consult the professions concerned as to the constitution of the Committee.

Mental Defectives.—The number of mental defectives in public institutions on Jan. 1 was 53,207. The number awaiting removal to institutions on that date was 3,905.

Medical News

Prof. G. Grey Turner

G. Grey Turner, M.S., F.R.C.S., Emeritus Professor of Surgery in the University of London, has been elected a Foreign Corresponding Member of the French Académie Nationale de Médecine.

Accommodation at Annual Meeting

The accommodation at Cambridge for the Annual Meeting of the B.M.A. is limited. In order that the arrangements may run smoothly we would ask those who intend being present to notify the Executive Officer as soon as possible. The form for doing so appeared in the *Supplements* of April 24, May 8, and May 15.

Awards for Penicillin Research

Sir Alexander Fleming, F.R.S., and Sir Howard Florey, F.R.S., were presented with the United States Medal for Merit on May 18 by Mr. Lewis Douglas, the United States ambassador. The award is for their research on penicillin.

Physical Education Appointment

Dr. Ernst Jokl has been appointed Physical Education Research Officer to the Union Education Department by the South African Government.

Danish Surgeon's Visit

Dr. Jens Foged, Chief Surgeon at the Bispebjerg Hospital in Copenhagen, is spending a month in Britain under the auspices of the British Council to meet plastic and gastric surgeons.

Golf Competition

The Manchester and District Medical Golfers Association will be holding its Annual Competition on May 26 at Merc, Cheshire. Particulars about membership of the club may be obtained from the Honorary Secretaries, Manchester and District Medical Golfers Association, c/o British Medical Bureau, 33, Cross Street, Manchester, 2.

Third International Blood Transfusion Congress

Dr. H. F. Brewer has been appointed to represent the British Red Cross Society's London Blood Transfusion Service at the Third International Blood Transfusion Congress which is being held at Turin from May 30 to June 2 inclusive.

Control of Poisons

The following substances are added to Part I of the Poisons List and to the First Schedule to the Poisons Rules: Amidone and its salts, carbachol, alkaloids of curare and curare bases (in substitution for "curarine," which is now deleted from the List and the Schedule), metopon and its salts, sodium monofluoroacetate. Allylisopropylacetylurea is deleted from the Seventh Schedule and added to the Fourth Schedule to the Poisons Rules. It thus becomes subject to the same conditions with respect to supply and labelling as the barbiturates and sulphonamides. The requirement about colouring is widened to include arsenical poisons intended for the treatment of any infestation: lead arsenate paste and powder must now be coloured, and the colouring must be of such a nature as to be apparent whether the poison is dry, or wet, or in solution.

Spens Report on Dentists

The Report of the Interdepartmental Committee (Chairman, Sir Will Spens) on the Remuneration of General Dental Practitioners has been published as a White Paper (H.M.S.O., 4d.). The Committee was appointed on Sept. 2, 1946, to consider "what ought to be the range of total professional income of a registered dental practitioner," with regard to the normal financial expectations of dental practice in the past and the desirability of maintaining the status of the profession. Net incomes—that is, gross remuneration less professional expenses allowed for income tax—were examined in terms of the 1939 value of money. The Committee found that very few dentists make large incomes, that most earn less than enough to meet minimum middle-class expenditure, and that a quarter of the profession live below this standard. Witnesses impressed the Committee with the exceptional arduousness of dental work and it concludes that to work more than about 33 hours by the chair-side for 46 weeks a year tends to impair efficiency. Recruitment is poor and the profession must be made more attractive. The Committee recommends that dentists earning below £400 should be doubled, those of £400-£800 should be augmented by £400, and those above £800 should be augmented by one-third of the amount by which they fall short of £1,200. An experienced dentist working single handed and fully

employed for the hours suggested should earn £1,600 net. However if there were sufficient dental practitioners in relation to demand to secure a spread of incomes comparable to that of 1938, 75% aged between 35 and 54 should receive over £850 a year, 50% over £1,100 a year, and 25% over £1,400. Practitioners with junior partners or salaried assistants could properly earn more, as could the younger and more energetic dentists working more than 33 hours a week. Special provision should be made for dentists serving sparsely populated areas. Dental specialists with higher qualifications ought to be remunerated within the same range as medical specialists.

Chelsea Clinical Society

The annual dinner of the 51st session of the Chelsea Clinical Society was held at the South Kensington Hotel on May 11. The toast of the Society was proposed by Sir Walter Monckton, K.C. Speaking as a representative of a "much misunderstood" profession, Sir Walter touched wittily upon the relations between Medicine and Law. In his reply the President, Dr. Neil Maclay, gave the briefest possible account of a successful year in which the Society had achieved a balanced budget. Mr. Ivor Back proposed the toast of the guests, and Sir Leonard Stone, K.C., replied. At the close of the evening Dr. Maclay handed over the badge of office to the new President, Mr. Nils Eckhoff.

Wills

Dr. Arthur Charles Douglas Firth, formerly consulting physician to King's College Hospital, left £21,243; Dr. George Harold Lowe, of Middlesbrough, £15,570; Dr. Alexander Moxon Webber, of Sandown, Isle of Wight, £13,067; Dr. Edward Raymond William Gilmore, formerly M.O.H. for Leamington Spa, £4,645; and Lieut.-Col. John Lumsden Lunham, late I.M.S., £92,143.

COMING EVENTS

Hygiene in Food and Drink Industry

A joint meeting of the Food Group of the Society of Chemical Industry and the Royal Sanitary Institute will be held at Royal Hall, Ripon Road, Harrogate, on Friday, May 28, at 10 a.m., when the general subject for discussion will be "The Cleaning and Sterilizing of Plant in the Food and Drink Industry." The meeting will constitute the Food and Nutrition Section of the Health Congress of the Royal Sanitary Institute, which will be held at Harrogate from May 24 to 28.

Training of Social Therapists

A full-time three months' course for the training of social therapists will begin on June 1 and a year's evening course on Oct. 18. The fees for the courses, which are being given under the auspices of the Institute of Social Psychiatry, are £26 5s. and £52 10s., respectively. Inquiries should be addressed to the Social Psychotherapy Centre, 7, Fellows Road, London, N.W.3.

Westminster Hospital (All Saints') Urological Centre

Dame Katherine Watt, D.B.E., R.R.C., Chief Nursing Officer of the Ministry of Health, will open a new nurses' home at the Westminster Hospital (All Saints') Urological Centre, Austral Street, West Square, London, S.E., on Thursday, June 3, at 2.15 for 2.30 p.m.

SOCIETIES AND LECTURES

Monday

EDINBURGH UNIVERSITY: PHYSIOLOGY CLASSROOM.—May 24, 5 p.m. "The Great Epidemics of History," by Dr. Douglas Guthrie.
UNIVERSITY COLLEGE LONDON.—At Anatomy Theatre, Gower Street, W.C., May 24, 5.30 p.m. Shearman Lecture: "The Origin and Nature of Scientific Thought," by Mr. E. Schrödinger, Ph.D., D.Sc.

Tuesday

EDINBURGH POSTGRADUATE BOARD FOR MEDICINE.—At Edinburgh Royal Infirmary, May 25, 5 p.m. "Clinical Physiology of the Pulmonary Circulation," by Prof. W. Melville Arnott.
EUGENICS SOCIETY.—At Burlington House, Piccadilly, London, W. May 25, 5.30 p.m. "Migration and the British Commonwealth," by Prof. Brinley Thomas, M.A., Ph.D.
INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—May 25, 5 p.m. "Bullous Eruptions," by Dr. R. T. Brain.

Wednesday

GLASGOW UNIVERSITY: DEPARTMENT OF OPHTHALMOLOGY.—May 26, 8 p.m. "Cataract Extraction," by Mr. O. M. Duthie.
UNIVERSITY COLLEGE LONDON.—At Physiology Theatre, St. Mary's Hospital Medical School, Paddington, W., May 26, 5 p.m. Special Lecture: "The Localization and the Role of Nucleic Acids in the Cell," by Prof. J. Brachet (Brussels). At Anatomy Theatre, University College, Gower Street, W.C., 5.30 p.m. Shearman Lecture: "The Origin and Nature of Scientific Thought," by Mr. E. Schrödinger, Ph.D., D.Sc.

Any Questions.

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Pleural Effusion

Q.—What is the correct method of investigation of a pleural effusion? When the diagnosis is in doubt, is guinea-pig inoculation of value? I have difficulty in distinguishing between effusions of tuberculous, pneumonic, neoplastic, and transudate origin. The problem is particularly difficult in the following two circumstances: (a) in patients who have been treated—e.g. by chemotherapy—for some little time before admission to hospital; and (b) where the effusion is so large that it obscures all, or the greater part of, the underlying lung tissue. I have always regarded guinea-pig inoculation as a pointer to diagnosis, but some of my colleagues maintain that it is of little value.

A.—In the investigation of a pleural effusion the history and clinical findings are of the greatest importance. The chief varieties which must be distinguished are the "idiopathic"—the majority of which are tuberculous—the pyogenic, and the malignant. In the malignant group the history, age of the patient, and blood-staining of the effusion are important diagnostic points. A tuberculous effusion is relatively uncommon in a patient of carcinoma age. The frankly pyogenic effusion—e.g. complicating pneumonia or lung abscess—rapidly becomes an acute empyema, but after chemotherapy a sterile effusion may result. It may be very difficult to differentiate between this and a tuberculous effusion, but the predominant cells are usually polymorphs and the history of contact may aid infection may be a guide. In a tuberculous effusion the age of the patient, mode of onset, and history of contact may aid the diagnosis. Loewenstein culture or, better still, guinea-pig inoculation of the fluid should be performed in all cases, and some authorities claim a positive result from inoculation in three out of four tuberculous effusions. This is an optimistic estimate. A negative result does not exclude tuberculous.

Alternative to Venesection

Q.—While in America during the war I was told of a clinical procedure carried out in acute left-sided heart failure. The rationale of venesection in acute pulmonary oedema or in a hypertensive "cardiac asthma" attack is to relieve the load on the left ventricle and also perhaps on the right. In the U.S.A. it seems to be a common alternative to venesection to apply two sphygmomanometer bands to alternate limbs for, say, 20 minutes, and then to repeat on the other two limbs. The bands are applied at a pressure midway between the diastolic and systolic. This acts at once in stopping large quantities of venous blood returning to the heart, and is apparently effective in treating these conditions. Has this treatment been tried in this country?

A.—The method of reducing the return of blood to the heart described in the question has been used in this country for a number of years. The effect is immediate, the pressure in the right auricle being reduced and the cardiac output increased. On releasing the cuffs the blood return is reduced for some time by the vasodilatation induced in the treated limbs. Its danger lies in the possible production of thrombophlebitis by obliteration of superficial veins or in the formation of thrombi in deep muscle capillaries which may spread and result in pulmonary infarction.

Removal of Tattoo Marks from the body by

Q.—Is it possible to remove tattoo marks from the body by plastic surgery or by any other method?

A.—Tattoo marks are foreign bodies in the skin and can only be removed surgically. The removal of tattoo marks from most of the favourite sites on the body is possible by excision and plastic repair. In the case of small designs the defect is often closed by sliding flaps and direct suture.

Thursday
BRITISH INSTITUTE OF RADIOLOGY.—At Reid-Knox Hall, 32, Welbeck Street, London, W., May 27, 6 p.m. "The Roentgen-Anatomical Appearance of Infantile Pyloric Stenosis, Before, During, and After the Manifest Stage of the Disease," by Dr. Gösta Runstrom (Gothenburg).
EDINBURGH ROYAL INFIRMARY.—May 27, 4.30 p.m. Honyman Lecture: "Partial Gastrectomy for Peptic Ulcer," by Mr. H. W. Porter.
MEDICO-LEGAL SOCIETY.—At 26, Portland Place, London, W., May 27, 8.15 p.m. "The Investigation of Crime," by Cyril R. M. Cuthbert, Chief Detective Inspector, Metropolitan Police Laboratory.

UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHARMACOLOGY.—At Physiology Theatre, Gower Street, London, W.C., May 27, 5.15 p.m. "Biological Responses to Drugs," by Mr. J. F. Danielli, Ph.D., D.Sc.

Friday
KENT AND CANTERBURY HOSPITAL. Canterbury.—May 28, 5 p.m. Monthly Clinical Meeting.
UNIVERSITY COLLEGE LONDON.—At Physiology Theatre, St Mary's Hospital Medical School, Paddington, W., May 28, 5 p.m. Special Lecture: "The Localization and the Role of Nucleic Acids in the Embryo," by Prof. J. Brachter, W.C., 5.30 p.m. Theatre: "The Origin and Nature of Scientific Thought," by Mr. E. Schrödinger, Ph.D., D.Sc.

Saturday
BIOCHEMICAL SOCIETY.—At Department of Biochemistry, University Museum, Oxford, May 29, 1 p.m. 267th meeting of the Society. Papers will be read

APPOINTMENTS

Duncan Yuille, M.B., Ch.B., has been appointed to succeed Dr. Gebbie as Divisional Surgeon of the Hull Northern Division of the St. John Ambulance Brigade

HOSPITAL FOR SICK CHILDREN. Great Ormond Street, London, W.C.—First Assistant Anaesthetist, T. D. L. Roberts, M.R.C.S., L.R.C.P., D.A. Resident Medical Registrar and Pathologist, D. A. Williams, M.D., M.R.C.P., D.C.H. House-physician, I. D. H. Matthews, M.B., Ch.B., M.R.C.P., D.C.H. Surgeon, J. P. Rochford, B.M., B.Ch.

LONDON COUNTY COUNCIL.—The following appointments in the Council's Mental Health Services are announced at the hospitals indicated in parentheses: Assistant Medical Officers: J. Donnelly, M.B., Ch.B. (Cane Hill), M. Engler, M.D., D.P.M. and E. J. Rich, M.B., B.S. (The Manor), R. Krambach, M.R.C.O.G. (Bantleed); H. H. Robinson, M.B., B.Ch. (St. Ebbas), T. St. J. H. Silvester, M.R.C.S., L.R.C.P. (Beckley).

LUDLAM, G. B., M.B., Ch.B., D.I.C., D.T.M. & H., D.S. Director, City Bacteriological Laboratory, Nottingham.

MICHELL, ROBERT, M.D., Ch.B., D.P.H. Assistant Medical Officer of Health, County Borough of Bury

PETERS, P. M., B.M., B.Ch. Assistant Pathologist, Department of Morbid Anatomy, Prince of Wales's General Hospital, London, N.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Fisk.—On May 5, 1948, at Stella Mans Nursing Home, Cambridge, to Dr Susan Airey, wife of Geoffrey Fisk, M.B., F.R.C.S. Ed., Winc Commander, a daughter—Susan Clare.

Howat.—On May 11, 1948, at Newcastle, to Margaret Barker, wife of James Howat, a son.

DEATHS

Altherton.—On May 9, 1948, at Cotswold Sanatorium, Charles Umpherson Altherton, M.R.C.S., L.R.C.P., aged 38.

Arnold.—On May 10, 1948, Edwin Gilbert Emerson Arnold M.D., M.R.C.P., Hugh Arthur, M.D., aged 73.

Caddy.—On May 12, 1948, at Neys End, Brockham Bitchworth, Surrey Joseph Caddy, on April 15, 1948, in Melbourne, Arnold Caddy, F.R.C.S., of Chandpara, Tilden, Victoria, Australia, aged 81.

Dickinson.—On May 8, 1948, at Royal Hospital, Sheffield, William Robinson Dickinson, M.R.C.S., L.R.C.P., of Loxley, Hough Lane, Wombwell, Yorks, aged 52.

Gray.—On May 4, 1948, at Girvan, Alexander Gray, M.B., Ch.B. Glas., of 46, Main Street, St. Ninians, Stirling.

Kilbally.—On May 9, 1948, at Cooldaniel, Greystones, Co. Wicklow, Elre, Patrick Percy Kilbally, M.B., B.Ch., Lieutenant-Colonel, I.M.S., retired.

Lachy.—On May 11, 1948, at The Newk, Lanark, John Macintyre, M.B., Ch.B. Glas., D.P.H.

Richardson.—On May 11, 1948, at Bucklands, Dover, Joseph Richard Whitehead Richardson, M.R.C.S., L.R.C.P., aged 48.

Stone.—On April 10, 1948, at 6, Cheyne Walk, Northampton, David Stone, M.D., C.M.Glas., aged 82.

Thom.—On May 8, 1948, at Castlepark, Larark, Ernest Graham Young Thom, M.B., Ch.B.

Vines.—On May 8, 1948, at Broadwell, Newport, Mon., Charles Stuart Vines, M.R.C.S., L.R.C.P., D.P.H., aged 82.

In most cases, however, the raw area is best filled with a split skin graft. On a fresh base this should "take" excellently. The only other useful method is to modify or black out the design by further tattooing. Splitting the skin in the hope of removing the marks is rarely successful, as the particles lie too deeply imbedded in the dermis.

Proetz Displacement Method

Q.—Though the Proetz displacement method using a solution of ephedrine is mentioned in textbooks as having a place in the treatment of maxillary sinusitis, I am unable to find out the practical details involved—e.g., the quantity of solution used, the position of the patient's head, and the method of evacuating air from the sinus so as to ensure its replacement by the solution. Could you supply this information?

A.—The Proetz syringe has 5- and 10-ml. graduation marks on the glass barrel. The patient lies flat on the back, with a small pillow under the shoulders, so that the head is almost upside down. Breathing quietly through the mouth, the patient introduces 5 ml. of the solution, usually 0.5 or 0.75% ephedrine in normal saline, into one nostril. The syringe is then removed, the bulb squeezed, and the nozzle reinserted. The other nostril is occluded and the bulb allowed to expand. If no suction is experienced the process is repeated while the patient says, "Kick, kick, kick." After repeating this suction once or twice sufficient solution should have entered the sinuses, and the other side can then, if necessary, be treated in exactly the same way. It will be found easier to try the method first with the syringe empty.

Stilboestrol and New Growth

Q.—Has stilboestrol ever been responsible for the disappearance of a new growth? A woman, aged 60, had a hard growth, which was beginning to ulcerate and was firmly attached to the sternum. Seemingly it was a sarcoma of the sternum, but more likely was a carcinoma arising in the left breast. The condition had been present for 18 months, but when first seen five months ago she had a left pleural effusion, was breathless in bed, and apparently moribund. Her only treatment has been stilboestrol 5 mg. thrice daily, and on this she has made a remarkable recovery; she is now doing light housework. The growth itself has almost disappeared. What is the expectancy of life in this case, and how long should the stilboestrol be continued?

A.—So far as is known, stilboestrol has never effected the complete regression and permanent disappearance of a new growth. When treated with oestrogens, some 5% of post-menopausal cases of cancer of the breast (such as the above is presumed to be) may improve in a similar way to that described. Improvement is temporary, however, and although its duration is usually no more than several months, cases have been observed in which the disease appeared to be quiescent for considerably longer periods. Nevertheless, in the majority of such cases the expectation of life is not likely to be demonstrably greater than without treatment. Since exceptionally favourable responses undoubtedly occur, even although unpredictably, stilboestrol therapy should be continued.

Diarrhoea due to *Salmonella typhi* murium

Q.—A patient has had attacks of diarrhoea for twelve months which recently were proved to be due to *S. typhi* murium. Can you suggest ways of permanently destroying the organism in his bowel?

A.—*S. typhi* murium is a common cause of acute gastro-enteritis and is one of the organisms most often responsible for outbreaks of food-poisoning. Occasionally it may give rise to a more prolonged fever accompanied by gastro-intestinal symptoms, but it would be most unusual for it to lead to recurrent attacks of diarrhoea over a period of a year. A number of these infected remain carriers, and it is possible that the organism in the present case is merely saprophytic. Nevertheless it is clearly important to try to eliminate it from the patient's stools, as its persistence is a danger to the community. The only agents likely to be effective are sulphamidine, sulphasuxidine, or phthalyl sulphathiazole. Suitable doses for such a purpose in an adult would be 2 g., 1.5 g., and 1.5 g., respectively, six times daily for about ten days.

Surgical Treatment of Peptic Ulcer

Q.—It has been shown that a peptic ulcer which is bathed in alkaline secretion always heals. Why, then, in the operation of partial gastrectomy for duodenal ulcer is it considered necessary to dissect out and remove the ulcer instead of being satisfied with a prepyloric division of the stomach with dissection and removal of the pyloric mucous membrane? The dissection of the duodenum is almost always the most difficult and even dangerous part of the operation.

A.—Theoretically, Bancroft's operation, or a prepyloric resection combined with removal of the antral mucosa, is a perfectly satisfactory answer to the surgical treatment of duodenal ulcer. In fact the operation is not so simple as it sounds, because (1) haemorrhage from the cut mucosa inside the musculo-serous sac of the antrum is often profuse and difficult to deal with, and (2) the closure of the thickened wall of the antrum is seldom as efficient as that of a duodenal stump. In the case of a difficult adherent duodenal ulcer the better procedure is probably the two-stage gastrectomy—a primary prepyloric resection followed a month to six weeks later by the removal of the pylorus and first part of the duodenum with the ulcer. This second stage is often surprisingly easy.

Acne Rosacea

Q.—A farmer, aged 55, suffers from rosacea and is developing a vascularizing keratitis in both eyes. Is there any evidence to show that daily intravenous injections of nicotinic acid 50–100 mg., together with bi-weekly intramuscular injections of riboflavin 10 mg., would benefit the condition? In view of the intense flushing of the face that would occur after the nicotinic acid injection, is this treatment contraindicated?

A.—Results are claimed for the use of riboflavin in acne rosacea. The evidence for nicotinic acid is more scanty. Treatment is on the whole disappointing. While there is some justification for the use of riboflavin, attention must be concentrated on standard and orthodox measures such as atropin drops where the corneal condition calls for it. It would appear that the best results are perhaps obtained from x-ray treatment in doses of 50 r.

NOTES AND COMMENTS

Antrochoanal Polypi.—Dr. GAVIN YOUNG (Glasgow) writes: With reference to the answer on this subject ("Any Questions?" May 1 p. 866), it might have been added that by far the most common cause of anosmia is the "waterlogging" of the mucosa of the olfactory cleft associated with nasal allergy. The antral cavity mentioned in the question may well have been the subject of allergy with superadded infection. It is the writer's firm conviction that the incidence of nasal allergy is very greatly on the increase possibly the result of food deficiencies.

Congenital Deafness and German Measles.—Dr. K. HAZELL, of the Metropolitan Ear, Nose and Throat Hospital, London, writes: I am anxious to receive information from doctors on this subject. (1) Concerning patients congenitally deaf: whether the mother (i) had a rash during pregnancy; (ii) did it resemble German measles? (iii) at what time after conception? (iv) in which year? (v) did she, previous to pregnancy, have German measles? (2) Concerning German measles (or a disease resembling it) during pregnancy: was the child subsequently normal or abnormal, and, if the latter, how affected?

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Attiliter, Westcent, London*. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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B.M.A. SCOTTISH OFFICE: 7, Drumshough Gardens, Edinburgh.

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY MAY 22 1948

British Medical Association PROCEEDINGS OF COUNCIL

Wednesday, May 12, 1948

A meeting of the Council of the Association was held at B.M.A. House, London, on May 12, with Dr. H. Guy Dain in the chair.

Preliminary

The Chairman referred with deep regret to the sudden death of Prof. A. H. Burgess, President of the Association in 1929-30 and afterwards for many years a member of Council and Vice-President. He said that after his year of presidency Prof. Burgess continued to take an active part in the work of the Association, and was not only a valued member of its Council and committees but a very great friend to many of them.

Dr. S. Wand said that long before Prof. Burgess became President he worked actively in the interests of the Association. It was through his influence with the graduates of Manchester University that so many of them joined the Association immediately upon qualifying.

Mr. A. M. A. Moore, on behalf of the Consultants and Specialists Committee, joined in the tribute Prof. Burgess was for many years chairman of the Special Practice Committee, and it was in no small measure due to him that the new organization of consultants and specialists was so well established.

The members of Council stood for a few moments in silence.

Dr. J. A. Pridham gave a brief report of his attendance in New York at the council meeting of the World Medical Association and handed over a banner bearing a Chinese greeting which he had been asked by the representatives of the Chinese Medical Association to present to the Council on his return. The meeting in New York, at which twelve different countries were represented, had proved highly successful and most harmonious. Real progress was made in consolidating the Association. It was obvious that the W.M.A. had a great future before it. Dr. Pridham also mentioned the extraordinary kindness and courtesy with which he, as British representative, had been received in America, where the members of the medical profession were watching with deep interest the progress of medico-political events in Great Britain.

The Chairman expressed to Dr. Pridham the thanks of the Council for undertaking the long journey and representing the Association at this meeting.

It was reported that an invitation had been received from the Medical Association of South Africa to hold an Annual Meeting in Johannesburg. It will be recalled that before the war provisional arrangements had been made for the Annual Meeting to be held in the Union of South Africa in 1940 or 1941. The Federal Council had now renewed the invitation, the suggested place of meeting being Johannesburg and the time provisionally recommended 1950 or 1951.

The President (Sir Hugh Lett), who had recently visited South Africa, said that the profession out there was looking forward very eagerly to this visit from the British Medical Association. He himself, as an unofficial ambassador of the Association, had had an amazingly kind reception.

Some discussion took place about travel arrangements, and the invitation was accepted with expressions of appreciation, the actual date of the meeting and other circumstances being left for later consideration and communication with South Africa.

Dr. Dain was reappointed for the ensuing year as the co-opted member representative of general practice on the Council of the Royal College of Surgeons of England.

Medical Certificates

Dr. Wand, as chairman of the General Practice Committee, presented for approval a statement of evidence on medical certification to be submitted to the Departmental Committee which was recently appointed by the Minister of Health to consider various aspects of this matter.

A highly detailed discussion on certain phrases in the preamble to the statement and on the recommendations followed, and certain slight amendments were made. The discussion broadened out into a wider channel over a reference in the statement to non-medical certification—that is to say, the increasing number of certificates which practitioners are asked to complete in support of applications for passports, replacement of ration books, old age pensioners' tobacco concessions, and the like. These certificates require to be witnessed or countersigned by members of certain classes in the community, such as barristers, schoolmasters, or doctors, and it is the experience of the profession that such certificates are brought more often than not to the doctor, and that in many cases certification involves an otherwise unnecessary visit to an applicant confined to his house. A recommendation was appended that practitioners should be relieved of this burden by the deletion of the profession from the classes of persons authorized to sign all such certificates.

Dr. R. W. Cockshut, Dr. P. J. Gibbons, and Dr. J. B. Miller spoke strongly against the inclusion of such a recommendation. Dr. Cockshut said that he liked signing certificates for these old people; it was a friendly gesture, it took up a very small amount of time, and it was part of that human side of medicine which they should encourage. Moreover, a visit from these old people for this non-medical purpose often caused the doctor to notice something wrong with them and it was possible to give them early treatment. Dr. Gibbons said that in many cases the doctor was the only person to whom these people could go. Dr. Miller asked whether they were to proclaim themselves less public-spirited than the other professions named in the Regulation. The inconvenience of witnessing these signatures was greater in the case of the members of the other professions than in the case of doctors, who were accustomed to certifying. The profession was tenacious of its privileges; it should be prepared for its liabilities.

Dr. F. Gray pointed out that where medical certificates were required doctors were the only people who could give them, but the certificates under discussion were not medical ones. If they were prepared to accept something which as a profession they need not do they were undermining the strength of their case on the general certification issue. Dr. C. M. Stevenson thought it should be realized that the profession's chief job was diagnosis and treatment, not certification.

A proposal to delete the whole of the reference was defeated, but the recommendation was amended to read that practitioners should be relieved of this burden "as far as possible." The statement of evidence with this and other slight amendments was approved.

Recruitment of Nurses

Dr. Mary Esslemont, in reporting for the Committee on Nursing, said that the Medical Superintendents' Society and the British Hospitals Association wished to be associated with the memorandum on the recruitment and training of nurses which had been prepared by the committee for submission to the Minister of Health. The Royal College of Nursing had stated its desire to submit its observations independently, and King Edward's Hospital Fund for London was unable to join the Association in sponsoring the memorandum as some of the matters dealt with were outside its province. Dr. Esslemont also said that the committee was considering the question of economy in the use of skilled nursing staff. It was difficult to bring about an actual increase in the total number of nurses, and therefore measures of economy were proposed.

Dr. E. C. Dawson suggested reviewing the position of private nursing, in respect of which he thought some economies might be effected, and Dr. MacFeat thought that greater economy of skilled nursing staff might be exercised by local authorities. Girls employed by local authorities as nurses were sometimes directed to duties which were largely clerical. Further, many nurses in hospitals on gaining experience were not stepped up in salary as they ought to be, and therefore some of them took higher-paid jobs outside the hospital.

The Care and Treatment of the Elderly and Infirm

Dr. Janet Aitken reported for the Committee on the Care and Treatment of the Elderly and Infirm. The committee thought that Regional Boards might be encouraged to adopt the proposals made in its report issued last year if their attention were drawn to the fact that the geriatric service recommended would have the additional advantage of increasing the numbers of beds and of skilled nurses available for the treatment of the acute sick. It had been decided to draw up a supplementary memorandum emphasizing the importance of this aspect of the matter.

Dr. J. G. Thwaites thought it a rather dangerous assumption to suppose, as might perhaps be inferred from the report to the Council, that elderly sick did not need highly skilled nursing. Dr. Aitken said that it was fully recognized that such nursing was required by certain elderly patients.

Reorganization of Scottish Branches

Dr. G. MacFeat, chairman of the Scottish Committee, gave an outline of the proposed reorganization of the Association in Scotland which the committee had been considering. The reorganization of the Scottish Branches had been undertaken to relate them to Regional Board areas for the purpose of establishing Regional Medical Committees. It was proposed that these regional medical committees be named "Regional Consultants and Specialists (including Hospitals) Committees," and that they be coterminous with the areas of the Boards under the Act. Their function would be to represent the views of the profession on hospital and specialist services and to maintain the interests of consultants and specialists under the new service. Dr. MacFeat described how the Branches would be grouped in the five regions, how the committees would be composed in order to make them fully representative, while leaving the exact method to local decision, and how the consultants and specialists in Scotland would be represented on the new standing committee of the Council. In accordance with the English analogy, the Scottish Committee was appointing a new Consultants and Specialists Subcommittee, and careful consideration had been given to its membership. Other matters considered had been the relationship of the areas of Divisions to Executive Council areas, with which in the majority of cases they already coincide, and the holding of a Scottish Representative Meeting at regular intervals.

Mr. A. M. A. Moore, chairman of the Consultants and Specialists Committee, said that the Scottish Committee deserved to be congratulated on the planning of this reorganizational machinery.

The report was approved.

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Other Committee Reports

Several other reports of committees were adopted. The matters contained in the reports of the Insurance Acts and Public Health Committees, presented respectively by Dr. E. A. Gregg and Dr. James Fenton, have already been noticed in the reports of the proceedings of those committees. Reports from the Central Ethical Committee and the Consultants and Specialists Committee, presented respectively by Dr. N. E. Waterfield and Mr. A. M. A. Moore, dealt with routine business. A report from the Dominions Committee was presented by Dr. J. B. W. Rowe. At a previous meeting of the Council this committee had reported that it had received a protest from the British Guiana Branch regarding an ordinance made in the colony on the subject of workmen's compensation. The ordinance, after prescribing the fees to be paid to practitioners for emergency treatment rendered to injured workmen, provided a penalty of fine or imprisonment in the case of a practitioner who failed to respond to a call for such emergency treatment. The committee was now able to report that, after representations to the Colonial Office, this penal clause had been repealed.

Dr. J. A. L. Vaughan Jones introduced a brief report from the Industrial Medicine Committee which stated that the recommendations on the duties and ethical rules of industrial medical officers were being brought up to date in the light of recent developments. Another present task of the committee was the obtaining of information about schemes of occupational health in foreign countries. The information was being submitted to a subcommittee which had been appointed to prepare a draft scheme for an occupational health service.

Reports from the Journal Committee (Dr. O. C. Carter), Building Committee (Mr. Moore), and Charities Committee (Dr. Janet Aitken) were approved.

A recommendation of the Group of Venereologists at its inaugural meeting was approved—namely, that the Group Committee should consist of twelve members elected by members of the Group on a national basis with the addition of the President of the Medical Society for the Study of Venereal Diseases as an *ex-officio* member, and with power to co-opt.

The Council received with regret an intimation from Dr. I. Revans, Assistant Secretary, that he wished to resign his post on accepting an administrative appointment with the South West Metropolitan Regional Board. Mr. A. M. A. Moore testified to the excellent work which Dr. Revans had done a secretary to the Consultants and Specialists Committee.

The Talks at the Ministry

The routine business of the Council having concluded Dr. Dain, from the chair, gave some account of happening since the special meeting of the Council held during the previous week. On instruction from the Council the invitation to Sir William Douglas to assist in formulating an Amending Bill was accepted. A meeting had taken place with the officers of the Ministry, who were duly informed about the matters which in the view of the Council, the Amending Bill should contain. It had not yet been possible to fix a date for the meeting with the Minister, but they would arrange to see him soon. His officers made the statement that the Minister was prepared to introduce an Amending Bill within the terms of his statement in the House of Commons. He thought that they could get by argument the effective removal of the basic salary. He hoped they would be able to remove anything in the way of direction of practitioners from the Medical Practices Committee. The deputation then took up with the officers certain other problems, including the size and distribution of the general practitioners fund, and the size of the compensation fund. The deputation suggested that there should be no global sum for compensation but an agreement to pay what was necessary on a formula of individual practice values. On the capitation fee they had said definitely that they would require the capitation fee for services to be on a fixed basis, like the insurance capitation fee to-day, and that mileage should be provided for separately. They had also emphasized that it was essential before July 5 that consultants and specialists should have a firm knowledge of what they might expect in the way of conditions of service. Dr. Dain added that there

were a very large number of people in the profession who had yet to be satisfied before they would willingly enter the Service, and it was important to make the Minister fully aware of the serious objections which were outstanding.

There was some discussion on Dr. Dain's statement.

On the motion of Mr. A. M. A. Moore, Mr. Dickson Wright was added to the membership of the deputation meeting the Minister.

CONSULTANTS AND SPECIALISTS ORGANIZATION

We reprint from the Annual Report of Council (April 10, p. 77) the section on the formation of Regional Consultant and Specialist (including Hospitals) Committees, and establishment of a Central Consultants and Specialists Standing Committee.

CONSULTANTS AND SPECIALISTS

Formation of Regional Consultant and Specialist (including Hospitals) Committees, and establishment of a Central Consultants and Specialists Standing Committee

60 The Council has given detailed consideration to the steps which should be taken by the Association to enable the profession to deal with problems arising in the consultant and specialist and hospital fields consequent on the formation of Regional Hospital Boards. The problem before the Council was whether, and if so in what manner, the existing machinery of the Association could be adapted for this purpose; or whether it would be necessary to set up an entirely new piece of functional machinery which, although not forming part of the Association's constitution, should be linked with the Association at the centre and possibly also at the periphery.

Need for Formation of Regional Consultants and Specialists (including Hospitals) Committees

The Council believes that there will be general agreement with the idea that in the area of each Regional Hospital Board a professional committee should be set up to represent the views of the profession on hospital and consultant and specialist services in the Region. There is no statutory provision for setting up such a regional committee, and to this extent the position differs materially from that which applies in the field of general practice where there is provision under the Act for the formation and recognition by the Minister of Local Medical Committees which represent the profession in local areas, and include elected members of Local Executive Councils. The Council is of opinion that Committees on somewhat parallel lines to Local Medical Committees should be formed in the areas of Regional Hospital Boards. The Council suggests that the proposed new bodies should be designated Regional Consultants and Specialists (including Hospitals) Committees.

If these regional committees are to command the confidence of consultants and specialists, a majority of the members of each committee must be elected by practitioners engaged in consultant and specialist practice, and separate representation must be given to those of full medical staff status who are or have been employed by teaching hospitals or by non-teaching hospitals and are in consultant and specialist practice within the Region. The Council proposes that not less than one-quarter of those elected to regional consultant and specialist committees by the staffs of non-teaching hospitals should be part-time consultants and specialists—i.e., those engaged partly in consultant and specialist practice and partly in some other form of professional work. Further, in order that there may be correlation of the work of regional consultant and specialist committees with other bodies providing services under the Act there should be representation on these committees of Local Medical Committees, of medical officers employed whole-time by the local authorities in the Region, and of medical superintendents of hospitals within the Region. The regional committee should also have power to co-opt, say, up to three additional persons. In some Regions it may be necessary to secure the election of representatives of senior medical officers of the staffs of local authority hospitals transferred to Regional Hospital Boards, and special consideration will be given to this point.

The Council has given very careful consideration to the method of election of the members of regional consultant and specialist committees. If this new piece of functional machinery is to succeed it is essential that practitioners working in the consultant and specialist fields should have a direct interest in the election of the committee and in its work. In the view of the Council it would not suffice if the nomination and election of members of the committee was conducted by postal vote from a list of the members of the staffs of teaching and non-teaching hospitals. For the first year at all events the mode of election of practitioners to the regional consultant and specialist committees should be on the principle of representation of hospital staffs or groups of hospital staffs. The precise method of giving effect to this plan would be a matter for discussion with members of hospital staffs concerned in order that a practical scheme may be worked out in respect of each Region.

When the regional consultant and specialist committees have been constituted they would be invited to consider the problem further, in the light of the experience of the first election, and to make proposals for permanent machinery for future elections.

As these regional committees will represent in their respective areas the general body of consultants and specialists, they should be elected irrespective of membership of the British Medical Association. This will follow the parallel of Local Medical Committees and will lead to the position that the proposed new functional machinery will not form an integral part of the Association's constitution. But if there is to be effective co-ordination of the work of regional committees it is fundamental that a close relationship between these committees and the Association should be secured. Regional consultants and specialists committees must be encouraged to look to the Association for guidance and help upon the problems which will arise with the working of the Act, and major questions of policy should be determined by the Association.

For the reasons stated in the preceding paragraph of this report the Council has decided that steps should be taken forthwith by the Association to set up in the areas of Regional Hospital Boards in England and Wales regional consultants and specialists (including hospitals) committees, representative of members of the Association and of non-members alike. Action on these lines will not apply to Scotland until the Scottish Committee has reported to the Council.

Constitution of Regional Consultants and Specialists (including Hospitals) Committees

61 The detailed constitution of the regional consultants and specialists (including hospitals) committees for England and Wales are as follows:

- (i) 2-5 elected by practitioners engaged in consultant and specialist practice and who are either—
 - (a) members of the consultant and specialist staff of teaching hospital(s) within the Region, or
 - (b) have been members of the consultant and specialist staff of such hospital(s) and are in consulting or specialist practice in the Region.
- (ii) 12-20 (of whom not less than a quarter shall be part-time consultants or specialists, i.e., those engaged partly in consultant or specialist practice and partly in some other branch of medical practice in the Region) elected by those practitioners engaged in consultant and specialist practice and who are either—
 - (a) members of the consultant and specialist staff of a hospital, other than a teaching hospital within the Region, or
 - (b) have been members of the consultant and specialist staff of a hospital other than a teaching hospital and are in consulting or specialist practice in the Region.
- (iii) 2 medical officers of health elected by medical officers employed whole-time by Local Authorities in the Region.
- (iv) 1 medical superintendent elected by medical superintendents in the Region.
- (v) 2 general practitioners elected by grouped Local Medical Committees within the Region.
- (vi) With power to co-opt not more than 3 additional members, e.g., practitioners of First Assistant or Registrar status.

Notes

(a) The term "consultant and specialist" means those of full medical staff status who are, or have been, employed at a teaching or non-teaching hospital.

(b) The number of members of the Regional Consultants and Specialists Committee in (i) and (ii) above are provisional

in respect of the first year's working of the committee, and would be varied, and where necessary increased, according to the circumstances existing in the Region.

(c) The first Regional Consultants and Specialists Committees will be invited to consider their constitution and to make recommendations for placing the local organization on a more permanent basis.

(2) That the mode of election of practitioners in (i) and (ii) above be on the principle of representation of hospital staffs, or of groups of hospital staffs.

(3) That the method of election of all groups shall be devised separately by such Region.

(4) That the functions of the Regional Consultants and Specialists Committees should be to represent the views of the profession on hospital and consultant and specialist services in the Regions. It should also keep the Central Consultants and Specialists Committee fully informed and be guided by that Committee on matters of general policy.

(5) In so far as clerical facilities are provided by the Association in the Region these will be made available to Regional Consultants and Specialists Committees, the cost being borne by the Association. Other costs such as individual members' travelling expenses will be borne by the committee.

The Relationship of Regional Consultants and Specialists Committees to the Association

62. The Council has given careful consideration to the relationship of regional consultants and specialists committees to the Association and the extent to which it may be necessary to modify or adapt the Association's constitution to meet the position. There are two problems, local and central.

The Local Problem

It is clear that the Divisional machinery cannot appropriately be used for the purpose of linking regional medical committees with the Association.

Branches of the Association cover areas of one or more counties and parts of counties. In one instance (North of England Branch) the area of one Branch is approximately coterminous with that of a Hospital Region; in another (Lancashire and Cheshire Branch) the Branch area is approximately coterminous with that of two Hospital Regions; in the Welsh Region there are two Branches with part of another Branch. With these exceptions Branch areas have little relation to Hospital Regions. The Council has come to the conclusion that the Branch machinery, so far as it relates to England and Wales, cannot effectively be used in connexion with the work of the regional consultants and specialists committees, but it feels that at present at all events the existing Branch organization should not be disturbed and that the position of the Branches should be reviewed from time to time in the light of developments.

The Central Problem

There are at present two standing committees, Consultants and Specialists, and Hospitals, which deal respectively with problems affecting consultants and specialists and hospitals.

The Council is of opinion that it will be necessary to set up a Central Consultants and Specialists Committee in place of the present Consultants and Specialists and Hospitals Committees. The function of the proposed new committee would be to consider matters specially affecting those engaged in consulting or specialist practice, including matters referred from regional consultant and specialist committees, and all questions concerning hospitals.

A majority of the members of the new standing committee should be elected by regional consultant and specialist committees and by consultants and specialists in Scotland in a manner yet to be determined, and this majority representation should consist of those who are engaged exclusively or predominantly in consultant or specialist practice, whether or not they are members of the Association. A similar position obtains in the case of the Insurance Acts Committee, where the majority of members are directly elected by Local Medical and Panel Committees, irrespective of their membership of the Association. The Consultants Roll and the Part-time Consultants Roll would be discontinued.

The existing arrangement under which each group committee appoints a representative to the Consultants and Specialists Committee should be continued. The twelve groups consist of members who have distinctive professional interests (e.g., anaesthetists, ophthalmologists, radiologists) who by reason of their numbers are unable to obtain adequate representation of those interests through the ordinary Division machinery, and it is important that the views of the groups, as represented through their respective group committees, should be brought to the new standing committee by means of direct representation.

Practitioners engaged in part-time consultant and specialist practice should also be represented on the committee, and it is suggested that there should be five such members nominated and elected by those members of regional consultant and specialist committees who are themselves part-time consultants or specialists.

The Council suggests that the other members of the new committee should be the officers of the Association; four elected by the R.B. (who should be engaged predominantly or exclusively in consultant and specialist practice), two members by the Council, four members appointed by the Insurance Acts, General Practice, Public Health, and Industrial Medicine Committees respectively, and that there should be power to co-opt. The new Central Consultants and Specialists Committee should also have power to elect a member to each of these standing committees.

These proposals will involve the establishment of a large standing committee, but it is the considered view of the Council that it would be unwise so to reduce the number of members of the committee that it might be held not to be fully representative of the interests of consultants and specialists.

The Council submits in para. 126 of this report the appropriate amendments to the By-laws and to the Schedule to the By-laws to give effect to the above proposals so far as they relate to the Central Consultants and Specialists Committee. The proposals for regional committees involve no amendments to the By-laws.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Poplar

Non-County Borough Councils.—Dartford, Radcliffe (limited to future appointments), Tottenham, Wallsend.

Urban District Councils.—Denton, Droylsden, Houghton-le Spring, Huyton-with-Roby, Portslade, Redditch (restricted to new appointments), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

Association Notices

Diary of Central Meetings

JUNE

3 Thurs. Publishing Subcommittee, 11 a.m.

Branch and Division Meetings to be Held

BOURNEMOUTH DIVISION.—At Royal Victoria and West Hants Hospital, Bournemouth, Monday, May 31, 8.15 p.m. Ordinary and Special Meeting of the Division. Agenda includes installation of Dr. O. C. Carter as Chairman; adjournment; Special Meeting to receive report of Representatives to Special Meeting of the Representative Body on National Health Service Act; instruction to Representatives to A.R.M. at Cambridge on June 25. All medical practitioners in the area of the Division are invited.

METROPOLITAN COUNTIES BRANCH.—At B.M.A. House, Tavistock Square, London, W.C., Tuesday, June 1, 2.30 p.m. Ninetieth Annual General Meeting. Agenda: Report of Branch Council for 1947-8; report of Branch representatives on Central Council, 1947-8; election of officers for 1948-9; address by incoming President.

WINCHESTER DIVISION.—At Royal Hotel, Winchester, Wednesday, May 26, 7.30 p.m. Annual general meeting. Consideration of Annual Report of Council, 1947-8, and three resolutions on N.H.S. Act; 8.50 p.m., dinner; 9.45 p.m., film: "Dear Octopus."

BRITISH MEDICAL JOURNAL

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PNEUMOCONIOSIS OF COAL-MINERS*

BY

C. M. FLETCHER, M.D., F.R.C.P.

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[WITH PHOTOGRAPHURE PLATE]†

In South Wales during the past 15 years rather more than 17,000 men have been certified by the Silicosis Medical Boards to be suffering from silicosis or pneumoconiosis and have been suspended from their underground work. More than 10,000 of them have been certified in the past three years. There were two mines in South Wales which lost one in every three of their underground workers owing to these diseases in the one year 1945. These bare figures need no embellishment to reveal the seriousness of the problem presented to the mining industry or to convey the extent of human suffering occasioned by pneumoconiosis in this region. Elsewhere in Great Britain the problem is proportionately less serious, but even here the certification of nearly 3,000 men in 15 years presents a problem that is serious enough.

In 1943 a committee was set up by the Minister of Fuel and Power to consider the rehabilitation and treatment of miners in South Wales suffering from silicosis and pneumoconiosis. Among the recommendations of this committee (Ministry of Fuel and Power, 1944) was that more research into the problem was needed. The Medical Research Council was approached, and in 1945 it established in South Wales a Pneumoconiosis Research Unit to carry out investigations into every aspect of the problem of coal-miners' pneumoconiosis. Since then it has been my concern to organize and carry out research with a growing team of medical and other scientists in this Unit.

I propose, first, to consider briefly how the present disastrous situation has arisen in a century remarkable for the important advances in industrial health which have been achieved in almost every industry, then to discuss the former investigations of the Medical Research Council into the problem and the developments that have taken place since their publication. Finally, I shall describe some of the recent investigations undertaken by the Pneumoconiosis Research Unit and others in South Wales.

History

The early history of coal-miners' pneumoconiosis is rather obscure. The pathology of the disease was described in this country over 100 years ago in Scottish coal-miners by Gregory (1831), Marshall (1834), and Thomson (1836), and the associated clinical descriptions of the breathlessness,

which was called miners' asthma, and the black spit of such cases exactly match the clinical picture as we see it to-day. Greenhow's demonstration of the siliceous residues in the lungs of such cases in 1869 carried knowledge a step further, but thereafter the subject lapsed into obscurity, with a general consensus of opinion developing in the first two decades of this century that, owing to the improved conditions in the pits, the disease no longer existed among coal-miners (Oliver, 1908). This opinion was expressed by two successive Milroy lecturers. Thus Shuffebotham in 1914 said, "At the present time in Great Britain fibrosis of the lungs among miners can be said to be practically non-existent"; and in 1915 Collis said, "Miners' asthma, common though it used to be, has passed unobserved from our midst, and conjectures as to its character and causation are idle."

Whether these opinions were correct or not we cannot now be sure, but some doubt is thrown on them by a consideration of the Registrar-General's returns in the first four decennial supplements of this century. Unfortunately, we cannot go further back than this because of the unsatisfactory occupational classifications previously in use. However, for these four periods Mr. Oldham, our statistician, has calculated mortality rates (standardized on the population of all occupied and retired males in England and Wales, 1901) from all respiratory diseases other than tuberculosis and from pulmonary tuberculosis for coal-miners over and under the age of 55; for it is in the older coal-miners that deaths from pneumoconiosis are most likely to occur. These standardized rates are given in Table I, together with the rates from the same causes for

TABLE I.—Standardized Death Rates of Coal-miners and All Occupied and Retired Males in England and Wales, per 1,000

	Period	All Respiratory Diseases except Tuberculosis				Pulmonary Tuberculosis			
		1900-21	1910-12	1921-3	1930-2	1900-21	1910-12	1921-3	1930-2
Over 55	Coal-miners ..	21.33	14.21	13.60	7.02	1.82	1.27	1.14	0.86
	All occ. and ret. males, E. & W.	14.24	9.91	8.96	5.16	2.17	1.85	1.26	1.04
Under 55	Coal-miners ..	1.57	1.05	1.00	0.50	1.14	1.01	1.06	0.95
	All occ. and ret. males, E. & W.	1.93	1.14	1.00	0.76	2.64	1.96	1.50	1.24

*The first of the two Goulstonian Lectures delivered at the Royal College of Physicians of London on Jan. 13 and 15.

†The Photographure Plate will appear in next week's issue, with Lecture II.

all occupied and retired males. Coal-miners over 55 have throughout this period consistently shown a relatively high death rate from all respiratory diseases other than

tuberculosis. Although Oliver's (1908) evidence of a diminishing incidence of pulmonary fibrosis among coal-miners towards the end of the last century is convincing, I suspect that considerable numbers of these deaths have always been due to dust diseases of the lung, and that the supposed disappearance of the disease was in part due to incorrect diagnoses.

The relatively low death rates of coal-miners from tuberculosis are also shown in Table I. It was perhaps this fact more than anything else which led to the widespread and persistent acceptance of the view that silicosis was rare among coal-miners; for the particular liability of the silicotic to die from tuberculosis had become established in this century, especially as a result of J. S. Haldane's important contributions to the subject. It was Haldane (1934) who defined silicosis as "a disease of the lungs brought about by the inhalation of siliceous dust and leading to tubercular infection of the lungs accompanied by a great development of fibrosis in them." From this definition the reverse conclusion was derived that when in any industry there was no excessive tuberculous mortality there was no silicosis. Haldane's (1923) declaration that "the inhalation of coal dust causes no danger to life but on the contrary gives even protection against the development of tuberculosis" was largely responsible for the fact that mining engineers made no attempt to reduce the concentrations of air-borne coal dust in the mines at a time when, owing to the introduction of mechanical methods of mining, these concentrations were in general becoming more intense. It must be admitted that medical men by their ill-informed complacency have a heavy load of responsibility to bear for the present high incidence of pneumoconiosis among coal-miners.

This period of complacency was closed chiefly by the increasing use of radiography in the diagnosis of chest disease. Cases of definite silicosis in coal-miners who had carried out drilling in rock were first reported in South Wales in 1926 by Tattersall. Soon after this, in South Wales, tuberculosis officers of the Welsh National Memorial Association (1931) and private radiologists, in particular Harper (1934) in Ammanford, began to observe radiological pictures similar to silicosis in coal-miners who would have been diagnosed clinically as cases of chronic bronchitis, and even in apparently healthy miners. In 1930 Cummins and Sladden in a classical paper published a detailed account of the pathology of such cases, showing that they had a kind of silicosis modified by what was regarded as an accumulation of coal dust due to lymphatic blockage by silicotic fibrosis.

The South Wales Miners' Federation had naturally been claiming compensation for men such as these for some years, but it was not until 1929 that a scheme of compensation was started. Initially, the scheme was confined to men who could prove that they had worked in silica rock, but in 1934 it was opened to all men working in coal. The rising number of certified cases in South Wales soon showed that pneumoconiosis was a serious problem, at least in the anthracite mines in this coalfield. At the same time, in Sweden (Edling, 1926), Germany (Boehme, 1925), Belgium (Langelcz, 1938), France (Magnin, 1935), and also in Australia (Badham and Taylor, 1933) reports of silicosis among coal-miners were appearing. In America (Bloomfield *et al.*, 1935; Flinn *et al.*, 1941; Jones, 1942), and later in the Soviet Union (Moshkovsky, 1941), the disease was also shown to exist, chiefly among anthracite miners.

In England, however, uncertainty concerning the nature of the disease among coal-miners persisted. Haldane's (1935) view was that coal-miners developed bronchitis because of the excessive pulmonary ventilation occasioned

by their strenuous work, and that consequently inhaled coal dust was not normally eliminated from their lung and accumulated to cause a benign type of fibrosis which was not silicotic. Jones (1936) added the suggestion that bronchitis was especially common among anthracite miners because they become chilled after their day's work by being brought to the surface in special open cars or "spakes," whose use is almost entirely confined to this part of the coalfield.

M.R.C. Inquiries—Medical Studies

It was against this background of increasing awareness of the prevalence of some form of pulmonary fibrosis among coal-miners that the Industrial Pulmonary Disease Committee of the Medical Research Council undertook to investigate the problem in South Wales. These investigations began in 1937, and their results were published in three reports appearing in 1942, 1943, and 1945.

Between 1938 and 1940 Hart and Aslett carried out a radiological survey of working colliers at 16 pits distributed throughout the South Wales coalfield. Their main conclusions were:

First, that there was a serious incidence of radiological abnormalities among coal-face workers, similar to those seen in cases of silicosis, which must be attributed to the inhalation of coal dust. Although men exposed to the inhalation of rock dust were more prone to develop these abnormalities it was among the numerically predominant coal-getters that the greatest number of cases occurred. The part played by coal dust was further illustrated by confirming the presence of similar abnormalities in the lungs of coal-trimmers exposed to dense clouds of coal dust, but to no rock dust, in the bunkers of ships in South Wales ports, thus confirming the findings of Collis and Gilchrist (1928).

Secondly, that the incidence of the disease appeared to be related to the type of coal in which the men worked. They confirmed the evidence provided by figures of certification that hewers of anthracite in the western part of the coalfield were most seriously affected, that hewers of soft or bituminous coal were much less affected, and that hewers of steam coal with its intermediate rank showed an intermediate incidence. This observation gave rise to what may be called the "rank of coal" hypothesis, which relates incidence of pneumoconiosis to rank of coal. The "rank" of a coal is measured by the proportion of carbon and hydrogen in the coal substance. A high rank or hard coal has a high proportion of carbon (as in anthracite) while in softer coals the proportion of hydrogen increases and that of carbon diminishes. There were a few anthracite (high rank) pits which did not show a high incidence, but these exceptions were explained by the fact that they were shallow pits in which the coal was naturally damp and therefore less dusty.

Thirdly, they described an appearance in the abnormal radiographs of a "fine network, sometimes sharp and lacelike in pattern, but much more often blurred in appearance," which they called *reticulation*. This condition was clearly occupational in origin and might be associated with respiratory disability, but, not being nodular in appearance, did not conform to the criteria of silicosis required for compensation purposes. The Industrial Pulmonary Diseases Committee consequently recommended that for the purposes of compensation the radiological standard required for the diagnosis of "pneumoconiosis of coal-miners" should include reticulation. Subsequently an order was issued to this effect, and on and after July 1, 1944 the radiological condition of reticulation was made certifiable.

"Reticulation"

I want at this point to make a few comments on the introduction of the term "reticulation," for some confusion has arisen from its use and from the description of its appearance as being that of a network. Hart and Aslett admitted in their full discussion of this question that

reticular pattern, or an increase of linear lung markings, had been described by other observers (e.g., Steuart, 1923; Edling, 1926) in the early stages of silicosis which precede the formation of definite nodular shadows and which were considered by many of them to be non-specific changes that might be seen in cases without any dust exposure, particularly in patients with chronic bronchitis. Hart and Aslett considered that reticulation was distinct from the appearance of exaggerated lung markings in that it was a finer pattern and did not fade at the periphery of the lung fields. Confusion has, however, persisted. For instance, in France, where periodical x-ray examinations of all underground workers in coal-mines have recently been instituted, the term reticulation is used to describe non-specific changes (Croizier, 1947). In South Wales many men are referred by their doctors to the Silicosis Medical Boards with a radiological opinion that they have reticulation when their radiographs show only an increase in lung markings. Moreover, "reticulation" has come to be used, even in this country, to describe the earliest stages of classical silicosis (Hale, 1946) and other occupational lung diseases (Perry, 1947). Whatever may be the merits of the word "reticulation" to describe the characteristic pattern of early coal-miners' pneumoconiosis, there is no doubt that in practice its use may give rise to some misunderstanding.

Hart and Aslett were forced by circumstances to use a portable x-ray set for their radiography and were therefore unable to achieve a high degree of definition in their films. In the Pneumoconiosis Research Unit we have been fortunate in having a fine-focus rotating anode tube, and we have used ordinary films and high-definition screens. With this technique we find that the most characteristic and almost universal change in the disease is a fine mottling whose main components are usually less than 1 mm. in diameter but may reach twice that size. For this appearance we have, for the time being, used the term "pin-head mottling". In the earliest stages it appears alongside and between exaggerated lung markings, but later it may become so intense that it obscures the normal markings completely (Plate, Fig. 1). The appearance is similar to that described by Caplan (1947) in silicosis in the Kolar gold-mines. It is uncommon for this pin-head mottling to remain in a pure form. Frequently it is associated with a coarser mottling, through which it can still be distinguished, so that a film is often seen which appears nodular when viewed at a distance of a few feet but in which, on closer scrutiny, the nodules can be seen to be composed of aggregates of pin-head mottling (Fig. 2). These granular nodules may be distinguished from a more homogeneous type of nodule which we see particularly in cases resembling classical silicosis with a history of heavy exposure to rock dust or in cases where we suspect a complicating tuberculosis. The commonest type of film is one in which there is a mixture of pin-head mottling with rather coarser nodular shadows of irregular shape and size (Fig. 3). We are not inclined to use the word "network" to describe any of these appearances. We do not suggest that at present the term "reticulation" should be abandoned. It has proved useful in emphasizing the differences between the early stages of coal-miners' pneumoconiosis and those of classical silicosis, and it can only be supplanted by some better term as a result of wide agreement among workers in the field of pneumoconiosis. Moreover, it may be that, with further advances in radiographic technique, further modifications in terminology may become necessary.

Verbal descriptions of radiological appearances, however, will always be confusing. We think they should be forsaken and that in their place should be built up a national (perhaps ultimately international) collection of type films. These films, or good reproductions of them, should be

made available to all medical men concerned with the study of pneumoconiosis. Any radiological appearance could then be described without risk of misunderstanding as being similar to a particular area of a given standard film.

A more serious practical difficulty than that of terminology arises from the fact that reticulation has to be considered as a definable condition for the purpose of decisions concerning compensation. It is obvious that the condition must in fact gradually develop from normality, but, unlike nodulation, in which it may be possible to define a minimum number and size of nodules for such purposes, reticulation cannot be assessed numerically, and it appears to develop only by a gradual increase in intensity. Hart and Aslett gave no guide to the degree of abnormality required for a confident diagnosis of reticulation to be made.

I have recently explored this question experimentally by presenting x-ray films showing various degrees of reticulation to a number of experienced observers, and have found remarkable differences in their opinions concerning the minimal degree of abnormality required to justify a diagnosis of reticulation.

This quantitative aspect of diagnosis is an artificial one resulting from the requirements of compensation legislation. The difficulty might be resolved by the use of standard films (taken, of course, with standard technique) for comparison with any film that is under consideration. I propose to repeat my experiment on diagnosis using such standards, in order to see what increase in consistency of opinion can be obtained with their assistance.

To return now to Hart and Aslett's conclusions. In the fourth place, they described a sequence of radiological abnormalities beginning with reticulation and proceeding through nodulation (consisting of localized or generalized multiple discrete shadows 2 to 5 mm. in diameter) to coalescent nodulation in which the nodular shadows begin to fuse, and on to the late stages of multiple fluffy shadows consisting of larger, less well-defined shadows than those of nodulation, and finally to large, well-defined, and dense massive shadows. From a consideration of the varying incidence of these abnormalities in men with increasing exposure to coal dust they postulated that with such continued exposure, at least in the mines with higher incidence, reticulation tended to develop into nodulation and thence by coalescence to fluffy and massive shadows. Consideration of the underlying pathology of these radiological appearances led to the conclusion that reticulation and the later more advanced abnormalities were "related in pathological development as well as being connected in time sequence." They carefully considered the part that tuberculosis might play, but concluded that it was so modified by pneumoconiosis that its presence could not be identified confidently in life and that it played an associated rather than a causative part. This view that a modified tuberculosis might play an adjuvant rather than an essential part in the development of massive fibrosis was similar to the views of Cummins (1936), Sen (1937), and Jones (1938) in South Wales. It differed slightly from the American view (Sokoloff, 1936; Bloomfield *et al.*, 1935; Gardner, 1940), by which tuberculosis appeared to be regarded as entering into and modifying the majority of the cases of advanced fibrosis. It was opposed to the view of Policard (Policard *et al.*, 1939), in France, who has always maintained that tuberculosis is the main cause of fibrosis in pneumoconiosis.

Lastly, finding no particular method of mining to which the high incidence of the disease might be attributed, Hart and Aslett emphasized the urgent need for suppression of all airborne dust in coal-mines.

M.R.C. Studies of Pathology and Pathogenesis

In the same report there appeared an account by Belt and Ferris (1942) of the pathology underlying the x-ray changes described by Hart and Aslett. They were not able to add much to existing accounts of the disease

(Cummins and Sladden, 1930; Gough, 1940), but they laid emphasis on a basic pathological change underlying the radiological reticulation which they described as a diffuse network of reticulin fibrosis enmeshing, without redundancy, the deposits of coal dust in the lungs. To this condition they gave the name "dust reticulation." After ashing, dust reticulation left a highly siliceous residue. It provided a constant background, as does radiological reticulation, to the more advanced collagenous fibrosis corresponding to radiological appearances ranging from nodulation to massive shadows. Belt and Ferris suggested that the dust reticulation was due solely to the presence of silica in the coal dust, but that the development, in certain cases only, of collagenous fibrosis was due to the sporadic influence of an additional factor. This factor was not identified, but it was suggested that it might often, though not necessarily always, be the tubercle bacillus. This suggestion was based on the histological similarity between many of the fibrotic lesions in which tubercle bacilli could be identified and others in which they were not to be found but might none the less have been present at an earlier stage in the development of the lesion.

The pathogenesis of the disease was investigated along three main lines in addition to that of morbid histology.

A. By studies of air-borne dust underground in the mines at which radiological surveys had been carried out (Medical Research Council, 1943). It was shown that there was a relationship between disease incidence and the concentration both of the total dust and of its ash (or non-coal) component. It was not possible to distinguish between the quantitative and qualitative effects of the various dusts, but in their summary of the findings the Industrial Pulmonary Diseases Committee concluded that "the dust in anthracite mines is more dangerous than in the bituminous mines," thus supporting, but not explaining, the rank-of-coal hypothesis.

B. By chemical and mineralogical studies of the residues obtained by incineration of lung specimens an attempt was made by King and Nagelschmidt (1945) to see whether the degree or type of fibrosis could be correlated with any particular component of the dust in the lungs. In the lungs of men who had worked predominantly in rock and who had developed the classical type of silicotic nodulation there was a significantly greater amount of quartz and mica than in lungs showing the other types of fibrosis, but amongst the latter group, while there was rather more quartz and mica in the more advanced cases of fibrosis, the difference from the earlier cases was not statistically significant. No correlation was found between the amount of fibrosis and the amount of coal, which led to the conclusion that coal itself was not fibrogenic.

C. By the intratracheal inoculation of rats with suspensions of various air-borne dusts and of dusts obtained by the grinding of certain rock strata encountered in the South Wales coal-measures Belt and King (1945) showed that dusts containing high proportions of quartz and mica were the most fibrogenic. Air-borne dusts in general gave little fibrosis. The most fibrogenic air-borne dust was, curiously enough, derived from a low-incidence bituminous mine.

On the other hand, Campbell (1944) exposed mice to the inhalation of anthracite and bituminous dust and found that a greater increase of reticular tissue was produced in the lungs with the former than with the latter dust.

The state of knowledge concerning coal-miners' pneumoconiosis as it was left after the publication of the Medical Research Council's Reports may be very briefly summarized as follows: There was now no doubt that pulmonary disease attributable to the inhalation of coal dust was a serious problem among the coal-miners of South Wales; that the frequency of its occurrence appeared to be related to the rank of coal, being higher in the higher-rank coal-mines, but whether this was due to quantitative or qualitative differences in the air-borne dust clouds could not be decided; and, lastly, that both silica and some unspecified

agent, possibly tuberculosis, were chiefly responsible for the development of fibrosis.

On the scientific aspect of the problem, the chief developments after the completion of the Medical Research Council's earlier investigation were in the field of pathology which I shall discuss later.

In the field of practical affairs, two developments need consideration: dust suppression, and an increase in the incidence of certified disease.

Dust Suppression

After the passing of the Coal Mines Act in 1911 the use of some device to prevent the escape of rock dust into the air during drilling became obligatory, but no attempts were made to suppress coal dust. In 1938 the Royal Commission for Safety in Coal Mines discussed suppression of coal dust only as a means of reducing the danger from explosions. Research into the problem was, however, advised, and the British Coalowners Research Associations and the Safety in Mines Research Board began to investigate the problem. In South Wales, as the results of the Medical Research Council's investigations came to be known, serious attention began to be paid to the prevention and suppression of coal dust underground, both by the Mines Inspectorate, the Monmouthshire and South Wales Coal Owners' Association, and by the Amalgamated Anthracite Company, who set up their own Silicosis Research Committee.

The result has been the development of various methods of dust suppression, of which the most important are the following

1. *Improvements in Ventilation.*—This has been of importance particularly in anthracite mines, where, owing to the methods of working the coal in common use, and owing to the rather haphazard development of the mines from shallow surface workings, poor ventilation was formerly one of the main reasons for the high dust concentrations in this part of the coalfield.

2. *Water Infusion.*—By this method water is introduced under pressure into the coal seam in advance of the working face, so that the coal is already damp when it is cut. It is a most effective method, but is not free from technical difficulties, particularly if the water leaks out from the coal seam into the adjacent strata, which it may soften and thus cause difficulties in the control of the roof.

3. *Wet Cutting.*—The mechanical cutting of coal has since its introduction been one of the most prolific sources of dust. A chain of picks is carried by a jib into the coal seam and undercuts or overcuts it, so that the coal is more easily won. The cutting of coal produces a mass of finely ground coal, much of which subsequently becomes air-borne, particularly when it is shovelled on to a conveyor. The introduction of water or foam with the picks damps the finely ground coal and largely prevents it from becoming air-borne, while percolation of the water into the coal adjacent to the cut and the dampness of the floor reduces much of the dust caused by working the overhanging coal.

4. *Water Sprays.*—Where water infusion or wet cutting is impracticable, water sprays are used to wet the coal-face before the coal is pulled down and the loose coal before it is loaded or before it is transferred from one conveyor to another or from a conveyor into trams. They have also recently been applied to pneumatic picks, which are another important source of dust.

The magnitude of the task achieved in the field of dust suppression in South Wales is shown by Table II, which gives the

TABLE II.—Extent of Dust Suppression in Coal-mines in Great Britain in November, 1947

	South Wales		Rest of Gr. Britain	
	Miles	% of Total	Miles	% of Total
Total length of coal-faces worked ..	80.51	100	306	100
Total length of faces with dust suppression in operation	42.6	53	12.5	4
Length machine-cut wet ..	14.6	18	8.6	2.7
Length water-infused ..	17.3	21.5	0.2	0.1
Length treated with hand-sprays ..	10.7	13.5	3.7	1.2

position of dust suppression in November, 1947. In South Wales half of all the coal-faces were treated with some means of dust suppression, and this is claimed to represent nearly all the places at which dust concentrations rise above the

PNEUMOCONIOSIS OF COAL-MINERS

provisional standards of safety that have been adopted. It will be seen that dust suppression in the rest of England is still in its infancy. Dust Prevention Committees have recently been set up in every division of the British coalfields, and the fruit of their labours should soon become apparent.

In this field, however, it is the doctor's role not to ask over how many miles of coal-face measures of dust prevention are officially being applied; he must ask, rather, how far dust levels are in fact being reduced. There is good evidence that in many places dust levels have been reduced to as little as 10% of their former high level, although all too often this degree of success has not been achieved (Monmouthshire and South Wales Coal Owners' Association, 1945). Whether this reduction is sufficient to remove the risk of pneumoconiosis is not yet established; nor can it be until, in the course of years, it can be shown that new cases are no longer arising.

A further role for the doctor as a human biologist is to insist that dust-suppression measures should not only be mechanically and physically effective but that the men who have to operate them should find them convenient and acceptable in use, and that they should find a policy of education come fully to appreciate their need. Sprays that are ill-adjusted may wet the men more than the coal and will be turned off. Excessive use of water in any method may cause unpleasant working conditions. Men are always unwilling to accept measures for their own safety that are inconvenient and require care and attention. Perhaps the most urgent needs to-day in the field of dust suppression are that more attention should be paid to the human factor, that in every piece of mining machinery automatic dust-suppression devices should be incorporated by the manufacturers, and that there should be fully trained dust-suppression officers in every pit.

There may always be certain mining methods in which the production of heavy dust clouds will be unavoidable—for instance, shot-firing. Under these circumstances it may be necessary for men to wear respirators. Unfortunately, no efficient respirator has yet been devised which men are willing to wear consistently. In the design of respirators filtration efficiency has been given priority over wearability, despite the obvious fact that an efficient mask in the pocket is of much less use than an inefficient mask on the face. In this field of investigation the biological approach is needed, giving first attention to the convenience of the man, if necessary at the expense of perfect filtration efficiency.

Increase in Certification Rates

The second important development since the publication of the first reports of the Medical Research Council has been an increase in the incidence of a certified disease, which, in point of time, followed the acceptance of the radiological condition of reticulation for purposes of compensation. Hart and Aslett considered the possible consequences of such a change in legislation, but concluded that a large increase in numbers of certified cases should not be anticipated, chiefly because respiratory disability, in the absence of which compensation is

not granted, was infrequent in cases of reticulation except in the later age groups.

Unfortunately, this forecast was not correct, as may be seen in Chart I, which shows the number of men certified as totally or partially disabled in each year from 1931 to 1946. After the introduction of the Coal Miners' Pneumoconiosis Order in 1943, applications to the Board rapidly increased. At first the Medical Boards were overwhelmed in South Wales, and a large waiting-list was built up. More doctors were appointed in 1944, and the number of men certified rose to over 5,000 in 1945, to fall again in 1946. Provisional figures for 1947 show a further fall to just under 3,000. It is to be noted that certifications have continued to rise in the other coalfields of Great Britain, and provisional figures for 1947 show a further rise to just under 1,000.

The mean rate of certification since 1942 has risen to four or five times the rate in that year. There are no precise figures available to show what proportion of this increase was caused by the inclusion of cases of reticulation, but Dr. N. Keating and Dr. J. C. McVittie, of the Cardiff and Swansea Silicosis Boards, estimate that of the men certified since July, 1943, approximately 50% have been cases of reticulation that would previously have been rejected. Thus, since only half of the increase can be accounted for on this basis, there must have been a considerable increase in the number of applicants to the Board with more advanced disease than reticulation. It is important to consider why this increase has occurred.

There is no doubt that men with quite advanced pneumoconiosis can continue to work for many years underground. At first they may have no symptoms. Later, with increasing symptoms, economic pressure and fear of unemployment may

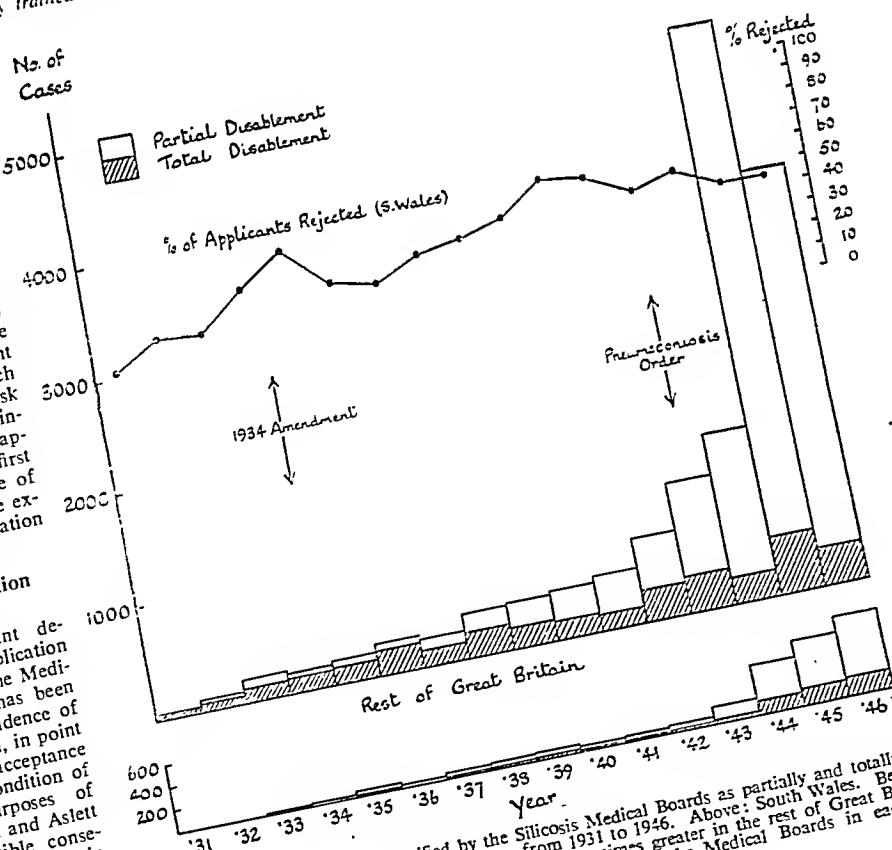


CHART I.—Number of men certified by the Silicosis Medical Boards as partially and totally disabled by pneumoconiosis and silicosis in each year from 1931 to 1946. Above: South Wales. Below: Rest of Great Britain. The population at risk is about six times greater in the rest of Great Britain than in South Wales. The percentage of applicants rejected by the Medical Boards in each year in South Wales is also shown.

keep them at work. Any influence which will lead men to apply with greater readiness to the Silicosis Boards will therefore give rise to an apparent increase in the incidence of all stages of the disease as judged by certification rates. Two such influences have recently been of importance, at least in South Wales.

The first has been the operation of the Essential Works Order, under whose provisions during and since the war men could leave coal-mining on medical grounds only. In South Wales before the war there was little alternative employment for a coal-miner, but by 1942 war industries were in full operation, so that there was actually a labour shortage. Wages were high in these factories and conditions good. If after a day's toil at the coal-face a man comes home tired and dirty to find that his daughter, fresh from a day of light bench work, has earned more money than he has, he may begin to think of following her example. Many men found an application to the Silicosis Medical Boards a means of escape from mining to easier and more remunerative work. The second influence, in South Wales at least, has been increasing awareness among miners of the risk of pneumoconiosis. Miners are well-educated men, and in many a workman's club library the Medical Research Council's Reports on Chronic Pulmonary Disease Among Coal-miners are well thumbed and well understood. In every mining village in South Wales patients certified as suffering from silicosis can be seen pausing for breath on the hills. In a recent study undertaken by the Social Survey (1947) to investigate the problem of recruitment to coal-mining 68% of mining men in South Wales gave danger to health and dustiness as the chief objection to mining, whereas in other mining areas this objection was not raised by more than 40% of those questioned. The weight of these influences is shown by the large number of unsuccessful applications to the Boards. It might have been expected that the adoption of reticulation as a basis for compensation would have resulted in an abrupt fall in the percentage of cases rejected. In fact, as may be seen in Chart I.

no such fall occurred because of a rise in the number of applicants with insufficient disease for certification.

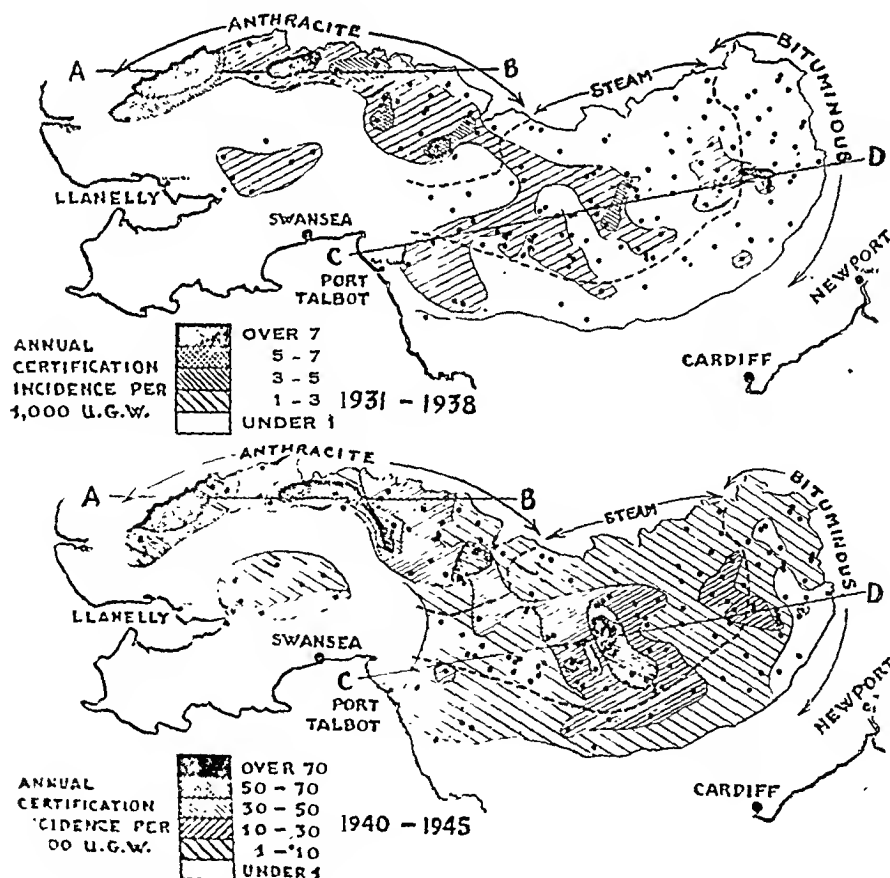
It also will be seen in Chart I that during the past five years there has been a slight but definite rise in the number of cases certified as totally disabled. These men have such severe symptoms that they would have applied to the Board regardless of any outside influence. This increase in numbers of advanced cases suggests that there has been a true increase in incidence recently.

Further evidence for such an increase may be derived from an analysis of the geographical distribution of certified cases which I have made with the help of my colleague, Mr. H. H. Watson, by calculating the annual certified incidence per 1,000 underground workers in all South Wales mines employing more than 100 men underground. These incidence rates were calculated for two periods, 1931-8 and 1940-5. The mines were then classified into groups showing, in the first period, annual rates per 1,000 of less than 1, 1-3, 3-5, 5-7, and over 7; and in the second period into groups showing annual rates per 1,000 of under 1, 1-10, 10-30, 30-50, 50-70, and over 70. When these rates are plotted on a map of the mines in the South Wales coalfield (see accompanying Maps) it is possible to draw "contour" lines enclosing those pits which fall within the same incidence groups. It is interesting to note that while pits with widely differing incidences may adjoin one another, areas of high incidence, in general, are surrounded in turn by areas of medium and low incidence. I cannot enter here into the complex factors which determine the disposition and shape of these contours, but will only state that the incidence of certifications is probably closely related to actual disease incidence. In the first period the groups of high-incidence mines in the anthracite area are clearly seen: there is a long irregular tongue of medium incidence extending into the steam-coal area, and there is another small but sharp peak of high incidence in the bituminous area. Elsewhere the annual rate is less than 1 per 1,000.

In the second period, in which the incidence levels at which contours have been drawn are ten times as great as those in the first period, the anthracite peaks remain, the bituminous peak is but a relatively low mound, but the striking change is the high peak that has developed in the steam-coal area, especially in the Rhondda Valley, which now rises to match the western heights. Only a small area in Monmouthshire has retained an annual incidence of less than 1 per 1,000.

The outstanding increase of incidence in East Glamorgan is brought out again in Table III, in which the pits have been grouped geographically into four main areas and the ratio between the average incidence in the two periods throughout these areas is shown. In the anthracite area, in West Glamorgan and in Monmouthshire, the average increase of incidence lies between sixfold and sevenfold. In East Glamorgan, however, the increase is nearly three times as great. A fallacy in these ratios might be caused by a disproportionate decrease in underground man-power in this area, but the percentage decreases in underground man-power (also shown in Table III) are similar in all the areas.

We must also consider the possibility that the high ratio in East Glamorgan might be due not to a real increase in incidence but rather to a later development of awareness of the disease in this area. In this case the disproportionate increase in certifications might be due to a flood of applicants whose disease originated in the earlier period but who had for some reason delayed applying to the Board until the later period. If this



Maps of the South Wales Coalfield showing the incidence of certified silicosis and pneumoconiosis in 1931-8 and 1940-5 in all mines normally employing more than 100 underground workers. The small black circles each represent a single mine. "Contours" have been drawn enclosing mines at which the incidence of certified disease per 1,000 underground workers per annum falls into the same group. These incidence groups are shown in the Map. U.G.W. Underground workers.

TABLE III.—Certification Rates in South Wales by Counties and Class of Coal, and in Rest of Great Britain, 1931-8 and 1940-5

	Certification Rate Per 1,000 U.G.W.		Ratio of Rate 1940-5 Rate 1931-8	Ratio of U.G.W. 1931-8 U.G.W. 1940-5
	1931-8	1940-5		
South Wales Pits employing > 100 U.G.				
Anthracite ..	5.14	34.7	6.75	0.95
Non-anthracite ..				
W Glamorgan ..	1.14	7.69	6.75	0.84
E Glamorgan ..	1.00	18.27	18.27	0.85
Monmouthshire ..	0.82	5.18	6.32	0.87
Rest of Great Britain (all pits)	0.0535	0.467	8.72	0.90

Figures for South Wales derived from all mines normally employing more than 100 men underground. Figures for rest of Great Britain derived from all mines. U.G.W. = Underground workers.

were so we should find that the cases coming from the high-incidence steam-coal pits were older men than those coming from the other pits. Figures for the age distribution of certified cases are available for only ten pits in the anthracite area and six high-incidence pits in the East Glamorgan steam-coal area, but these should be representative figures, and it will be seen from Chart II, which shows the age distribution of certified

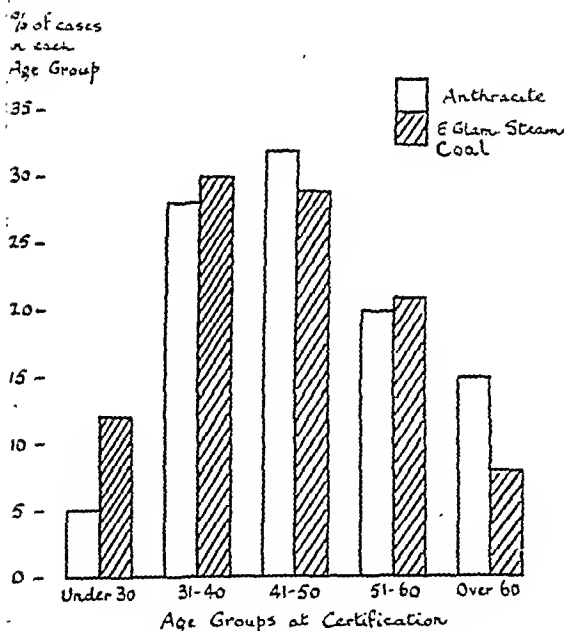


CHART II.—Age distribution of all cases certified with silicosis and pneumoconiosis between 1940 and 1947 at ten anthracite mines and six high-incidence steam-coal mines in East Glamorgan. The height of the vertical columns represents the percentages of all cases falling into 10-year age groups.

cases during the second period from these two areas, that on the whole the East Glamorgan cases are the younger men. This finding is inconsistent with delayed awareness of disease in this area and is consistent with a real increase in incidence.

To sum up, we may conclude from these certification figures that the change in legislation in 1943 and the tendency for men to seek employment outside coal-mining may account for the general increase in the certification rate during the past six years, but that some additional factor must have operated in the East Glamorgan steam-coal pits, especially in the Rhondda Valley, to produce a real increase in disease incidence.

What, then, may this factor have been? The rank-of-coal hypothesis would demand that dust concentrations must have been much higher in steam-coal pits than in anthracite pits in order to give as high an incidence. There must then have been some relatively recent rise in dust concentrations in the East

Glamorgan steam-coal pits to account for the big increase in certified incidence there. It was in these pits that intensive mechanized mining was first adopted in South Wales, and there is general agreement among mining men that these methods gave rise to an enormous increase in dustiness. These mechanical methods of mining were mostly introduced in the early nineteen-thirties and would have been expected to produce a rise in certification rate beginning seven to ten years later, which in fact we find; for this is the minimum period necessary for the development of a certifiable degree of pneumoconiosis in most cases (Hart and Aslett, 1942).

Unfortunately, quantitative information concerning dust concentrations in South Wales pits before the institution of dust suppression is scanty. However, Briscoe *et al.* (1943) give figures for the mass concentration of air-borne dust in the pits at which colliers had been examined by Hart and Aslett (1942). Unfortunately, they did not include any high-incidence steam-coal pits. However, rather scanty figures are given for mass concentrations of air-borne dust at coal-faces in some of these pits before dust suppression in the 15th Report of the Coal Dust Research Committee of the Monmouthshire and South Wales Coal Owners' Association. In Chart III the annual certified incidence at various pits between 1940 and 1945 per 1,000 underground workers is plotted against the total mass concentrations of air-borne dust derived from these two sources. The figures

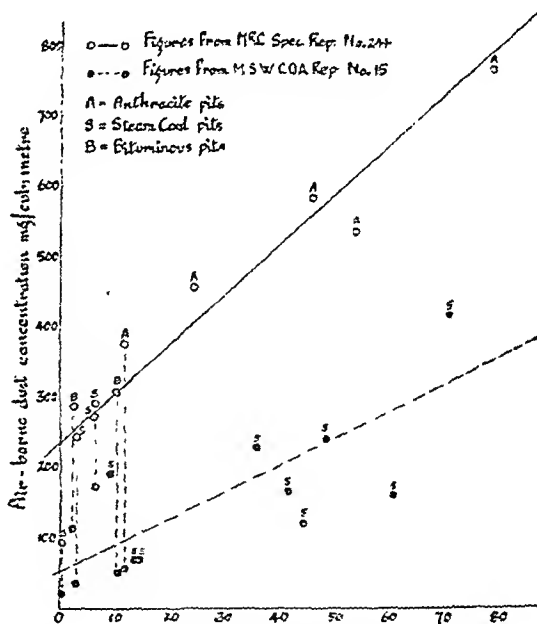


CHART III.—Relationship between annual certified incidence per 1,000 underground workers (horizontal axis) and air-borne dust concentrations expressed as mg./cu.m. (vertical axis) at seven South Wales coal-mines. Circles representing mines for which figures are available from both sources are joined by a dotted line.

for the pits surveyed by both investigators are joined by a dotted line in the chart. There is a fairly direct relationship between certified incidence and total mass concentration of dust, but there appears to be a systematic shift in the dust levels between the two sets of estimations which may be due to the difference in the methods of sampling employed. However, if allowance may be made for this shift by bringing the figures from the pits surveyed by both investigators to the same level, it appears that dust concentrations in anthracite and steam-coal pits of equivalent certified incidence were similar and not much greater in the steam-coal pits, as would have been demanded by the rank-of-coal hypothesis, upon which some doubt is thus thrown.

Too much weight must not be placed upon this rather unsatisfactory evidence, and it must be admitted that there are a few

figures recorded for dust concentrations under exceptional circumstances in steam-coal pits (for instance, at loading points) which are higher than any figures recorded by the Medical Research Council's investigators in anthracite pits. But it is fair to say that at present there is no good evidence that conflicts with the hypothesis that differences in the concentrations of air-borne dusts rather than differences in the constitution of the dusts chiefly account for the differing incidence of the disease among the coal-miners of South Wales.

This does not mean that qualitative differences in the dust clouds are of no importance. That they are important is indicated by Hart and Aslett's demonstration that rock workers have a greater tendency than colliers to develop radiological abnormalities. Since, however, there is in South Wales at least a hundredfold variation in the concentration of air-borne dust at the coal-face from mine to mine, while the variation in silica content, for instance, is less than tenfold, any effect of the qualitative differences in the dusts is concealed by the far greater quantitative differences.

I suggest, therefore, that the earlier development of a high incidence of pneumoconiosis in anthracite mines was due to high dust concentrations resulting mainly from poor ventilation, especially during the nineteen-twenties; and that its late development in steam-coal mines was due to high dust concentrations resulting from the introduction of intensive mechanical methods of mining in the dusty coal seams of East Glamorgan during the next decade.

This problem of the differing and changing incidence of the disease in South Wales pits is one to which we are devoting considerable attention in the Pneumoconiosis Research Unit. We have started a programme of radiological surveys at selected pits and we shall attempt to correlate our findings with the results of dust surveys. For this latter purpose it is essential that we should have some rapid and simple method of assessing dust concentrations. Hitherto all methods in common use either have been laborious or have involved the use of cumbersome equipment. Mr. H. H. Watson has devised a simple method (Watson and Hounam, 1948) by which air is drawn through a piece of filter-paper by a simple hand-pump and the resultant stain of coal dust is rapidly assessed by a photo-electric densitometer. Using this method, we have already carried out many surveys. Perhaps the most important preliminary result of these surveys has been the demonstration that there are tremendous variations in dust concentrations both from minute to minute and from day to day at the same face with unchanged working conditions. There is thus great difficulty both in giving representative single figures for air-borne dust concentrations and in assessing dust conditions by means of a brief visit from a mines inspector or a dust control officer. Some automatic method of continuous recording of dust concentrations is needed, and our physicists are now turning their attention to the development of such a method.

Pneumoconiosis in England and Scotland

Finally, we must consider briefly the incidence of pneumoconiosis of coal-miners in Great Britain outside South Wales. The total number of certified cases in South Wales is approximately seven times the number in the rest of the country (see Chart I). Since there are nearly six times as many coal-miners in the rest of the country, the incidence of certified disease is nearly 40 times greater in South Wales. The important question is whether this difference in incidence is genuine or whether awareness of the disease has not yet spread to the whole country so that the rising figures of incidence for Great Britain as a whole forbode a disastrous situation arising there during the next few years as it has during the last few years in South Wales. Intensive mechanical methods of mining have been introduced to a greater extent in the rest of the country than in South Wales, and it is not unreasonable to fear that we may see these methods being followed by the same consequences as they have in East Glamorgan. I believe such a pessimistic forecast may be unjustified for three reasons:

1. In Table III it may be seen that the ratio of certified disease in 1940-5 relative to that in 1931-8 for pits in South Wales is much closer to the general ratio for South Wales than that for East Glamorgan, where there has been a large increase in incidence. This might be interpreted as suggesting that the rising figures outside South Wales are more likely attributable to social and economic factors than to a real increase in disease incidence. A further regional analysis of the ratio shows that its slightly higher value than that for South Wales excluding East Glamorgan is due chiefly to a high ratio in Scotland, Durham, and Denbigh, which may suggest a more recent increase in incidence in these areas.

2. During the past three years 14 mass miniature radiography surveys have been carried out by local authorities at collieries in England. In these surveys the non-attendance rate has been high, averaging 50%, so that great caution must be used in deriving conclusions from their findings. So far as they go, however, they do not suggest a serious position, the incidence of all abnormalities described as suspected pneumoconiosis being only 1.7% of all employees examined. This compares favourably with Hart and Aslett's findings among coal-miners in the lowest-incidence mines in South Wales.

3. There is the obvious fact that if overall mass concentration is the most important factor in the causation of the disease then no really dusty pit can be a low-incidence pit. The low incidence outside South Wales should therefore mean that there are no really dusty pits in the other coal-fields in Great Britain. Statements to the contrary, however, have been made (Graham and Jones, 1947), and we felt that we should investigate this point. With the help of the Mines Inspectorate we have been introduced to several reputedly dusty pits in North Staffordshire, Northumberland, and Cumberland which have a low incidence of certified disease. Mr. Watson has made estimations of the dustiness at coal-faces in these pits, and to our satisfaction he has found so far that the air-borne dust concentrations, although they may reach levels which we find in high-incidence pits in South Wales after dust suppression, do not reach the levels which existed under the former uncontrolled conditions. Our explorations as yet are only preliminary, but they do not lend support to the idea that many pits in Great Britain are sufficiently dusty to give rise to an incidence of pneumoconiosis such as has prevailed in the pits of South Wales.

It is with considerable hesitation that I suggest that there is no reason to fear the development of pneumoconiosis in Great Britain as a whole on a scale of severity such as that to which South Wales has been subject, for I am aware that doctors have in the past been guilty of disastrously mistaken complacency. However, we shall not remain content with this fragmentary evidence, and shall seek further sound information. Meanwhile the results of fuller inquiries may be awaited with reasoned confidence.

[The second lecture, with a list of references, will appear in the next issue.]

Dr. Conrad Berens, of New York, was elected president of the Pan-American Association of Ophthalmology at the Third Pan-American Congress of Ophthalmology held in Havana, Cuba, Jan. 4-10. The next Congress will be held in Mexico City, 1952. The Congress adopted statutes and by-laws establishing the Pan-American Association of Ophthalmology as a continuing organization with the objects of fostering the progress of ophthalmology, establishing contacts among ophthalmologists of the Western Hemisphere, and promoting measures to conserve eyes and prevent blindness among the peoples of the hemisphere. To achieve these aims permanent committees were established to deal with the following matters: research, glaucoma, trachoma, light and optics, contact-lens centres, orthoptics, prevention of blindness, neuro-ophthalmology, legal and industrial ophthalmology, standardization of ophthalmic hospitals and clinics, inter-American medical relationships, establishment and guidance of ophthalmological societies, and scientific cinematography. A board of censors was formed to supervise the relations of Association members to the lay press. According to the resolution adopted at Havana, the representatives of the Association's press relations committee may approve publication of articles in the lay press concerning members.

DEFICIENCY SCROTAL DERMATITIS IN P.O.W.s IN THE FAR EAST

BY

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The condition here called deficiency scrotal dermatitis has not, so far as I am aware, yet received an adequate clinical description. Its prevalence among Allied prisoners of war in the Far East presented unrivalled opportunities for clinical observation, and it seems desirable to record a study of 551 cases. It is to be regretted that observations on the specific nature of the syndrome were precluded by the circumstances of the situation. Scrotitis is an ugly word, and "the urogenital syndrome," a term used by Mitra (1943), seems an inadequate description of many of the cases that were seen. For these reasons the term "deficiency scrotal dermatitis" has been adopted for the condition to be described.

Scrotal dermatitis first appeared among prisoners of war on Singapore Island in May, 1942, three months after their capture. During the six months from July 1 to Dec. 31, 1942, 1,371 cases were admitted to the skin ward at the main hospital for British personnel. Of these, 551 were primarily admitted for scrotal dermatitis. It should, however, be stated that many medical officers ran their own camp reception stations, so that not all cases were admitted to the main hospital. Pavillard (1946), writing of a camp in Singapore Town where 650 men remained for six months before going to Siam, states that "practically the whole camp suffered from scrotal dermatitis." This would not be an overstatement for most of the camps on Singapore Island.

After leaving the main camp at Changi in November, 1943, no cases of scrotal dermatitis occurred in any personnel under my care, though in Changi in 1944 there was a severe outbreak of new cases. Vegetables were difficult to get, and Clarke (1946) concluded that "scrotal dermatitis with its concurrent lesions was due to a deficiency of greens." Scrotal dermatitis was, however, still present in some prisoners of war on Singapore Island one month after their release (Mitchell and Black, 1946).

Symptoms and Signs

The first symptom noticed was an irritation of the scrotum, always worse at night and often becoming so severe as to make sleep impossible. In the daytime men were often seen subconsciously scratching the affected part, but during work or if the patient got hot the irritation would become temporarily worse, and was unrelieved by scratching. In its mildest form the scrotal dermatitis would last for only a few days and then would relapse and last days or weeks. Heavy work, heat, and illness were the chief precipitating causes of the onset or a relapse. It is important to recognize the mild early stage because the condition is not simulated by a tinea or an eczema due to other causes. If untreated it developed in a number of different ways, making it possible to classify the more advanced cases. It should be understood, however, that the distinction between the different forms was not always clear.

1. Mild Acute Dry.—This form was present in almost all prisoners of war in Malaya six months after captivity. The front of the scrotum became red, with the medium raphe showing as a smooth white line dividing the slightly raised and thickened erythematous surface. This condition might persist for a few days or weeks. Finally, with or even without treat-

ment, a fine desquamation would leave an apparently normal-looking scrotum. In the coloured races the erythema could not be recognized, though the stage of desquamation could easily be seen.

2. Severe Chronic Dry.—The front of the scrotum looked a bright red. Where the scrotal skin came in contact with the inner sides of the leg a few erythematous punctate areas appeared which later joined together to form a continuous blush. In more severe cases the skin round the anal margin and interanal cleft became red and painful, and fissures were often present. The under surface of the skin of the penis as it rested on the front of the scrotum commonly became red and irritable. The condition seemed to spread around the corona and on to the glans penis. In the uncircumcised, cracks appeared at the free margin of the prepuce, so that balanitis and phimosis often made circumcision necessary.

3. Chronic Wet.—This was the condition for which patients were admitted to hospital, though ambulatory treatment was of necessity often employed. The whole surface of the scrotum became wet and the inner sides of the legs were similarly involved. In the mild forms the scrotum might become dry again in a few days, in which case desquamation would occur, leaving a smooth shiny scrotal skin. If the moist state continued for over a week before the scrotum became dry a crepitant sensation, like egg-shells cracking under the skin, was observed. When the wet condition persisted the skin became macerated and fetid, and the cracks in the skin around the anus, cruro-scrotal junction, and preputial margin spread and became more painful. Without treatment the area of weeping and of infection increased until the condition developed to type 4.

4. Ulcerated and Oedematous.—The scrotum might now become as big as a football. Walking was almost impossible, as fluid and pus oozed from the fetid area. The scrotal skin was extremely painful from ulceration. In some cases flies had laid their eggs in the scrotal ulceration, and the maggots as they moved about caused an extremely painful contraction of the cremaster muscle. Serum exuding from the scrotum was thus an ideal culture medium for *Corynebacterium diphtheriae*. In the worst cases a spreading gangrene from the scrotum to the legs and lower abdominal wall, with marked generalized toxic symptoms with or without diphtheritic infection elsewhere, terminated in death.

Associated Vitamin-deficiency Diseases

A detailed analysis of the other stigmata of vitamin-deficiency disorder occurring in patients with scrotal dermatitis was confiscated by the Japanese. It is, however, possible to give an approximate picture of the associated syndromes.

Oral Lesions.—The commonest lesions found associated with deficiency scrotal dermatitis were those of angular stomatitis, sore lips, and sore tongue. Stannus (1912) originally used the term "angular stomatitis" to describe a soreness at the commissures of the lips, with redness and desquamation along the line of closure. The angles of the lips became fissured and secondary infection was common. This condition must be distinguished from a cheilosis, which is an affection of the vermillion of the lips. The tongue lesions were so common that few subjects of established scrotal dermatitis had a normal tongue. In its mildest form the tip of the tongue only was involved. The tip looked tender, but only hot fluids and highly seasoned food actually caused pain. Later the whole surface of the tongue became either bright red or, more commonly, magenta-coloured. The thickened epithelium would flake off in patches, giving the so-called "geographical tongue." On the other hand, in a minority of cases the tongue was remarkably smooth and glazed in appearance. An infrequent finding was a bright redness of the soft palate and anterior pillars of the fauces. These cases had often been referred to the ear, nose, and throat department with the diagnosis of "pharyngitis." They were quickly cured by adequate doses of "marmite."

Skin Lesions.—Mild superficial desquamation on the nasolabial folds and on the skin adjacent to the pinna was a very common finding. A rather similar condition of the canthi, described by other observers, was very rarely seen. Some

patients who had been severely ill developed a fine dry scaling mosaic pattern of the skin of the body which did not quickly respond to any form of treatment. In some of the accounts of syndromes related to deficiency of the vitamin-B complex scrotal dermatitis, if mentioned at all, has been included in the term "pellagra." This is unfortunate, since the aetiology of the two diseases is not the same. Of the 551 cases under review only two had associated pellagroid skin changes. These consisted of a pigmentation and roughening in those areas of the skin most exposed to the sun. If thus exposed for any length of time the pigmented areas became painful and a patchy desquamation spread from the centre towards the periphery of the lesion. Five cases showed a follicular hyperkeratosis. This was most pronounced on the forearms just below the elbows and on the outside and back of the legs. The rough porcupine condition of the skin could be felt better than seen. It was cured by giving adequate doses of vitamin A in the form of red palm oil.

Painful or Burning Feet.—Cruckshank (1946), in a review of 500 cases of painful feet under his care while a prisoner of war, states that 30% suffered from scrotal dermatitis. Cases were admitted to the skin ward primarily for skin complaints only. Of the 551 patients under review six complained of painful feet. Nicotinic acid or its amide cured four and relieved the other two.

Ocular Manifestations.—These were of two types: the more common one, for lack of literature, was called granular cornea; the other, retrobulbar neuritis. Granular cornea, retrobulbar neuritis, and scrotal dermatitis were in many cases present together, but the three diseases seem to bear little relation to one another with respect to date of onset and peak number of cases seen in any one month. In those suffering from granular cornea or keratitis the presenting symptoms were photophobia, itching and burning of the eyes, and a sensation of eye-strain. The eyelids were kept half shut, but beyond a general conjunctival injection, and without using slit-lamp investigation, no gross changes could be seen. If obvious corneal ulceration occurred the usual curative methods were found to heal extremely slowly. Permanent scarring did occur in some cases. The retrobulbar neuritis was in many cases more difficult to diagnose because the symptoms often arose without evidence of structural change. Although the maximal disability sometimes appeared suddenly, the symptoms generally took weeks or months to develop fully. Blurred vision or inability to recognize faces was the usual complaint. Sometimes patients suddenly found that they could not read, while others were unaware of any disability when a central scotoma was found on examination.

Illustrative Case.—A patient was admitted in November, 1942, complaining of a weeping scrotal dermatitis and blurred vision. At the end of a fortnight's treatment the scrotal condition had healed but the sight was becoming worse. One morning he failed to see his bed, walked into it and injured himself. Three months later, when vision had improved to counting fingers, there were still no abnormal disk changes.

Smith (1946) states that in the civilian internment camp, Hong Kong, where similar dietary conditions prevailed, of the 370 cases of retrobulbar neuropathy 143 (38.7%) had suffered from the orogenital syndrome. Ridley (1945) found that, although 48 out of 100 cases of amblyopia in former prisoners of war showed definite pathological pallor of the temporal halves of the disks, the appearance of the disks was sometimes normal even in severe and prolonged cases. Similar findings were noted a year before release in 46 patients who complained of blurred vision. Only one of these showed marked optic atrophy in both eyes; 16 showed slight temporal pallor in one or both eyes; and in the remainder the fundi appeared normal. Night-blindness was never complained of, though it is said to have occurred in other camps in the Far East. It was found that men with eye symptoms asked to go on the unpopular night working parties if there was a chance of getting off the following day's work in the glaring sun, probably because of the associated photophobia or a more rare mydriasis.

Nerve Manifestations.—Patients suffering from painful feet, retrobulbar neuritis, peripheral neuritis, or nerve-deafness were admitted to the skin ward for scrotal dermatitis if the latter disease was considered the more serious one. No case admitted primarily for scrotal dermatitis developed symptoms of a

pyramidal-tract disorder with signs of spastic paraplegia, although in an account of this syndrome by Graves (1947) two of the four fatal cases showed evidence of scrotal dermatitis.

Differential Diagnosis

So far as is known no other disease simulates the mild form of deficiency scrotal dermatitis already described, though by the time the condition becomes chronic, or more severe, it is possible that it will not be recognized as a deficiency disorder. Chemical dermatitis was produced in some of our mild cases by the application of various medicaments, particularly a paste the base of which was an antimalarial ointment containing citronella. Eventually its use had to be prohibited. Dhobie itch, prickly heat, and intertrigo are commonly seen in hot countries, especially under Service conditions. Tinea cruris (dhobie itch) can usually be recognized by the sharply defined growing margin of the ringworm on the legs.

Many of the cases that had begun as a deficiency scrotal dermatitis developed a superadded ringworm infection, and this was in fact presumed to have occurred in cases refractory to the usually effective treatment. Prickly heat rarely affects the crutch only, and an intertrigo, when it occurs in that part, is not quickly cured by adequate amounts of vitamin B. Eczema of the perianal margin is not infrequently seen in any dermatological clinic. This condition tends to start around the perianal margins and not to spread there from the scrotum. Furthermore, the skin later may become lichenified—a condition which apparently does not occur with true deficiency scrotal dermatitis. A seborrhoeic or exogenous dermatitis involving the scrotum might well be mistaken for the type of scrotal dermatitis seen among prisoners of war, especially as there were other seborrhoea-like lesions on the body.

As already mentioned, as soon as the scrotal condition became moist, secondary infection with *C. diphtheriae* was apt to occur. A routine culture in all cases when this was possible showed that some patients with weeping scrotal dermatitis were chronic diphtheritic carriers. More commonly, however, the clinical condition resembled cutaneous diphtheria elsewhere, except that once infected the scrotal skin was liable to become extremely thickened from oedema. This oedema differed from the gross oedema seen in some of the cases of oedematous beriberi in that the skin was weeping and ulcerated to start with and the oedema followed. In a few cases of oedematous beriberi the skin ruptured and became infected later. In some cases the scrotal condition had not reached the weeping stage but the men reported sick with a sore mouth and a whitish diphtheritic membrane spreading over and completely occluding the red lips. These men generally had a diphtheritic angular stomatitis and cheilosis, and a redness or crusting or frankly diphtheritic membrane inside the nose—a sign that always had to be looked for, because there was rarely any complaint about the nose.

Treatment

Curative; Specific.—It was soon found that marmite or "vegemite" given in 1-oz. (28-g.) doses daily for eight days cured mild cases of scrotal dermatitis. In the mild diphtheritic type the scrotal irritation had usually disappeared completely by the second night. A fine desquamation would follow, and then, if the condition had been present for some time, the scrotal skin lost its rugae and became smooth in appearance. A longer period of treatment was necessary for the more severe cases, some of the patients having to remain in hospital for over two months. This chronic state could not be accounted for by infection. With the low vitamin-B content of the diet relapses were apt to occur.

Non-specific.—Local treatment was limited to the availability of any drugs or dressings. Many men, by keeping themselves well washed and dusted with powder, were able to postpone the onset of the weeping condition. Calamine lotion when available had much the same effect as a dusting powder. In its dry or early moist stage serotal dermatitis could be prevented from becoming worse, and in some cases was almost cured, simply by resting and keeping cool. This, of course, was often impossible. When the weeping variety had become established the ideal treatment was rest in bed—again impossible to obtain. Of the many local applications tried wet dressings of normal saline were probably the most effective, and had the added advantage that when all other drugs had been finished salt and water were always available, though the former was used at the expense of the already low salt ration in the diet. Hypertonic saline was used, but was found to be too painful, and it had no advantage over normal saline. Very dilute solutions of eusol, boric acid, mercuric perchloride, mercuric bimodide, lead lotion, silver nitrate, and mercurochrome were also used. A dilute solution of eusol was perhaps the best local application, but some patients became eusol-sensitive after using this form of treatment for a number of days. When the local condition had healed completely patients were allowed out of bed and only a dusting powder was applied; but relapses were liable to occur if the wet dressing was not kept on for the requisite time, which varied from two to three days to as long as two months.

Prophylactic.—Attempts to supplement the meagre diet with sources of the vitamin B complex were not very successful. Yeast brews apparently had no effect on serotal dermatitis, and rice polishings in doses of 1 oz. (28 g.) a day made no appreciable difference. Extracts of macerated green leaves or grass, if in a concentrated form, were effective prophylactically and therapeutically in some cases.

Discussion

Stannus (1944) believes that the endothelium of the capillary system is the first tissue to suffer in a riboflavin deficiency, resulting in a loss of tone and dilatation. Normal cellular metabolism is upset and the tissue functions are disturbed—what he terms a "capillary dysergia." He considers that the skin lesions of an ariboflavinosis occur where the skin is thin or highly specialized and at the mucocutaneous junctions of body orifices. He does not seem to have stressed that the lips, nares, prepuce, anus, scrotum, etc., are particularly liable to constant mild trauma. In serotal dermatitis it may well be that there is the added factor of mild trauma in association with excess heat. It is known that warmth and exercise of the body may produce urticaria or eczema of the skin in a sensitive allergic patient. It has been suggested that when cellular nutrition is interfered with in these patients, although the various mechanisms are not fully understood, there is a release of histamine or H-substance into the tissue space. Arguing on a similar basis, it may be possible that, in a riboflavin deficiency, with the interference of cellular metabolism there is a production of histamine or H-substance. If this is so, here is an explanation of the similarity between the skin disorders of an eczematoid type seen in allergic conditions and some of the skin changes seen in hyporiboflavinosis, especially those round the mucocutaneous junctions of the body orifices.

In many written reports of the signs of vitamin-B deficiency serotal dermatitis was not mentioned, though it may well be that it was not always looked for. Many observers had, however, noticed its appearance. Stannus (1912, 1913) described its occurrence. Purcell (1942), in reporting six cases of nutritional glossitis, noticed four cases of itchy or scaling scrotal skins. These were not benefited by

100 mg. of nicotinic acid, but cleared up on 5 mg. of riboflavin daily. Landor (1939) had previously noted ten cases with similar results. Sydenstricker (1941), writing on the B-group avitaminosis, remarks that pruritus of the vulva or scrotum may be present. Sebrell and Butler (1938) maintained a group of patients on a diet poor in riboflavin content. In their experiment the first sign of vitamin lack to appear was one of cheilosis. They then described the various other manifestations generally attributed to a riboflavin deficiency. They state that only rarely was there a dry brown itching dermatitis of the hands and scrotum. As they had already mentioned that a generalized extensive seborrhoeic dermatitis might be a manifestation of riboflavin deficiency, the serotal condition was not particularly stressed. Fitzgerald Moore (1937), who was interested in the eye changes in vitamin-B deficiency, remarked that, among other symptoms, there were associated active signs or a past history of a scaly itchy scrotum.

Mitra, writing on what he termed the orogenital syndrome in avitaminosis, noticed, as have other observers, that nicotinic acid may make the condition worse, while on riboflavin all cases were cured or showed much improvement. It is interesting that Thomson (1944), in a description of beriberi among naval ratings in Malaya, described two cases of eczema of the scrotum without demonstrable signs of any other deficiency. Landor in 1939 described eczema of the scrotum and stomatitis occurring in Singapore Gaol which was not cured by nicotinic acid but responded to yeast or marmite. Owing to lack of literature it was quite a time before some of the doctors in the prison camp who had been working in Malaya before the war recognized serotal dermatitis as a disease with which they were already familiar in the local gaols.

Serotal Dermatitis as a Manifestation of Riboflavin Deficiency

It may be argued that the foregoing account of serotal dermatitis adds little to our knowledge of a vitamin-deficiency disease or even that it does not prove the disease described to be due to vitamin lack. It has already been explained that the circumstances of the situation precluded a scientific study of the specific nature of serotal dermatitis. All that has been attempted is a description of an almost universal complaint suffered by prisoners of war while living under conditions in which diseases due to vitamin-B deficiency were certain to occur. It is only by recording other workers' observations on serotal dermatitis that an assessment can be made of the aetiology of the disease.

Purcell, Landor, Sebrell and Butler, and Mitra have all produced evidence that serotal dermatitis occurs in patients on a low riboflavin diet and that the condition can be cured by riboflavin. Burgess (1946) has shown from the detailed analysis of the diet at Changi camp that serotal dermatitis occurred inversely with the riboflavin intake, though, at Hong Kong, Smith's graph of the riboflavin content of the diet and the incidence of new cases of the orogenital syndrome show no very close correlation.

It was unfortunate that pure riboflavin was not available at the camp, and that of the three preparations which were effective for the cure of serotal dermatitis the riboflavin content of one of them—namely, green-leaf extract—was unknown. However, the following figures supplied by the makers represent the range of riboflavin content for marmite and vegemite. Marmite contains 0.055 to 0.067 mg. per g. and vegemite 0.045 to 0.06 mg. per g., or a probable minimal value of 1.5 mg. per oz. Williams and others (1943) suggest that 0.5 mg. per 1,000 calories is an adequate intake of riboflavin, so it is not unreasonable to suppose that the quantity of riboflavin contained in 1 oz. of marmite or vegemite would, together with the riboflavin

of the diet, be adequate to produce signs of cure in a case of riboflavin deficiency. It must be remembered that riboflavin, nicotinic acid, pyridoxin, pantothenic acid, choline, and folic acid are some of the known factors present in any extract such as marmite which, together or alone, may be responsible for any observed therapeutic effects.

Summary

Scrotal dermatitis was a common complaint among prisoners of war in Malaya six months after captivity. It was noted that no cases of scrotal dermatitis occurred when the riboflavin content of the diet was maintained at a sufficiently high level.

A description of the different types of deficiency scrotal dermatitis seen is given, together with the associated vitamin-deficiency diseases.

Previous workers who have described the complaint have suggested that it is due to a deficiency of the riboflavin content of the diet. The curative effect of marmite (or vegemite) was found to be specific in mild uncomplicated cases.

I wish to thank Dr. John Freeman and Dr. H. Scarborough for their advice and encouragement.

Addendum Since writing the above description of deficiency scrotal dermatitis this condition has also been commented on by Sefton, L. (*Brit. J. Derm. Syph.*, 1947, 59, 85).

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STREPTOMYCIN IN BUBONIC PLAGUE

BY

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AND

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In 1947 bubonic plague broke out suddenly in Haifa and later spread to Affula, a village 30 km. to the south-east. The outbreak was suppressed quickly by the extensive use of D.D.T., but it gave us the opportunity of observing the effect of streptomycin in three severe cases. As little experience has been gained in the use of this antibiotic against plague (Herbert, 1947; Karamchandi and Rao, 1948) a brief report on our observations may be justified in spite of the small number of cases presented.

The outbreak started explosively. The first case, the only fatal one, was admitted to hospital on June 23, 1947. Within the next 13 days 13 more cases, all from Haifa, were admitted, and there were 3 from Affula on July 19.

Sulphonamides, especially sulphadiazine, which is now considered the most potent sulpha compound against plague (Platzner, 1946; Huangl and Chu, 1946), were administered as a routine to all cases. Where possible the initial dose was 2 g., given orally, followed by 1 g. every four hours during the acute stage. Later smaller

quantities were given until the bubo healed. Results were favourable on the whole, but the condition of three patients, admitted when very seriously ill, deteriorated rapidly in spite of treatment. It was decided, therefore, to administer streptomycin. The results in all three cases were remarkably good.

Case Records

Case 1.—A male Arab aged 20 was admitted to hospital July, 1947, with the history that three days previously he had a severe rigor, a rise of temperature up to 39° C., and intense headache. On the following day, on discovering painful lymphadenitis in the right groin, his physician placed him on 400,000 units of penicillin daily. In spite of this his condition deteriorated and severe continuous vomiting started. The day before admission he became delirious.

On admission his pulse was 124, respirations 26, at temperature 40° C.; he was delirious and was vomiting. His face was haggard, the conjunctivae injected, the tongue dry and heavily coated. In the right inguinal region there was a tender solitary lymph gland the size of an almond, but the skin over it was not inflamed. Bubo puncture fluid was positive for *Pasteurella pestis*.

The patient was given a course of "soludagenan" (solute sulphapyridine) 1 g. intravenously every four hours. Nothing could be given by mouth on account of the vomiting, therefore glucose and normal saline were also administered intravenously.

On the same evening his general condition deteriorated and streptomycin 200 mg. was administered every three hours. The following morning the temperature dropped to 38° C. and in the evening it was normal. The patient, though still vomiting occasionally, was so much better that he was able to sit up in bed. Streptomycin was therefore discontinued on July 9. The temperature rose 24 hours later, a further 2 g. was given. From this stage recovery was uneventful. The bubo resolved and the patient was discharged on July 16.

Case 2.—A male Arab 8½ years old became ill on June 28, 1947, with a sudden and severe rigor, fever, vomiting, and headache. On June 29 he developed a painful swelling in the left groin, for which he received 1 g. of sulphathiazole thrice daily for 6 days. As there was no clinical improvement he was referred to hospital.

On admission on July 4 his temperature was 39.5° C. at pulse 130; his face was congested, the eyes were bloodshot and breathing was rapid and shallow. He was conscious but apathetic, and vomited repeatedly. The left inguinal gland was enlarged, tender, and inflamed. Bubo puncture fluid was found positive on direct smear and culture. Sulphadiazine 4 g. daily was prescribed.

The day after admission his condition became worse. The pulse was thready and vomiting continued, and he was incontinent of urine. On July 6 his condition deteriorated further, his temperature was 40° C. and delirium had set in. Streptomycin 200 mg. every three hours was therefore started at 8 a.m. By 4 p.m. the same day the temperature had fallen to 37.5° C. and the vomiting had ceased. Improvement was maintained during the next three days, during which the patient fed and took an interest in his surroundings. On July 10 his temperature rose again to 38° C. and an intermittent fever was maintained until July 14, when fluctuations became evident in the bubo, which was then incised. After that recovery was uneventful and the patient was discharged on July 26. Streptomycin had been discontinued on July 17.

Case 3.—A male Jew aged 35 was admitted to hospital on July 19, 1947, on the fourth day of his illness, which had started with a rigor followed by fever and vomiting. A painful swelling appeared in the left groin on the second day of the disease. The patient had been given sulphathiazole and penicillin for two days without effect.

On admission his temperature was 39.5° C., pulse 120, at respirations 24. The patient looked very ill. His face was congested, his tongue was heavily coated, and he complained of a very severe headache. In the left inguinal region there was a large hard swelling which was inflamed and tender. *P. pestis* was cultured from the bubo puncture. The patient was given sodium sulphathiazole 1 g. every four hours intravenously.

Two days after admission his condition grew worse: consciousness was clouded, the pulse 130, and respirations rapid and shallow. The bubo was larger, and inflammatory oedema extended from the middle of the thigh to the umbilicus. He was given 300 mg. of streptomycin every three hours, but hours later his condition was still serious. Although his temperature had dropped to 38° C. his pulse became thready, finger-tips bluish, and he was dyspnoeic. On July 23 there was a marked general improvement. The patient felt much better, his pulse rate was 92, he was no longer dyspnoeic, and was on the way to recovery. Streptomycin was continued till July 27. The bubo was still painful, but the abdominal oedema had subsided. On August 16 fluctuations became frequent and a thick purulent discharge was evacuated. The healing of the wound was delayed until Sept. 9, but the patient felt very well until his discharge.

Summary

Streptomycin treatment of three very severe cases of plague responding to sulphonamides resulted in speedy recovery. A fourth severe case was not treated with streptomycin, and a patient died on the eighth day of his illness.

Whereas the effect of streptomycin on the general condition of the patients was remarkably good, the buboes appeared to be uninfluenced if treated late. This was true also in respect of the sulphonamides, and in most cases incision and drainage were necessary to bring about resolution.

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SOLITARY MYELOMA OF THE MANDIBLE

BY

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The myeloma, or plasmacytoma, is a tumour of plasma cells which usually produces multiple lesions, causing a systemic affection of the body. As distinct from generalized myelomatosis of bone, the solitary myeloma is not uncommon in the nasopharynx and in single bones such as a vertebra or clavicle. Very few references, however, can be found on lesions of the jaw affected by the solitary type of myeloma. William Tennent (1945) in a survey of 49 cases does not mention a single tumour of the mandible. No reference to the mandible as a site of myeloma is found in Beattie and Dickson's *Textbook of Pathology*. Because of the paucity of information existing in the literature concerning the solitary myeloma of the mandible the following case is recorded.

Case History

A man aged 39 was referred to one of us (R.S.) because of persistent swelling and great pain in the left side of the mandible. He gave a history of pain persisting for three weeks, at first localized in one of the left lower bicuspid and accompanied in the later stages by a slight swelling of the cheek. The tooth was first treated conservatively, but as no relief was obtained it was eventually extracted. The wound failed to heal and pain persisted, with discharge of pus from the socket. A little later the pain assumed a constant and dull character with attacks radiating to the ear and temporal region. These symptoms were accompanied by general malaise.

Inspection of the lower jaw revealed an oedematous inflamed mucous membrane extending from the canine to the molar region on the left side. Pus was draining freely from the wide-open socket of the extracted bicuspid tooth. The wound edges

were lacerated and undermined, and the base was covered with greyish granulations. There was some swelling of the buccal aspect of the mandible, but the lower border was palpable and no fluctuation was present. The process had involved the regional lymph nodes, causing hard and tender nodules, paresis of the left side of the lower lip, and slight trismus.

A lesion measuring 11 mm. in diameter was present in the region of the previously extracted bicuspid tooth. This was of osteolytic character without sharp definition and with little trabeculation. There was no evidence of the presence of root fragments or sequestra. On the strength of the clinical picture and the radiological appearance (Figs. 1 and 2) a tentative diagnosis of osteomyelitis was made and surgical exposure advised.

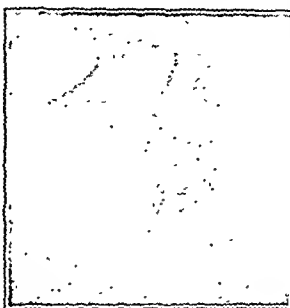


Fig. 1

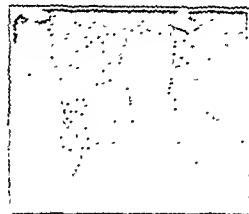


Fig. 2

At operation a large mass of soft granulations of maroon colour which bled freely on manipulation was found in the affected area, extending into and invading the mental foramen and the mandibular canal. It was thus found that encroachment upon the cortex and marrow of the bone of the mandible was far greater than had been suspected from the clinical picture. After thorough curetting of the bone cavity a specimen was taken for histological examination. The biopsy showed a true myeloma. No Bence-Jones proteins were found in the urine. A blood count showed: red cells, 5,000,000 per c.mm.; haemoglobin 88%; oxyhaemoglobin 12.1 g.; white cells, 6,500 per c.mm.

Histology of Tissue from Mandible—The histology was that of a plasmacytoma, or true myeloma of bone marrow (Fig. 3).

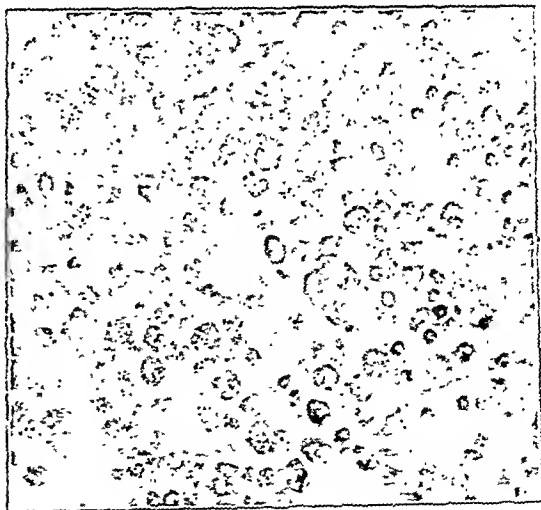


Fig. 3

The material received consisted partly of necrotic bone, the cancellous spaces of which contained collagen fibres, fibroblasts, lymphocytes, and polymorphonuclear leucocytes. There was thus evidence of chronic osteomyelitis associated with tumour formation. Critical examination of the plasma cells which constituted the neoplasm revealed the presence of mitotic figures and of hyperchromatic nuclei in moderate numbers. The identity

of the plasma cells was confirmed by staining with Unna and Pappenheim's methyl-green and-pyronine. It is to be noted that this tumour bears no relationship to the myeloid epulis or osteoclastoma.

The diagnosis of solitary myeloma having been established, the patient was referred for x-ray therapy to Dr. Phillip Flood, to whom we are indebted for co-operation with this treatment and for furnishing notes on the clinical progress of the case.

Conclusion

The myeloma is a true malignant neoplasm, which in this case proved responsible for the pain which had at first been attributed to simple toothache. Several theories have been advanced regarding the aetiology of these tumours. Trauma and chronic osteitis may have an influence on the malignant transformation of cells of the bone marrow. In the present case the histology reveals that an osteitic process can be traced in the tumour region. Such a deviation from the normal may have contributed to the formation of the growth. A thorough radiological examination did not reveal any metastatic tumours. The treatment of choice for plasmacytomata in this region is surgical removal followed by x-ray therapy (Gootnick, 1945).

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SIGNIFICANCE OF THE GRAM TEST FOR BACTERIA IN RELATION TO PENICILLIN BACTERIOSTASIS

BY

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We have already shown that nucleic acids possess the property of antagonizing the inhibitory action of penicillin on susceptible pathogens and that they can also reverse such actions (Pandalai and George, 1947a, 1947b). Further, nucleic acids restored original characteristics to bacterial cells which had undergone changes in morphology and Gram-staining reaction due to contact with penicillin. We also demonstrated that nucleic acids failed to have any of these effects on Gram-negative bacteria, such as *Bacterium coli*, normally insensitive to penicillin, but which, however, were inhibited by higher concentrations (George and Pandalai, 1947).

It is now known that some other antibiotics are Gram-sensitive. It has also been demonstrated (Henry and Stacey, 1943, 1946) that the staining quality characteristic of the Gram-positive organism is associated with the presence of magnesium ribonucleate within the organism, and that this substance prepared from commercial sources was capable of restoring the Gram-positive quality to bacteria from which it had been removed by 2% bile salt in normal saline.

We have studied the influence of added magnesium ribonucleate on the growth of Gram-negative organisms kept in contact with penicillin. It might be expected that in the presence of added magnesium ribonucleate the Gram-negative organisms which are ordinarily insensitive to

penicillin would in their life processes be more in agreement with the sensitive organisms, and consequently would be inhibited by lower concentrations of the drug. It was actually found that magnesium ribonucleate stood to Gram-negative organisms in just the same relation as nucleic acid stood to the Gram-positive organisms, in that it antagonized the inhibitory action of penicillin and allowed the organisms to grow from a non-viable condition produced by contact with penicillin. The results are given in Tables I and II.

TABLE I.—Showing the Influence of Magnesium Ribonucleate on the Penicillin Inhibition of *Bact. coli*

Penicillin Alone (Units per ml.)	Magnesium Ribonucleate Alone	Magnesium Ribonucleate and Penicillin	Broth C.
12.0 +	1/2,500 +++	1/2,500 { 12.0 ++ 15.0 ++ 17.5 ++	
15.0 -	1/5,000 +++	1/5,000 { 12.0 ++ 15.0 ++ 17.5 +	++
17.5 -	1/10,000 +++	1/10,000 { 12.0 ++ 15.0 + 17.5 +	

- indicates complete inhibition; + indicates growth; ++ fairly good growth; +++ very good growth.

TABLE II.—Showing the Reversibility of Penicillin Action on *B. coli* produced by added Magnesium Ribonucleate

Penicillin (Units per ml.)	Magnesium Ribonucleate Added			Broth C.
	After 3 Hours	After 6 Hours	After 24 Hours	
12.0 +	++	++	++	
15.0 -	++	++	++	
17.5 -	++	++	++	
20.0 -	++	++	++	++

The magnesium ribonucleate used was a neutral solution of the magnesium salt of pure yeast nucleic acid, and *B. coli* was the test organism. The results show, however, that the addition of magnesium ribonucleate to *Bact. coli* cultures does not help the organisms to become susceptible to lower concentrations of penicillin. This means that magnesium ribonucleate alone cannot convert the Gram-negative organism into a Gram-positive one, at any rate from the point of view of susceptibility to penicillin action. Even granting that magnesium ribonucleate has some far-reaching effects on an organism (Stacey, 1947) in its relation to the Gram test, it cannot be said to possess any special influence on the specificity of the inhibitory action of penicillin, as the susceptibility of certain organisms, such as *Streptococcus faecalis*, the gonococci, and the meningococci will still remain unexplained.

That the magnesium ions, quite apart from the ribonucleate moiety, in the magnesium ribonucleate exert a pronounced influence on the growth of *Bact. coli* in contact with penicillin is seen from the results given in Table III.

TABLE III.—Showing the Influence of Magnesium Ions on Growth of *Bact. coli* in the Presence and Absence of Penicillin

Penicillin Alone (Units per ml.)	Mg ++ Added as MgSO ₄ Solution Alone	MgSO ₄ and Penicillin	Broth C.
6.0 ++		6 ++	
8.0 ++		8 ++	
10.0 ++	0.1% +++	10 ++	
12.0 +		12 ++	
15.0 -	0.2% +++	15 ++	++
17.5 -			
		0.2% { 6 ++ 8 ++ 10 ++ 12 ++ 15 ++	

The minimum inhibiting concentration of penicillin for *St. coli* diminishes to about 50% of its original value when magnesium ions are present in the culture treated with penicillin. It is interesting to note that exactly the same type of results was obtained with a strain of *Shigella sonnei*. It would thus seem that magnesium ions have an interesting property of converting normally insensitive organisms to a state more closely resembling that of the sensitive pathogens, probably by altering their metabolic pathways. It is thus obvious that there is need for further work to assess the actual significance of (1) the reaction in its relation to sensitivity or otherwise of the respective pathogens to penicillin, and (2) the assumption (Haslett, 1947) that the ability to produce penicillinase may be tied up with the absence of magnesium ribonucleic acid in penicillin-resistant organisms. Work on these aspects is in progress.

We gratefully acknowledge our indebtedness to Prof. V. Subrahmanyam and Major K. P. Menon for their interest and helpful criticisms, and to the Council of Scientific and Industrial Research, under whose auspices this work is being carried out.

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LUGOL'S SOLUTION IN FAILING LACTATION

BY

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The capacity for satisfactory lactation shown by individual women depends on the quantity of breast tissue available and its degree of differentiation. It is unlikely that hormone therapy can significantly alter the quantity of tissue available, but it may influence a poor breast temporarily to secrete more milk. Dried thyroid gland may increase the rate of milk production since it raises the basal metabolic rate, and there is experimental evidence that this increase in milk output may amount to as much as 20-30% of the daily output. This effect is only temporary, and ceases when the hormone is omitted (Engel, 1947; Folley, 1947).

Partial or total failure of breast-feeding is common. Robinson (1943, 1947a, 1947b, 1947c) has described the results of hormone therapy in women whose lactation is judged likely to fail. As a result of this work it was concluded that dried thyroid gland caused a greater increase in milk yield than any other hormone. In view of this finding Lugol's solution of iodine was tried, and was found to be very more successful. It is difficult to explain why this should be so, for it is known that thyroid extracts and iodine have opposite effects upon the abnormal B.M.R.

Robinson (1943) test-weighed the infant on the fifth day, and if the milk output was less than 10 oz. (284 ml.) it was considered likely that lactation might fail. In a consecutive series of 99 such instances where lactation was judged to be failing test-weighing was done daily until discharge and gain at the fourth week. Of these women 72 were treated with Lugol's solution in milk twice a day. (Lugol's solution: 5%

iodine in 10% aqueous potassium iodide.) This treatment was started on the sixth day and continued until discharge or until the output reached 16 oz. (454 ml.). Lugol's solution appeared to increase the milk output.

This work has been repeated in the present series using exactly the same indication of failure to establish lactation and the same dose of Lugol's solution. Test-weighing was done on the fifth day, and if the output was less than 10 oz. the case was admitted to the experimental series. Alternate cases were used as controls or given Lugol's solution as indicated. Unfortunately, routine test-weighing proved impossible after discharge, which was usually on the twelfth day after delivery. Concurrently all infants in hospital were test-weighed on the fifth and tenth days to provide an indication of normality. One serious difficulty was encountered in making the work strictly comparable, since in this maternity unit the technique of Waller (1937, 1947) is used both to encourage lactation and to avoid congestion. This involves antenatal and postnatal expression of the colostrum and milk and the administration of moderate doses of stilboestrol in the early phase of congestion. However, it was decided to use the milk output, as measured by test-weighing, as the indication of failure to establish lactation, but to record the total output (test-weigh and expressed milk) in the results. By this means it has been possible to estimate the effect of the iodine solution on total milk output whilst adhering to the criteria of Robinson: furthermore, in this way it is possible to ignore the sucking power of the infant.

Part of Waller's technique is to give stilboestrol early in breast congestion. Since it was considered possible that this might affect lactation adversely patients who had received stilboestrol were excluded from the trial series. Nevertheless test-weighing was done, and the results are recorded in the Table. In this particular group there were

Results of Tests

Group	No.	5th Day Output Bulb (oz.)	5th Day Mean (oz.)	10th Day Output Bulb (oz.)	10th Day Mean (oz.)
Normal at 5th day	151	2.330 (66.21)	15.4 (436.21)	3.019 (85.771)	19.9 (555.21)
Normal at 5th day. Stilboestrol given	11	1.90 (53.41)	17.2 (480.11)	17.2 (480.11)	23.0 (645.21)
Failed at 5th day. Stilboestrol given	43	2.33 (66.21)	15.4 (436.21)	3.02 (85.77)	19.9 (555.21)
Failed at 5th day. Controls	24	1.99 (55.61)	17.2 (480.11)	17.2 (480.11)	23.0 (645.21)
Failed at 5th day. Iodine given	19	1.67 (47.41)	15.4 (436.21)	3.02 (85.77)	19.9 (555.21)

54 cases. On the fifth day eleven had an output over 10 oz. and 43 an output less than 10 oz. This second group of possible failures who had received stilboestrol were not given Lugol's solution. The results in these two groups appear to indicate that stilboestrol does not adversely affect lactation itself, and since it diminishes engorgement and tendency to abscess formation it seems reasonable to continue using it in moderate dosage, provided that it has no harmful effects on the female reproductive system as a whole.

It will be seen from the above results that Lugol's solution appeared to have no influence upon lactation, at least not a beneficial one. This is at variance with the findings of Robinson and would seem to nullify her conclusions that iodine increased the milk output and that failing lactation depended upon a deficiency of iodine intake. On the other hand, so far as these figures go it can be seen that stilboestrol given in the first few days of lactation has no permanent deleterious effect upon the milk output. It was considered unnecessary to append the statistical material from this work, since it did not clarify the results.

Summary

Forty-three cases of failure to establish lactation were studied, and Lugol's solution was given to alternate cases. This did not appear to affect the milk yield.

Stilboestrol did not seem to affect lactation adversely.

My thanks are due to Mr. Rufus Thomas and Dr. Duncan Leys, in whose unit this work was done; to the nursing staff, who bore the great increase in labour entailed; and to Dr. F. H. Hackwood, superintendent, for his permission to publish.

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Medical Memoranda

Gonorrhoea: A Plea for Diagnosis before Treatment

Even to the most impartial of medical men the plaint of genital discharge by a patient is apt at once to suggest gonorrhoea. That such a high index of suspicion should obtain is in its way commendable, but not quite so praiseworthy is the procedure sometimes adopted. These comments have been prompted by the tendency to administer sulphonamides and even penicillin to cases of urethritis and the like without first attempting to ascertain the cause of the discharge. The assumption that genital discharge is more or less synonymous with venereal disease is not confined to the uninformed and uncharitable layman. Too often the clinician, led astray by a history of coitus followed by genital discharge, takes for granted that the case is one of gonorrhoea. The next false step, prompted no doubt by a desire to cure the patient as quickly as possible, is to prescribe immediately what amounts to specific treatment without first obtaining bacteriological confirmation. Gonorrhoea is by no means the only cause of irritation of the lower genito-urinary tract.

But there are other aspects to be kept in mind—such as the effects of a wrong diagnosis on the state of mind of the individual and on the health of the community. Furthermore, gonorrhoea is capable of causing social repercussions, and it may lead doctor and patient alike into the witness-box. A categorical diagnosis of gonorrhoea, even if correct, is to most patients unwelcome; but a presumptive one, based merely on clinical impression to the neglect of modern diagnostic procedures, is quite unjustifiable, and amounts to professional negligence. A non-committal answer to the patient's question—a reply that the condition "may be gonorrhoea" and that it is "safest to treat as if it were"—may lead to gonophobia and may entail endless trouble before the unfortunate victim is rid of what are perhaps unnecessary fears.

INDISCRIMINATE DRUG TREATMENT

The epidemiological control of infectious genital diseases is becoming an important aspect of modern medicine, but proof or at least sufficiently reliable evidence of an infection in the individual is necessary before measures may be taken to trace and deal with the source of infection. The rapidity with which a few tablets of a sulphonamide or one injection of penicillin may efface all proof of gonorrhoea stultifies any belated attempts to establish a correct diagnosis on bacteriological grounds. Thus a source of infection continues to spread disease still further afield. The hasty and indiscriminate treatment of genital discharge with these drugs shows a complete lack of appreciation of the doctor's duty not only to the patient but to the community. Time and again the venereologist is requested to deal with a patient supposed to have gonorrhoea, only to find the task of arriving at a diagnosis impossible because of previous administration of one or other specific remedy.

The only proof of gonorrhoea is the demonstration of the gonococcus, and treatment should not be started until reasonably adequate measures have been taken to identify the organism. In these days of the rapid control of gonorrhoea with penicillin, when patients, particularly males, tend to seek advice early in their disease, the delay of a day or so while awaiting a laboratory report on a sample of pus is of little significance. In an acute urethritis, in males especially, treatment may be given almost immediately, provided a specimen of discharge is procured first; if the lesion is gonococcal it is almost certain that gonococci will be found. Greater caution is necessary in the case of females, or in any patient in whom the development of gonorrhoea is likely to be followed by important social or medico-legal repercussions, but there can never be any excuse for what virtually amounts to treatment without diagnosis.

The following instances are quoted as illustrative of these remarks.

AN ILLUSTRATIVE CASE

A married man was referred to hospital because of urethritis. The history revealed the following succession of events. Ten days previously he had extramarital coitus and four days later he had intercourse with his wife. Two days thereafter he developed an acute purulent urethritis, for which he consulted his doctor, who without taking any steps to substantiate bacteriologically the diagnosis of "probable gonorrhoea," had prescribed sulphathiazole; and some 20 g. had been taken before the patient visited the clinic.

It was obvious that the situation was likely to prove difficult in several of the aspects which together determine the spread and control of infection. Clinically, it seemed likely that the condition had been gonococcal; but the sulphathiazole had done its work, and, though there was some residual discharge, it was impossible to prove gonorrhoea. The diagnosis was therefore in doubt. There were also two other problems—that of dealing with a possibly infected wife, and the examination of the other woman, who might still be spreading gonorrhoea. These two difficulties were temporarily shelved by the patient's refusal, because of negative findings, either to have his wife examined or to divulge the identity of the probable source of his infection. Six weeks later his wife developed a gonococcal salpingitis. He then disclosed the identity of his extramarital partner. Reference to the clinic register showed her to be a patient undergoing treatment for proved gonorrhoea who, subsequent to infecting the patient, had done the same to another man, who had brought her to the clinic for examination.

The sequence of incidents and the dates of their occurrence showed that, had a bacteriological examination been carried out in the married man in the first instance, it was highly probable that the development of salpingitis in his wife would have been averted, and that the infection of the other male would also have been prevented, particularly as the woman in question had been persuaded without any difficulty to come forward for examination.

OTHER EXAMPLES

A married man arrived at the clinic distraught over the suggestion of his having acquired gonorrhoea. Accidental contagion is extremely rare in adults, and the only probable source of infection was his wife. The supposition of gonorrhoea seemed justified; he had a very acute purulent urethritis, but a smear and a culture showed it to be staphylococcal. His wife was interviewed, and gave a history of a chronic infection of one of her Bartholinian glands. Examination corroborated this, and pus obtained from the gland gave a pure growth of staphylococci. Both were successfully treated, but their mental relief meant far more to them than the cure of their symptoms.

The need for caution is shown in another case, also considered gonococcal. The condition was somewhat unusual—a chronic inflammation of the lower surface of the glans and the frenum with a meatitis and a mild mucoid discharge. Though seldom seen in a clinic for venereal diseases, the condition was fortunately recognized as diabetic.

In the presence of a genital discharge, gonorrhoea must certainly be proved or excluded. Two errors are to be avoided (1) clinical evaluation on naked-eye appearance alone, and (2) to begin treatment without previous adequate bacteriological examination. The plea for care in arriving at a diagnosis of gonorrhoea is put forward in the interests of the patient, the doctor, and the community.

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Reviews

RECENT MEDICINE

Progress in Clinical Medicine. By Various Authors. Edited by Raymond Daley, M.A., M.D., M.R.C.P., and Henry G. Miller, M.D., M.R.C.P., D.P.M. (Pp. 356; with 22 text-figures and 15 plates. 21s.) London: J. and A. Churchill, 1948.

If a symposium on progress in clinical medicine is to fulfil its purpose the writers should not only record all recent advances in diagnosis and treatment that have proved their worth in practice but should also assess these critically and endeavour to assign to them their rightful place in the pattern of medicine. They should indicate the territories on which research both in medicine and the basic clinical sciences is advancing, and they should give references to original papers which will reward those who wish to delve more deeply into a specific problem. The sincerest tribute which can be paid to *Progress in Clinical Medicine* is that its authors achieve all these objectives. The 26 editors and their ten associates are young and active physicians each of whom has had a wide experience in his special field, and this is reflected in their contributions, which present in a relatively small compass a comprehensive survey and a balanced appraisal of those advances in medicine which we have seen in the last decade or two.

The scope of the book is indicated by the following topics, selected from many: control of infections by antibiotics and the sulphonamides; the sources and methods of infection; immunization; virus meningitis; congenital defects and rubella; modern developments in the treatment of gonorrhoea and syphilis; chancroid and lymphogranuloma inguinale; tropical diseases; peptic ulcer of the oesophagus and paraoesophageal hernia; the scope of gastroscopy; hepatitis; diabetes mellitus and spontaneous hypoglycaemia; surgery in cardiovascular and pulmonary disease; polyarteritis nodosa; giant-cell arteritis; Libman-Sacks syndrome; classification of nephritis; renal anaemia; hypertension; the Rh factor; folic acid; "B.C.G."; sarcoidosis; disk protrusions; clinical application of the electroencephalograph; exophthalmic ophthalmoplegia; thiouracil; psychosomatic medicine. These are a few of the newer subjects discussed, but there are also useful critical reviews of many old problems; there is, for example, an admirable and sober essay on the present status of the rheumatic diseases.

This book will help the busy practitioner to keep abreast of general medicine; it will enable the specialist to acquaint himself with advances in fields other than his own, and—this is likely to be its widest appeal—it will provide a supplement to the textbooks for candidates for higher degrees in medicine. It would be invidious, when each contribution is of so high a standard, to choose any for special praise; but the next edition (which must soon be needed) will be improved if the synopsis of our knowledge of vitamins is replaced by a chapter more in keeping with the rest of the book. It now recalls a wall chart issued by one of the manufacturing houses.

HENRY COHEN.

AMERICAN PIONEER

The Selected Writings of Benjamin Rush. Edited by Dagobert D. Runes. (Pp. 433. 55.00.) New York: Philosophical Library, 1947.

The name of Benjamin Rush (1745-1813) is one of the most highly honoured in the history of American medicine. He has been variously called, and not without good reason, "the American Sydenham" and "the greatest pioneer in American medicine." A graduate of Edinburgh University, where he received his M.D. degree in 1768, he studied also in London and Paris. Then he returned to Philadelphia, where he later became a successor in the Chair of Medicine to John Morgan, another Edinburgh student, who in 1765 had laid the foundations of medical teaching in America. Rush rendered valuable service during the yellow-fever epidemics which devastated Philadelphia towards the end of the eighteenth century, although his treatment consisted in copious bleeding and large doses of calomel and jalap. But he was not content to limit his activity to the profession of his choice. His achievements were as varied

as they were numerous. He was an indefatigable student of the natural sciences, and his writings embrace agriculture, chemistry, education, theology, and politics. In the field of public welfare he was an active humanitarian. He protested against slavery, capital punishment, and alcoholism, and he pleaded for the more humane treatment of criminals and of the insane. As a patriot he was one of those who signed the Declaration of Independence.

It is obvious that the writings of such a man are worthy of attention, and the 29 essays now reprinted in book form must cater for every taste, grouped as they are under the headings, "Good Government," "Education," "Natural and Medical Sciences," and "On Miscellaneous Things." The last chapter consists of a series of letters written during the outbreak of yellow fever in 1793, and they give a vivid picture of the epidemic, which was believed to have been caused by a putrefied cargo of coffee on one of the wharves. Rush himself was a victim, but recovered "owing to the speedy use of the new remedies." An account of his visit to France is contained in the essay "On Manners," in which he praises the politeness of the French, although he found the physicians of Paris "at least fifty years behind physicians in England and Scotland in knowledge." The return crossing from Calais to Dover took 23 hours. The essay "On Old Age" contains much sound wisdom and might well serve as a model for those who to-day expound "geriatrics" as a new science. Rush did not find that sedentary employment, loss of teeth, the use of tea and coffee, or baldness had any effect upon the duration of life. As aids to good health in old age he advises warmth of room and clothing, young company, and gentle exercise; while in disease his favourite remedies are opium and bleeding.

There is an admirable lecture to medical students on "Duties of a Physician." "Never appear in a hurry," "Study simplicity in prescribing," "Be familiar with the common diseases," "Do not despise home-made remedies," are a few of the aphorisms of Benjamin Rush. There is an interesting series of three "Lectures on Animal Life" which recall John Hunter's method of thought. The essays on "The Bible as a School Book," and on "The Amusement and Punishment which are Proper for Schools" might be studied profitably by teachers to-day. The editor is to be congratulated on his selection and on his praiseworthy service in recalling the philosophy of Dr. Benjamin Rush.

DOUGLAS GUTHRIE.

COMMUNICABLE DISEASES

Communicable Diseases. By Franklin H. Top, M.D., M.P.H., F.A.C.P., and Collaborators. Second edition. (Pp. 992; 95 text illustrations and 13 coloured plates. 42s.) London: Henry Kimpton, 1947.

The modern textbook, especially on a special subject, often smacks of the card-index system, and it is indeed a major task of the writer to assess critically and place in proportion all the different aspects which he discusses. When the first edition of this book appeared we commented on the pleasure it gave to read reviews of subjects every line of which revealed expert observation that had been carefully considered. In the second edition, greatly enlarged and amended, it continues to bear this hall-mark.

There are 14 new chapters, and they include up-to-date accounts of such diseases as coccidioidomycosis, epidemic diarrhoea of the newborn, infective hepatitis, and infectious mononucleosis. The first section of 170 pages is on general considerations, and we would pick out for special mention the chapters on home and hospital management written by nurses. They describe the most recent aseptic nursing techniques which reflect the best nursing practice. The discussion on serum reactions will seem rather extensive to British readers, for experience with refined antitoxins here has almost caused us to neglect such occurrences, but American workers have always emphasized them, and there is probably here an example of some national difference as yet unexplained. Perhaps because of recent experience the chapter on poliomyelitis proved to be particularly enjoyable. The Kenny method of management is given a fair, objective analysis. What is good is acknowledged, and the author concludes that "the acceptance of 'spasm' as an observable phenomenon is valid, 'alienation' is probably unnecessary, 'incoordination' does occur and 'muscle paralysis,' partial or total, is important."

We noted here and there a few weak points—for example, the laboratory diagnosis of smallpox is given little space and not emphasized sufficiently. Again, in a book whose illustrations are so excellent it is surprising to find that some of the x-ray reproductions are really bad and some might have been omitted with advantage. But these do little to detract from a volume of very high general excellence. Since the book is American it includes accounts of diseases of slight importance in Britain, but we can repeat the prophecy we made on the first edition—"This book will be greatly appreciated in this country by all who have to do with the management of infectious diseases."

T. ANDERSON.

ORIGIN OF MAN

Mankind So Far. By William Howells. The American Museum of Natural History Science Series. (Pp. 319; illustrated with drawings and photographs. 16s.) London: Sigma Books, Ltd. 1947.

The study of human variation—the province of physical anthropology—to a large extent consists in attempting to solve the problem of man's origin and evolution. In this field knowledge of man's remote primate and less distant anthropoid ancestry has been accumulating at an increasing rate owing to the direct evidence furnished by the fossil discoveries in Java, China, Africa, and Europe during the last twenty years, as well as to the labours of the comparative anatomist and physiologist. To-day the search covers a formidable territory the exploration of which demands some acquaintance with general biology, genetics, geology, archaeology, anthropometry, and statistical method, and it is not surprising that no satisfactory general account is as yet available. Prof. Howells's book on human evolution is therefore a welcome introduction to this large and varied subject. In only 300 pages he has managed to cover the whole story of man's origins, evolution, and racial differentiation.

The account starts with a description of the primate mammal-like reptiles of the Mesozoic age from which in due course evolved the placental mammals, and among these, from some generalized stock, arose the Primate order. Then follows a description, based on zoological and palaeontological evidence, of the evolutionary radiation of the Primates, which yielded in due course the *Prosimii* of to-day, such as the lemurs and *Tarsius*, as well as the *Anthropoidea*. He describes the Tertiary *Anthropoidea* that are ancestral to modern forms. He traces the divergence of the human stock in relation to the hominid affinities of the *Dryopithecinae* and the important group of South African man-apes. With the beginning of the Pleistocene period we find at last individuals erect in posture, bipedal in gait, and whose limb proportions and brain capacity foreshadow the emergence of *Homo sapiens*.

Prof. Howells presents this account in an eminently readable fashion in about 100 pages. In the succeeding 100 pages he describes and briefly discusses the whole array of fossil men of the Pleistocene period. Prof. Howells deals judiciously and cautiously with the hotly debated controversies common in human palaeontology—with the relation of Java Man to Peking Man, with the hominid affinities of the South African man-apes, and with the status of Neanderthal Man in relation to that of *H. sapiens*. He is perplexed, like so many others, by the 40-years-old dilemma about Piltdown Man. He is cautious in his views of the "high antiquity" of *H. sapiens* as evidenced in the Swanscombe skull. In his final section, where he describes present-day varieties of man, he discusses sensibly and clearly the subject of human races and racial classification.

J. S. WEINER.

The plates in Dr. R. R. Kracke's *Color Atlas of Hematology* (J. H. Lippincott; 30s.) are the same as in his larger volume on diseases of the blood. Unfortunately the colour rendering and the printing are not quite so satisfactory as in that beautiful work. The colour is too red, as in Plate 23 ("Chronic Myeloid Leukaemia"), or Plate 26 ("Subacute Monocytic Leukaemia"), or the application of the colours is inexact, as in Plate 17 ("Anaemia of Hemolytic Jaundice"). For all that, it is a good atlas at the price, and the text is a well-balanced summary of the blood diseases. Some of the more quarrel at the definition of the megaloblast as "the largest known recognizable precursor of the normal red cell," and the text is a little too easily misled about folic acid than a year or two ago. It is a book that could be put into the hands of the student and read with great advantage.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

The Preparation of Solutions Isoosmotic with Blood, Tear, and Tissue. By C. G. Lund and others. (Pp. 173. 15s.) London: Heinemann Medical Books. 1947.

A monograph from the dispensary of the Bispebjerg Hospital, Copenhagen.

Tuberculosis in Young Adults. By M. Daniels and others. (Pp. 227. 30s.) London: H. K. Lewis. 1948.

The report on the Prophit Tuberculosis Survey, 1935-44, carried out under the auspices of the Royal College of Physicians.

Statistical Methods in Research and Production. Edited by Owen L. Davies, M.Sc., Ph.D. (Pp. 292. 28s.) London: Oliver and Boyd. 1947.

An account of statistics, with special reference to the chemical industry.

An Introduction to Medical Statistics. By H. M. Woods and W. T. Russell. 2nd ed. (Pp. 125. 8s. 6d.) London: Staples Press. 1948.

An introduction to vital statistics, statistical methods, and sampling.

Syphilis. By Henri Mathias. (Pp. 722. 600 francs.) Paris: Librairie Maloine. 1947.

A general account of the acquired and inherited disease.

A Manual of Homoeotherapeutics. By E. A. Neatby, M.D., and T. G. Stonham, M.D. 3rd ed. (Pp. 960. 32s.) London: Staples Press. 1948.

An introduction for practitioners and students.

Partnership in Education. By E. W. Woodhead and others. (Pp. 158. 7s.) Norwich: Jarrold and Sons. 1948.

Short accounts of different aspects of education.

The Nature of Disease Institute: First Annual Report. By J. E. R. McDonagh, F.R.C.S. (Pp. 174. 21s.) London: Heinemann. 1948.

The author elaborates his theory of the causation of disease.

Ocular Therapeutics. By W. J. Harrison, Ph.D., M.D. F.A.C.S. (Pp. 112. 18s.) Oxford: Blackwell. 1947.

A manual of prescriptions, with notes on treatment.

Sexual Endocrinology of Non-Mammalian Vertebrates. By L. H. Bretschneider and J. J. D. de Wit. (Pp. 146. 15s.) London: Elsevier (Cleaver-Hume Press). 1947.

A monograph on research carried out at Utrecht University during the war.

Midwifery. By Ten Teachers. Under the direction of Clifford White, M.D., B.S., F.R.C.P., F.R.C.S., F.R.C.O.G. 8th ed. (Pp. 564. 20s.) London: Edward Arnold. 1948.

A textbook for students and practitioners.

The Psychology of Behaviour Disorders. By N. Cameron, M.D. Ph.D. (Pp. 622. 25s.) London: H. K. Lewis. 1947.

The book is an attempt to bridge the gap between psychology and psychiatry.

Conference on Infertility, 1947. (Pp. 64. 5s. 6d.) Family Planning Association.

Papers on infertility read at the Oxford meeting in 1947.

Public Health Administration in the United States. By W. C. Smilie, A.B., M.D., Dr.P.H. 3rd ed. (Pp. 637. 32s. 6d.) New York: Macmillan. 1947.

A general account of modern administrative methods in the U.S.A.

Modern Trends in Ophthalmology. Vol. II. Edited by Arnold Sorsby. (Pp. 600. 3 guineas.) London: Butterworth. 1948.

A variety of articles by authorities on different aspects of ophthalmology.

Dietetics in General Practice. By L. Cole, M.A., M.D., F.R.C. 2nd ed. (Pp. 160. 8s. 6d.) London: Staples Press. 1948.

In this edition some diets have been modified to accord with present circumstances.

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BASIC MEDICINE

In the turmoil of medical politics the B.M.A. has found time to remind the profession and the public of its concern with the cultural activities of Medicine by publishing what may come to be considered as the most significant of its special reports—the Report of its Medical Curriculum Committee, now issued as a book under the title of *The Training of a Doctor*.¹ Under the chairmanship of Dr. Henry Cohen, Professor of Medicine in the University of Liverpool, the Committee has spent two searching years in its exhaustive review of the most fundamental problem of medical life—education; and to help it in its task men and women distinguished in various fields of medical work have given it unstinting aid. The Committee has been brilliantly served by its Chairman, Prof. Cohen, to whose enthusiasm and inspiration the form and content of the report owe so much. We print elsewhere an extended summary of the book now published, which deserves the repeated study of those responsible for training the doctor and of those perpetual students to whom qualification is but an introduction to a lifetime of study.

In his address² at the Annual Meeting of the B.M.A. in Montreal in 1897 William Osler said: "Undue reverence for authority as such, a serene satisfaction with the *status quo*, and a farious objection to change have often retarded the progress of Medicine." There is none of this in the present report. On the contrary there is a divine discontent with things as they are, along with sustained constructive thinking that illustrates the general theme with modern instances. Many who teach may disagree with some of the recommendations of the Committee; much of what it advocates may be impracticable, at least for the present; but the report is a challenge to medical educationists, and we may hope that the essence of its message will not be borne down by what Osler called "the weight of a complacent conservatism."

Of recent years there have been other outstanding reports on medical teaching, notably of the Goodenough Committee and of the Royal College of Physicians. But the B.M.A. Committee considers that the changes required in the curriculum are far more radical than is generally conceded. It advocates that changes "should be based on educational experiment rather than on surmise and presumption," and it issues its first challenge by refusing to "accept in its full implication the oft-reiterated view that the aim of the curriculum should be to produce a competent general practitioner." General practice is looked upon as a special form of practice founded on principles common to the study of medicine—what might be termed

basic medicine. General medicine should be taught "as the basic clinical subject" and not be looked on as what is left after the specialties have been skimmed off. What is needed is the sense of the unity of medicine. Linked with this is an appeal for the renaissance of the general physician: "One of the primary reforms should be the return of the physician with a general outlook." It is he who should be the co-ordinator of medical teaching and the prevailing influence in the medical school. The Committee deplores the fission of teaching into compartments of uncorrelated knowledge. The unfortunate student is the victim of specialist teaching and special investigations. With each new incursion of the pure sciences into medicine new facts are piled on to the heap of the old that constitute the curriculum. Psychological medicine, social medicine, medical statistics—these and other subjects take on an added importance, and up goes the cry for additions to the curriculum and subsequently for that modern money-getter for the corporations, the special diploma. The curriculum grows like a coral reef, and the student looks in vain for a trustworthy chart in the ocean of medical knowledge.

The Committee repeats the indictment made often enough in recent years that the rapid advances in medical knowledge made during the past half-century "have not resulted in a proportionate improvement in the general efficiency of medical practice." It regards this as "a matter for regret and concern." The fault lies with the method of education, and the Committee considers that fundamentally it resides in the conception of medicine and medical training on which the curriculum has been based. The Committee's conception is exemplified by its proposals. It comes down heavily against a vocational bias in school education, and disagrees with the views of the Norwood Committee, supported by the Goodenough Report, that a school-leaving examination at the age of 18 might admit the student to "the medical curriculum proper." And it disagrees, too, with the suggestion in the Goodenough Report that the boy or girl with good elementary grounding in the basic sciences need spend little time on physics, chemistry, and biology in starting the medical course. The Committee repeats Flexner's saying: "The Physician should first of all be an educated man." The one way to prevent this is premature specialization at school. It is only the rare person who in later life overcomes the handicap of being forced too early into vocational studies. In an age of shifting material values and intense specialization a sound educational grounding is more than ever necessary if the medical man is to be other than a mental mechanic. It is to be hoped that the Committee may press its views with propagandist zeal on those who would use the last year at school to short-circuit the student into his medical studies. Having stressed the need for a broad education at school, the Committee advocates that the first university year should be devoted to physics, chemistry, and biology. The student will have the great advantage of learning from teachers of university status and training at a time when his mind is beginning to walk on legs of its own.

Of all the Committee's many excellent recommendations for medical education we consider their proposals for

¹ *The Training of a Doctor*. London: Butterworth, 1948. 7s. 6d. net.

² *Aequanimitas*. Third edition. London: H. K. Lewis and Son, 1939.

³ *The History of Medicine*, by C. G. Cumston, M.D. Introduction by F. G. Brookshank, M.D., F.R.C.P. London: Kegan Paul.

⁴ *The Works of William Harvey, M.D.* Translated from the Latin by Robert Willis, M.D. London: Sydenham Society, 1847.

schooling and the first university year—proposals not strictly applicable to medicine—the most important. Up to 18 the boy or girl needs the mental discipline and freeing of the intellect that can come only from a liberal education. If the student then decides to “go in for” medicine he needs to be thoroughly grounded in the basic sciences and in the scientific method if as a doctor he is to be other than a casual but hopeful purveyor of the numerous remedies now available to him. The modern doctor who is imbued with a sense of vocation must have more than school knowledge of chemistry, physics, and biology if he is to apply with understanding the findings of modern medical science. To the scepticism of the scientific outlook he must join the wide sympathies and culture that come from a study of the humanities if he is to apply with judgment his knowledge to the care and cure of his fellow men. It is a hard and uphill task; but Medicine is a high calling—not a trade.

The student passes from his first university year in the basic sciences to what the Committee calls “the preclinical period,” a term it regards as unsatisfactory because the study of the normal man is an integral part of clinical work. It pleads for closer co-operation between the teachers of anatomy and physiology and deplores the growing scarcity of medically qualified teachers with the required expert knowledge in these subjects. Some of the best medical men, the Committee believes, are attracted to whole-time clinical appointments because of the better financial rewards. Higher salaries and improved prospects for the whole-time teacher of anatomy and physiology would do much to even the balance. The Committee levels the usual criticisms against the mountain of anatomical and physiological facts the student has to acquire, and stresses that it is the anatomy of the living that should be taught, not the anatomy of the cadaver; a bone is not a dead and rigid structure but a living process. Not everyone, however, will agree that less time should be spent on the experimental physiology of animals. Animal experiments are of the first importance in medical research, and the technique of the laboratory should be part of the student's intellectual equipment even though few of them will return to the laboratory after qualification. And it is well to be reminded that man is an animal, sharing with other vertebrates a common structural plan and surpassing them in mental equipment, the study of which the Committee considers should begin in the preclinical period, the course in normal psychology to follow the study of the anatomy and physiology of the central nervous system.

Throughout its report the Committee urges the need for “an integrated and synoptic view” of each phase of medical education—of the basic sciences, of human biology, of clinical medicine, of the human being as one whole compact of mind and body. What detracts from this view, whether tendencies in teaching or burdensome detail in what is taught, should be done away with. The approach to clinical medicine should be based “on the conception of disease as a disturbance or disequilibrium in the structure and function of the organism.” The Committee regards the concept of diseases as clinical entities “simply as a descriptive convenience.” There is a danger in the

self-satisfaction that comes from attaching a diagnostic label, but one cannot lightly discard the classification of certain facts of observation into clinical entities “simply as a descriptive convenience.” To state that a person has a disturbance of the lung is one thing; to correlate facts of observation into the clinical entity of pneumonia leads to greater diagnostic precision. The danger of the label is that it tends to make the student think of the disease labelled as something static. This tendency is increased by the splitting of Medicine into specialties and the segregation of patients with the same disease into special wards, blocks, or institutions. It is understandable that the research worker must narrow his focus, but for the practice of Medicine is it really necessary that there should be heart specialists and lung specialists? And among the latter is there really room for those who deal only with one disease of the lung, even though the segregation of tuberculous patients makes this difficult to avoid? At least the mediastinum seems to have escaped the notice of those who have been busy splitting up the body into compartments of special practice. Sensible of the dangers of this fissiparous tendency and of its ill-effect on the student the Committee presses for the return of the general physician, and recommends that “general physicians of broad interests should be appointed to Chairs of Medicine and that they should be responsible, with the assistance of a Committee of the senior teaching staff, for the organization of the teaching of the whole of clinical medicine.” A movement on these lines would help towards the integration of Medicine, towards the synthesis many feel is now so much needed in what we call the art and science of Medicine. And such a synthesis would be facilitated by keeping alive the student's interest throughout his whole clinical period in the basic principles of general pathology. The Committee regards the divorce of pathology from clinical medicine as “one of the most serious defects of the present medical curriculum,” and would bring the pathologist into the wards; so, too, the Professor of Pharmacology should be given “a definite status in ward teaching.”

We note the Committee's opinion that the knowledge gained from attendance at operations is not worth the time spent watching and waiting; that anaesthesia is now a highly developed specialty; that present methods of training in obstetrics and gynaecology are not good enough; that paediatrics is one of the most important subjects in the curriculum; that the standard of training in psychiatry would be improved if general physicians would take more interest in the psychiatric aspects of illness; that socio-clinical conferences should be arranged for joint teaching; that the teaching of public health and social medicine must be reorganized “if the student is to become imbued with the concept of the prevention of disease and with the importance of the study of the social setting of the individual in health and disease.” For the “intern year” the Committee favours trial of the method whereby the intern is assigned both in-patients and out-patients as they are admitted to hospital and not as medical or surgical cases “at least six months will be devoted to this integrated study of patients and not be divided into ‘medical’ and ‘surgical’ appointments.”

BASIC MEDICINE

There is not the space here to do more than touch upon some of the points in a report that contains so much solid matter condensed in so readable a manner. The stress throughout it on the integration of Medicine, on the unity of Medicine, on the synoptic view, comes at a time when many feel with the late F. G. Crookshank³ that "the twentieth century has as yet produced no such ordered and orderly presentation, as did the sixteenth, of the known facts concerning disease: duly set out and interpreted with respect to definitions, stated first principles, enunciated doctrines and terminal conclusions: embracing (as must any Science of Medicine) consideration of metaphysical problems of one kind or another, whether in relation to mental disease or to the understanding of the normal functioning of the body. . . ." Crookshank inveighed against the accumulation of "passive perceptions," and the B.M.A. Curriculum Committee is at one with him. William Harvey prefaced his *De Generatione Animalium*⁴ with a discussion "on the manner and order of acquiring knowledge," following Aristotle, whom he called "my leader." "How base a thing," he wrote, "it is to receive instruction from others' comments without examination of the objects themselves, the rather as the book of Nature lies so open and is so easy of consultation." And again: "We are, I say, to strive after personal experience, not to rely on the experience of others; without which, indeed, no one can properly become a student of any branch of natural science. . . ." How this may be attempted at a time when we may feel less optimistic than Harvey about the ease with which the book of Nature may be consulted is shown in the B.M.A.'s exemplary Report on the Medical Curriculum.

PULMONARY OEDEMA

The problem of pulmonary oedema becomes ever more complex as knowledge about the condition accumulates. The simple explanation, based on the experiments of Welch,¹ of unbalanced action of the two ventricles of the heart was for long accepted by clinicians, if not in all forms of pulmonary oedema at least in those associated with cardiovascular disease. This explanation will certainly not now bear critical examination. In last week's *Journal* we published Prof. G. R. Cameron's Sydney Ringer Memorial Lecture, in which he presented a useful review of this difficult subject. His analyses of the necropsy findings in 100 cases of pulmonary oedema and of the frequency with which pulmonary oedema was found at necropsies of patients who had suffered from various selected types of disease and injury revealed the usual preponderance of diseases of the cardiovascular and central nervous systems. The finding that 11 cases out of 100 of pulmonary oedema were associated with obstruction of the pulmonary veins by carcinoma seems rather unexpected, but cannot be interpreted without knowledge of the source of the necropsy material. Among cardiovascular diseases, pulmonary oedema was present at necropsy in 86% of patients with hypertension, 74% with chronic nephritis, 68% with coronary obstruction, and 65% with mitral stenosis. In cerebral haemorrhage the incidence of pulmonary oedema was 67%, and in fractured skull 63%. Of 28 patients dying

with multiple fractures of bones, excluding the skull, 17 (61%) developed the condition.

Of the lung-irritant gases, among which Cameron and his co-workers have found that ketene has a place, phosgene has been most intensively studied. The mechanism by which pulmonary oedema is produced seems to be the same for all these gases and in all animals, with minor variations. Phosgene is hydrolysed on contact with the lining membranes of the respiratory tract, so that none of it reaches the circulation and its effects are produced locally. It has proved difficult to obtain evidence of these effects in the endothelium of alveolar capillaries histologically, but Short² has demonstrated changes in the mitochondria of these endothelial cells after exposure to phosgene before the capillaries begin to leak. After a latent period fluid leaks from the capillaries into the pulmonary air spaces. At first this is almost free from cells, but has a high protein content. The increasing pulmonary oedema can be shown in most animals to be closely followed by decrease in the circulating blood plasma. An exception is the rabbit, in which no haemoconcentration took place despite massive loss of plasma into the lungs: if, however, rabbits were kept on a dry diet before exposure, haemoconcentration usually occurred, and this is taken to suggest that the rabbit normally has a large available store of fluid on which to draw. Using the technique of cannalization of the right lymph duct developed by Drinker³ and his school, it was shown that as pulmonary oedema develops after exposure to phosgene the flow of lymph from the lung steadily increases, thus resembling other forms of pulmonary oedema. The main lymphatic channels from the lung are relatively narrow, and it is presumably through this increased flow can no longer be removed through them that oedema develops. Physiological saline is readily removed from the air spaces, probably directly into the blood capillaries, but serum persists in the lungs for about four days and is removed probably through the lymphatics. The abnormal permeability of the capillaries after gassing with phosgene leads to the rapid loss of transfused plasma into the lungs; Courtice and Foss⁴ showed that in gassed dogs and goats transfused plasma and concentrated serum disappeared rapidly from the circulation and the animals' general condition worsened. In experimental phosgene oedema no evidence of interference with the pulmonary circulation can be found until the last stages; Cameron is satisfied that the capillary thrombosis described by Shaw Dunn⁵ is due to stasis secondary to haemoconcentration. After careful consideration of what is known about the haemodynamics of the lesser circulation Cameron concludes that pulmonary oedema may result from injury of the lining cells of the lung capillaries alone.

The absorption of pulmonary oedema may be followed by pulmonary oedema. There has been great interest recently in the effects of substances allied to thiourea. Jones⁶ showed that α - and β -naphthyl thiourea and α - and β -dinaphthyl thiourea in toxic doses caused

¹ *Arch. path. Anat.*, 1878, 72, 375.
² *J. Path. Bact.*, 1944, 55, 255.

³ *Pulmonary Edema and Inflammation*, 1945. Cambridge, Mass.

⁴ *Lancet*, 1946 2, 670.

⁵ *Quart. J. Med.*, 1919-20, 13, 129.

⁶ *J. Path. Bact.*, 1945, 58, 483.

⁷ *Thorax*, 1946, 1, 182.

⁸ *Thorax*, 1946, 1, 182.

massive pleural effusions and pulmonary oedema which seemed to be due to a specific action on the lung capillaries. Cameron considers that the oedemas associated with the absorption of acetic and butyric ethers, iodides, and methyl salicylate are caused in the same way, and points out that localized oedemas of some other tissues are caused specifically by certain other drugs.

Turning to the pulmonary oedema associated with nervous disturbances, Cameron, like Daly,⁷ criticizes bilateral vagotomy as a method of producing neurogenic oedema, since it may result in aspiration of oral secretions into the lungs with anoxia, and if pulmonary oedema develops the responsible factors are difficult to identify. He has found that the injection into rats intracisternally of a solution of fibrinogen followed by thrombin, producing a fibrin film within the cisternae, leads to acute pulmonary oedema, fatal within a few minutes. Dividing the vagi reduces or prevents this oedema. Cameron thinks it likely that raised intracranial pressure is a link in the chain of causation of the pulmonary oedema produced by this procedure. After reviewing what is known as the vasomotor nerves of the lungs, he suggests that the question of a nervous mechanism controlling the permeability of the lung capillaries should be re-examined.

Pulmonary oedema in cardiovascular diseases is commonly basal, though in uraemia⁸ it is often perihilar. Cameron offers no explanation of this peculiarity of uraemia; Drinker's³ finding that increased breathing movements help to remove fluid from the lungs suggests the possibility that the hyperpnoea of uraemia, which would increase expansion especially at the periphery of the lungs, may be responsible for the relative freedom of the bases from oedema. Cameron accepts the emphasis placed upon left ventricular failure in the pulmonary oedema of cardiovascular disease, even though he confesses to "difficulty in sorting out the state of the two ventricles." He has been unable to confirm Welch's results in his laboratory; ligation of the rabbit's aorta near the heart did not constantly give rise to lung oedema. The mechanism of adjustment between the two circulations is such that only a transitory dissociation of output from the two ventricles is conceivable. Cameron considers that, in addition to the higher head of filtration pressure which can be the result of a rise of pulmonary venous pressure, there are other causal factors in the development of pulmonary oedema. Among these are anoxia, which has been stressed by Drinker,³ dyspnoea, bronchitis, and depletion of the plasma protein. The inclusion of dyspnoea, presumably due to other conditions, in this list of possible contributory causes of pulmonary oedema shows clearly the divergence of view from the hypothesis that the condition is due to left ventricular failure, in which paroxysmal cardiac dyspnoea is customarily regarded as the earliest stage of an attack of pulmonary oedema. Studies of heart-lung preparations have confirmed that pulmonary arterial and venous pressure must be grossly raised before oedema occurs, that oedema may appear before any change in pulmonary arterial pressure, and that changes in the perfused blood favour the development of oedema, presumably by damaging the capillary endothelium. In the latter

connexion Daly⁷ has found that perfusing a heart-lung preparation of a dog with human blood causes the rapid development of severe lung oedema, though perfusion with horse blood keeps the lungs dry.

Pulmonary oedema fluid produced in widely different ways has been found in Cameron's laboratory to contain a high proportion of protein. Such diverse methods as ligation of the aorta, oxygen poisoning, and intravenous injection of methyl salicylate produced oedema fluid the protein content of which varied from 4.25% to 7.62%. Cameron considers that this indicates that the unifying principle is a disturbance of capillary permeability, and suggests that future investigations should be directed to determining whether endothelial permeability is affected by nervous influences, by alteration of blood flow, and by environmental variations, especially in gaseous exchange. Among these environmental variations may perhaps be included capillary toxins, which Daly⁷ suggests should receive more attention in investigations of clinical pulmonary oedema.

REPRESENTATIVE MEETING

A Special Representative Meeting is being held on Friday of this week to consider the result of the April Plebiscite and the three Recommendations of the Council, published in the *Supplement* to the *Journal* of May 8. A large number of motions and amendments have been submitted by Divisions, and in their bulk constitute a formidable agenda. Many of these are couched in a critical tone, and it may be expected that controversy will be lively. Since the last meeting of Council a B.M.A. deputation has had discussions with the officers of the Ministry of Health and on May 25 with the Minister himself. The statement of the position resulting from these discussions will be placed before the Representative Meeting, and it is hoped to comment on the general situation in next week's *Journal*.

THE CAMBRIDGE MEETING

Sir Lionel Whitby, President-Elect of the British Medical Association, makes an appeal in our correspondence columns this week for members who intend to be present at the Annual Meeting at Cambridge in June to send in their applications for accommodation at once. Forms of application have been printed in three recent issues of the *Supplement*, and the same form is printed on a sheet loosely inserted into this week's *Journal*. Sir Lionel points out that only a small number have applied for accommodation, and it is essential for those who are organizing the meeting to have a rough estimate of the numbers likely to attend so that firm bookings may be made. Before the war it was usual for the majority of those who attended the meeting to apply for accommodation only two or three weeks before the meeting was actually held. This was a cause of dissatisfaction to those responsible for the arrangements of the meeting, but in the easy days of peace it was not too difficult to deal with the last-minute rush. To-day those responsible for the organization of the meeting are faced with every possible difficulty, and we would urge

members to apply at once out of courtesy to our host, the Cambridgeshire and Huntingdonshire Branch of the B.M.A. This Branch is determined to make this, the first Annual Meeting to be held since 1939, a memorable occasion and worthy of the best traditions of previous annual meetings. The setting for this year's meeting is ideal for members of a learned profession, and those who do not know Cambridge and the treasures it possesses will not wish to miss the opportunity of being there in less than a month's time.

ROYAL SOCIETY CONVERSAZIONE

Many of the exhibits at the Royal Society conversazione on May 20 again displayed the uncanny ingenuity of the human mind when it inquires into the perplexities of nature. Of particular interest to medical men were the demonstrations of phase-contrast microscopy. The illuminating beam is treated in such a way that variations in phase are converted into variations in amplitude, so that parts of the living cell with different refractive indices, such as cytoplasm, chromosomes, and mitochondria, are clearly distinguished as light or dark without being stained. The resolution obtained is about double that with ordinary light. The chromosomes appeared as dark threads and blobs in the fresh preparation of sarcoma cells shown by the National Institute for Medical Research; in greatly enlarged photomicrographs they could be seen in the various stages of mitosis. A short film that speeded up the mitotic dance gave a remarkable front-row view of the chromosome chorus performing its evolutions in the dividing osteoblasts and fibroblasts of the embryonic chick and in the fibroblasts of the frog and newt.

The Natural History Section of the British Museum displayed a number of insects, molluscs, and other specimens, immured, like flies in amber, in glass-clear blocks of methyl-methacrylate ("perspex"). The specimens are imbedded in the liquid monomer, when it is then polymerized to the solid perspex by irradiation with ultra-violet light. This technique should prove useful in preserving pathological specimens, obviating the fraying and subsequent disintegration that often take place in liquid preservatives. The Wellcome Research Institute exhibited a biologically balanced aquarium for the culture of the Egyptian snail vectors of schistosomiasis—*Planorbis boissyi* and *Bulinus truncatus*. The most suitable food for these molluscs is boiled lettuce; they will accept certain other green vegetables such as boiled cabbage, but no doubt the laboratory is all the better for not smelling like a hotel kitchen. Growing plants regulate the exchange of oxygen and carbon dioxide, and oligochaete worms consume the excretory products and decaying vegetation. An apparatus shown by the Cambridge Instrument Company measured the percentage of oxygen in a gas by the changing of its paramagnetism with temperature. The gas flows across the ends of a small tube of which half is in a strong magnetic field. The middle part of the tube is heated by a centre-tapped platinum resistance which forms two arms of a Wheatstone bridge. If the gas contains oxygen a flow is set up in the tube which cools the heater wires, causes a relative change in the resistance, and throws the bridge out of balance; the result is recorded electrically in terms of the oxygen content.

An ingenious labour-saving device—for the laboratory rather than the home—was an ultrasonic memory system designed by the Cambridge University Mathematical Laboratory for an electronic calculating machine. Numbers are converted into electric impulses, which are then

passed in the form of ultrasonic waves into a column of mercury about four inches long. After traversing the column they are converted back into electric pulses, amplified, tidied up, and returned to the input. They thus circulate indefinitely and are available when required. A problem in rheology—the study of the flow and deformation of matter—afforded light relief to those who enjoy ball games. Silicone putty, which appears like ordinary putty and is of a similar consistency, has the peculiar property that when a stress is applied to it for a very short time it behaves as an elastic solid. It flowed slowly from the orifice of a reservoir on to a platform about 18 inches below, where it spread out into a flattened mass. A gravelly, enthusiastic audience dropped on to it some metal balls, which, instead of sinking in with a dull thud, bounced off with the surprising rebound of acrobats from a spring mattress.

ANNUAL REVIEW OF MICROBIOLOGY

It is becoming difficult to an increasing degree for workers even in a fairly restricted sphere of medicine to keep track of the literature of their subject. This difficulty is met to some extent by abstract journals and by journals comprising monographs or reviews on selected subjects. There are also annual publications devoted to keeping their readers up-to-date, and among the most valuable of these to academic workers in particular have been the *Annual Review of Biochemistry* and of *Physiology*. It will be welcome news to many that there is now an *Annual Review of Microbiology* published by the same academic organization. The 1947 volume is now available, and the subjects and authors for 1948 are listed on its dust-cover. The present volume contains seventeen chapters, of which fourteen are by American and three by British authors. D. D. Woods writes on bacterial metabolism, E. F. Gale on the nitrogen metabolism of bacteria, and E. M. Lourie on chemotherapeutic agents. Antibiotics naturally get a chapter to themselves, and it is interesting that about sixty distinct substances are considered worthy of more or less detailed description. They are classified according to their sources, beginning with the various substances which have been obtained from organisms of the *B. subtilis* type. Since this was written, aerospirin has been favourably reported on by G. Brownlee and S. R. M. Bushby,¹ particularly for the treatment of whooping-cough, and R. K. Callow, R. E. Glover, P. D'Arcy Hart, and G. M. Hills² have had promising results with licheniformin in experimental studies of the treatment of tuberculosis. The antibiotics of the genus *Bacillus*, which of course include gramicidin, the first bacterial product ever shown to be capable of therapeutic action, are worth watching.

There is an interesting chapter on immunization by J. Freund, who describes the remarkable effects of vaccines administered in oil emulsions, and another on the quarantary ammonium compounds, a class of disinfectant about which exact knowledge and clear thinking increase in importance *pari passu* with their popularity. T. Francis was the author-selected to write the chapter on the respiratory viruses. Other subjects are immunochemistry, industrial fermentations, two chapters on fungi, and four on various aspects of the study of protozoa. It would be easy to criticize this list of subjects by pointing out others which might have been worthy of inclusion, but the choice has been well made, and every chapter contains not only a mass of information and a valuable list of references, but the individual views of an authority on the subject.

¹ Vol. 1, 1947. Stanford, California: Annual Reviews Inc. London: R. K. Lewis and Co. Price 36s.

² *Lancet*, 1948, 1, 127.

³ *Brit. J. exp. Path.*, 1947, 28, 418.

MEDICAL EDUCATION: A NEW APPROACH

REORIENTATION OF THE CURRICULUM

(B.M.A. Special Committee Report)

The Council of the British Medical Association three years ago set up a Special Committee to review, in the light of later developments and the requirements of modern practice, the B.M.A. Report on Medical Education, published in 1934. The Special Committee was fortunate in its choice of Chairman—Prof. Henry Cohen, who holds the Chair of Medicine in the University of Liverpool. The other twenty members represented many branches of medicine. They included three deans of medical schools or faculties, seven senior physicians or surgeons attached to teaching hospitals, four general practitioners, one representative of medical students, and the five chief officers of the Association, four of whom are also in general practice. Scotland was represented by five members.

The Report now issued, a document of 150 pages, covers the whole subject of undergraduate education, from the pre-university period to a compulsory year of internship. The Committee received oral or documentary assistance from some eighty authorities on the subject. The result is a contribution of the first order to the literature of medical education. The Report approaches the subject on a broad basis of criticism, destructive and constructive, and it is written in an individual and attractive style as though it were the work of one able pen instead of the combined effort of twenty-one people with differing points of view. So impressed was the Council with the Report submitted to it that it has agreed to set up another committee—though this has not yet been appointed—to carry the subject forward on to the postgraduate level.

A Drastic Overhaul

In the early part of its Report the Committee recommends some radical changes in premedical and preclinical instruction, but the most drastic overhaul is proposed for the clinical period. It believes that a new approach to medical education and practice should be based on the conception of disease as a disturbance or disequilibrium in the structure and function of the organism, the idea of "diseases" as clinical entities being regarded simply as a descriptive convenience. The educational implications of such a change, as the Report states, are far-reaching.

Perhaps the key passage to the whole outlook of the Report is to be found in the middle of it, in the chapter headed "The Student and the Patient":

"The Committee believes that, whatever the cost of reconstructing the curriculum, we should return to first principles and so remodel the training of our students that they will base their future practice on an understanding of each patient as a 'whole,' using the resources of the specialties as aids to diagnosis and treatment.

"... One of the most serious defects in present-day medical training in the clinical period is the failure (i) to regard the patient as a whole, and (ii) to teach the principles and practice of general medicine. If the medical practitioner is to treat his patient 'as a whole' he must be taught how to do so in his undergraduate years, and he cannot be properly trained in this conception by the present method of dividing medicine into a number of distinct and separately taught compartments."

The time has come to remodel the clinical curriculum so as to provide the student with a thorough basic training for modern medical practice. He must be taught the general principles of medicine, trained to diagnose and treat common ailments in minor medicine and surgery, and to recognize conditions for which he should summon expert help. More specifically, he must learn the functions and scope of medicine, the nature of health and of disease, the fundamental principles of general pathology, the method and purpose of diagnosis, the general principles of prevention, treatment, and after-care, the causation, diagnosis, and treatment of common ailments, and such special pathology, medicine, and surgery as will enable him to recognize emergencies and conditions for which special measures are required.

This cannot be achieved by requiring him to attend courses in the several departments, each organized without liaison with other departments. Yet this is what occurs in most medical schools to-day, "with the result that the newly qualified doctor embarks on responsible practice with an idea of medicine as an inchoate collection of facts isolated in special departments, and he quickly finds that his training has failed to give him competence to deal with the ordinary problems of his everyday professional life."

The Integrated Curriculum

The clinical curriculum should be a single whole, planned by a committee of the professors or senior members of the teaching staff. Transition from the preclinical study of the normal should be effected by introducing the student to the basic principles of general pathology, and the remainder of the clinical period should be devoted to the study of the foundations of the main branches of medicine, with short courses in special subjects. All subjects should be dovetailed into one another. The courses in special subjects should deal mainly with the scope and potentialities of diagnosis and treatment in specialties with highly expert techniques, but such teaching should be incorporated where possible in the courses of general medicine, surgery, and pathology. Topics such as social medicine and psychiatry should be regarded as integral to all aspects of medicine, and so far as possible dealt with in relation to the wider subjects rather than as distinct and separate courses.

In the Committee's view, teaching-hospital consultants and specialists at present tend to be concerned too much with the status of their specialties; thus the student gets a distorted view of the relationship between the specialties and general medicine. One means of restoring the balance will be by the return of the physician with a general outlook. General physicians with broad interests should be appointed to chairs of medicine, and be responsible, with the help of a committee of the senior teaching staff, for organizing the teaching of all clinical medicine. Specialists would teach special aspects, but these would be fitted into the general plan. The abrupt division into medical and surgical wards may have to go. "Measures that disintegrate medicine should be avoided; all that fosters an attitude which regards the patient as a 'whole' should be supported."

Methods of Teaching

The return of the physician with a general outlook would meet the criticism that although the majority of students will become general practitioners they are taught by consultants and specialists, and thus get a false perspective of the conditions of general practice. Some older men in practice can recall being taught by teachers who, outside the medical school, were general practitioners, usually general physicians of the best type. Such teachers have been largely superseded by specialists. But the Committee finds difficulty in accepting the proposal that the general practitioner should be brought into the teaching hospital or the student sent to the general practitioner. The present generation of doctors has been educated in a consultant atmosphere, and it might be difficult to find a sufficient number of really suitable general practitioners who have developed the broad outlook desired and also have the ability and inclination to teach. Other practical difficulties are pointed out, such as the strain which the continuous presence of even one student might impose upon a practitioner, and the possible resentment of patients and relatives at the attendance of a student. In these circumstances the student himself might receive only doubtful benefit.

The Committee notes as one of the shortcomings of the Goodenough Report the use of the cliché "teaching and research," as though they were synonyms; usually they are antonyms. Lecturers and professors should be appointed for their skill as teachers. Lectures should have more care and forethought than is often given to them. The good lecturer avoids a textbook presentation and makes no attempt to cover the whole field. The criterion of the acceptable teacher is expressed in Pope's couplet:

Men must be taught as if you taught them not,
And things unknown propos'd as things forgot.

The good teacher will remember that the student must have leisure. A syllabus in which every minute is allocated to

definite work or duties is to be concerned. He will be a better student for devoting some of his time to non-medical interests. The Report draws attention to one notable omission from the nurture of the medical teacher. He receives no training in the art of pedagogy. And teachers are not often "born."

The Time-table

A quotation on the fly-leaf of the Report, from A. Castiglioni's *History of Medicine*, states that Galen estimated that eleven years was necessary to equip the physician with his necessary knowledge, whereas his contemporary and enemy Thessalus declared that six months' training would make an excellent physician. The proposed reorientation of the curriculum, with its emphasis on a rational understanding of the basic principles of medicine, will permit the ground to be covered in five and a half years, but it is recommended that there should be, before registration, a compulsory year of resident appointments, which should be adequately remunerated.

The premedical study of the basic sciences should occupy the first year, and the preclinical studies should cover one year and one term. After the preclinical examination a transition course of six months should be undertaken, followed by an examination in the principles of general pathology, this to take place in July of the third year. Then follow the clinical years. The time-table suggested by the Committee would complete all lectures and prescribed clinical work by the end of the first term of the sixth year, leaving one clear term free to the student for personal revision, unhampered by official classes, before the qualifying examination in March or April of that year. The plan would be as follows:

Year	Months	Stage
1 ..	Oct.-July Examination	Premedical
2 ..	Oct.-July	Preclinical
3 ..	Oct.-Dec. Examination	
3 ..	Jan.-July Examination	Transition
4 ..	Oct.-July	Clinical
5 ..	Oct.-July	
6 ..	Oct.-Dec.	Revision
6 ..	Jan.-March Examination	
6 ..	April-Sept.	Paid intern appointments
7 ..	Oct.-March	

The total number of lectures during the clinical period is 580, and a suggested allocation to the various subjects is given—100 to pathology and bacteriology, 90 to medicine, 70 to surgery, 50 to social medicine, and so on—but these allocations are no more than suggestions, put forward with no desire to dictate to the authorities of the medical schools. The student appointments to clerkships are summarized as follows:

Subject	Period
A. In-patient and out-patient:	
Medicine (including psychiatry) ..	6 months
Surgery (including orthopaedics and anaesthetics) ..	6 "
Obstetrics (in residence) ..	2 "
Gynaecology (to follow obstetrics) ..	1 month
Paediatrics (to follow gynaecology) ..	3 months
Casualty (in residence) ..	1 month
Pathology ..	1 "
B. Out-patient only:	
Ear, nose, and throat ..	24 hours (12 sessions)
Ophthalmology ..	24 "
Dermatology ..	24 "
Radiology ..	12 "
Veneral diseases ..	12 "
Physical medicine ..	12 "
Psychiatry ..	24 "
	6 out-patient and 6 extramural visits

A session is of two hours' duration except in radiology and physical medicine, where one and a half hours is regarded as adequate.

The Report also furnishes a preclinical time-table. It is suggested that four terms of twelve weeks be devoted to the preclinical period, together with a month of the summer vacation, this month to be devoted to completion of dissections, with radiological demonstrations of thorax and abdomen. A programme is given for lectures, practical work, and tutorial classes; the lectures in the first, second, and third terms to be 36 in anatomy and histology and a like number in physio-

logy and biochemistry, and in the fourth term 24 in anatomy and 36 in physiology, including in each subject clinical and applied, and 12 in psychology.

The Aim in View

The undergraduate curriculum, in the Committee's view, can do no more than lay the foundation of a doctor's education; but it should stimulate him to remain a student all his life. The curriculum can never be final; it is always moving, but never arrives. Strong disapproval is expressed of specific vocational trends in premedical school-teaching. Too often also current medical curricula are so subdivided as to lack continuity, and the student feels that each segment is an obstacle to be surmounted before the next is reached.

"The most frequently reiterated criticism of the curriculum which the Committee heard was that it conduced to the memorizing of a mass of detail without any appreciation of the underlying general principles, and that teaching was too often of the spoon-fed type instead of being aimed at the promotion of right habits of thought. The Committee believes that this criticism is often well founded."

The aim of medical education to be steadily kept in view is not to impart a mass of factual information in each branch of medicine, but to equip the student with sound basic principles, including the scientific outlook and method, a knowledge of the fundamentals of the medical sciences, competence in, and understanding of, certain indispensable techniques, and an intellectual resourcefulness and initiative in the handling of unusual and unexpected situations. The pressure of interested specialist groups to include more and more of their branches in the curriculum must be resisted. "Depth of understanding must not yield place to breadth of knowledge."

"The Committee does not, therefore, accept in its full implication the oft-reiterated view that the aim of the curriculum should be to produce a competent general practitioner. General practice is a special form of practice which must be founded on general basic principles and appropriate postgraduate study."

This leads on to the question of selection of students. The number of applicants far exceeds the places available for them in the schools. Even allowing for the post-war "bulge," the task of selection is formidable. Moreover, the field of recruitment is in future unlikely to be as restricted as in the past by social or economic barriers. The responsibility of selection should be in the hands of a small committee of the medical staff of the school, not thrust upon the dean alone.

The criteria to govern selection are intelligence, character, and interest in a medical career. As for intelligence, "what we need to achieve is a test which will reveal a native wit which is capable of forming habits of thought and not simply of absorbing knowledge." In assessing character, school reports and achievements in games will be of value. Interest in a medical career is difficult to assess with a candidate of immature age, but aptitude in scientific method may give some indication. Physical handicaps should not debar if they do not interfere with basic training: a man with an old infantile paralysis may well be accepted, whereas a man with severe deafness may be rejected until hearing-aids are more perfect. The conditions under which Government grants are given ensure that there is no unfair discrimination against women students, but marriage possibilities and consequent loss to the community cannot be ignored in assessing sex ratios.

The Threshold

In pre-university studies general cultural subjects, including science, should be taken. Factual knowledge of basic sciences will be extended during the first university year. The Committee wholly disagrees with the Goodenough Committee suggestion that a school-leaving examination at 18 might be accepted for the medical curriculum proper, and that the student coming from school with a good elementary grounding in general science need spend relatively little time on physics, chemistry, and biology in his medical course, such special training as is necessary being given as part of the teaching in anatomy and physiology. Such a view denotes a failure to recognize the fundamental importance of a thorough training in the methodology of science, which can best be inculcated in a special course in science at a university standard and in a university atmosphere.

Much of the disappointment which attends the existing first-year course is due to the fact that it is regarded as a Cinderella by the science departments in the universities, so that often indifferent and uninterested teachers are appointed to it. The subjects are taught, as Abraham Flexner said, "at distinctly a schoolboy level, and in a mechanical and humdrum rather than an imaginative and scientific spirit."

The first-year course should be lifted to an altogether higher plane. This basic training should be conducted by teachers of outstanding ability and qualifications, having adequate knowledge, a suitable personality, and a scientific spirit. One medical school has drawn on postgraduate research students to act as tutors, and the plan works excellently. In practical work, experiments should take the form of questioning and exploring practical phenomena, instead of the few stock experiments for which multiple sets of apparatus are provided.

It is suggested that instruction in the basic sciences might be advantageously developed from modern concepts of the atom as the starting-point. Physics, chemistry, and biology are not to be regarded as a mere introduction to the courses in anatomy and physiology. Ten lectures in the premedical course might be given on statistics—enough to enable the student to realize the danger of clinical impressions being overweighted by the striking episodes which remain fixed in the memory and to unmask the effects of propaganda which quotes only figures favourable to a thesis.

The Preclinical Period

The preclinical period—an unsatisfactory term—is an integral part of clinical study. The old distinction that anatomy is the study of structure and physiology the study of function cannot be rigidly maintained. In the living body anatomy and physiology are inseparable. Examples are given—the action of the voluntary muscles, the nervous system, etc.—of the difficulty of separating these two subdivisions of human biology.

The complaint is made that anatomy and physiology are taught in excessive detail. The aim in the preclinical period should be to give the student a synoptic view of the structure, functions, and processes of the human organism. The integration of anatomy, physiology, and psychology also is not a matter of co-ordinating syllabuses; it must be the continuing aim throughout the course. Teaching has suffered in some medical schools because these subjects have been entrusted to a research worker with little interest in or aptitude for teaching. Where the interests of the head of a department, preclinical or clinical, are mainly in research, a first-class teacher of senior status should be appointed on whom should rest the responsibility for departmental teaching.

The anatomy required is that of the living subject. The study of the cadaver is a means to an end, not an end in itself. It is suggested that, along with dissection, living anatomy classes should be formed—groups of students in charge of a teacher for the systematic identification, in the living subject, of the different structures. Dissection of the entire body is, nevertheless, essential, though there might be some reduction in topographical detail, and more use made of prepared dissected specimens. Dissection of thoracic and abdominal viscera must be performed with the aid of radiology. The anatomy of the nervous system should be taught more adequately. New textbooks of anatomy, not so encyclopaedic in detail as the old, are required.

In the physiology course the two reforms most urgently needed are (1) its correlation with anatomy and the preclinical and clinical subjects, and (2) reorientation of the syllabus with greater emphasis on human physiology and less on animal experiment. A list of topics to be covered in a syllabus is given, but it is the method of presentation and the balance of detail which determine the suitability of the course. There is no excuse for devoting to the chemistry of the nucleoproteins eighteen times the space given to visceral pain—the proportion found in one standard textbook on human physiology.

Excessive time is devoted in some schools to animal experimental physiology, leading the student to overestimate the importance of technical skill and to fail to appreciate that the purpose of animal experimental physiology is to help him acquire knowledge which cannot be gained by observation experiment on the human subject. The suggestion is made

that the students should work in pairs and carry out simple experiments on each other. A list is given of 37 experiments, on the blood, the cardiovascular, respiratory, and nervous systems, and the special senses, which could be carried out in this way. Errors of metabolism, deficiency diseases, disturbances of acid-base balance, and endocrine disorders offer an excellent opportunity for impressing on the student the links which bind the preclinical to his later clinical studies.

In a chapter on the teaching of normal psychology suggestions are made for taking the student from general principles to sufficient detail. The student should not be introduced at this stage to problems of abnormal behaviour. The ideal method of teaching psychology would be by seminar discussions rather than formal lectures, but there may be practical difficulties in the way. The least suitable person to teach psychology is the old-fashioned member of the medical staff of a mental hospital, whose experience is confined to abnormal psychology and almost entirely to the treatment of psychotic patients.

And So to the Patient

The purpose of an introductory course at the beginning of the clinical period is to lead the student by a smooth and unbroken transition from normal man to deviations from normal. He should be presented with a rational explanation of disease founded on anatomy, physiology, and pathology, with some instruction in history-taking and recording. The Committee suggests that two terms be devoted to the introductory course, and that at the end the student should be required to pass a professional examination in general pathology. At this point criticism is made of present-day textbooks, which often fail to provide a suitable and intelligent background for lectures. A graded series of textbooks, especially introductory ones, in the major clinical subjects is required.

In his clerkships in medicine, surgery, obstetrics and gynaecology, and paediatrics the student will be introduced to the responsible care of patients. He should be encouraged to regard himself as their doctor, becoming fully acquainted with them through his history-taking, and following every stage in their treatment and investigation. Study of in-patients should precede that of out-patients. There is no need for in-patient clerkships in the specialties.

The teaching of pathology should be spread over the whole of the clinical years, and the pathologists and clinical teachers should co-operate in the instruction given in lecture theatre, wards, laboratory, and post-mortem room. Altogether, including the introductory period, 200 hours should be assigned for lectures and demonstrations in pathology and bacteriology, and 80-100 hours' practical work. In the final year a month's clerkship in pathology will consolidate the student's knowledge. At present there is too great an emphasis on morbid anatomy and histology and on post-mortem findings at the expense of functional pathology and biopsy methods. Time should not be given to detailed discussion of the minutiae of pathology.

It is considered that pharmacology also should not be concluded in the early part of the clinical period, but the relation between pharmacological action and the use of drugs in disease should constantly be brought to the student's notice during the whole of his clinical studies. The course in materia medica, pharmacology, and therapeutics should cover about 140 hours. A few simple experiments, with drugs which will give the student useful assistance are listed. Part of the course should be devoted to systematic teaching of therapeutic methods—poulticing, blistering, dry-cupping and others. Many doctors enter practice unable to perform the simplest therapeutic procedures, such as the giving of an enema. Instruction in the proper writing of prescriptions will not be a waste of time. The practising doctor should be able to understand when he writes a prescription what he is asking his pharmacological colleague to do.

General Medicine and Surgery

General medicine is the linchpin of the clinical subjects. It should be taught as the basic clinical subject from which many specialties have branched off. The special purpose of the teaching is to inculcate a sense of the unity of medicine. The instructions, spread over the whole of the clinical years, should comprise systematic lectures, a junior and senior clerkship in the wards, constant attendance in out-patient departments and at

a minor ailments clinic, and a month's residence in a casualty department. The course of lectures should be planned by the professor, who might with advantage deliver most or all of them himself. Six months should be devoted to medical clerking and out-patients. In the wards three or four beds should be assigned to each student. A satisfactory medical teaching unit would comprise from 40 to 60 beds under a chief and assistant and provide for 10 clerks each term. At least two tutors should be on the staff of such a unit, to ensure that individual tuition is given. The student should be made familiar with the recognition of common infectious fevers treated in isolation hospitals, and arrangements should be made during the second and third clinical years for attendance at these hospitals as clinical material becomes available.

The need for the student to study chronic disease demands greater emphasis. In his third clinical year a few patients suffering from various forms of chronic disease might be allocated to him.

A preliminary course in the principles of surgery will have been given during the transition period. The clinical period should include two dressing appointments of three months each, a junior one in the first year and a senior one after medical clerking is completed, a series of systematic lectures covering two years, and ample opportunities for work in the out-patient and casualty departments. The first clinical appointment should be devoted to in-patient dressing, the second primarily to out-patient work. At least part of the second appointment should be resident, so that experience of acute abdominal emergencies may be obtained. In general the student should be expected to attend only operations on his own patients. For the purpose of undergraduate education orthopaedic and traumatic surgery should not be wholly divorced from general surgery. Work in the fractures clinic should be included in the second surgical appointment; a particular case should be followed continuously from admission to discharge. Instruction in orthopaedic conditions should include the principles and methods of rehabilitation. Arrangements should be made for the student to see something of other branches of surgery usually undertaken by specialists, such as thoracic, plastic, and neurological surgery. Lectures and discussions on common diagnostic problems (lumps under the sterno-mastoid, acute pain in the right iliac fossa, a limp in a child) should be introduced into the systematic course and dealt with in clinical lectures.

The scope and principles of anaesthesia must be learned, with the ability to administer simple anaesthetics for minor operations. Teaching should not be more detailed than the general practitioner is likely to require in his ordinary practice. More advanced and complicated techniques should be left for postgraduate study. Six lectures in anaesthesia may be given, with experience in practical work. The student should be assigned to an anaesthetist during his surgical clerkship, when he may probably have the opportunity of administering 20 or 30 anaesthetics.

Obstetrics and Gynaecology: Paediatrics

Under the present Medical Acts a basic training in midwifery must be undergone by all medical students. The curriculum should provide as high a standard of training as will enable the practitioner to fulfil the requirements of the Acts without having a special postgraduate diploma.

The main direction of improvement should be to take into fuller account the needs and resources of the family doctor and to devote less of the student's time to the study of the rarer, if more interesting, cases that come into hospital for specialist attention.

It is recommended that the course in obstetrics and gynaecology should be taken after the student has spent six months in medical clerking and six months in surgical dressing. The instruction should include 30 or 40 systematic lectures in obstetrics and 15 in gynaecology. Each case should be allotted to a student on attendance at the hospital, and attendance on a patient in labour should always have precedence over lectures or other duties. Efforts should be made to allow the student to deliver at least 20 normal cases. He should, when possible, also carry out at least one low-forceps delivery and one breech delivery in a multipara, and should have practice in the repair of perineal tears and in episiotomy incision. In the arrange-

ment of a teaching hospital adequate residential accommodation for students should be provided having easy access to the labour wards.

A series of 15 systematic lectures should be sufficient for theoretical instruction in gynaecology, and the main object of the clinical instruction in that subject should be to teach the student to make a pelvic examination with sufficient skill to recognize and interpret obvious and gross departures from the normal.

Paediatrics, "one of the most important subjects of the medical curriculum," should be studied after the course in obstetrics and gynaecology has been completed. The student would then come to it with adequate preparatory knowledge, having received instruction in antenatal care. He should spend three months as a paediatric clerk, having direct responsibility for at least four beds. One of the months should be spent in residence at a children's hospital or department. He should make himself familiar with the child welfare and other orthopaedic services of the health authorities. He should visit school medical, tuberculosis, and child-guidance clinics, and a mental deficiency institution. It is suggested that six lecture-demonstrations and discussions should be given in the third term of the first clinical year and 18 during the later period of clinical studies. They should be confined to the common diseases of childhood.

Psychiatry: Social Medicine: Public Health

For psychiatry no set departmental course to be taken at a particular stage of the training is proposed, but a curriculum which pervades the whole clinical period. Various studies are mentioned which might be interwoven in the transition and clinical periods so as to give a more coherent and intelligible idea of the mental aspect of medicine than is given at present. One of the defects of present-day teaching in psychiatry is that too much is left to registrars and teachers of similar status. The introductory course should include a series of 12 lectures on the general principles of psychopathology. Two further series, each of 12 lectures, should be arranged in the first and second clinical years respectively. Some of the time of the lectures might be devoted to discussions of the Socratic type concerning difficulties encountered by the student in his reading or clinical experience. It is not necessary to take an in-patient clerkship specifically in psychiatry; both the psychiatric and the physical aspects of disease should be included in the medical clerkship. Out-patient work and case-taking form an important part of psychiatric training, but these should not begin until after completion of medical clerking and surgical dressing in the second clinical year. Six attendances at psychiatric out-patient clinics are recommended. Some time should be devoted, with the co-operation of the paediatrician, to children's sessions. Extramural visits should include institutions for mental defectives, the observation ward of a psychiatric department or mental hospital, and a mental hospital itself. A special professional examination in psychiatry is not favoured; one or two questions in the papers on medicine should be primarily psychiatric in scope.

Instruction in the preventive aspect of disease should be given, by emphasis, by all teachers throughout the clinical period. Students should be encouraged to regard the patient and his environment as a whole. Every hospital ward will contain some patients who will serve as suitable tests for the discussion of the interrelationship of disease and social circumstances.

In the systematic course the following headings are suggested:

Transition Period.—History and social causes of disease; nutritional requirements of a working population; psychological reaction of patient to environment.

Second Clinical Year: First and Second Terms.—Natural history of tuberculosis; social pathology of rheumatic fever; venereal disease as a social problem; maternal and infant mortality, etc.

Second Clinical Year: Third Term.—Progress of public health; epidemiology of diphtheria, etc.; public health bacteriology; environmental health services.

During the second clinical year also the functions of the school medical service might be taken with paediatrics and psychiatry. Industrial diseases and medical supervision in factories might be taken during the same year as field work at different times. The appointment of a professor of social medicine will not be practicable at every medical school, but

there should always be a member of the staff available and competent to organize the teaching of the subject.

Industrial medicine should be taught as a special aspect of social medicine, not as an independent subject. A systematic course of lectures might deal with the following: history of industry; occupational disease and mortality; the Factories Acts as a contribution to a positive health programme; practice of medicine in industry; rehabilitation and resettlement. Here again a separate examination is not recommended. Examiners in general medicine should expect the student throughout his answers to have regard to social, occupational, and economic factors in illness.

A brief chapter on forensic medicine discusses the bearing of medico-legal problems on the medical practitioner. Here again at present too much attention is given to details which should be the province of the expert. "It is unnecessary to burden the undergraduate student with detailed instructions in the conduct of such post-mortem examinations as may be required by a coroner." Toxicology should be taught from the clinical point of view. It is not considered necessary for the toxicologist to have charge of beds for teaching. The most suitable time to present forensic medicine is in the summer preceding the final year. Practical teaching should be supported by systematic lectures occupying about 20 hours. Two lectures on medical ethics and the legal responsibilities and duties of the general practitioner should be included.

Specialties

These, in view of what has already been stated, are treated very briefly.

Ophthalmology.—Criticism by those in charge of eye departments in large hospitals arise from cases which exemplify (1) failure to diagnose intraocular disease and delay in referring cases to specialist; (2) attempts to treat serious eye diseases before so referring; and (3) failure to assess correctly the value of ophthalmic examination as an aid to diagnosis. The inference is that many practitioners have not received an adequate basic teaching. The aim should be to give a thorough grounding in "anatomical diagnosis" without necessarily attempting "pathological diagnosis." A clinical class should not exceed five students. (24 lectures.)

Ear, Nose, and Throat.—Technical skill in use of nasal speculum, laryngoscope, and otoscope, and the simple clinical methods of examination and treatment, should form part of the equipment of every general practitioner. The student might attend out-patients during his second clinical year. (24 lectures.)

Dermatology.—In the transition course six to eight lecture-demonstrations on clinical examination of dermatological cases should be included, and instruction in clinical dermatology given in the second and third clinical years, organized as a curriculum rather than a set course. Later in the second year he should study skin cases in wards and the out-patient department. (24 lectures.)

Veneral Diseases.—Twelve attendances at the V.D. clinic for lectures, demonstrations, and practical work should suffice to cover the ground for the undergraduate. (6 lectures.)

Physical Medicine.—A list of topics to be covered in an elementary fashion is given. The course should not include general discussions on osteoarthritis, fibrositis, or gout; these are rightly in the domain of general medicine. (8 lectures.)

Radiology.—A special course for teaching scope and methods. It is unnecessary to learn special techniques. Conferences and discussions on selected cases between consultant, radiologist, pathologist, and any interested specialist are valuable methods of teaching. (9 lectures on radiodiagnosis, 3 on radiotherapy.)

Examinations

The Committee rejects the view that examinations are unnecessary and undesirable for the medical student; well-designed and well-conducted examinations are an essential part of the machinery of education. It favours the internal method, but with an associated external examiner. The final examination should be devised as a whole, without separate papers in the specialties. After the examination in general medicine at the end of the transition course—that is, in the first year of the student's third year—he should not be required to undergo any further examination until he has completed the

full curriculum, thus leaving him two and a half years, unhindered by the examination burden, to absorb the principles and ideals of medicine as a single integrated study. The final examination may, for practical convenience, be divided into the three main subjects, but the parts must not be regarded as separate obstacles to be surmounted one at a time.

A special committee of internal examiners in all subjects should undertake the general organization, review the proposed questions, decide the standards for the allocation of marks, and afterwards review the results. The paper on general medicine should be the responsibility of the professor of medicine; there should be no papers in the specialties, but some questions should be devised which the candidate will be unable to answer satisfactorily without an adequate knowledge of one or more specialties (e.g., "A man of 60 wakes in the morning with a right frontal headache. Discuss the differential diagnosis"). The clinical examination should take place in hospital rather than in an examination hall in order to give a wider choice of cases. A healthy person might be assigned to a candidate in the clinical examination, but the candidate should be forewarned of that possibility. The following precepts for examiners were formulated by one witness, and the Committee endorses the advice and underlines the fourth precept:

- (1) Treat the candidate with the courtesy which is his due.
- (2) Do not flatly contradict any candidate.
- (3) Try to find out what the candidate really knows. If you discover a serious lacuna there is no need to plumb it to its depth.
- (4) Be prepared to receive views with which you may not agree so long as they are accepted by teachers of repute.
- (5) Put your questions clearly.
- (6) Be careful how you joke with examinees.

The Intern Year

The idea of including a period of clinical experience under supervision as an integral part of the training of medical students was first put forward by the B.M.A. Committee in 1934. The Goodenough Committee elaborated the proposal, to which effect has been given in the draft Medical Bill submitted by the General Medical Council to the Minister of Health. On the ground that they all belong to the compartmental system, against which the whole Report is directed, the present Committee objects to various forms of internship suggested, including the Goodenough recommendation of one appointment for six months in general medicine and another of like period in general surgery. The intern year should complete the student's basic training by introducing him to the responsible care and treatment of patients, with a gradual increase in personal responsibility. The intern should be assigned both in-patients and out-patients as they are admitted to hospital.

"The intern will thus receive the patient as a sick person, and not as a 'medical' or 'surgical' case, and at least six months will be devoted to this integrated study of patients and not be divided into 'medical' and 'surgical' appointments. Such labelling prematurely attunes the student's mind to a particular diagnosis."

Each patient admitted to hospital would be assigned to an intern, who would be responsible for writing the history and for the minor laboratory examinations and technical procedures, would be present at all consultations, would glean the social background, note the progress of the patient, and undertake the follow-up. He would really act as the personal doctor of the patient and be even closer to him than the attending physician or surgeon.

It is estimated that an approved hospital should be able to take one intern for every 20 to 25 beds, and that it should not be necessary for any one hospital of 250 beds to have more than 10 interns at a time. This means that, with an annual admission list of 6,000 patients staying on the average two weeks, each intern would have 10 new patients a week for study. The student should be paid an adequate salary during his internship. At the end of his intern year he should not have to undergo an examination, but for the purpose of admission to the Register an officer of the approved hospital should be required to certify, through the qualifying body, that the student has satisfactorily completed his intern appointment.

The final recommendation of the Committee may ultimately prove to be the most fruitful—that there should be an Association of Teachers in Medical Schools to keep in continual discussion the various experiments in medical education and to plan an assault on the many problems yet unsolved.

MEDICAL ART SOCIETY EXHIBITION

[FROM A SPECIAL CORRESPONDENT]

Is there such a thing as an "amateur artist"? There are public figures like Mr. Churchill, and busy professional men like Sir John Parkinson and Sir Philip Manson-Bahr, who manage in some inexplicable way to find time to paint, and to paint as competently as any professional. But there cannot be two standards for art, and it would be sheer condescension to judge the medical artists now exhibiting at the Walker's Galleries, 18, New Bond Street, by any artificially lowered standard.

It is pleasant to see that so many well-known and busy members of an overworked profession have time to bring out their easels to such good effect. For example, besides Sir John Parkinson and Sir Philip Manson-Bahr, the list of artists includes such names as Dr. H. S. Stannus, Dr. Geoffrey Bourne, Dr. W. S. C. Copeman, and Mr. Holmes Sellors.

On the whole the tendency is towards the orthodox and academic, but this is to be expected. There are, for example, some extremely competent etchings by Dr. E. Goodwin Rawlinson and Dr. E. Puddy. The best of the more traditional water colours, because the least fussy, is Dr. Charles R. Porter's "River Congo, Rainy Season," although Sir John Parkinson's "Glacier Stream" is architectural in its treatment of a mountain set against a flat foreground, and Dr. Henry Wilson's "Scarborough Bay" has a quiet sense of colour. Dr. Dorothy Fare's studies of trees are observant, though perhaps Dr. L. E. Houghton's "November" has a more sensitive feeling for atmosphere. Mr. R. W. Payne has a pleasant style of his own; his drawing is meticulously childlike, and he uses bright, flat colours with pleasing effect. Sir Henry Bashford has contributed two extremely interesting studies in grey wash: "Rock Pool" is a highly original and effective design, and more successful than "March Study—Hampstead."

The best of the water colours, however, are Dr. C. J. Dudley-Dunn's "Village Roofs," and, more particularly, a charming and naive painting by Dr. J. D. W. Pearce called "Positano." I should be surprised if the unaffected colouring and drawing in this little scene of houses grouped on a hill were derived from any "cult of the primitive"—it looks spontaneous and genuine.

The oil paintings show more evidence of lack of leisure and skill, although there are some good things among them. For example, three charming paintings by Dr. Helena Wright are spoilt by a certain muddiness ("Bathing Beach, Taormina," with its scattered sunshine, is the best). Dr. Margaret Little's "Mynydd Bach," a study of red- and blue-roofed cottages against green hills, is not quite successful for the same reason. Dr. Edith Magill's painting of a scene near Stockbridge is more successful because it is less ambitious, and her colours are better controlled. Dr. Christopher Keating shows good plastic sense, especially in the sturdy treatment of the white cottage in the foreground of "The Canal." Dr. Norman Patterson has treated "Springtime in My Garden" extremely felicitously. The most interesting oil painting is Dr. Lorna King's "Landscape." It is reminiscent of some of Banting's paintings (which the writer has seen in reproduction only). The colours are subtle, the plastic sense and design well developed, and the whole painting looks as if it has been really seen, and not painted through the eyes of somebody else.

Among the oil paintings are the two worst pictures in the exhibition, Mr. Geoffrey Parker's "Nightmare" and Dr. C. M. Ruben's "The Paths of Glory lead but to the Grave." These two symbolical paintings are not relieved even by good draughtsmanship.

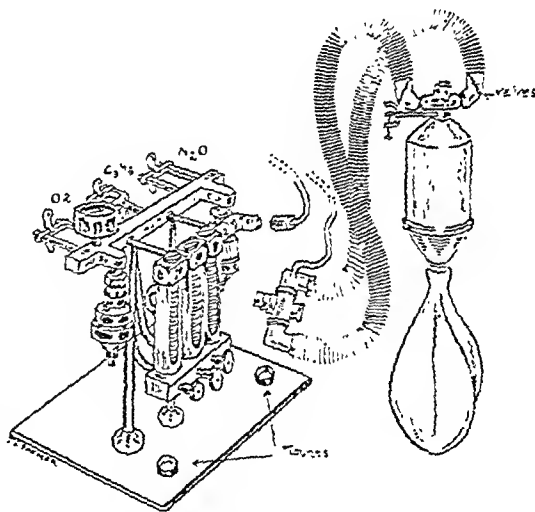
The few items of sculpture are competent. The most interesting is a plaster-of-Paris cast of "A Doctor's Face" by Dr. S. Hales. It looks as if it might have been a mask made direct on the model, and it suffers from a lack of artistic form; but the expression is interesting.

The exhibition contains a succinct commentary on the present medico-political situation. Dr. E. Puddy's "Quo Vadis?" shows a doctor sitting at a desk crammed with sheaves of official papers and regulations, among which can be seen the familiar panel cards; in front of him a poor, stooping patient, cap in hand, waits pathetically, and behind the patient stands Christ with outstretched hands.

Preparations and Appliances

A PORTABLE ANAESTHETIC APPARATUS

Dr. G. E. HALE ENDERBY, Anaesthetist, Royal National Orthopaedic Hospital, writes: This apparatus has been designed to meet the need of a compact reasonably portable machine providing facilities for the administration of most anaesthetic agents. There are two main sections of the apparatus. One is the flowmeter-cylinder unit carrying oxygen (15 gal.), nitrous oxide (50 gal.), and cyclopropane. The other is the circle-type absorber, which is a Waters canister fitted with a specially designed head incorporating directional valves. This enables the use of twin tubes, and the canister can be fixed in any position in relation to the patient. It is usually attached beneath the operating table by a screw clamp as described by James (*Journal*, 1947, 2, 345). The directional valves (rubber flaps) are mounted in detachable angle-pieces carried on the ends of the corrugated tubes. This facilitates washing and sterilization if necessary. The absorber unit can be replaced by a continuous-flow Magill rebreathing attachment for use with nitrous oxide, oxygen, trichlorethylene, and ether if desired. The trichlor-



ethylene is used in an M. and I.E. bottle, and the ether in a Magill drip. Both these are carried as accessories for attachment to the flowmeter unit, and are not permanent features of the machine. No direct provision is made for the use of carbon dioxide. A supply is carried in a C-type sparklet bulb with an attachment which fits the cyclopropane yoke. This is inserted in place of the cyclopropane cylinder when required. Mounts on the baseboard carry the Waters canister and a face mask when not in use. The whole apparatus fits into a carrying-case having a central compartment for the apparatus and narrow compartments at each end for hoses, rubber tubing, etc. The central section is fitted with a shallow tray for accessories.

My thanks are due to the skill and patience of Mr. Childerhouse and staff of Medical and Industrial Equipment, Ltd., New Cavendish Street, London, W.1, who made this apparatus for me; and to Miss Farmer, medical artist, Rooksdown House, Basingstoke.

Reports of Societies

ELECTRO-NARCOSIS

In the Section of Psychiatry of the Royal Society of Medicine on May 11 a discussion took place on electro-narcosis.

Dr. SPENCER PATERSON, who showed a film of the treatment being given to patients in the Psychiatric Unit of the West London Hospital, said that about two years ago, in different countries and in different hospitals in the same country, there were being passed through the brains of patients electric currents which differed from each other in every particular; there had been little experimental work to show which were safe and which were dangerous. There were many psychiatric conditions which failed to improve when the patient was given only two or three applications a week, but it had been discovered that the more intense administration of electric shock could effect recovery in otherwise intractable cases. The side effects were not serious, but careful nursing was often necessary. It was therefore sought to obtain a better therapeutic effect with little or no discomfort to the patient, and to this end the passing of a low current through the brain of animals for a period of several minutes was studied.

The main difference between the electro-narcosis machine and the electro-shock machine was that with the former the current was kept automatically regulated. Instead of the sudden agitation of the brain cells, a more gentle application was obtained by allowing the current to rise to its maximum over a period of 3 seconds. Curare was also used in advance of the electrical application and had the effect of diminishing the violent movements of the patient. Electro-narcosis was generally given three times a week for about eighteen times. Sometimes if the patient was quite well after ten or twelve applications the treatment was stopped, but there was less likely to be a recurrence if it was given for a greater number of times. If the patient showed undue memory disturbance it could be given only twice a week. With a colleague he had given altogether 719 treatments, from 9 to 20 for each patient.

The previous history of every patient was elicited. If he was sufficiently robust to tolerate electro-shock it was likely that he would be able to have electro-narcosis, especially with curare. One generally had to wait 3½ minutes between the curarization and the onset of electrical treatment in order that the drug might take effect. An electrocardiogram was always taken before treatment. The chief complications were due to saliva and mucus and might be prevented by atropine 1/6 gr. (11 mg.). Sometimes whiteropy mucus collected in the back of the throat. He had heard of cases of lung abscess following electro-shock. Sometimes the patient complained that he had become conscious during the treatment. This experience might be very frightening; the patient might feel suffocated and also see bright flashes of light or hear loud noises.

Except for small and young patients it was rare to give an application of less than 200 mA. for the last 30 seconds. The blood pressure should be taken several times during the treatment of a patient. A pressure which had been normal at first might rise as high as 260/160 mm. Hg. Sodium amytal was more likely to keep down the blood pressure than pentothal, but it had the disadvantage of taking a little longer to act. Occasionally the following symptoms occurred temporarily after treatment—headache, lassitude, and a sense of constriction around the chest. There might be some amnesia. Often, however, the patient experienced no discomfort whatever.

Up to three months ago 35 schizophrenics had been treated with electro-narcosis in his unit. The cases fell into three groups. There were 9 cases in which there had been a previous schizophrenic episode, from which they had recovered, and after electro-narcosis for this later attack 8 of these patients were back at work within three months and only one was not improved. The second group consisted of 10 patients who had been ill for less than twelve months since they were first seen, and of these 9 returned to work. The third group consisted of 16 patients who had been ill for more than a year when first seen, their average duration of illness being 3.2 years, and of these 4 made a complete recovery, 3 more were able to return to work, and the other 9 were greatly improved.

Comparing the results of electro-narcosis with those of shock, Dr. Paterson said that the effect of electro-narcosis in cases of schizophrenia was comparable with that of an initial course of electro-shock, but he believed that electro-narcosis produced a better result whilst at the same time causing less physical strain. He had treated 14 cases of schizophrenia with electro-narcosis after electro-shock had failed; in 9 of these the response was more favourable with electro-narcosis, and in 6 of them electro-narcosis brought about recovery. But it was likely that the previous electro-shock had helped the electro-narcosis, as there was perhaps a synergic action between the two. Electro-narcosis was in one respect safer than insulin coma therapy, for if the patient appeared to have undue cardiac or respiratory difficulty the current could be switched off at once, whereas with insulin coma it was more difficult to stop the effect.

In 16 cases of depression treated with electro-narcosis showed complete recovery. In 8 cases of severe psychoneurosis there were two striking recoveries. It was important to treat these patients as soon as the morbid state was manifest—a far better borne out by the larger proportion of successes with the electro-narcosis than with the insulin coma therapy. Among the hundreds of cases treated, no patient had complained of being worse after treatment. He believed that electro-narcosis and kindred treatments were only at their beginning. Full investigations were being carried out at the West London Hospital and elsewhere, including psychological tests before and after treatment.

Results in Schizophrenia

Dr. W. L. MILLIGAN described the treatment by electro-narcosis of 120 patients at St. James's Hospital, Portsmouth. These included 70 cases of schizophrenia, 15 of acute schizophreniform reaction, 10 of periphenia, 10 of melancholia, and 15 of psychoneurosis. If the treatment was carried out properly the patient did not recall any unpleasant sensations. Approximately 2,500 treatments had been given, and, except in the periphenic group, no patient had refused to continue. Many impartial observers had commented on the cheerful and composed manner of patients awaiting perhaps their twentieth treatment. Especially in cases of schizophrenia it was essential to give at least 30 treatments before assuming that the therapy was not producing the desired results.

Of the 70 schizophrenics treated 44% showed complete remission and a further 17% showed social recovery. Only 14% were not improved. If children, with whom the treatment was almost invariably unsatisfactory, were omitted from the group the percentage of remissions among the 60 adolescents and adults was 52% and of social recoveries 20%. The duration of illness was an important factor; all the 7 schizophrenics with a history of under one year recovered completely, as did 15 of the 17 whose illness had lasted between one and two years. He agreed that the duration of follow-up had not been sufficient, but in no case had it been less than three months, and 40 cases had been followed up for between a year and twenty months. Atypical schizophrenics responded well, and good results were obtained with the 10 melancholics. Electro-narcosis was a much smoother form of treatment than electro-shock, and one had more confidence in applying it, especially to the elderly patient. The modified method consisted, in the first stage of electro-narcosis, of raising the current from zero to 180 mA. in roughly two seconds; after remaining at that height for 30 seconds it was very slowly brought down. The idea was to cut out all evidence, if possible, of the clonic stage. Convulsion was modified to such an extent as to be no longer noticeable. He thought it could be reasonably claimed that electro-narcosis formed a useful addition to their armamentarium.

Curarization of the Patient

Dr. GERALD CAPLAN reported on a modification in the technique of electro-narcosis which he had worked out recently with the help of the anaesthetist, Dr. Samuel Carden. The apparatus which he had designed was similar to that used by Dr. Spencer Paterson and Dr. Milligan. It was a small, light-weight apparatus weighing 8.6 kg. and incorporated a non-thermionic current stabilizer. A special feature was the inclusion of a voltmeter which allowed a continual check to be kept on the resistance

the external circuit. If the electrode resistance increased suddenly owing to inadequate contact with the skin of the patient this would be immediately shown by an increase in the stage output. This was an important safety device to prevent skin burns. The modification in technique worked out with this apparatus was designed to ensure satisfactory oxygenation of the patient throughout the course of electro-narcosis. In the later stages of electro-narcosis, which manifested itself as spasm of the glottis, which manifested itself as the inspiratory stridor. This was considerably reduced by partial curarization of the patient. Three minutes before electro-narcosis was started the anaesthetist gave an intravenous injection of pentothal sodium 0.3 to 0.4 g., plus atropine 1.60 gr. (1 mg.) and d-tubocurarine 12 to 15 mg. Immediately afterwards he began the administration of pure oxygen and continued this throughout the treatment. The amount of curare given was not sufficient to prevent the muscular movements which were an important sign of the depth of the electro-narcosis, but damped down any convulsive or preconvulsive movements which might produce fractures and also caused sufficient relaxation of the vocal cords to allow of adequate oxygenation. Occasionally, when the initial current dosage was not correctly estimated, there was a delay in the reappearance of the patient's spontaneous respiration. With this technique this did not cause anxiety, as the patient could be kept pink by respiration with oxygen by means of intermittent manual compression of an ordinary anaesthetic bag. On several occasions the patient had been kept in a satisfactory state of oxygenation despite the fact that he did not breathe spontaneously throughout the whole seven minutes of his electro-narcosis. In addition the pentothal injection removed any apprehension due to the curarization, and was also a sufficient safeguard against the troublesome complication of an inadequate electro-narcosis, for which the patient preserved a partial memory.

Mr. GREY WALTER said that the literature of electro-narcosis was immense and bewildering. About eight years ago they were anxious to determine the margin between the maximum therapeutic dose and the minimum lethal dose of current, and involved an experiment similar to those described by the speaker. The experiment was interesting, and it seemed to those concerned as if they were watching the cerebral activity under a large stimulus from outside. He was rather bewildered by the term "electro-narcosis" as descriptive of the procedure outlined in that discussion; he would have thought the term "electro-delirium" more suitable.

ENDAUERAL TEMPORAL BONE SURGERY

DR. LEMPERT'S LECTURE

Dr. JULIUS LEMPERT, of New York, delivered a lecture at the Institute of Laryngology and Otology, London, on May 8 on "Endaural Temporal Bone Surgery and the Philosophy of its Evolution." The lecture held the interest of a crowded assembly for two hours, and Dr. Lempert was given an ovation at the close.

Thirty years ago, said Dr. Lempert, when he began the practice of otology, he was not satisfied with the results he obtained in temporal bone surgery. One of the problems was obstructive exostosis of the external auditory canal. The accepted procedure was to do a mastoidectomy, breaking down the posterior wall of the canal, a method which destroyed far too much healthy tissue and sometimes resulted in intracranial complications. He set about finding a way of doing this operation without destroying the mastoid process, and that was the beginning of his endaural surgery. He demonstrated his method of making an incision and lifting slowly, a few millimetres at a time, the skin and periosteum from its attachment to the bony surface. Then, with a small electrically driven burr, he removed as much of the exostosis from the posterior wall as possible, and continued to elevate the skin and periosteum until he reached the tympanic ring, gradually removing the mass wherever found, and so down to the anterior mastoid cortex, without opening any of the mastoid cells. This was a most satisfactory procedure both for otologist and patient; it could be carried out under local or general anaesthesia, and the stay in hospital need not be more than one day.

Mastoidal Tympanectomy

Another problem of those early days was post-auricular fistula, and in treating this it seemed inevitable that another deformity should be created. He tackled this also endaurally, along the anterior margin down to the bone through skin and periosteum, and again with a periosteal elevator slowly raising the auricle in a posterior direction. He everted the funnel of the auricle in a posterior direction and immediately had more tissue than he needed to correct the post-auricular fistula. The excess skin and periosteum, together with any infection within the region, was removed with the curette; one or two sutures with drainage completed the procedure, and at the end of about 10 days there was a perfectly healed area.

Why did fistula follow surgery of the temporal bone? radical mastoidectomy could not be done through a post-auricular incision, and therefore it was necessary to go to the auricle, and destroy the external auditory canal. There was necessary destruction of tissue, undermining the whole foundation of the auricle, and as a result post-auricular fistula occurred. Dr. Lempert described his method of performing what he called mastoidal tympanectomy. The method was based on the principle of exposing the antrum to direct view. "Anything you can see, you will not hurt, but you must be able to see it." Instead of approaching the antrum from within the ear, he worked from within outward, with no danger of infection. He worked from within outward, with no danger of infection, obtaining a proper exposure of the antrum and removing the pathological process within the middle ear.

If the structures involved were not to be injured, proper lighting was necessary. The otologist must get out of the patient of using the ceiling light in performing temporal bone surgery; an electric head-light must be employed. A magnifying glass should be worn for two reasons, firstly because the disease process could not be removed completely unless the field were enlarged two or two and a half times to enable the surgeon to see what he was doing, and secondly, because "you will see for the first time how beautiful the antrum is."

The removal of granulations or polypi from the middle ear was not sufficient to stop a chronic discharge. For twenty years there might have been an infection in the middle ear, with the result that the lining membrane was infected. The perieustachian tube cells which are infected must be removed, but a curette must never be introduced into the eustachian tube itself, for this was likely to result in osteomyelitis of the bony portion of the tube. Dr. Lempert indicated in great detail with a series of lantern slides every aspect of this procedure, and said that if this course were followed the chances of getting a dry ear were 100%, "provided you do not delegate the after-treatment to some young intern."

Accidents at Operation

When an otologist injured the facial nerve while doing a radical mastoidectomy and did not know it, but had to be told by his anaesthetist, "The face is crooked," he should not be doing temporal bone surgery, because he did not know where he was in the temporal bone. Accidents happened to anybody but the skillful surgeon would tell the anaesthetist long before the anaesthetist told him. He will say, "Will you look at that face? I have just injured the facial nerve."

The most usual facial nerve injury was caused by the fracture inwards of a little piece of bone into the fallopian canal, compressing the nerve. This could be readily observed, and it took less than a minute to remove it. When the facial nerve was torn and a piece was missing it was another story. Here he demonstrated how he removed the facial nerve from its canal, converting the curved line into a straight line, and suturing the nerve end to end.

Endaural Simple Mastoidectomy

Years ago, when many simple mastoidectomies were done for acute suppuration one of the problems was that, after operating successfully on a small child, the child would turn up six months or a year later with a ballooned-out post-auricular scar. This was an inflammation of the scar which required incision and drainage, and that was all. But if instead of

going to the surgeon who had performed the original operation the child was taken to a colleague, the case was liable to be pronounced one of recurrent mastoiditis. When a middle ear infection occurred in a healthy bone that had never been operated upon the course of least resistance for the infection was the tympanic membrane; this might go on to rupture or it might be seen in time by an otologist and incised and drained. But when the child once had a mastoidectomy performed and, following it, had a middle ear infection, the course of least resistance was no longer the tympanic membrane but backwards to the mastoid wound, the resistance of scar tissue being much less than that of healthy tissue.

It then occurred to him that if he performed his simple mastoidectomy endaurally it might be impossible for this to happen, because there would not be a post-auricular incision, and the inflamed scar ballooning out would no longer be seen. He had now been performing endaural simple mastoidectomy for many years. The incisions were the same as in his fenestration operation. They looked very simple, but to make them correctly so that there was proper exposure of the temporal bone required some experience. The first incision should be a straight line outwards, starting from within and coming out. Then, when the retractors were pulled, an exposure was obtained more adequate than that by the post-auricular route. In making this incision a speculum should be used and the soft parts stretched.

Dr. Lempert illustrated various other procedures, and his lecture was greatly appreciated by a large audience of British otologists.

co-ordinating body. We have elected a Council; we have given them certain limited powers; let us cheerfully accept the decision however much we may feel disgruntled, so that we may go on with their difficult task in the knowledge that the medical profession is solidly behind them.—I am, etc.,

Salford, Lancs.

STANLEY HODGSON.

Goodwill

SIR.—May one who some months ago was accorded a courtesy of your columns in an attempt to offer some reasonable arguments in the present discussion about the National Health Service again request the same courtesy? One would have thought that many practitioners had by now reached the conclusions advanced by Dr. Alfred Cox (May 15, p. 949), with the necessity of his lucid and convincing survey, were it not for such letters as those you publish immediately afterwards as later in your correspondence columns.

Dr. Cox gives three good reasons against basing refusal to work the Service on forfeiture of goodwill, and is amazed to find many of us do not think this worth fighting for. If it were possible to find a general practitioner who had not been up to the war, his experience if he came into practice at any time later than 1918 would probably be that he had to borrow the whole cost of his practice and take ten or fifteen years repaying the loan and finding interest amounting to a considerable sum which expense he would have avoided had he been in possession of capital at the start; that during these years he acquired a family whose education involved him in some form of further loan charged, actually and in the last resort, on his practice; that as they grew up he found it expedient to buy his house and, although that was done on a mortgage, it was the practice again which paid for it; and that between twenty and thirty years after he acquired goodwill he possessed it free from charges for loans of any kind. For the rest of his working life he really owns goodwill, which perhaps increases in monetary value through his efforts and certainly does so because the value of money is falling. And when he dies or retires his success goes through the same cycle with a larger sum in pounds sterling to pay off on all three probable items.

I am one of those, no doubt numerous, practitioners who for every reason to be grateful to the businesses who have advanced money to buy practices; but no informed person can view with equanimity the prospect that every time a practice changes hands it is probably charged with a debt increasingly large in terms of money or deny that continuation of this process will inevitably end in the general practitioners of the country being in debt the whole of their working lives. Personally, that there might be a case for breaking this vicious circle first occurred to me when it was authoritatively stated, about the time the N.H.S. Bill was first adumbrated, that insurance companies and banks had an interest in about a third of the practices existent. With knowledge that the loans are ordinarily for ten or fifteen years it was easy to work out that it indicated practically all of the practices in the country which had been sold within the last ten or fifteen years, since a man may stay in a practice no more than 30 years and is hardly likely to do more than 45.

There may have been a time when parents were able to buy the then considerably smaller cost of medical education for a short term of years than at present, and afterwards find the money to buy practices for their sons. If it ever existed that time is past; and although private business enterprise has well served both the profession and the community since it ended, such a financial foundation for a profession on which the health of the nation depends is not only theoretically objectionable but within sight of becoming practically impossible. It is rather rough on a young doctor, perhaps even rougher on a mature one whose youthful years have been passed in, say, the Arakan, to put him in a position where he has to choose between buying drugs for his patients, rebuying a car necessary for their service, or repaying the instalment of capital due to the lender.

Without a complete alteration of economic tendencies, of which there is no prospect, legislative interference in the interest of the nation as a whole was sooner or later inevitable; and Parliament has decided in favour of acquisition of capital values which are known fact very largely do not inhere in the corpus of general practitioners against the alternative of State-guaranteed loans for purchase. With the continual rise in monetary value of practices and the almost universal insistence by vendors on tacking a house (for which more is asked than for the practice) on to the goodwill, no responsible Department could have recommended, and no responsible House of Commons of any political complexion could have sanctioned, the only practicable alternative.

Correspondence

Accommodation for Annual Meeting, Cambridge, 1948

SIR.—The Cambridgeshire and Huntingdonshire Branch of the Association is looking forward to the honour of holding the first Annual Meeting following upon the war. The organization for this Meeting has been a formidable problem, particularly in the matters of accommodation, feeding, and transport. It is very important for us to have a rough estimate of the numbers likely to attend, as soon as possible, in order that firm bookings may be made.

So far the response to the notices which have appeared in the *Journal* has been disappointingly small. We believe that this is due to the fact that very many members have not realized the importance of making early application.

I should be glad, therefore, if you would bring this point to the notice of all members of the Association.—I am, etc.,

LIONEL WHITBY,
President Elect,
British Medical Association.
Cambridge.

Confidence in the Council

SIR.—I was delighted to read Dr. Alfred Cox's letter (May 15, p. 949). He stressed one point which, I think, cannot be too strongly emphasized. At Headquarters and at H.Q. alone can be found a true estimate of current medical opinion. For this reason it is imperative that we should place complete confidence in the Council.

I know no body of men that is not on occasions liable to attacks of hysteria. Those who have attended Representative Meetings in London will appreciate this as a fact, for, despite our training, we are just as liable to emotional crises as any other branch of the community.

I remember the hysterical outburst before N.H.I. when Dr. (later Sir James) Smith-Whittaker accepted a high executive post on the Commission. I remember it well, for my own outburst of fierce hostility to all in authority in the B.M.A. carried me on a wave of emotion into membership of the State Sick Insurance Committee—the parent of the Insurance Acts Committee. I served for a year and learnt a very great deal.

I don't say that I am happy about the new Health Service—but I do feel strongly that we should be directed by the report of the Council and not try, each and sundry, to force our own point of view on the others. We have a lot of work ahead of us, and this work must be done by an informed

CORRESPONDENCE

MAY 29, 1948

Dr. H. Simpson (p. 950) somewhat impolitely demands reply to question which he more impolitely answers. I beg leave to dissent in his "you know very well that you have achieved little worth in his" and to say you have brought about a state of affairs which "shook myself—and from the figures you have published a good many more—who replied to the first plebiscite that they disapproved of the Act, would not work it, and would abide by the view of the majority, to conclude that they approve of the Act with the promised amendments, will work it, and will not be controlled by a majority in a decision which each doctor has been left by Parliament individually free to make. Obstetric arrangements apart, the only iniquitable thing left I have been able to discover is that, where a doctor after a term of both public and private practice ceases from the former and continues the latter, he is still prohibited from selling the goodwill of the latter. But this is not likely to arise in fact for some years, and by that time amendment of the Act acknowledged by the Minister as likely to be indicated by experience of its working may have in this respect altered Section 35. Those of your correspondents who appear to be seriously of the opinion that retention of goodwill is essential to avoidance of full-time salaried service, and who are not convinced by your demonstration in your leading article that this danger was for the present rid of before the Bill came before Parliament, such as some comfort in the fact that an Act of Parliament, such as that in which Mr. Bevan intends to enshrine his personal guarantee on this point, is the highest safeguard known to our law. There are, of course, safeguards in common and case law; but wherever a liberty is threatened by the executive Parliamentary guarantee is the most anyone can obtain. Although it was wrenched from a medical executive before Parliament were, Magna Carta itself is a freedom of those of us who are coming into the Service. Further, even those of us who do not intend to use the National Health Service, private practice: and if anyone tries to introduce a full-time salaried service we are stronger than we are now or if we stayed outside the man who does not join the Service is; and that, under the Act, means our capital has to be paid to us. It would be a rash Minister of Health who provoked a call on the Treasury for most of the capital sunk in practices when the Chancellor reckons on having to find this in drabbits over the next 40 or 50 years.

Finally, may I advise those who honestly want information to take the Minister at his word and write to the Department? Personal experience since this invitation was offered—and accepted—in January last has provided much concrete information of practical importance, which was of weight in reaching the decision mentioned above and communicated to you in the last plebiscite.—I am, etc..

C. T. NORRIS

The April Plebiscite

Sir.—Will you permit me space in the *Journal* again in order to criticize your leading article of May 15 (p. 936), which indirectly refers in parts to my letter on p. 951 of the same issue? In my opinion this leader is well worthy of the closest consideration by all members of the B.M.A., containing as it does a series of inaccuracies and misstatements. In the light of the most recent developments it is most imperative that we should take a careful survey of all facts. On this account I think, require consideration.

Your paragraph 1.—Although 13,000 G.P.s did not vote against the Service in the last plebiscite a large number did not vote at all, and I maintain that a minority vote of 36% does not by any means justify the Council of the B.M.A. advising 64% to accept the Act against their obvious inclination. Consequently, the Council has no authority to enter into further negotiations with the Minister of Health; the prospect, in any case, of our obtaining anything worth our while, once we have delivered ourselves body and soul into the Health Service, is antastatic. Dr. Alfred Cox (p. 949) may endorse your decision, but the plebiscite of doctors who will have to work in the Service definitely does not. The attitude of the general public, of which only a very small minority (and some of these under compulsion) has taken out registration cards, would suggest to me that wisdom and statesmanship on the part of the B.M.A. Council are rather lost on them. The verdict of the plebiscite is definitely against the Service, and the whole-hearted support of the B.M.A. should be given now, and not after we are at the mercy of the Minister of Health. Dr. Cox states "we have

won a victory—he means we could win a great victory were it not for this craven capitulation to State Capitalism.

Paragraph 2.—I, for one, am taking the *Journal* to task because the sudden and complete change of opinion in its leaders since April 7 requires more elucidation than has been given. I agree that the situation has changed a great deal since December, 1947, but this has been due to the medical profession only—we need give no credit to the Minister of Health for this fact. If we still stood together the situation would change still further to the advantage of doctors and public alike. The right of a doctor to choose his own partner or assistant is no concession—are we to be free men or State servants? As far as I have heard the recommended capitation rate by the Spens Committee was 23s per head per annum, so I fail to see where Mr. Bevan has accepted the findings of the Spens Committee.

The absence of Health Centres (paragraph 3) is due to the fact that the Minister of Health cannot even build the necessary houses for the people. To begin with, the Health Centre was to be the keystone for the whole service, but now there will be no health centres, no new hospitals, and no other buildings for years to come, because they cannot be built—service for health, but good enough as a start to obtain control of an independent profession and the general public all at one time. Negative direction implies that a doctor may practice where he likes in under-doctored areas, otherwise it becomes positive direction—this statement in the B.M.J. contradicts itself. In any case, no doctor would want to go to an over-doctored area.

Paragraph 4 is a confession of failure. The medical profession has not succeeded in the question of right of appeal, it has failed to persuade the Minister to remove negative direction, it has failed to retain the ownership of one's own practice, which is of much importance to general practitioners. Yet these points could be definitely obtained if we stood our ground. The ownership of one's own practice is the only safeguard of our own professional independence and the only barrier against a whole-time salaried service, whether by Regulation or Act of Parliament, and Mr. Bevan knows it and the B.M.A. should know it too and should insist upon it, instead of rejecting over the few paltry concessions which have been made.

Apparently according to the last paragraph the policy of the B.M.A. does not represent the opinions of quite a large number of its members, or is the B.M.A. more concerned with a policy to please the Government than with the opinions of the doctors who pay their annual subscriptions?

If the medical profession reject the compromise it will be representing the great bulk of public opinion as I have found it, and as is shown again by the very small number who have registered. The general public realize this is only another step in a series of controls and regimentation, and in this district the overwhelming majority are bitterly disappointed at the suggestion that the doctors should join the Service. The B.M.A. is either out of touch with public opinion or is ignoring it. The wisdom of the B.M.A. Council may not be as widely acclaimed as the B.M.A. seems to imagine, but will certainly be endorsed whole-heartedly by Mr. Bevan and his satellites in the B.M.A. The Minister of Health will be delighted to have got his own way with so little difficulty. Finally, the suggestion that the B.M.A. will receive enthusiastic support in the moulding of the National Health Service from a profession which is at least 64% against it, and forced into the Service against its will, is so obviously ridiculous that one is surprised that it should appear in the pages of a journal which apparently claims to represent professional strength and wisdom.—I am, etc..

J. MCINTOSH RATTRAY.

Kirkcaldy.

* * We suggest that the elucidation Dr. Rattray seeks is in the first principle enunciated by the Negotiating Committee in 1945: "The medical profession is, in the public interest, opposed to any form of service which leads directly or indirectly to the profession as a whole becoming full-time salaried servants of the State or local authorities." The Government's promised Amending Act is to make it impossible to introduce a whole-time service under the National Health Service Acts of 1946 and 1947.—Ed., B.M.J.

Abject Surrender

SIR,—I feel impelled to write to protest at the abject surrender of the Council of the B.M.A. following the result of the third "panic" plebiscite. I do hope you will publish this letter, as it expresses the feelings of disgust, disillusionment and disappointment of all the doctors of my acquaintance to whom I have spoken, and also the general public. I have had my suspicions of Council ever since they decided to "negotiate" against the expressed will of the profession (first plebiscite). They have consistently underestimated the man with whom they have had to deal. They have insisted on conducting the fight in a "kid-glove" manner.

Largely by the efforts of local B.M.A. Committees, assisted by occasional addresses by members of Council above suspicion, and latterly by the Minister himself as a result of his speech to the Commons shortly before the second plebiscite, the profession attained the surprising and exhilarating 90% unity. The Minister then changes his tune. He requests a meeting with the profession's representatives. He talks nicely and politely to them—in the main. He promises them jam to-morrow, in the form of a few illusory concessions, all after July 5 of course. Even the most naive among school-children would not have been deceived. But the effect on the Council is astounding. A new plebiscite is ordered, results to be back within the week, later extended, but still not enough for mature thought on such a vital and far-reaching decision on our whole future.

Are the Council really surprised at the result? And why should it have taken seven hours to assess the consequences? And did they still retain their kid gloves during the whole seven hours? And why should the S.R.M. have been postponed to such a late date as May 28, a bare five weeks before the appointed day? I and many others think the profession is entitled to an explanation.

The Council appeal for continued unity in the profession, having done their best to destroy that unity. How can unity possibly withstand this base treachery and sabotage? Time is short, but I suggest that at least 26,000 of us are still waiting for a lead, and even now are ready to go on fighting. Are they to be left in the wilderness to fight out their own battle as between conscience and finance? Council should resign immediately. The fighting element in it (which is considerable and the individual members known to the profession) should form a nucleus for a new Council, pledged to carry on the battle until true victory is won. Only by so doing can they possibly redeem themselves and save the profession, which they have so often reminded us constitutes the last line in the battle for freedom.

Finally, public opinion, in so far as they ever did have an opinion, is not against us. They are just frankly disappointed that we have gone, or are going, the way of all flesh when confronted by this Government. Public opinion, Socialist or Opposition, will always applaud a fight for the right.—I am, etc.,

Wolverhampton.

A. E. ROBERTS.

Division in Profession

SIR,—It is refreshing to read words of wisdom from the pen of Dr. Alfred Cox (May 15, p. 949), and as a debtor to him following the first world war I would naturally wish to support his contentions, but the comparisons with the National Health Insurance alluded to in his letter are so wide that one cannot but conscientiously criticize. The National Health Insurance involved only a portion of the people, whereas the new National Health Service is comprehensive and, may possibly leave very few doctors with any alternative to joining the new service. Dr. Cox justly admits a Pyrrhic victory in that attempt to gain the chief security against a whole-time service—namely, the right of private property in the practice goodwill—has been a failure, and still he advises acceptance and pleads for unity in the profession. When there has been such a division in the views of the profession, as evidenced in the last precipitate plebiscite, how is it possible to obtain it, or even expect us to remain united?

The B.M.A. has failed to remain a truly democratic institution. To acquiesce to the minority savours more of the totalitarian State, and to virtually ignore the consultants and advise acceptance by them of unknown terms must surely create a precedent unheard of in the long history of British medicine. The B.M.A. must now face the consequences of its guilt, and a break in the ranks of the Association, although perhaps deplorable, may unfortunately be inevitable.—I am, etc.,

R. BERTRAM BLAIR.

Income in N.H.S.

SIR,—Is it not time for us to learn more about the financial prospects under the Act? One has heard vague statements of a capitation fee of 17s. 6d. to 20s.—deduction from the pool being uncertain. The "ordinary man" may not be very clever but he does know how far his pound note goes nowadays; and the ordinary doctor realizes that Mr. Bevan's assumption that he can deal with 4,000 patients with satisfaction to the patient and himself is quite fallacious. In favourable circumstances an exceptional individual might reach a limit of 2,500.

Under the present conditions there will be no reduction of expenses for the G.P.: he will still have to maintain his house, surgery, car, etc. Must the profession continue to ignore financial facts and pretend income is unimportant?—I am, etc.,

Sevenoaks, Kent.

J. FINLAY ALEXANDER.

Medical Trade Union

SIR,—We have got into a dreadful muddle, and though the nation as a whole is suffering from unsound-mindedness coupled with much "go-getting" by professional politicians we of a people should try not to give way to an excess of emotion in our plight. We were doomed as a profession of free men when the Coalition Government agreed that the whole nation should be insured against accident and illness, and our negotiators presumably agreed to this. The Bill went through both Houses as far as I can recall with practically no opposition inside or outside Parliament. Our representatives and ourselves then suddenly woke up to our plight—too late. Now there is nothing more to be done about State medicine. On July 5 we shall have all State doctors or give up practice, and we who will not do the Act will be paid a salary no matter what we call it.

We face a great deal of negotiation on this salary and on compensation and our terms and conditions of service. For this I hope the personnel of our negotiators will be considerably stiffened. We must realize fully that we have to deal with what can only be called the trade union mentality, and I am not at all sure that we shall be able to do this until the B.M.A. transforms itself into a properly constituted trade union affiliated to the T.U.C. and with all the rights and privileges of a legitimate trade union.

It is my humble opinion that until this is done our terms and conditions of service will be intolerable. It is nothing short of calamity that the medical profession has become involved in politics, but there is the fact, and there is the further fact that trade unionism governs politics and is likely to continue to do so until the full establishment of the Communist State or the extinction of trade unionism, as it exists to-day, through other circumstances.

As a disjointed association of 50,000 men the B.M.A. has no political standing or prestige, while as a profession none has greater. This state of affairs must be altered. Dr. Dain as President of the Medical Professions Union duly affiliated would be quite a different proposition to any Minister of Health—even Mr. Bevan—to Dr. Dain as Chairman of the B.M.A. Council.

May I end by suggesting that £300 p.a. and 15s. capitation fee will be gross underpayment for what we shall be asked to do in the conditions which obtain to-day? As far as I am personally concerned my work will be doubled and my income will remain what it is to-day, and I imagine this will be the case of most G.P.s.—I am, etc.,

St. Osyth, Essex.

R. E. CLARKE

Position of Assistants

SIR,—I was pleased to see the subject of assistants prominent in the *Supplement* to the *B.M.J.* proper. I agree with all that has been said, and I would like to lay down some tentative rules. In the first place, no doctor paid to teach an assistant should be allowed to increase his list. In the second place, any assistant employed for more than one year should be guaranteed a partnership or else freed from his bond not to practise in the district. In the third place, any promise of partnership should be registered with the B.M.A., and a breach of that promise be liable to financial compensation and right to practise in the same district.

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CORRESPONDENCE

On a basis as outlined we would have real professional status
assistants, and the old sweated-labour principle would no
longer obtain. As a profession we might then claim to live up
the principles we allege we believe.—I am, etc.,
DUNCAN BAXTER.

DUNCAN BAXTER.

B.M.J. Leaders

B.M.J. Leaders

SIR.—At a meeting of this Division held to-day a resolution was adopted unanimously instructing me to convey to you our congratulations on the recent editorials dealing with the National Health Service Act. In our opinion these articles have been extremely fair and lucid. We consider they have shown a realistic and common-sense attitude throughout and have enhanced the value of the *Journal* considerably in the eyes of those who are neither "die-hards" nor "viscerates."—I am,

ALEX. S. WILSON
Hon. Sec. Holland Divison

ALEX S. WILSON
Hon. Sec. Holland Division

Suspend N.H.S.

Suspend N.H.S.

SIR—This day's issue of the *Journal* contains letters which surely would—must—convince any reader of the support you would have in return for your strongest urging to keep out of the Service. There is still time. Should the profession now agree to serve, it will, as I said at a recent meeting in Chelsea, be guilty of cowardice and of being accessory before the fact of the introduction of an Act which is contrary to the best interests of the people. Now this is what we have been claiming all along. How then can we consent to serve and yet be held guilty of betraying the people?

At the meeting to which I have referred I said that if this Government issued a mandate from the electorate for the prosecution of the criminal code, the Government would be bound to issue a mandate from the villages for the prosecution of the medical profession.

...the interests of the people. Now, I am not a lawyer, but I am a layman. How then can we consent to serve the public without betraying the people? I said that if this Government without a mandate from the electorate for the express purpose suspend the operation of the criminal code against offenders who had been committed to the gallows for a period of five years, our profession ought to advise them to suspend the introduction of the proposed N.H.S. for a similar period or an appropriate time, during which the profession would only too gladly offer to co-operate with Mr. Bevan in devising a service acceptable to all sections of the people. (This suggestion evoked loud applause.) I pray you forgive me for making this last plea, but it is all I can do to save the profession from serfdom of a most degrading quality and the people from being dragged down in their company.—I am, etc.,
A. R. EATES.

A. R. EATES.

Strength of the Profession

Strength of the Profession

SIR.—How refreshing it is to read the letter from Dr. Alfred Cox (May 15, p. 949). The two final paragraphs are particularly on the point. As Dr. Cox says, the time is short. Regulations are in the melting pot: some may be already cooling off and solidifying, and once having taken their new pattern will require much hard labour to reshape to a better design. Constructive suggestions are now urgently required to assist the Negotiating Committee, upon whom rests the responsibility of examining with a critical eye those Regulations now in process of formation and of placing our views thereon before the Ministry.

Committee, upon whom rests the responsibility of looking with a critical eye those Regulations now in force, and of placing our views thereon before the Ministry. Experience of Army staff work leads one to the inevitable conclusion that, in framing an Order or a Regulation, which one hopes to have willingly carried out rather than be used as a basis of discussion only, the people most affected thereby must first be consulted. By this I mean one must get right down to the N.C.O. or private soldier whose co-operation will be required if the Regulation is not to become a farce. This parallel should be closely followed by the "back-room boys" of the Ministry who produce our Regulations. They must be made to realize that you cannot regulate human nature. They must produce something that measures up to the criteria of justice, reason, clarity, and lack of ambiguity either directly or by inference; if this be not so then it were better that it be still-born.

As a case in point I would call the attention of the Negotiating Committee following anomalies. Study the propaganda

NDENCE

pamphlet issued to each of us by Whitehall, dated April, 1948, headed "General Medical Services," under the subheading "Fee Charging." By reasonable inference therefrom a patient who has negligently omitted to secure acceptance as a "risk" by a practitioner until she is actually sick and in need of immediate attention might be treated as a private patient until such time as she has recovered and can then be accepted as a normal risk—a very necessary safeguard for practitioners against dilatoriness on the part of patients. But on reference to Regs. N.H.S., 1948, No. 556, Part IV, para. 13, under subheading "Allocation Scheme" you will find that the Minister coolly suggests to each council that it should take away that implied right and lay upon the practitioner the onus of either accepting the risk free of charge or finding somebody else who will be fool enough to do so.

These Regulations the Minister places the whole onus "at risk" on and after July 5, whether or not the patient has been before that time or indeed before that time to secure to

I submit that by these Regulations the Minister places the population immediately "at risk" on and after July 5, whether or not the individual members thereof have, before that time or indeed within several years thereafter, taken the trouble to secure the payment of their "risk."

But does he offer the practitioners a commensurate premium for their liabilities? A second propaganda pamphlet issued to us all from Whitehall, dated April, 1943, and headed "Remuneration of General Practitioners," supplies the answer in its third paragraph. In effect the Minister appropriates from the taxpayer 18s. per head for 95% of the population and forms a pool. He then proceeds to pull out the plug from the bottom of the pool and invites us to drink from the muddy water left behind. He offers to pay us for the few people who understand the necessity of early acceptance by us and in addition for one-third only of the dilatory ones, for all of whom we have been "at risk" from the commencement of the scheme. We can whistle for the rest.

A recent resolution by Doncaster, forwarded to the Negotiating Committee and the Representative Meeting, is based upon the conservative assumption that at least an equivalent number of the dependants of the present insured population will take full advantage of the benefits offered under the scheme and will sooner or later call upon our services. It requests that the allocation be based at first upon double the numbers of our present panels and be adjusted upwards or downwards at a later date in the light of experience. This resolution seeks only a fair and logical premium for the "risks" forced upon us by the Minister.

Edlington, near Doncaster, York

Remuneration of General Practitioners

Remuneration of General Practitioners

SIR.—In your issue of May 15 in a leading article (p. 936) you state that Mr. Bevan has accepted the Spens Committee's recommendations on remuneration for general practitioners: you do not state that he has implemented them. In a little booklet entitled *The Doctors' Case* it is stated that "the Government has treated the medical profession fairly enough in its arrangements for deciding what doctors should be paid." If you will refer to my letter in the *Lancet* of May 15 (p. 770) you will see how very wide of the truth these remarks are. I should like your readers to realize the true position.—I am, etc.

HAROLD LEESON.

WORTHING, SUSSEX.

A Specialists' Charter

A Specialists' Charter

SIR,—As a gynaecologist my ear is already attuned to the 50 guineas for the 3s. 10d. of the new Health Service. Many of my patients will have in advance prepared to vote into power the Father Xmas of this prospect. And who am I to discourage them when I can also don my shorts and enter into the race for dual honours after a hearty dose of Grimm's—self-synthesized if necessary.

Government is promising complete specialist services. It is quite obvious if the patient is not to be in the future—arising out of the future—

The Government is promising complete specialist services under its new scheme. It is quite obvious if the patient is not paying specific fees to the consultants in the future—arising out of this arrangement—that the Government is aware that its action is definitely spoiling the expectation of earning from specialist practice. Custom has established the specialist's right to this method of earning. Legally if he is dispossessed of this, right he is entitled to damages, unless the alternative arrangement leaves him no worse off financially. There can be no doubt whatever that if the new health scheme succeeds in depriving the specialist of his private practice much financial loss will be suffered by him.

to
his

loss will be sustained by him. The very inelasticity of the envisaged method of payment will alone ensure this.

I would suggest that compensation to the extent of £5,000 for every ten years of specialist service, with a maximum of £10,000, should be the agreed damages for this loss of expectation. Such a course would imply the Government's confidence that its new scheme will save the contributor from paying out fees to specialists, and would underline its honesty.

If a specialist's private practice is largely to be abolished the corollary is that he will have to support himself equally largely out of the salary he is paid for his duties at hospitals to which he is attached. My second suggestion is that £500 per year per appointment is the absolute minimum rate of payment. In addition sessional opportunities for work at a rate of £250 per session should be made available to cope with the pressure of the extra work that in theory should arise, and also to permit the practice-starved specialist to survive without existing on his capital, even if augmented by the aforementioned damages.

Thirdly, I would suggest that the offer of alternative appointment should only be considered if strictly equivalent facilities and opportunities are offered. A take-it-or-leave-it condescension can find no room in the contracts to be signed.

Here I would recommend that a committee of assessors should be appointed. It should be constituted principally of specialists, and if the equivalence of a proposed alternative appointment was in dispute the matter should be submitted to them for adjudication, and their ruling should be binding on both parties of the contract. A similar body should be set up to advise on any differences of opinion between employer and employed. Their services will surely be needed in the future to restrain the commissars on our door-step.

I should like to submit these four points for consideration and incorporation in a specialists' "charter." But above all is there not sufficient time to devise and arrange for signature a mutual form of guarantee among specialists whereby we declare our solidarity in the defence of these principles and our singleness of purpose to explore ways and means to enforce them? We are fortified morally. The change-over means the exchange of freedom for thralldom and the replacement of the principle of reward for striving by the use of the big stick for the lack of effort.

Well turbaned our Minister may traverse our Harley Streets in his quest to exchange his lamp for Aladdin's own. Let the specialists recognize this so that they may live happily ever after.—I am, etc.

J. L. N. W. I.

JOHN SOPHIAN.

Activity of Liver Extracts

SIR: In your issue of April 10 (p. 701) a report is given of a discussion on the megalocytic anaemias at the Royal Society of Medicine on March 23, 1948. I was surprised to read that Dr. J. F. Wilkinson stated that he had never been able to obtain an active liver extract from the liver of fishes after the oil had been removed. I would therefore like to draw attention to the fact that I produced a very potent oral liver extract from fish liver in Aberdeen in 1932, and that a full report of the haematological findings of patients treated with this extract was published in the *British Medical Journal*.¹ Two of the cases were treated with this extract by Dr. Wilkinson himself in Manchester. He reported to me that my extract of fish liver had resulted in the blood count being quadrupled in one case in three weeks and trebled in another case in thirteen days. Acknowledgment was made in this paper to the independent testimony of Dr. J. F. Wilkinson regarding the efficiency of fish-liver extract. It is to be noted that an aqueous extract of fish liver has also been used successfully by Connery² in America. The introduction of parenteral liver therapy shortly after we had successfully produced active oral liver extract from fishes was the reason why this method of production was discontinued, as it is generally agreed by the majority of leading haematologists all over the world that parenteral therapy has considerable advantages over oral therapy with liver or hog's stomach preparations.

Dr. Wilkinson, when discussing megaloblastic anaemias refractory to highly purified liver preparations, stated that it was essential that the individual batch of the liver preparation to be used in the patient was refractory should have been tested for

potency on a classical case of pernicious anaemia. Without such knowledge the refractoriness might be due to an inactive batch of liver extract being used. I would entirely agree with this suggestion. During the 20 years which have elapsed since I first published a report on the testing of liver extract I have tested the activity of a large variety of liver preparations, both commercial and experimental, in many hundreds of cases of pernicious anaemia. I always have at my disposal batches of liver extract of proved potency, which are available for use in cases of megaloblastic anaemia which have failed to respond partially or totally to liver therapy.

Refractoriness to parenteral liver therapy occurs most frequently in nutritional megaloblastic anaemia, in megaloblastic anaemia associated with the sprue syndrome and pregnancy, and in a small number of cases of megaloblastic anaemia in which no cause for the refractoriness to parenteral liver therapy can be discovered. In all these groups free hydrochloric acid may or may not be present in the gastric juice. The degree of refractoriness depends partly on the type and potency of the liver preparation given and its route of administration, and partly on personal factors in the patient, some of which are known and others of which are unknown. It is therefore essential when defining refractoriness to liver therapy to state clearly the criteria used.

In a paper entitled "Refractory Megaloblastic Anaemia," which appeared recently in *Blood*,³ I have defined the term "refractory megaloblastic anaemia" as used by myself, and submitted records of a variety of cases of megaloblastic anaemia which failed to respond to potent preparations of purified liver extract and thereafter responded to folic acid or protected liver. Anyone interested in refractory megaloblastic anaemia can consult this paper for further details.—I am, etc.,

Edinburgh,

L. S. P. DAVIDSON

REFERENCES

- ¹ *British Medical Journal*, 1932, 2, 347.
- ² *Amer. J. med. Sci.*, 1930, 180, 603.
- ³ *Blood*, 1948, 3, 107.

* Dr. J. F. Wilkinson's paper, to which Prof. Davidson refers, was read at a meeting of the Royal Society of Medicine and only a shortened version was published in the *Journal*. To avoid misunderstanding we showed Prof. Davidson's letter to Dr. Wilkinson, who tells us that what he in fact said at the meeting was, "Extracts of fish livers (cod, halibut, salmon, etc.), and also whale liver, when prepared from fresh livers, are haemopoietically very active, both orally and parenterally, but commercial fish and whale liver discards (residues) after the extraction of their respective oils by superheated or live steam do not furnish active preparations at all . . . and I have yet to obtain an active liver extract from reptilian and amphibian livers."—Ed., *B.M.J.*

"Alkalosis" and the Effects of Alcohol

SIR,—I was interested to read the medico-legal case concerning alkalosis and the effects of alcohol (May 1, p. 861). It immediately called to mind a case under my care in 1936 when I was a house physician.

My patient, aged somewhere in the late forties, had a radiologically proven active duodenal ulcer. My Chief ordered his routine treatment at that time, which included 1-2 hourly feeds, with alkali 2-hourly, but not belladonna or atropine. Within a day or so of the onset of this treatment the experienced sister-in-charge said to me that the behaviour of this patient was a bit odd at times. The following morning the night report showed that the patient was getting out of bed and had threatened to commit suicide. In the morning when I spoke to him he was most confused; his concentration was very poor, as was his memory, and it was not possible to hold his attention for any length of time. He would keep looking all around him, was restless and fidgety. Of course delirium tremens leapt to mind. However, the mental confusion and the furred and dry tongue reminded me of a case of uraemia that I had seen, and a blood urea estimation was made. This showed a blood urea of 144 mg. %.

A tentative diagnosis of alkalosis was made. Alkali administration was stopped at once and the patient given frequent meals of well cooked, easily digestible, and palatable food. By the next day I was much better. Blood urea estimations were carried out every 3 or 4 days; they eventually dropped to within normal limits. There was no other cause for the uraemia it was now presumed was the cause of this as well as the patient's abnormal conduct with alkalosis. I must add that there never was hypertension, nor any abnormal findings on ophthalmoscopy, and that the urine never showed any albumin, red cells, or casts. At no time had the

CORRESPONDENCE

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an oedema, diarrhoea, or vomiting. No other drugs had been given and the patient's conduct prior to the commencement of treatment in hospital had been normal. The patient was now a pleasant and co-operative individual who was rather vague about what had been happening to him during the days when his behaviour was abnormal. He scarcely ever touched alcohol because of his disability and had no previous history of mental aberration.

It is not too difficult to imagine what might have happened to this patient over-indulged in alkalis as an out-patient and had one whisky in milk, as some individuals I know are apt to do, followed by a car accident. The examining doctor would have observed a smell of alcohol and abnormal conduct, especially with the excitement of a car accident and a medical examination in such circumstances. Might not a doctor be excused for insisting on a diagnosis of alcoholism when the abnormal mental conduct would be predominantly the result of alkalosis?

A colleague of mine informs me of a case of urinary infection who died from alkalosis in the pre-sulphonamide days, when massive alkaline therapy was the order of the day. A blood urea estimation was suggested by an astute and enthusiastic nurse who had been sweating Price. It would appear to me that alkalosis should be kept in mind in all cases where alkalis are administered, especially when massive alkaline therapy is adopted. I have never forgotten the case that I have just described, and it has served me well.—I am, etc.,
JOHN MACLEAN-DICK,
Lt-Col R.A.M.C.

B.A.I.R.

The Mystery of the Eosinophil

SIR—Some years ago I took considerable interest in the eosinophil, and it left me with the impression that it is part of a defence mechanism, and that the occurrence of eosinophilia is not otherwise explicable suggests the presence of a known, unknown, or facultative allergen. Morphologically, the polynuclear leucocyte and the eosinophil are practically identical. They differ only in their staining reaction and granularity. The production of eosinophilia is provoked experimentally by infestation with intestinal blood helminths, and it appears that the resulting eosinophilia is a response to a specific stimulus, in effect a foreign protein, a modified polymorph, in fact. In true allergic bronchospasm the exudate from the upper air passages is crowded with eosinophils, and in sensitive persons the spasm may be induced by various air-borne allergens—which appears to be not without significance.

There is not space in a brief letter such as the present to discuss all the conditions in which eosinophilia is a marked feature, but a line worth following is based on the theory that the granules in eosinophils are possible precursors of lysins the object of which is to effect lysis of a result; and not a cause, and when it is present the cause has still to be sought. My work convinced me that eosinophilia is a result; and not a cause, and when it is present the cause has still to be sought. I certainly cannot agree with the "overflow" theory of eosinophilia in lymphadenoma, the cause of which is still unknown. In "eosinophilic granuloma" of skin the name suggests that eosinophilia is the cause of the granuloma rather than the result. It is also in "tropical eosinophilia" and eosinophilic disease of the lungs. I have seen individuals who give an abnormal eosinophilic response to trivial or comparatively trivial causes, for example, a 60% count in a case of sunburn with a so-called "herpetiform" eruption of the lip and cheek. I am certain that further work on the subject is long overdue and would be amply repaid, just as I am convinced that eosinophilia is protective in intention and never causative, however high the count.—I am, etc.,
H. M. STANLEY TURNER.

Brookwood, Surrey.

Treatment of Phlebothrombosis

SIR—Mr. Hamilton Bailey's article (March 27, p. 594) emphasizes the need of active treatment for patients with post-operative thrombosis and pulmonary embolism. There is certainly great need for this emphasis, since complete immobilization of the leg for several weeks is still a common practice. Nor is this surprising, since the majority of textbooks published during the last two years still advise this conservative treatment

for femoral thrombosis. The diagnosis of incipient deep vein thrombosis is rarely even mentioned.

Nevertheless I do not believe that figure of the femoral vein is the solution to the problem for the following reasons. First, in certain cases of pulmonary embolism, especially following gynaecological operations, the site of origin of the embolus cannot be detected in spite of careful examination of the legs. Would Mr. Bailey here advocate the ligation of the inferior vena cava, a serious operation in an ill patient, however expertly it may be performed? In the second place, the end-results of thrombosis of the deep leg veins must be considered. Bauer has shown that nearly four out of five of such patients eventually develop a leg ulcer. It is difficult to believe that the ligation of the saphenous and common femoral veins in a patient who already has obstruction of the deep venous channels will not increase venous stagnation and consequently the risk of developing an ulcer. As the regulation of chronic venous stagnation may take ten years to develop, the end-results of venous interruption may be more severe than is supposed.

On the other hand the anticoagulant drugs have been shown to be at least as effective as femoral ligation in the treatment of venous thrombosis and pulmonary embolism, as was demonstrated by Mr. Gavin J. Cleland (April 17, p. 55). They have the added advantages of controlling the spread of thrombosis to the opposite leg, which occurs in 30% of cases treated conservatively. Moreover, as Zilliacus has shown, anticoagulation treatment prevents the chronic swelling and ulceration which otherwise frequently occurs. From the practical standpoint heparin is usually not difficult to administer. I have found that patients prefer a continuous drip transfusion to intermittent injections, provided the needle is inserted at the wrist and not at the elbow. The production of a suitable delayed-acting heparin, such as heparin which is now being used in the United States, would make heparin treatment much easier still. The cost of treating a patient with heparin is often no more than that of keeping him for one week in hospital. As the use of anticoagulants reduces the stay of the patient in hospital by four to six weeks it is indeed economical.

Where facilities for the estimation of the prothrombin concentration of the plasma are available, a combination of heparin and dicoumarol is probably the best treatment available. I agree with Mr. W. M. Capper (April 24, p. 897) that vein interruption may be necessary for cases in which anticoagulants are contraindicated, but I believe they form only a small minority. For most cases the anticoagulants are completely effective and should, in my opinion, be considered as essential to the treatment of venous thrombosis as insulin is to that of diabetes.—I am, etc.,
London N.W.

KENTH BULL.

Origin of Depression

SIR—The publication of Dr. W. Clifford M. Scott's paper on "A Psycho-analytic Concept of the Origin of Depression" (March 20, p. 538), which he delivered to the Section of Psychiatry at the International Congress of Physicians last September, has provided an opportunity for more careful consideration of his views. In opening the discussion at the meeting I felt bound, though with some diffidence as laying no claim to be abreast of recent developments in psycho-analytic theory, to raise anew that often repeated doubt about the reliability of "memories" referred back to infancy, to which Dr. Scott and others of the Freudian persuasion attach a fundamental importance. Especially in such emotional states as depressions which are profound enough to call for intensive treatment, how can we ever really recall what went on in our minds at the tender and largely unmyelinated age of 2 or 3, unless indeed, as must often happen, we have been told by our parents at some later date what happened to us then and how we reacted?

Even when true memories are recalled under psychological investigation, the mood of what is recalled from the past and the influence attached to past experiences. Are we to assume that all depressions are determined by past experiences, rather than they determine what is recalled about the past? As a report of the discussion which followed Dr. Scott's paper is being published, I take leave, Sir, to make these observations.—I am, etc.,
W. S. DAWSON, to,
Sydney.

Histamine and Heat Stroke

SIR.—In the annotation (May 8, p. 887) and in Prof. J. H. Gaddum's paper (p. 867) reference is made to the work of J. Dekanski on the increase of histamine in the whole mouse after hyperthermia.

Histamine shock is very like the condition found in experimental animals (*British Encyclopaedia of Medical Practice*, Cum. Suppl., 1948, p. 172) and the definition of shock given by Moon, "Shock is a circulatory deficiency neither cardiac nor vasomotor in origin, characterized by decreased blood volume, decreased cardiac output (reduced volume flow) and by increased concentration of the blood." The deciding factor in this type of shock—and in histamine shock—appears to be uncontrollable dilatation of the intramural pores of the capillaries. Much clear fluid may be found in the abdominal, pleural, and pericardial cavities. Shock of this type was also visualized by Dale and Richards, to whose work reference is made in Prof. Gaddum's paper. In his words, "There are many kinds of shock," but the shock that is such an obstinate complication of heat stroke or hyperthermia in man presents many of the features of—and may well be—this histamine shock.

If it indeed proves to be the case that heat-stroke shock and histamine shock are the same, a really potent antihistamine drug may find a valued place in the immediate treatment of this medical emergency which, under modern conditions, ends only too often in disaster.—I am, etc.,

Epping, Essex.

FRANK MARSH.

Transfusion Reactions

SIR.—I have read with great interest the article by Dr. John Wallace and Mr. R. D. Richards (April 3, p. 640). I am having printed a statistic about the courses of 795 transfusions made in the hospitals of Milan, which show in the 25.4% of cases reactions of various nature and seriousness that can be classified as follows:

Nature of Reaction	No. of Cases Observed	Percentage
Fever	111	13.9
Shivering without fever	40	5.2
Headache	9	1.1
Vomiting	7	0.9
Shock	7	0.9
Nettle rash	7	0.9
Cramps and convulsions	5	0.7
Feeling cold and tinglings	5	0.6
Retrosternal pains	4	0.5
Deaths	3	0.3
Articulation pains	3	0.3
Dyspnoea	2	0.2
Petechiae	2	0.2
Venous spasm	1	0.1
	1	1.1

I perfectly agree with the authors of the work above mentioned about the pathogenesis of these reactions, and from my point of view I insist upon the educational control of those who carry out the transfusions in order to avoid anaphylactic transfusional reactions, and chiefly upon the most careful cleanness and sterilization of the technical apparatus.—I am, etc.,

The University, Milan.

RINALDO BEVACQUA.

Pain in Phantom Limbs

SIR.—A large number of doctors realize that pain in phantom limbs is of central origin, due to faulty registration of afferent impulses. Heroic surgical procedures—I will not recount them—invariably fail. They betoken complete lack of insight into aetiology on the part of the surgeon.

Dr. J. Donaldson Craig finishes his letter (May 8, p. 904) with the words, "Simple methods of proven efficacy are available." May I draw attention to a simple method of proven efficacy, and one which is, I think, based on a proper conception of the distressing condition?

My experience of treatment goes back to the aftermath of the First World War. There was no lack of amputation stumps on which to put the method into practice. During the 25 years which have elapsed, however, the method has been used mostly by the groups of industrial accidents. The underlying conception of the condition is that in amputations there is a frequent tendency for the

sufferer to block afferent impulses at the level of the thalamus—thalamus being the central relay station for pain. If this block can be overcome, the peculiarly distressing thalamic over-reaction replaced by normal discriminative cortical sensation. The patient once becomes comfortable.

Now as to procedure—the important thing is to persuade patient to put up with a brief period of over-stimulation. Explain things first, then start manipulation of the painful stump. This manipulation should be firm from the start and should become increasingly heavier and heavier. After the first few minutes patient ceases to flinch. Normally within, say, twenty minutes will put up with the heaviest manipulation, squeezing, hitting, banging. In half an hour the thalamic over-reaction, with all its affective qualities, has ceased to operate.

The patient should then be able to bear all normal pressure contacts—e.g., the wearing of an artificial limb. One point is of real importance—from the time of treatment the patient must be nursed to nurse the offending stump. The same principles apply to pain abdominal scars. Do not nurse and protect them, hit them!

I have little belief in neuromata as the cause of distressing pain with the marked affective reaction seen in these cases. When any nerve is cut a neuroma forms, but to attribute pain of phantom limbs to this condition is wrong. The error would be of less importance if it did not lead sometimes to atrocious treatment.—I am, etc.,

Bristol.

HUGH H. CARLETON

POINTS FROM LETTERS

Neurosis and Religious Denomination

Dr. J. COWEN (Radcliffe-on-Trent, Notts) writes: Dr. Slater's article on "Neurosis and Religious Denomination" (*J. ment. Sci.* 1947, 93, 392), and your annotation (May 8, p. 889) upon it, remind me of a remark attributed (I think) to Ferenczi, to the effect that religion is a public psychoneurosis; a psychoneurosis is a private religion. I heard this late in 1942, when I was a trainee psychiatrist at a military psychiatric hospital, and it occurred to me then that there might be an inverse relationship between incidence of neurosis and orthodoxy in religious adherence. . . . Dr. Slater suggests that the progressive rise in incidence of neurosis among Jews during the course of the war may have been due to their greater susceptibility to home-separation anxiety. I would add to this other possibilities. Thus, the demands of Service life enforced a departure from the orthodox ritual practices of the Jewish home—the resulting weakening in religious faith may have increased a predisposition to neurosis. Also, at the beginning of the war, the morale of Jewish Servicemen was high, because they believed that the defeat of Nazism would mean the end of anti-semitism; whereas it became apparent that anti-semitic feeling was not vanishing automatically with the disappearance of the Hitler régime. The consequent drop in morale, and the resurgence of feelings of insecurity *vis-à-vis* this new world they were helping to fight for, took heart out of their effort, and an escape into psychopathy was almost inevitable.

Advantages of Service

Dr. H. S. GRIFFITH (Wolverhampton) writes: . . . If we have a service why not concentrate on obtaining the advantages of one, for advantages there undoubtedly can be, not so much perhaps for the big business men of the profession but certainly for single-handed ones—and their wives.

Credé's Method

Dr. J. F. DEVLIN (Leeds) writes: I was rather interested in discussion on Credé's method reported in the *Journal of April* (p. 748). Credé's method, or better known to me as the Dub method of expression of the placenta, as taught in the Dublin School was the expression of the placenta after it had separated from uterus and had descended into the vagina; as a method to try induce separation of the placenta it was liable to produce either adherent placenta or post-partum haemorrhage. . . .

Hyperidrosis

Dr. EVA MCCALL (Sunninghill, Berks) writes: As Mr. H. Haxton (April 3, p. 636) states that the aetiology of hyperidrosis is often obscure, it may be worth while recalling that this condition was a marked feature among the victims of the serious epidemic arsenical poisoning in beer drinkers which occurred in the Manchester district in 1901. Many of the cases came under my care in Salford Union Infirmary, and in fact supplied me with material for my M.D. thesis, and I even now recall that hyperidrosis especially of the palms and soles, was often present.

Obituary

IR GEORGE BLACKER, C.B.E., M.D., F.R.C.P., F.R.C.S.

Consulting Obstetric Physician, University College Hospital

Mr George Blacker, who died on May 21 at Frensham, Surrey, where he had been living in retirement for some years, was a leading figure in obstetrics in London for three decades. His work at University College Hospital Medical School and as an examiner helped to raise the level of teaching in midwifery thirty years ago. He took an active part in the discussions on his subject which were started by the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, and continued in the medical press, immediately after the first world war. Blacker urged the provision in different parts of London of four or more large lying-in institutions where the student could receive his practical teaching in midwifery, gynaecology, and maternity and child welfare all under the one roof. The institutions which he proposed were to be large enough to provide for all medical students in London and to be officered by whole-time properly paid senior teachers. In some respects he was in advance of his time on educational as well as on other problems.

George Francis Blacker was born in Dublin in 1865, the husband of Miss Latham Blacker, member of a well-known military family in County Tyrone. He received his education in England, at Cheltenham College, a school for which he always retained affection. Forty years after leaving it he became president of the Old Cheltonian Society. From here he passed to University College, London, and thus began a connexion with the Gower Street hospital which lasted for the rest of his life. Blacker's career as a student was brilliant. In 1888 he was exhibitor and gold medallist in anatomy and materia medica and pharmaceutical chemistry in the University of London; in 1891 Atkinson-Morley surgical scholar, and in the same year he took the M.B., B.S. London with the gold medal in surgery and obstetric medicine, and became a Fellow of the Royal College of Surgeons of England. Two years later he took his London M.D., qualifying for the gold medal. In 1902 he was elected a Fellow of the Royal College of Physicians.

University College Hospital Medical School has had many able teachers in obstetrics, and Blacker's name stands high amongst them, alike for the soundness of his teaching and the strength of his personality. For many years he was lecturer in midwifery in the School, and for a long period he was dean. During his deanship the Rockefeller gifts were made to the college and the medical school—namely, the income from the sum of nearly half a million pounds to be used in the furtherance of medical education and research, and a further annual sum for the upkeep of 120 beds in the medical and surgical units. On his retirement in the early 'thirties he was made consulting obstetric physician to the hospital; he held a similar position at the Royal Northern Hospital. He was also a Fellow of University College. At various times Blacker had acted as examiner in midwifery to the Conjoint Board and to the Universities of London, Liverpool, and New Zealand. His busy practice and teaching duties left him little time for writing, but he was an occasional contributor to the medical journals, and he edited the seventh edition of Galabin's well-known *Practice of Midwifery*. He was interested in the application of radium in medicine, and in 1929 became president of the Radium Institute in succession to Sir Anthony Bowlby: he was, too, vice-president of Mount Vernon Hospital. He was also at one time president of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine. Another of his interests was the Red Cross movement, and he was honorary life member and for a time chairman of the Farnham Branch of the Red Cross. Blacker served in the 1914-18 war with the rank of captain, R.A.M.C., and was twice mentioned in dispatches.

In 1920 he was appointed Commander of the Order of the British Empire and received his knighthood three years later. He married in 1904 Miss Shirley Bowen, daughter of Canon T. J. Bowen, of Bristol, and had one son. On his retirement he sought a quiet retreat in Hampshire and later in Surrey. He was a man

without ostentation, of simple tastes and quiet mind, and it was in keeping with the spirit of his life that he should have desired at his death no mourning and no memorial service.

ROBERT OLLERENSHAW, M.D., F.R.C.S.

The sudden death of Mr. Robert Ollerenshaw, although not unexpected even by himself, came as a great shock to his many friends, acquaintances, and colleagues, for he seemed to be in comparatively good health. He had been forced to restrict his activities following a severe attack of angina in December, 1946, yet despite not infrequent attacks of pain he remained his usual cheerful and genial self in the intervening period. In the morning of May 19 he performed an operation and then had lunch with the director of the Hallé Orchestra, discussing plans for the forthcoming trip to Austria, on which he intended to accompany the Orchestra in his capacity as a member of the committee of many years' standing and as the honorary medical officer. After lunch at the Clarendon Club he was indulging in his usual cup of coffee when he collapsed and died.

Robert Ollerenshaw, the son of George Ollerenshaw, J.P., of Glossop, was born at Blackburn in 1882. He was educated at Manchester Grammar School and at Owens College. He graduated M.B., Ch.B. in 1905 and proceeded M.D. three years later. He took the F.R.C.S. in 1909. As a student, Ollerenshaw was outstanding at soccer and an excellent tennis player. His postgraduate training continued at London and Berlin and he held resident posts at the Manchester Royal Infirmary and the Liverpool Children's Hospital. His early surgical career was that of a general surgeon, and in the 1914-18 war he acted as a surgical specialist with the rank of major in the R.A.M.C. He served with the Second Western General Hospital, as did the late Prof. A. H. Burgess and so many other Manchester surgeons, and subsequently with the 57th General Hospital in France.

Soon after his return Ollerenshaw restricted his interests to orthopaedic surgery and was appointed honorary orthopaedic surgeon to the Royal Manchester Children's Hospital and to Salford Royal Hospital, and visiting consultant orthopaedic surgeon to Booth Hall Hospital. He relinquished the latter appointment in 1940 and retired from the active honorary staff at Salford Royal Hospital on reaching the age of 65 in 1947. His services to this hospital were recognized, to his delight, by his appointment to the board of management. The Orthopaedic Department which Ollerenshaw established at Salford Royal Hospital was one of the first in the country; and those of us who worked with him found him a genial tyrant who could not devote too much attention to details. His professed motto was "Nothing but the best," and he had a tremendous capacity for inspiring all those who were associated with him. He could be as sympathetic and tender as a mother in dealing with his small patients and those who were ill, but he had no use for those whose complaints were imaginary.

Robert Ollerenshaw was a member of many professional societies and had been president of the Manchester Surgical Society and of the Orthopaedic Section of the Royal Society of Medicine. He was a vice-president of the British Orthopaedic Association and of the Section of Orthopaedics at the 1929 annual meeting of the British Medical Association. He was a Fellow of the International Society of Orthopaedic Surgery and an honorary Fellow of the French Orthopaedic Association. His publications covered many subjects; that on the development of cysts of the semi-lunar cartilage is probably the best known. He was also responsible for sections of several textbooks and for a number of papers on orthopaedic problems.

As a teacher he was superb, and at least two decades of students have benefited from his lectures and demonstrations as clinical lecturer in orthopaedic surgery at the University of Manchester. He was appointed lecturer in 1926 and was one of the pioneers in the use of films for recording and teaching. With the assistance of his sons he made the first coloured cine film of an operation—his treatment of pes cavus.

To omit mention of his non-professional life would present a very one-sided picture of "Bob"—as he was to his friends. He was a *bon viveur* and he delighted in the company of his fellows, particularly if musically inclined. He belonged to clubs and societies, but was happiest when entertaining in his

home at Didsbury, where for many years until her tragic death in 1933 his wife, Florence, daughter of Senator Robert Watson of Portage-la-Prarie, Manitoba, was a charming hostess. Not only were friends, colleagues, and house-surgeons welcome guests, but many famous personalities of the theatrical and musical world, notably Sir Henry Lytton and Nicoli Malko, often stayed there. His abiding interest and passion was the Hallé Orchestra, and he rarely missed a concert. He was not content only to listen but gathered around him a small group of friends and relatives and delighted to take part in small orchestral concerts in his own home. His two sons, both of them members of the medical profession, joined their father in this relaxation.—W. S. C.

PROF. A. H. BURGESS, M.Sc., F.R.C.S., LL.D.

Prof. Geoffrey Jefferson writes: An old house-surgeon of the late Arthur Burgess must pay his tribute to his old master. It was apparent to one like myself who worked for a senior (G. A. Wright) as well as for an assistant surgeon (as Arthur Burgess then was) that the latter represented the change from the old to the new in surgery. Wright was the perfect example of the traditional British school with Sir James Paget and Lord Lister as models—men of great character, great probity, great intelligence, and with all that a certain air of aristocracy and wide cultural background. There was an air of scholarship about their work which seems somewhat unnecessarily to have been lost. Burgess brought a more clearly defined air of professional precision into surgery. There was to be a new care now about technical detail, a new insistence on asepsis, on preparation, on instrumentation, on tactics rather than strategy. It was by Burgess as much as anybody else that the safety and ease of all kinds of abdominal operations were brought to so high a pitch, certainly one greatly superior to, and more successful and more adventurous than, anything that his seniors had achieved. When anyone writes, thinks, or speaks on such matters the names of Mayo Robson and Moynihan must perforce come up, protestingly perhaps against the claims of others. It was valuable historically that Burgess was younger, for it made it possible for him to support at the time and later to continue the work so well begun. Moreover (a favourite word of Burgess's), abdominal surgery was brought to its high summer not by Moynihan alone but by a group, each of whom added something personal. Burgess's work was completely sincere, there never was a less evasive man in his work or anything else. Industry, sobriety, thoroughness, honesty, are the words that best express him—indeed he could not always restrain his irritation over the claims made by those whose sense of artistry caused them to advance statements that were more "required" than exact, who indulged thus in scientific romanticism. Burgess had no sympathy for impressionism in surgery. Burgess was a true technical artist himself, but that everybody knows or, alas, knew. Burgess excelled in another important way—namely, his encouragement of the younger surgeons, not of one pupil alone but of several. Considering what a busy man he was, what a hurry the tall figure was always in, walking with brisk steps and straight back, one asks how he could have had time for anyone. Perhaps he hadn't much, for no one has in his busiest and most creative years, but one could rely on a smile, a pat on the back, and a word of encouragement. Certainly "young Jefferson," as Arthur Burgess always called the writer, will ever be grateful to that upright gentleman and great surgeon, pioneer and perfecter in the surgery of the abdominal organs.

PROF. JOSEPH SEBRECHTS

Surgeons in this country will learn with great regret of the death of Prof. Joseph Sebrechts at the comparatively early age of 63. The funeral took place on April 2 and a service was held at the St. Sauveur Cathedral.

Mr. H. W. S. Wright writes: A visit to Bruges is always long to be remembered, and most of us at some time or other have visited his clinic. When one thinks of Joseph Sebrechts, recollection of the mass of clinical material at his disposal, his diagnostic skill, his pioneer work on spinal anaesthesia, and his personality, crowded into one's mind and are inseparable from the thought of the beautiful town in which he worked and lived. It was a privilege to see the Memlings is still a

fresh and unforgettable experience. When Prof. Sebrechts went to Bruges in 1910 it was an unimportant provincial hospital; when he died at the end of March this year he had built it up into the most important centre of postgraduate teaching in that part of Belgium. Bruges is not a university town, but Sebrechts was an honorary professor of the University of Louvain.

A general surgeon in the widest sense, he was best known in this country for his abdominal surgery and his work on spinal anaesthesia. His views on the fractional dosage of hypobaric solutions were developed as the result of 25,000 cases, and were embodied in several papers published in this country. Altogether he had operated on more than 100,000 cases under anaesthesia produced in this way. In the long run he will be best remembered neither for his skill nor for his experience but for his humour, his friendliness, and his hospitality. In his own part of Belgium he was beloved by rich and poor, by doctors and assistants, for the way his time and energy were at the disposal of anyone who needed his help, his advice, or his skill. He thought little of the honours he obtained. He wanted most to be a good doctor and a good citizen. Those who lived alongside him will agree that he succeeded in both these objects.

He was an honorary Fellow of the Association of Surgeons of Great Britain and Ireland, and a Fellow of the Royal Society of Medicine and of a great many Continental and Belgian professional societies. His wife and family are assured of the deep sympathy of his British colleagues.

CAPTAIN E. C. WATSON, D.S.O., R.N.

The late Captain E. C. Watson, who died in August last, was a distinguished naval officer before he took up medicine. Edward Clifford Watson became a medical student after twenty years' service in the Royal Navy, retiring with the rank of commander. He qualified in 1930 as a student of St. Mary's Hospital and was resident obstetrical officer there. He was promoted captain on the retired list in 1932, by which time he was in active practice with a partner in Twickenham.

Dr. J. B. Gurney Smith writes: May I be allowed to pay my tribute to a very versatile member of our profession. Captain Watson resumed his naval career in 1939. He served continuously afloat throughout the war, mostly in command of H.M. minelayers. He commanded H.M.S. *Port Quebec* and H.M.S. *Teviotbank*, in which latter ship I served under him as his medical officer for close on two years. He had a deep love for the sea and was an accomplished sailorman. During his command of the *Teviotbank* he was awarded the D.S.O. for his services in minelaying operations, a decoration which gave his officers considerable pleasure.

He had a profound knowledge of electrical engineering, having taken the M.I.E.E. before he entered the medical profession. He was an Admiralty consultant on radio problems during the first world war.

Captain Watson was a man of considerable charm and had a powerful personality. He was always most helpful to me at his medical officer, and I had the utmost confidence in his judgment on matters of importance. He had a wide knowledge of general affairs and read deeply. He taught himself foreign languages when we were in harbour. Although he had been out of touch with naval affairs for the period between the wars, yet he remembered all his seamanship and navigation. At the close of the war he would often invite me into his cabin to discuss medical matters. He was a most avid reader of the *B.M.J.*, which he received regularly at sea.

Our profession has lost a remarkable character and I feel sure that a host of one-time naval and medical colleagues will be the poorer for his passing. He spent his last days as health adviser to the Government of Trinidad, where he succumbed to a coronary thrombosis. A fine sailor and a very successful doctor has gone to his reward.

Dr. ERNEST GRAHAM YOUNG THOM died at his home in Lanark, on May 8, after a short illness. Graduating M.A. in Glasgow University in 1907, Dr. Thom took his M.B., Ch.B. in 1913 and, following the first world war, began practice in Lanark. He retired in 1937, and in the same year was elected to the Lanark Town Council, becoming a baillie in 1946. He was secretary of the Lanarkshire Division of the British Medical Association from September, 1939, until May, 1947.

MEDICO-LEGAL

Medico-Legal

STILBOESTROL AS A CAUSE OF CANCER
[FROM OUR MEDICO-LEGAL CORRESPONDENT]

A new form of medical malpractice is alleged in a report from California of a suit brought by an ex-patient. The doctor pleaded that the action was barred by lapse of time. The trial court dismissed the complaint, but the district court of appeal held that the State's statute of limitations does not begin to run until the patient knows, or with ordinary care should know, the cause of his injury, and therefore allowed the action to proceed. This is as far as the report goes, but the allegations are interesting.

The patient says that from January, 1942, until June, 1943, the physician prescribed a substantial quantity of medicine containing stilboestrol in tablet form, and on June 1 ordered a hundred more tablets to be taken at the rate of one a day. She had taken these tablets she took twenty-six more. The advice of another physician, whom she is also suing, is further alleged that stilboestrol is a synthetic oestrogen containing cancerous properties which may produce or cause cancer of the breast, especially in a woman with a family history of cancer of the breast, and that it should not be administered for prolonged periods, and only after a physical examination. She says that the physician knew that she had such a family history, for her mother had died from cancer of the breast. About Jan. 15, 1945 she says, while she was under the care and treatment of this physician and another, a lump developed in her right breast which laboratory tests disclosed to be cancer. On Feb. 10, 1945, she had an operation for removal of the breast.

The result of the action will be awaited with interest. The patient's obvious difficulty is to establish, in the present state of knowledge of the carcinogenic properties of oestrogen (if any), the required link of causation between the substance and the disease, and also that the treatment prescribed showed want of due skill and care.

J. Amer. med. Ass., 1948, 133, 712.

Medical Notes in Parliament

Biopsy on Mutton

During Captain CROWDER on May 12, Dr. SUMMERSKILL the Regulation in Statutory Instrument No. 886 of 1948 made to permit the importation of carcasses of mutton from which a lymphatic gland had been removed. The Regulations were now in line with those of the Southern Union, where such meat was ordinarily used for human consumption. A very careful examination was made. The lymphatic glands were all removed. If a state of emaciation was ascertained, superficial-inguinal, supra-mammary, and precarinal glands were removed. The carcass was destroyed. The glands and the glands were affected, as happened much more often with mutton than with beef, the carcass was destroyed. The Ministry wished to make quite sure that the complaint was not communicable to human beings. For that reason the amended Regulation had been delayed. The meat used would be the same as any other meat which had not had the lymphatic glands removed from it.

Paying Patients

Mr. MITCHISON on May 14 asked whether anyone who was the paying patient of a general practitioner not undertaking to provide medical services under the National Health Service Act would be entitled to use the hospital and specialist services available under Part II of the Act; what steps should be taken by or on behalf of such a patient if it was found that he required those services; and in what respect his use of them would differ from their use by a patient who had been accepted by a doctor for general medical services under the Act.

Mr. BEVAN's answer was that the same hospital and specialist medical services under Part IV of the Act or not. Normally he would be referred to these services by his doctor, but he was not barred from getting them otherwise.

The Services

Air Vice-Marshal P. C. Livingston, C.B., C.B.E., A.F.C., has been appointed Honorary Surgeon to the King in succession to Air Marshal Sir Andrew Grant, K.B.E., C.B., K.H.S., who has relinquished the appointment on retirement.

Surgeon Lieutenant-Commander J. L. Holgate, R.N.V.R., has been awarded the R.N.V.R. Decoration.

Colonel C. H. Budd, M.C., T.D., D.L., has been appointed Honorary Colonel, No. 6 (E) General Hospital.

Colonel A. H. Whyte, D.S.O., T.D., has been appointed Honorary Colonel, 50th (N) Infantry Division, R.A.M.C., in succession to Colonel W. E. Hume, C.M.G.

The following decorations have been conferred by the President of the U.S.A. in recognition of distinguished services in the cause of the Allies:

Legion of Merit, Degree of Officer.—Brigadiers (Temporary) H. L. Garson, O.B.E., M.C., T.D., and Sir Lionel E. H. Whitty, K.C.V.O., M.C., R.A.M.C.

Bronze Star.—Major R. Pollock and Major (Temporary) W. R. Henderson, O.B.E., R.A.M.C.

The following decorations have been conferred by the Prince Regent of Belgium in recognition of distinguished services in the cause of the Allies:

Officer of the Order of the Crown.—Lieutenant-Colonel A. Harrison-Hall and Lieutenant-Colonel (acting) H. V. B. B. O.B.E., R.A.M.C.

Officer of the Order of Leopold II.—Major (Temporary) C. L. M.C., late R.A.M.C.

Officer of the Order of Leopold II.—Major (Temporary) E. A. Harris, Gallagher, O.B.E., R.A.M.C.

Croix Militaire 2nd Class.—Captain (Temporary) E. A. Harris, R.A.M.C.

The King of the Hellenes has conferred the decoration of Commander of the Royal Order of the Phoenix upon Colonel (Temporary) M. R. Burke, O.B.E., R.A.M.C., in recognition of distinguished services in the cause of the Allies.

The Queen of the Netherlands has conferred the decoration of Grand Officer of the Order of Orange Nassau with Swords upon Lieutenant-General Sir Alexander Hood, G.B.E., K.C.B., K.H.P., late R.A.M.C., in recognition of distinguished services in the cause of the Allies.

The King of the Hellenes has conferred the Distinguished Service Medal upon Colonel J. P. LaPlante, O.B.E., E.D., R.C.A.M.C., in recognition of distinguished services in the cause of the Allies.

In a Supplement to the *London Gazette* dated March 19, and in the *Journal of Norway* had conferred the King Haakon VII Liberty Cross upon Major (Temporary) J. N. MacArtney, M.B.E., R.A.M.C., in recognition of distinguished services in the cause of the Allies. This name should have read Major J. E. McCartney, R.A.M.C.

DEATHS IN THE SERVICES

Lieut-Col G. H. GODDARD, D.S.O., died on April 20 after a brief illness. Born in London in 1873, he was the son of Lieut-Col. Thomas Goddard, of the Indian Army. He was educated at University College School and University College Hospital, and took the conjoint diploma in 1895. He spent two years as surgeon to the British India Steam Navigation Company, followed by two years in resident posts at the Sheffield Royal Infirmary. He joined the R.A.M.C. in 1899 and served through the Boer War, gaining the Queen's Medal with three clasps, and the King's Medal with two clasps. He also served in France with the rank of lieutenant-colonel during the first world war, was awarded the D.S.O. and was four times mentioned in dispatches; he was gassed in 1916. Goddard acted as D.D.M.S. at Gibraltar in 1919, being invalided on pension in 1923. He was then given command of the Military Hospital at Norton Barracks, Worcester, and finally retired in 1943, though he still remained active as chairman of the local pensions board. He became a member of the British Medical Association in 1901, was chairman of the Worcester and Bromsgrove Division in 1936-7, and a representative at the Annual Representative Meeting in Plymouth in 1938; and he was appointed Local Emergency Officer in the same year. During his twenty-five years in Worcester he took part in many social and semi-public activities. He was also a Knight of Grace of the Venerable Order of St. John of Jerusalem in 1923, and for many years examined in first aid. He was twice vice-chairman of the Worcestershire Joint Committee of the Grand Cross and Order of St. John. He was a prominent Freemason, being a Past Grand Deacon of the United Grand Lodge of England, and Past Deputy District Grand Master of Gibraltari; he held high office in some of the higher degrees of Freemasonry. He was twice married, and leaves two sons by his first marriage, and a widow and one son of his second marriage. Colonel Goddard had a charming

and kindly personality and will be greatly missed in the City and County of Worcester, where many of his friends were accustomed to turn to him for sage counsel and advice, which was always readily given. A friend of his was heard to make a remark which sums up his character in a sentence: "I don't think he knew how to be unkind."

Universities and Colleges

UNIVERSITY OF OXFORD

In a Congregation held on April 29 the following degrees were conferred:

D.M.—D. L. Davies, *K. C. Royes
*In absence

UNIVERSITY OF LONDON

The appointment of members of the Senate for 1948-52 has been made as follows: *Faculty of Medicine*, Prof. R. V. Christie, M.D., D.Sc., F.R.C.P. (in place of Sir Francis Fraser, M.D., F.R.C.P.); *General Medical Schools*, E. R. Boland, M.D., F.R.C.P. (in place of Dr. A. E. Clark-Kennedy). Sir Francis Fraser has been co-opted as a member of the Senate.

The following have been elected to the Fellowship of University College, London: Sir Stewart Duke-Elder, K.C.V.O., D.Sc., M.D., Ph.D., F.R.C.S., Surgery-Oculist to the King; Marion Grace Eggleston, D.Sc., M.R.C.S., L.R.C.P., Senior Lecturer in Physiology in the College; William Arthur Edward Karunaratne, M.D., Professor of Pathology and Dean of the Faculty, Ceylon Medical College; Philippa Parry Martin, M.S., F.R.C.S., formerly Hunterian Professor of the Royal College of Surgeons of England.

The following have been elected to the Honorary Fellowship of University College, London: Sir Henry Hallett Dale, O.M., G.B.E., M.D., F.R.C.P., F.R.S., Chairman of the Wellcome Trust and formerly President of the Royal Society; and Archibald Vivian Hill, C.H., LL.D., Sc.D., Hon. M.D., F.R.S., Foulerton Professor of Physiology (Biophysics Research Unit) in the college.

C. Price Thomas, F.R.C.S., has been appointed representative of the University at the twelfth session of Les Journées Médicales de Bruxelles, June 13-16.

Ivor Lewis, M.D., and A. Talbot Rogers, M.B., B.S., have been elected members of the Standing Committee of Convocation for the period 1948-51.

The following have been recognized as Teachers of the University in the subjects indicated in parentheses: *University College Hospital Medical School*, E. Gwynne Thomas, M.D., M.R.C.P. (Venereal Diseases); *Royal Dental Hospital School of Dental Surgery*, M. P. Graham, M.R.C.S., L.R.C.P., L.D.S., H. L. Hardwick, M.R.C.S., F.R.C.P., L.D.S., and A. B. MacGregor, M.D., L.D.S. (Dental Surgery).

The M.B., B.S. examinations in October will start on Tuesday, Oct. 19, instead of Monday, Oct. 11.

The following clarification of the exemption regulations in medicine and amendment of the regulations relating to exemption of advanced students (external) in the Faculty of Medicine were published in the *University of London Gazette* dated March 27:

"Where exemption is normally granted in respect of intermediate or final examinations in other Faculties, the words 'of this University' are included, but in the case of medicine this is not so, and students who have passed what they consider equivalent examinations of other universities have claimed exemption under these regulations. The section headed 'Exemptions' in the regulations in medicine for external students have therefore been amended to make it clear that exemption is granted only in respect of intermediate and final examinations of this University."

The regulations relating to exemption of advanced students (external) in the Faculty of Medicine have been amended and now read as follows: "In the Faculty of Medicine exemption from the first examination for medical degrees, in whole or in part, and from the course of study for the second examination for medical degrees, in whole or in part, may be granted to students who have passed all the examinations for an approved degree of another university. No exemption can be granted from the second examination for medical degrees or from any part of the clinical course."

Applications are invited for the William Julius Mickle Fellowship, which is of the value of approximately £250, and is awarded by the Senate to the man or woman who, being resident in London and a graduate of the University, has in the opinion of the Senate done much to advance medical art or science within the preceding five years. Applications must be received by Oct. 1. Further particulars can be obtained from the Academic Registrar, Senate House, University College, W.C.1.

The following candidates have been approved at the examinations

Department of Medicine in Psychological Medicine.—With Mental Diseases
M. O. Luck, J. W. F. Lumsden, J. D. M. Lytle, Isabel M. Macrae, Margaret D. R. McDougall, P. J. McEnroy, A. A. McKirdy, A. D. MacLean, J. H. MacLoughlin, I. F. MacMath, Florence H. Macmichael, T. McG. McNie, D. MacVicar, J. J. Marlow, Barbara D. S. Marshall, R. H. Martin, Queenie I. E. May, Eva G. Maughan, J. I. Miller, Norah C. Miller, C. M. Meyer, A. P. B. Mitchell, A. B. Mirra, G. Morgan, N. Moss, Edith R. Munro, Alexina M. H. Myles, A. O. Nichols, W. P. O'Keefe, Mary D. Owen, J. L. Park, R. B. Parker, Jean Mc. Paterson, Noel J. Pease, J. H. Pendered, G. W. Pinder, J. H. McK. Pinkerton, H. P. Player, S. H. M. Price, J. Priceman, T. M. Pritchard, J. P. C. Purdon, Eleanor R. Raistrick, Angel M. Rendle-Short, J. C. A. Renshaw, P. Rhodes, Nancy M. E. Robertshaw, Ruth M. Roake, T. C. A. Roultoun, W. R. Russell, K. D. Salzmann, B. Sandler, H. I. Schmilg, J. W. F. Scrimgeour, T. O. Scudamore, E. H. Seward, Elsie M. Sibbings, S. A. Siddiki, A. Simons, E. M. Slater, A. L. H. Smith, Z. H. Y. Sobani, D. B. Spanton, Agnes M. Stark, Vera F. Stimson, R. A. Thatcher, C. J. Thornberry, R. W. H. Tincker, S. Tomlinson, G. E. E. Usher-Somers, C. Venables, F. L. A. Vernon, F. G. H. Warner, Margaret S. White, G. F. J. Williams, J. A. Williams, Marion Williams, T. A. Yates, E. J. Young-Thompson, E. G. Zaeks, O. Zammit.

UNIVERSITY OF ST. ANDREWS

Anthony Elliot Ritchie, M.D., has been appointed *Chandos Professor of Physiology* in the United College of the University.

UNIVERSITY OF SHEFFIELD

At a meeting of the University Council, held on May 21, John Colquhoun, M.B., Ch.B., was appointed Honorary Lecturer in Bacteriology.

The Council received the resignations of Mr. Glyn A. Davies, F.R.C.S.Ed., and Dr. V. Blackman of the posts of lecturer in obstetrics and gynaecology and demonstrator in anatomy, respectively, and thanked them for their services to the University.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

An ordinary meeting of the Council of the College was held on May 13, with Sir Alfred Webb-Johnson, Bt., President, in the chair.

A resolution of condolence was passed on the death of Prof. A. H. Burgess, the senior member of the Council.

The following hospitals were recognized in connexion with the regulations for the Final Fellowship examination: Victoria Hospital, Accrington (senior house-surgeon, provided that an additional resident surgical post is created); County Hospital, Farnborough (first, second, and third house-surgeons); Royal Cancer Hospital, London (resident medical officer, first and second house-surgeons); Canadian Red Cross Memorial Hospital, Taplow (resident surgical officer and first house-surgeon); General Hospital, Newcastle-upon-Tyne (resident surgical officer and two surgical registrars); County Hospital, York (additional recognition of the second house-surgeon).

A Diploma of Fellowship was granted to David Ronald Urquhart. Diplomas of Membership were granted to A. J. De Villiers, O. A. N. Husain, and Margaret N. A. Tew.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH

At a meeting of the Royal College of Surgeons of Edinburgh held on May 19, with Mr. Frank E. Jardine, President, in the chair, the following candidates, having passed the requisite examinations, were admitted Fellows: C. R. S. Davidson, E. O. Dawson, T. Don, D. MacL., Douglas, A. K. Dutt, H. D. Fairman, J. Fine, L. B. Gottlieb, K. S. Grewal, E. G. Hardy, G. D. Jack, Z. A. Karir, S. Kavanagh, H. G. Khalsa, I. S. Kirkland, J. M. Large, A. J. Leonsins, D. G. Lloyd-Davies, E. J. Marais, J. McE. Megaw, N. V. Mody, O. D. Morris, R. A. McCluskie, A. B. MacLean, J. A. Orr, K. Paw, H. N. Perkins, W. R. Phillips, M. C. Pinkerton, E. H. Rainer, P. M. Roemmele, A. K. Saha, A. I. Sahyoun, M. M. El Din Said, S. N. Sarma, O. J. Shah, W. D. Sharpe, B. J. Shaw, C. J. C. Smith, P. B. Sulakhe, R. Vaughan-Jones, O. Walshy, P. Wilson, L. E. Wood.

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

Prof. N. C. Louros, professor of obstetrics and gynaecology in the University of Athens, will deliver a lecture on "Accelerated Painless Labour" at the College House (58, Queen Anne Street, London, W.1) on Friday, June 11, at 2.15 p.m. All members of the medical profession are invited to attend the lecture, admission to which is by ticket only, obtainable from the secretary, and allotted in order of application.

The following candidates have satisfied the examiners at the examination indicated:

DIPLOMA IN OBSTETRICS.—E. P. Abson, J. D. Andrew, Muriel S. Alexander, D. L. Arnold, P. B. Atkinson, P. Barron, J. P. Bennett, B. Bhattacharya, D. T. Binns, D. K. Black, D. H. Blakey, Winifred M. Bond, S. C. Bose, G. Bridge, Jean M. Briscoe, Joyce E. Brooks, H. J. S. Brown, R. A. Bush, J. Campbell, J. P. Carille, D. L. Carmichael, R. S. Casement, C. J. C. Smith, P. B. Sulakhe, R. Vaughan-Jones, O. Walshy, P. Wilson, L. E. Wood. Katharine M. D. Colman, Janet S. Conn, Mary C. J. Crabb, Evelyn M. Crawford, D. H. Crook, J. M. H. Dale, J. M. B. Donaldson, J. Dougall, G. H. P. Drake, C. D. Drea, Elisabeth A. Ede, L. El-Badri, C. C. Evill, M. B. Fox, W. D. Frew, H. Fried, C. O. Fung-Kee-Fung, Elizabeth Gilbertson, D. W. H. Griffiths, Lillian M. Griffiths, P. Haden, Ruth A. Haes, C. Halamandres, L. Haldar, G. J. Hall, J. R. A. Hall, Constance I. Ham, D. M. Hare, S. H. Heard, J. Henderson, T. Hepburn, Nancy Heron, J. D. S. Helicote, W. S. Hill, E. H. Hillyard, S. P. Hing, R. Hodgkinson, Flora M. Hogg, H. J. Holloway, T. A. Hope, P. W. Horner, H. Huichison, E. W. Ilangantileke, R. A. Irani, P. F. C. Jackson, Ruby Mc. Jackson, A. W. Kelly, G. L. Kennedy, H. H. Kirk, H. Korte, P. B. Lacy, F. Laverty, R. G. Law, Daisy J. Lee, R. E. Leighton, Jean B. Lindsay, R. H. Little, M. O. Luck, J. W. F. Lumsden, J. D. M. Lytle, Isabel M. Macrae, Margaret D. R. McDougall, P. J. McEnroy, A. A. McKirdy, A. D. MacLean, J. H. MacLoughlin, I. F. MacMath, Florence H. Macmichael, T. McG. McNie, D. MacVicar, J. J. Marlow, Barbara D. S. Marshall, R. H. Martin, Queenie I. E. May, Eva G. Maughan, J. I. Miller, Norah C. Miller, C. M. Meyer, A. P. B. Mitchell, A. B. Mirra, G. Morgan, N. Moss, Edith R. Munro, Alexina M. H. Myles, A. O. Nichols, W. P. O'Keefe, Mary D. Owen, J. L. Park, R. B. Parker, Jean Mc. Paterson, Noel J. Pease, J. H. Pendered, G. W. Pinder, J. H. McK. Pinkerton, H. P. Player, S. H. M. Price, J. Priceman, T. M. Pritchard, J. P. C. Purdon, Eleanor R. Raistrick, Angel M. Rendle-Short, J. C. A. Renshaw, P. Rhodes, Nancy M. E. Robertshaw, Ruth M. Roake, T. C. A. Roultoun, W. R. Russell, K. D. Salzmann, B. Sandler, H. I. Schmilg, J. W. F. Scrimgeour, T. O. Scudamore, E. H. Seward, Elsie M. Sibbings, S. A. Siddiki, A. Simons, E. M. Slater, A. L. H. Smith, Z. H. Y. Sobani, D. B. Spanton, Agnes M. Stark, Vera F. Stimson, R. A. Thatcher, C. J. Thornberry, R. W. H. Tincker, S. Tomlinson, G. E. E. Usher-Somers, C. Venables, F. L. A. Vernon, F. G. H. Warner, Margaret S. White, G. F. J. Williams, J. A. Williams, Marion Williams, T. A. Yates, E. J. Young-Thompson, E. G. Zaeks, O. Zammit.

No. 19

INFECTIOUS DISEASES AND VITAL STATISTICS

The print below a summary of Infectious Diseases and Vital statistics in the British Isles during the week ended May 8.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included), (b) London (administrative county), (c) Scotland, (d) Eire, (e) Northern Ireland. *Figures of Birth and Deaths, and of Deaths recorded under each infectious disease, for:* (a) The 126 great towns in England and Wales (including London), (b) London (administrative county), (c) The 16 principal towns in Scotland, (d) The 13 principal towns in Eire, (e) The 10 principal towns in Northern Ireland. A dash — denotes no cases, a blank space denotes disease not notifiable or return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	46	4	13	3	—	74	3	19	1	—
Deaths	—	—	—	—	—	—	—	—	—	—
Diphtheria	143	15	44	6	8	194	24	55	18	7
Deaths	1	1	1	1	1	1	1	1	1	1
Dysentery	108	28	49	2	—	110	7	18	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	15	8	2	—	—	36	6	1
Deaths	—	—	—	—	—	—	—	—	—	—
Shigellosis enteritis or dysentery under 2 years	—	—	—	—	—	—	—	—	—	—
Deaths	30	1	3	—	1	95	14	16	7	3
Measles*	10,156	936	204	116	80	10,134	499	157	52	28
Deaths*	—	—	—	—	—	—	—	—	—	—
Polio-myelitis neonatorum	59	5	12	1	—	73	4	12	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlatina fever	5	2(B)	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlatina, influenzal	509	27	1	4	—	561	25	5	7	4
Deaths (from influenza)	—	—	—	—	—	10	—	1	—	1
Scarlatina primary	172	24	191	31	9	—	183	21	9	3
Deaths	—	—	—	—	—	—	—	—	—	—
Polio-encephalitis, acute	—	—	—	—	—	2	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Polio-myelitis, acute	9	1	2	1	—	12	2	—	5	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlatina fever	—	2	11	—	—	2	9	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlatina, pyrexial	49	9	12	2	—	151	14	12	1	3
Deaths	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	1,578	93	249	46	34	1,002	79	129	21	29
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	—	—	—	—	—	2	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	8	1	—	3	—	6	—	2	3	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough*	3,110	221	34	50	15	2,222	300	225	46	12
Deaths	16	—	—	1	1	15	2	3	4	2
Deaths (0-1 year)	274	21	51	16	14	437	61	92	41	21
Infant mortality rate (per 1,000 live births)	—	—	—	—	—	—	—	—	—	—
Deaths (excluding stillbirths)	4,290	639	629	175	137	4,769	742	646	235	138
Annual death rate (per 1,000 persons living)	—	—	—	—	—	—	—	—	—	—
Deaths	8,307	1,292	1,055	467	254	10,106	1,546	1,242	574	301
Annual rate per 1,000 persons living	—	—	—	—	—	—	—	—	—	—
Deaths	237	29	27	—	—	263	31	33	—	—
Stillbirths	—	—	—	—	—	—	—	—	—	—
Rate per 1,000 total births (including stillborn)	—	—	—	—	—	—	—	—	—	—

* Includes deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

† Includes puerperal fever for England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In England and Wales the only fluctuations in the trends of infectious diseases were decreases in the incidence of whooping-cough 574 and acute pneumonia 37 and an increase in the notifications of scarlet fever 40.

A fall in the number of notifications of whooping-cough occurred throughout the country: the largest decreases were Yorkshire West Riding 89 and Warwickshire 72. Although the total for measles remained practically unchanged there were considerable local variations in incidence: the rises included Middlesex 146, Kent 69, Denbigh 67, and the largest decreases were London 165, Surrey 142, Hertfordshire 74.

A rise of 16 in Lancashire provided the chief feature of the returns of diphtheria. Only small variations occurred in the incidence of scarlet fever; the largest were a decrease of 24 in Yorkshire West Riding and a rise of 28 in Lancashire. An increase of 24 in the notifications of acute pneumonia in Durham was the only fluctuation of any size in the local incidence of this disease.

A fresh outbreak of dysentery, involving 10 persons, was reported for Bedfordshire, Luton M.B. The other large returns of dysentery were London 28, Lancashire 27 and Yorkshire West Riding 12. Of the 9 cases of poliomyelitis, 3 were notified in Manchester C.B.

In Scotland infectious diseases were slightly less prevalent during the week: the decreases included measles 24, scarlet fever 10, acute primary pneumonia 10 and dysentery 2. No disease showed an increase in incidence. The largest returns for dysentery were those of the cities of Glasgow 28 and of Edinburgh 11.

In Eire only small changes occurred in the trends of infectious diseases. An outbreak of measles affecting 22 persons was notified from Wexford U.D.

In Northern Ireland the chief feature of the returns was an increase of 28 in the notifications of measles in Belfast C.B.

Week Ending May 15

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,675, whooping-cough 3,117, diphtheria 153, measles 11,879, acute pneumonia 611, cerebrospinal fever 36, acute poliomyelitis 19, dysentery 111, scarlatina fever and typhoid 6.

Medical News

Assistant Secretary for B.M.A.

The Council of the B.M.A. is advertising in this issue of the *Journal* (p. 13) for an Assistant Secretary. He will work at first at Headquarters, but may later be transferred to a regional office. The salary is £1,250 a year, rising to £1,875. Medical practitioners, including those serving with the Forces, are invited to apply.

Recruitment and Training of Nurses

The Medical Women's Federation has submitted to the Minister of Health a memorandum on the Report of the Working Party on the Recruitment and Training of Nurses. The Federation emphasizes that the craft of bedside nursing should be revived: nursing should be a relationship not unlike that between mother and child. It doubts whether the two years' course suggested by the Working Party is sufficiently long in which to train nurses, and it would like to see experiments made on methods of training nurses to think along social and preventive lines. The present training is overloaded with theory. The Federation considers also that the Working Party's criteria of selection make too heavy intellectual demands on girls who may not be clever but who have a natural aptitude for bedside nursing; their rejection would be a serious loss to the sick of this country. The present examinations are much too difficult and the standard of marking too low. The Federation proposes an intermediate grade of "hospital nurse" for those who have successfully completed two years' training at the bedside but who are not accepted for the senior course leading to State registration.

Chair of Child Health at Belfast

An endowment of £60,000 has recently been received by the Queen's University of Belfast in order to found a chair and department of child health at the University. This contribution to the teaching and improvement of paediatrics in the Province has been made equally by the Government of Northern Ireland and by the Nuffield Provincial Hospitals Trust through the Northern Ireland Regional Hospitals Council.

Ice-cream Control

From Nov. 1 the manufacture of ice-cream in Scotland will be controlled by Regulation. It will be unlawful to make, store, or sell ice-cream except on premises licensed by the local authority; vehicles selling it must also be registered. Boarding houses, clubs, hotels, and inns are exempt from registration, as also are restaurants where ice-cream is sold only as part of a meal and theatres and cinemas where it is not made on the premises. The local authority must be satisfied about the cleanliness of the staff and the suitability of the equipment in the factories or shops concerned.

Scholarship for Nurses

The King Edward's Hospital Fund for London is offering under the auspices of the National Florence Nightingale Memorial Committee a £350 scholarship to trained nurses on the staff of hospitals in the Fund's area or returning to such posts. The scholarship is for one of the courses arranged by the Florence Nightingale International Foundation, which may be taken in different branches of nursing and in various countries. Candidates should have had a general education to matriculation standard and several years' experience in general nursing after State registration. Application forms, which may be sent in up till June 14, may be obtained from the Secretary, Nursing Recruitment Service (King Edward's Hospital Fund), 21, Cavendish Square, London, W.1.

Rebuilding St. Thomas's Hospital

St Thomas's Hospital plans eventually to have nearly 1,000 beds, in accordance with the Goodenough Committee's recommendations. The Secretary's report was presented recently to the Court of Governors and outlined the schemes for reconstruction. A new medical school and students' accommodation will be grouped with the hospital and new accommodation for nurses and staff will also be provided.

American Association of Plastic Surgeons

Prof. T. Pomfret Kilner, President of the British Association of Plastic Surgeons, has accepted an invitation to attend the annual meeting of the American Association of Plastic Surgeons in Boston in June. He will take the opportunity of visiting other centres.

Egyptian Ophthalmologist's Visit

Dr. Mahmoud Azmy el Kattan Bey, Professor of Ophthalmology and Dean of the Faculty of Medicine in Demerdashe Hospital, Cairo, who was a medical student in Britain from 1921 to 1923, is now studying undergraduate and postgraduate teaching in British hospitals at the invitation of the British Council. He will return to Cairo on June 14.

COMING EVENTS**The Nation's Nurses**

A conference on "The Nation's Nurses" will be held at the Royal College of Nursing, Henrietta Place, Cavendish Square, London, W.1, on Monday, Tuesday, and Wednesday, May 31 and June 1 and 2, when there will be discussions on modern planning, equipment, and methods designed to improve the service to the patients. The conference will open on May 31, at 10.15 a.m., with an address by the chairman, Mr. Harold Hunter, deputy director of the Bureau of Current Affairs, and on June 2, at 2.45 p.m., the Minister of Health, the Rt. Hon. Aneurin Bevan, will deliver an address. In addition to members of the college, members and representatives of many of the regional hospital boards will attend the conference, admission to which is, by programme, obtainable from the general secretary of the college at the above address.

Safer Motherhood

A public meeting and brains trust on "Safer Motherhood," arranged under the auspices of the Married Women's Association, the National Birthday Trust Fund, and the National Federation of Women's Institutes, will be held at Caxton Hall, Westminster, London, S.W., on Tuesday, June 8, at 7 p.m. The speaker will be Sir Lindley Holland, M.D., F.R.C.P., F.R.C.S., F.R.C.O.G., and the question master Dr. Charles Hill, Secretary of the British Medical Association. The brains trust will comprise Sir Eardley Holland, M.D., Josephine Barnes, D.M., F.R.C.S., Lady Rhys-Williams, D.B.E., Mrs. G. B. Carter, B.Sc., S.R.N., S.C.M., and Dr. Geoffrey S. W. Ogden, D.A. The chair will be taken by Lady Helen Nutting, President of the Married Women's Association. A senior medical officer will be present to represent the Minister of Health. Tickets may be obtained from the meeting secretary, Safer Motherhood Committee, 57, Lower Belgrave Street, London, S.W.1.

Rheumatism Conference

A Satellite Conference on "Le Rhumatisme Chronique" at Anderlecht will be held on June 24-27. Particulars may be obtained from Dr. Gerbay, 7, Square Alfred-Boucher,

Medical Superintendents' Society

The annual general meeting of the Medical Superintendents' Society will be held at the Royal Hospital for Sick Children, Glasgow, on Thursday, June 3, at 10.30 a.m., when Dr. H. Stanley Banks will be installed as president. The annual dinner of the society will be held at the Central Station Hotel, Glasgow, on Friday, June 4, at 7.30 p.m., when the guest of honour will be the Rt. Hon. Walter E. Elliot, M.P.

Empire Rheumatism Council

A summer week-end course, arranged by the Empire Rheumatism Council, Tavistock House (N), Tavistock Square, London, W.C., will be held at the Apothecaries' Hall, Black Friars' Lane, Queen Victoria Street, London, E.C., on Saturday and Sunday, June 12 and 13, with the following programme: June 12, 10 a.m., "Rheumatism—A Clinical Survey," by Prof. Henry Cohen; 11.15, "Gout," by Dr. George Graham; 2 p.m., "Neuritis," by Dr. E. Fletcher; 3 p.m., "Fibrositis," by Dr. W. S. C. Copeman; 4.30, "Spondylitis," by Dr. W. S. Tegner. June 13, 10 a.m., "Physiotherapy in the Treatment of the Rheumatic Diseases," by Dr. Cooksey; 11.15 a.m., "Orthopaedic Aspects of the Rheumatic Diseases," by Mr. J. C. R. Hindenach. The fee for the course is £1 ls., and entries, limited to 100, must be received with remittance at least one week before, by the General Secretary of the Council at the above address.

Ross Jubilee, 1898-1948

A reception, arranged by the Ross Institute of Tropical Hygiene, will be held at the London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, W.C., on Monday, July 5, at 5 p.m. to celebrate the discovery of the route of transmission of malarial fever by Sir Ronald Ross in July, 1898. At 6.30 p.m., in the lecture theatre, Dr. John Masefield, the Poet Laureate, will speak "Ronald Ross." An exhibit showing the progress made in the control of malaria over a period of fifty years will be on display in the museum from 5 p.m. to 8 p.m., and will be open to the public from 11 a.m. to 3 p.m., from July 6 to 9 inclusive. Refreshments will be served in the library, the senior common room, and the marquee over the lecture theatre from 5 p.m. to 8 p.m.

Oxford Graduates' Medical Club

The summer dinner of the Oxford Graduates' Medical Club will be held at Christ Church, Oxford, on Friday, July 16, at 7.30 p.m., when the chair will be taken by Prof. A. W. M. D.M., F.R.C.P. All men who are Oxford graduates, studying or practising medicine, are members of the club and it is hoped there will be a good attendance at this, the first post-war dinner. Accommodation is restricted, making it impossible to allow more than 100 on this occasion. The joint honorary secretary of the club, Mr. E. A. Crook, M.Ch., F.R.C.S. (149, Harley Street, London, W.1), asks those who intend to be present at the dinner to let him know by July 1 at the latest; he would also be glad of the permanent addresses of all members. The cost of the dinner is 30s., incl. of wine, and day dress will be worn.

International Congress of Physical Education, Recreation, and Rehabilitation

The organizing committee of the International Congress of Physical Education, Recreation, and Rehabilitation, which is held in London from July 23-26 under the auspices of the Ministry of Education, is now prepared to consider applications from delegates and educationists who wish to attend in their personal capacity. The aim of the congress is to give some indication of the steps taken in Britain to develop physical education in schools, colleges, physical recreation in after-school life, and rehabilitation in industry and in the Services, and to provide an opportunity for a world-wide exchange of information and ideas about these matters. The Minister of Education has kindly consented to open the congress, and the closing address will be given by Prof. Arthur N. S. Wells known for his work in the field of international relations. Fifty foreign countries, Dominions, and Colonies have already decided to send delegates, and invitations have also been extended to a number of British organizations concerned with education, medicine, and social welfare. The fee for the whole congress is 10s. but in certain circumstances it may be possible to accept applications for attendance at one session (morning or afternoon) on payment of 5s. As accommodation is limited, those interested are asked to write as soon as possible to the general secretary of the Congress, 6, Bedford Square, London, W.C.1, who will be glad to send a draft programme and the application form which should be completed by those who wish to attend.

Anthropology and Ethnology

The 3rd Session of the International Congress of Anthropology and Ethnological Sciences will be held in Brussels and Tervuren on Aug. 15-23, under the Presidency of Prof. E. De Jonghe. Particulars may be obtained from the Secretary, Frans M. Olb, Musée du Congo Belge, Tervuren, Belgium.

SOCIETIES AND LECTURES

Monday

EDINBURGH UNIVERSITY: PHYSIOLOGY CLASSROOM.—May 31, 5 p.m. "John Hunter: Surgeon and Naturalist," by Dr. Douglas Guthrie.
UNIVERSITY COLLEGE LONDON.—At Anatomy Theatre, Gower Street, W.C., May 31, 5.30 p.m. Shearman Lecture: "The Origin and Nature of Scientific Thought," by Mr. E. Schrödinger, Ph.D., D.Sc.

Tuesday

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—June 1, 5 p.m. "Varicose Eczema, Ulceration etc.," by Mr. A. K. Monro.

Thursday

FACULTY OF HOMOEOPATHY.—At London Homoeopathic Hospital, Great Ormond Street, London, W.C., June 3, 5 p.m. "Notes on Worm Infestation in Children," by Dr. Elizabeth M. J. Paterson.
INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—June 3, 5 p.m. "Eczema," by Dr. G. B. Mitchell-Heggs.

SOCIETY AND CLINIC FOR CONSTRUCTIVE BIRTH CONTROL AND RACIAL PROGRESS, 106, Whitfield Street, Tottenham Court Road, London, W.—June 3, 2.30 p.m. "Practical demonstration of contraceptive methods," by Drs. Marie Stopes and Beddow Bayly.

SOCIETY OF APOTHECARIES OF LONDON, Apothecaries' Hall, Black Friars Lane, Queen Victoria Street, E.C., June 3, 5 p.m. "The Pharmacology of Heart Failure," Joseph Strickland Goodall Memorial Lecture by Prof. John McMichael, M.D., F.R.C.P.Ed.
UNIVERSITY COLLEGE LONDON: DEPARTMENT OF PHARMACOLOGY.—At Physiology Theatre, Gower Street, London, W.C., June 3, 5.15 p.m. "The Action of Drugs on Mitosis," by Mr. J. F. Danielli, Ph.D., D.Sc.

APPOINTMENTS

D. Manuel Suarez has been appointed Professor of Paediatrics, Faculty of Medicine at San Diego de Compostella, Spain.

Dr. Cluni Lal Katil has been appointed Director-General of the Employees State Health Insurance Corporation of the Dominion of India.

Dr. Katil came to England and entered general practice at Finsbury 22 years ago and has played an active part in the medical services and the public health organisation of the borough. He was mayor for 1938-9 and was raised to the Aldermanic Bench in 1945. He was elected to the L.C.C. as a representative of the borough at the last elections. In his new appointment he will organize a health insurance scheme which will include a comprehensive medical service.

ORCHARD, W. E., M.D., D.P.H., Deputy Senior Administrative Medical Officer, Sheffield Regional Hospital Board.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

Bourke.—On April 29, 1948, to Joan, wife of E. E. Bourke, F.R.C.S. (obstet.), Supt., London, W., a son.
Brash.—On May 15, 1948, at Stobhill Hospital, Glasgow, to Patricia (nee Park), wife of David Brash, M.B., Ch.B., D.M.R., a son—David Lawrence Powell-Tuck.—On May 20, 1948, at The Crossways, Acocks Green, Birmingham, to Catherine (nee Kirby) wife of Dr. G. A. Powell-Tuck, a son.
Widkinson.—On May 8, 1948, at Watford, to Kathleen, wife of Dr. R. H. Widkinson, a son—Andrew Richard.

MARRIAGE

Mather—Buchanan.—On April 21, 1948, at Edinburgh, John Stewart Mather, M.B., Ch.B., of Bradford, to Maud Lovett Buchanan, M.B., Ch.B., of Edinburgh.

DEATHS

Blacket.—On May 21, 1948, at Oak Hill Cottage, Frensham, Surrey, Sir George Francis Blacket, C.B.E., M.D., F.R.C.P., F.R.C.S.
Blackett.—On May 13, 1948, in London, Edward Joseph Blackett, O.B.E., M.R.C.S., L.R.C.P., of 20 Kendal Street, London, W., aged 77.
Chambers.—On May 19, 1948, at Treflus, Yealming, S. Devon, Gerald Chambers, M.B., Ch.B., D.M.R.E.
Conford.—On May 15, 1948, at 20, Bath Road, Felixstowe, George James Conford, M.D., aged 78.
Fraser.—Recently in South Africa, James Fraser, M.B., Ch.B. Glas.
Gwynne-Hughes.—On Feb. 8, 1948, Devereux Gwynne-Hughes, F.R.C.S. Ed. of New South Wales, Australia, aged 87.
Hall.—On May 17, 1948, Peter Sinclair Hall, M.B., B.Chir., of Sparrows Searle Road, Farnham, aged 28.
Linton.—On May 18, 1948, at The Acorn, Swain Road, Tenterden, Kent, William West Linton, F.R.C.S., aged 76.
MacGillchrist.—On May 14, 1948, at 9, Mandeville Gardens, Ballygunn, Calcutta, India, Archibald Currie MacGillchrist, M.D. Ed., D.Sc., M.R.C.P., Colonel, I.M.S., retired.
MacVean.—On May 13, 1948, at Blair House, Kirkcudbright, John MacVean, M.D., C.M.E., aged 85.
Metcalfe.—Suddenly, at Moorside North, Newcastle, Stanley Dunn Metcalfe, M.B., B.S., aged 63.
Miller.—On May 17, 1948, at Haslinges, Arthur William Miller, M.B., C.M.Glas., aged 80.
Muldaavin.—On April 24, 1948, Léon Feinsein Muldaavin, M.D., of New York, aged 37.
Ollerenshaw.—On May 19, 1948, suddenly, Robert Ollerenshaw, M.D., F.R.C.S., of Broome House, Didbury, Manchester.
Pole.—On May 21, 1948, at 13, Cameron Park, Edinburgh, Laurence William Pole, M.B., Ch.B. Ed., D.P.H., aged 72.
Renton.—On May 19, 1948, Maurice Waugh Renton, M.D., D.P.H., of the Bridge House, Darford, Kent.
Taylor-Young.—On May 20, 1948, at a Salisbury Nursing Home, Hugh Corbett Taylor-Young, O.B.E., M.D., F.R.F.P.S. Glas., formerly of Sydney, N.S.W.
Watson.—Dunne Augustin, retired, Edward Clifford Watson, D.S.O., M.R.C.S., L.R.C.P., Captain, R.N., aged 74.
Watts.—On May 14, 1948, at St Mary's Hospital, London, W., Brian Watts, D.S.O., M.D. Brux., Colonel, R.A.M.C., retired.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Legal Ownership of X-ray Films

Q.—Who is the legal owner of x-ray films? Do they remain the property of the radiologist? How should I respond to a request from the patient of a colleague of mine for copies of films which are wanted to help him in a legal action against another doctor?

A.—The question, "Who is the legal owner of x-ray films?" has never been finally settled. It is discussed at length, with many illustrative case references, by D. Harcourt Kitchin in his *Legal Problems in Medical Practice* (1936, pp. 127-30), and it was also the subject of an article which appeared in the *Journal* of Jan. 13, 1934 (p. 80). It is generally agreed from the medical point of view that the films belong to the radiologist; they are an indispensable part of the material on which he founds his opinion. If the patient pays him a fee, this is in respect of his opinion, and not in consideration of the handing over of the films. If the films are so handed over and the radiologist is afterwards sued for giving a negligent opinion, he would be unable to defend his interpretation of the films unless they were handed back to him. The German Röntgen Society issued a declaration in 1912 to the effect that it considered that all films, prints, diagrams, tracings, etc., prepared by the radiologist were to be regarded as his property, just as the histological preparations of a consulting pathologist remain his property, on which he bases his opinion of the nature of the material submitted to him for examination. The practitioner who refers the case to the radiologist is entitled, as a matter of courtesy, to inspect the films.

There are several decisions in American courts (quoted by Kitchin) which go to show that the x-ray films are the property of the radiologist or of the hospital in which such an examination has been made and that it is just as necessary that the film should be retained by the practitioner in charge of the case as that he should preserve the temperature charts and other case records. In determining any question of ownership of the film the court has regard to the nature of the contract, and will not, generally speaking, infer without express evidence that there is any contract to hand over the films to the patient who pays his fees for expert advice and not for the documents or other material on which that advice is based.

With regard to the second part of the question, this does not make quite clear the circumstances of the case; assuming that the questioner took the films in the course of the examination of the patient, who paid a fee for this service, the patient is entitled only to a copy of the radiologist's opinion; there would be no objection to the radiologist supplying copies of the films if he feels so disposed, but he is not bound to do so unless an order for disclosure is made by the court.

Stilboestrol for Acne

Q.—Does stilboestrol have any effect on the endocrine system of the male? It is often successful in alleviating acne vulgaris in the female. Would it be suitable for a male adolescent suffering from the same complaint?

A.—Stilboestrol acts in the male by inhibiting the gonadotrophic function of the pituitary gland, thus causing involution of the testicle and diminution or cessation of the secretion of testosterone. Since acne vulgaris in the male is believed to be linked with the secretion of testosterone, and since testosterone therapy, both in the male and the female, may produce acne, it might be expected that stilboestrol in sufficient doses would alleviate acne in the male. Clearly, however, it is not a measure that could be continued for any length of time in the male in the doses required. As to smaller doses, there is less definite evidence of some direct counteraction of testosterone by oestrogens. Of course it is known that acne may occur at puberty and adolescence in females as well as in males, and

sometimes in the treatment of amenorrhoea by stilboestrol acne is produced. On the whole the treatment of acne in the male by stilboestrol is disappointing, but some good results have been recorded.

Disseminated Sclerosis and Swayback in Sheep

Q.—Has the discovery of the association of disseminated sclerosis with swayback in sheep, described in the *Journal* of Sept. 20, 1947 (p. 460), led to any modification in treatment? Does any treatment influence the course of the disease?

A.—The discovery of the association of disseminated sclerosis with swayback in sheep has not yet led to any rational form of curative treatment of the disease. The situation is, briefly, that swayback is a disease which occurs in newborn lambs, the animals becoming progressively ataxic and dying within a short while. The condition arises only in offspring of ewes which have been fed on a copper-deficient diet, and the addition of copper to that diet will greatly reduce the incidence of the disease.

It is clear from the evidence, however, that a maternal copper deficiency is not the only cause, and the fact that several workers developed disseminated sclerosis suggested that there may also be an infective agent responsible in the predisposed animals. Much more work will be needed before these observations can be applied to the prevention and cure of the disease in man. There is no known method of treatment that will arrest disseminated sclerosis but much can be done to help the patient. First, rest during the acute exacerbation seems to reduce the severity to some extent; secondly, re-education with Frankel's exercises reduces the residual disorder of function; and, lastly, the judicious use of a placebo, together with superficial psychotherapy, maintains the patient's hopeful attitude throughout most of the illness.

Convalescent Measles Serum

Q.—Is there any method of ensuring that convalescent measles serum will not give rise to homologous serum jaundice?

A.—One of the dangers of using convalescent measles serum in children is the possibility of causing homologous serum jaundice. Cases of this condition due to the use of pooled convalescent measles serum appeared in 1937 and are referred to by McNulty (Report of the Chief Medical Officer, Ministry of Health, 1938). At present no way is known of destroying the causal virus without also destroying the measles immune bodies. Other less serious risks were discussed in a recent question and answer (May 15, p. 963).

Administration of Oxygen

Q. Under what circumstances can oxygen be bubbled through water before administration?

A.—Oxygen may always be bubbled through water before inhalation. It was formerly thought that this method of administration caused less dryness of the nasopharynx, and most of the older flowmeters were constructed on a principle embodying the passage of the gas through water. It is seldom done at the present time, and patients do not complain of dryness of the nasopharynx. The older water flowmeters were inaccurate, and when an adequate volume of oxygen per minute was administered such commotion resulted in the water as to make the method impracticable.

Treatment of Orbital Gumma

Q.—For the treatment of a man aged 51 with an orbital gumma (inner canthus of eye), and Wassermann reaction and Kahn test strongly positive, I have been advised that pot. iod. with hydrarg. perchlor. is all that is necessary, provided that it is taken for at least two years. Is any more active treatment demanded or necessary?

A.—The answer to the question is in the affirmative. The treatment advised might have been considered suitable forty years ago, but there seems no adequate reason to deny the benefit of modern powerful remedies. It might be a good idea to obtain the opinion of an ophthalmologist on whether resolution of the lesion would have any harmful

effects, in which case preliminary treatment with iodides, big muth, or very small doses of penicillin (e.g., 500 units) would be advisable. Otherwise the patient should receive a course of at least 6,000,000 units of penicillin, followed by a course of neoarsphenamine (5–6 g.) and bismuth (2–2.5 g.) over a period of about nine weeks. Thereafter, in view of the age of the patient, it might be wise to rely mainly on bismuth, but several courses should be given at suitable intervals as an insurance against further damage, though it is likely that the serum reactions will be difficult to reverse; too much importance should not be attached to the achievement of a negative serum reaction.

Distance between Cervix Uteri and Perineum

Q.—Has anyone else measured the difference in the distance between the cervix and the perineum in the upright position, the lithotomy position, and in the squatting position? I have found a difference of 1½ in. (1.25 cm.) between the first and third positions, and probably it is greater in the pregnant woman.

A.—Without searching the literature the writer does not know of any published work dealing with accurate measurements of the variations in distance between the cervix and perineum in the same woman. The supports of the uterus allow it a good deal of movement, so its position varies with the intra-abdominal pressure, the fullness of the bladder and rectum, and with posture. The degree of vertical movement also varies considerably in different individuals according to the laxity of the supports, the length of the vagina, etc. These are everyday clinical observations that are well known, and the effect of posture is recognized in practice by the use of the genu-pectoral and other special positions for gynaecological examinations and operations. It is to be expected that the squatting position will result in all the pelvic organs being crowded lower down, so that the distance between cervix and perineum will be correspondingly decreased.

Pregnancy and Psoriasis

Q.—What is the effect of pregnancy on psoriasis? What is the effect of the hormones present in pregnancy on psoriasis? I have a patient aged 27 who has had psoriasis since the age of 11. She has had three children, and on each occasion the rash began to recede about a month after conception and cleared up within one to two months after delivery, when it started to return.

A.—As with most other constitutional reactions, the effect of psychological, hormonal, and other disturbances in relation to psoriasis is well recognized. The onset during pubertal or menopausal years is one evidence of this, and it is common for pregnancy to have a beneficial effect on the course of psoriasis, though sometimes the reverse is true. The administration of hormones based upon this experience has often been tried but without any consistent results.

NOTES AND COMMENTS

Phosphaturia.—Dr. D. O'DONOVAN (Durban, South Africa) writes with reference to the question and answer under the heading "Phosphaturia and Oxaluria" ("Any Questions?" Feb. 28, p. 420) from personal experience and after an extended trial of the usual recommended means I have found that three to four "enemas" (Lilly) of ammonium chloride, 7½ gr. (0.5 g.), taken daily in divided doses will prevent phosphaturia and will allow the patient to lead a normal comfortable life. I have taken these tablets for several years without any ill effects.

All communications with regard to editorial business should be addressed to the EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: "Any Questions?" WESTEND, LONDON. ORIGINAL ARTICLES AND LETTERS forwarded for consideration are understood to be offered to the *British Medical Journal* and unless the contrary be stated. Authors desiring REPRINTS should communicate with the Publishing Manager, B.M.A. House, Tavistock Square, W.C.1, on receipt of proofs. Authors overseas should indicate on MSS. if reprints are required, as proofs are not sent abroad. ADVERTISEMENTS should be addressed to the Advertisement Manager, B.M.A. House, Tavistock Square, London, W.C.1 (hours 9 a.m. to 5 p.m.). TELEPHONE: EUSTON 2111. TELEGRAMS: "Britmedads, Westend, London." MEMBERS' SUBSCRIPTIONS should be sent to the SECRETARY, BRITISH MEDICAL ASSOCIATION, TELEPHONE: EUSTON 2111. TELEGRAMS: "Medisecra, London." B.M.A. SCOTTISH OFFICE: 7, Drumsheugh Gardens, Edinburgh.

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British Medical Association

SUPPLEMENTARY ANNUAL REPORT OF COUNCIL, 1947-8

Every member is asked to keep this Supplement, with the earlier one of April 10 until the subjects have been discussed by his Division.

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NATIONAL HEALTH SERVICE ACT

(Continuation of para. 12 of Annual Report)

162 On April 7 the Minister of Health on behalf of the Government made a statement in the House of Commons on the National Health Service in the course of which he undertook to introduce an Amending Bill in which there would be included a provision to make it impossible for a whole-time service to be introduced by Regulation alone. At the same time the Minister announced that the proposed universal salary would be abandoned and replaced by:

- (1) An option for all principals in established practice who enter the new Service to receive their remuneration by capitation fees only, or by a fixed element of £300 per annum plus a lower proportionate rate of capitation;
- (2) a fixed element of £300 per annum for all new entrants in general practice, to be payable for the first three years, after which the practitioner would have the right to exercise the option accorded to existing principals.

On April 8 the Minister announced that he had appointed a committee of legal experts to examine partnership problems and advise him whether the National Health Service Act "ought to be amended to secure an equitable result between partners in medical practice." The proposed Amending Bill will be introduced when the report of the legal committee is available.

With a view to clarifying the position arising from the Minister's statement a number of questions were put to him by the Association. The questions and the Minister's replies were published in the *British Medical Journal* of April 17. The Council decided to hold a further plebiscite in order that it might be in a position fairly to judge the effect of the proposed pending legislation on the profession's opinions and intentions. On April 19 there were issued to every member of the profession in England, Wales, and Scotland with the plebiscite form

(1) The Minister's statements in the House of Commons on April 7 and 8, the Association's questions, and the Minister's replies;

(2) a statement by the Council embodying a factual analysis of the position, and expressing the opinion that, while progress had been made to that end, the freedoms of the profession were not sufficiently safeguarded. The Council urged individual members of the profession to determine their attitude on all the facts before them as they had determined their attitude on the facts before February.

The plebiscite form indicated that if in the aggregate the votes of consultants and specialists, general practitioners, and whole-time voluntary hospital staffs showed a majority against accepting service under the Acts, and this majority included approximately 13,000 general practitioners (out of a present total general-practitioner strength of 20,500), the Association would continue to advise the profession not to enter the Service.

The April plebiscite form was sent to 54,667 practitioners, of whom 40,622 voted. Under Section A, directed to the whole profession, 23,842 expressed disapproval of the National Health Service Acts, and 14,620 approved. Under Section B, addressed to consultants, general practitioners, and whole-time voluntary hospital staffs, of the 26,690 who voted, 13,981 were not in favour of accepting service under the Acts. This majority included 9,588 general practitioners. The February plebiscite showed that 17,037 general practitioners were against accepting service.

At its meeting on May 5 the Council considered the plebiscite results and received a letter from the Ministry of Health inviting the Association to appoint representatives to begin discussions as soon as possible on the details of the proposed Amending Bill and on other matters still outstanding. The Council decided to accept the Minister's invitation and to draw his attention to the large section of the profession which was still opposed to the Service and whose good will was essential if the Service was to succeed. The Council decided also that a report of the discussions with the Minister should be made to a Special Meeting of the Representative Body to be held on Friday, May 28. At the same meeting the Council passed the following recommendations for consideration by the Representative Body:

(a) That, despite the insufficiency of the safeguards to the profession's freedoms and the misgivings of a substantial section of the profession, the Representative Body, anxious as ever that in the public interest a comprehensive health service should be made available to the community, is prepared to advise the profession to co-operate in the new Service on the understanding that the Minister will continue negotiations on outstanding matters, including terms and conditions of service for consultants and specialists, general practitioners, public health officers, and others.

(b) That the Representative Body urges the profession to maintain its strength and unity in order to mould the Service in accordance with the public interest and with enlightened professional opinion and continuously to protect the profession's legitimate freedoms and interests.

(c) That the public be informed that, for reasons outside the control of the profession, the inception of the new Service cannot be followed for some time by all the improvements promised by the Government in the medical services of the country, because of the shortage of personnel, medical and nursing, and of the difficulty of providing the necessary premises and equipment.

GENERAL PRACTICE

Certification under the National Health Service Act

(Continuation of para. 34 of Annual Report)

163. The Council has now prepared the following statement of Evidence for submission to the Departmental Committee on Medical Certification. It is hoped, at a later date, to amplify the Statement by the submission of oral evidence to the Departmental Committee.

Introductory

In recent years the number and variety of purposes for which medical practitioners, and particularly those in general practice, are required to issue medical certificates have increased to an alarming degree. For this reason the Association views with concern the provisions of Sect. 33 (2) (d) of the National Health Service Act which empower the Minister of Health to make Regulations requiring practitioners providing service under the Act to issue to patients or their personal representatives certificates reasonably required by them under or for the purpose of any enactment. It therefore welcomes the appointment of a Departmental Committee by the Minister with the following terms of reference:

"To consider the medical certificates required under present enactments or Regulations—or for other administrative purposes—and to advise, without excluding the possibility of amending legislation, how far it would be practicable to reduce the number of certificates to be signed by medical practitioners, and to improve and simplify the forms of certificate and the rules governing their issue."

Scope of the Problem

The following is a classified list, not exhaustive, of certificates which general practitioners are commonly requested to give at the present time:

Group I—Statements regarding the condition of a patient with or without an expression of opinion as to immediate fitness for work, school, travel, attendance at court, etc.: (1) In support of claims to sickness benefit under the National Health Insurance Act, 1936. (2) In support of claims to additional benefit under the National Health Insurance Acts—e.g., dental or ophthalmic benefit. (3) In support of applications to Approved Societies for convalescent treatment. (4) In support of claims for sickness benefit under private arrangements—e.g., through sick club or insurance policy. (5) Evidence of unfitness for work through sickness required by an employer, whether Government or private. (6) Notification of infectious diseases under the Public Health Act, 1936. (7) Notification of industrial diseases under the Factories Act, 1937. (8) Certificate of unfitness to attend court. (9) Certificate of unfitness to travel, issued to a Service man taken sick while on leave. (10) Certificate of unfitness for school. (11) Certificate of fitness to attend a day nursery.

Group II—Statements in support of a patient's application for some concession, provision, exemption, or for some commodity in short supply: (1) Under the Blind Persons Acts, 1920 to 1938, to support an application for old age pension at 50. (2) Recommendation that child should attend special school. (3) In support of application to obtain baby foods without attendance at clinic. (4) Under the Essential Works Orders, Control of Employment (Directed Persons) Order, 1943, and Control of Engagement Orders in support of a claim to leave or change the employment. (5) Under the Road Haulage Wages Act, 1938, the Catering Wages Act, 1943, and the Wages Council Act, 1945, in support of a permit to be placed at sub-standard wage rates. (6) Under the Coal Distribution Order, 1943, and the Control of Fuel (Restriction of Heating) Order, 1947, to obtain additional supplies of fuel and exemption from rationing restrictions. (7) Under the Corsets (Manufacture and Sale) (No. 14) Directions, 1946, to assist in obtaining surgical corsets. (8) Under the Welfare Foods Order, 1946, to enable mothers to obtain food benefit. (9) Under the Rationing (Supplementary Rationed Food) and to assist invalids, expectant mothers, and others to obtain special treatment with regard to goods and services of Government control. (10) Under the Control of Motor Fuel Orders to assist claimants for additional supplies of motor fuel on medical grounds. (11) Under the National

Service Acts, 1939-47, in support of a claim for exemption from, and to justify failure to comply with, provision of the Act. (12) Certificates in support of application for exemption from jury service. (13) Certificate to obtain a vacuum flask.

Group III—Certain special certificates: (1) Under the Births and Deaths Registration Acts, 1836-1926—e.g., to certify cause of death to the Registrar. (2) Notification of stillbirths.

Group IV—Statements, embodying a medical report, not necessarily arising out of a patient's immediate attendance for treatment. This category includes reports required under existing enactments in respect of which the practitioner may, or may not, receive a fee: (1) To assist in determining a claim to war pension or allowance. (2) Under the Lunacy and Mental Treatment Acts and the Mental Deficiency Acts. (3) Under the Disabled Persons (Employment) Act, 1944, for registration. (4) Under the Cremation Act. (5) Under the Vaccination Acts. (6) Certificate of fitness to drive a public utility vehicle.

In the case of certain of the certificates listed above an obligation is placed directly upon the practitioner by statute or Regulation to furnish the certificate in conformity with the provisions of the Act or Regulations. More often, however, the obligation is placed upon the patient (not necessarily by statute) to provide supporting medical evidence in certain specified circumstances for some administrative purpose of a public or private nature.

As will be seen the certificates in Group II are all related to applications by the patient to be permitted to obtain some commodity which by reason of short supply is restricted to invalids or persons in ill-health, to obtain some other concession, or to be excused from complying with the requirements of some enactment or Regulation. Those which arise from the existing rationing scheme have official sanction, but there has been a tendency of recent years for local authorities, in their capacity as trading undertakings, and for manufacturers and retailers of articles in short supply to add to the variety of purposes for which certificates in this group are required. Thus in some areas a medical certificate is required before a patient can have a gas fire or electric appliance installed in his home, and in addition to the arrangement for the supply of 1-pint vacuum flasks (which has the approval of the Board of Trade) medical certificates are often demanded in connexion with the supply of rubber hot-water bottles, elastic stockings, particular makes of footwear, spirits, etc.

A number of quasi-certificates or reports which a practitioner is frequently required to issue have not been included. Of these perhaps the most important is the report to the regional medical officer, the completion of which involves a considerable amount of time and thought and not infrequently a special visit to the patient. It is probable that with the inception of the National Health Service this type of report will increase to a considerable extent. Indeed it is noted that the National Health Service (General Medical and Pharmaceutical Services) Regulations require a practitioner to furnish in writing, at the request of the medical officer appointed by the Minister for the area, any clinical information that he may require regarding a patient to whom the practitioner has issued or declined to issue a certificate. Of a similar nature are reports to the T.B. officer and cancer follow-up reports. It is evident that such certificates will continue to be necessary, but by reason of their special nature they have, together with such statements as hospital letters, been excluded from consideration.

The variety of purposes for which patients require supporting medical evidence is thus considerable, and the position has become even more complex by the multiplication of forms required to be completed and the constant alteration of their content.

The list of certificates does not of itself give more than an indication of the complexities of the problem, and the onerous nature of certification can be rightly understood only by an appreciation of the proportion of his time which a general practitioner is required to give to this work. Moreover, the time element is not the only consideration which must be borne in mind, for a high degree of responsibility attaches to the certificates given by a practitioner, and he must at all times bear in mind the Warning Notice of the G.M.C. in this respect.

Obviously there are many occasions when the issuing of a certificate follows as a natural sequence to the examination of a patient who has attended or called in his doctor for treatment—for example, where an employed person is unable to

follow his occupation owing to sickness, and requires a certificate for the purpose of claiming benefit under the National Health Insurance Scheme. In such a case little more time is expended than in the actual completion of the certificate.

More often, however, the patient is entitled, by reason of his physical condition, to one or other of a number of concessions, such as additional or priority supplies of rationed foods, extra coal, etc. Here the practitioner, having made his physical examination, must decide whether or not his patient is entitled, by reason of his condition, to some commodity or privilege which he needs, and in respect of which he must produce supporting medical evidence.

A most troublesome and time-consuming aspect of certification, however, arises from the fact that the public is aware generally of the conditions available to sick persons, although its knowledge is commonly neither precise nor accurate. It frequently happens that the patient, having come to his doctor for treatment, asks for a certificate for "say, extra milk or other improved foods, and so on," often to the wonder of the physician. Some length will be spared the patient who does not have a certificate to which, incorrectly, he thinks he is entitled. Moreover, much of practitioner's time during "office" hours is taken up with patients who have not come for treatment at all but only for a certificate for some purpose or other. In these cases, the practitioner has to question the patient to elicit the facts. In many instances has to make a physical examination of the patient, and, if the latter is not satisfied by the certificate, has to explain the position fully.

unnecessarily rigid Regulations governing the issue and
of certain certificates also tends to the burden of the
on. Thus, at the present time, a practitioner is required
to see his patient within 24 hours of the date of National
Health Insurance Certificate and then, after receipt of a special
needless, visit to the patient. Similar certificates in sup-
port of applications for additional supplies of medicine need
to be renewed at stated intervals in case of certain condi-
tions during short periods. Arrangements already exist to
enable the practitioner to some extent in connexion with the
issue of insured persons suffering from chronic illness
to select that even in a given case discretion could be
left to the practitioner to renew the certificate at longer intervals

recognized that the issuing of medical certificates is a necessary requirement and is an essential part of the practitioner's duty. It is vitally important, however, to ensure that it does not take precedence over his clinical work. Bearing in mind the probability that under a comprehensive health service the demand for medical treatment will increase, it is urgently necessary to conserve medical man-power by reducing to a minimum the time spent by a practitioner in non-clinical work. It is considered particularly important that the needs of patients who are referred upon the doctor for treatment during his surgery hours should not be sacrificed to the interviewing of people who are referred solely for the purpose of obtaining a medical certificate.

The Association has accordingly reviewed the whole question of medical certification with a view to considering what steps can appropriately be taken to reduce the burden of certification by simplifying the forms of existing certificates and the rules governing their issue. It has also as a separate issue considered the implications of Section 33 (2) of the National Health Service Act and the powers thereby given to the Minister of Health to make Regulations requiring practitioners providing service under the Act to issue to patients (or their personal representatives) certificates reasonably required by them under or for the purpose of any enactment. The Association is strongly opposed to the provisions of this subsection of the Act, enabling the Minister to require practitioners undertaking public service to give certificates required under any enactment now existing or to be passed in the future. It considers that the only certificates that a practitioner should be required to give within his contract with the Local Executive Council are those specifically related to claims to sickness benefit under the National Insurance Act. It recognizes, however, that the present economic condition of the country has made necessary certain restrictions, and in order that the special needs of sick persons may be met medical evidence is necessary to secure for them concessions not available to the public generally. To this extent medical certificates may be said to be related to the treatment of the patient.

Therefore, while holding to the view expressed above, the Association would be prepared to agree that the following certificates should be issued without charge to patients desiring to receive treatment within the framework of the National Health Service, provided no limitation is placed upon practitioners to tender such certificates under Section 33 (2) of the National Health Service Act of 1946, Under the Essential Works Orders, Control of Employment, Directed Payments, under 1943 and Control of Engagement Orders with reference to a patient to leave or change the employment, under the Rent, Housing, Wages Act, 1938, the Catering Wages Act, 1944 and the Wages Council Act, 1945, with reference to patients employed at sub-standard wage rates, under the Coal, Oil and Gas Order, 1945 and the Control of Fuel, Petroleum and Heating Order, 1947 to obtain additional or other special employment from heating restrictions, 4 Under the Coal, Oil and Gas and Supply, No. 14 Direction, 1946, with reference to obtaining foreign currency, 5 Under the Welfare Fund, 1946 to enable expenditure thereon to be made in connection with the Rationing Order, to obtain special treatment, to obtain special allotment for supplementary food, to obtain special allotment for supplementary fuel, and to obtain special treatment in regard to dental services, 6 and to obtain special treatment.

[illegible]

P.

[illegible]

Recommendation B The Government should be empowered by a 1973-74 Finance Bill to provide for the service under the National Health Service of persons employed by the Minister of Agriculture, Fisheries and Food, and the Secretary of State for Wales, and to provide for the Secretary of State for Wales to make arrangements for the service of persons employed by the Secretary of State for Wales, and to provide for the Secretary of State for Wales to make arrangements for the service of persons employed by the Secretary of State for Wales.

The conclusion is satisfied if after a measure should be taken to lighten the burden of variance.

Recommendation C.—Immediate steps should be taken: (1) to reduce the number of varying forms of certificate in order that one or two stereotyped forms may serve a variety of purposes; (2) to simplify, wherever practicable the form of certificate now in use; (3) to ensure that new certificates other than those referred to in Recommendation B above are not introduced nor existing forms altered until after consultation with representatives of the profession; (4) to reduce the burden of giving medical certificates for commodities in short supply where there is no official sanction for such a requirement; (5) to reduce the frequency with which certificates must be renewed.

It is proposed that the rules governing the issue and reissue of certain statutory certificates be drastically amended, and that all unnecessary restrictions be abolished and the practitioner vested with a greater degree of discretion. To this end it is recommended:

Recommendation D.—(1) That a practitioner be entitled to issue a certificate at any time within seven days of the date on which he has seen a patient regarding the unfitness of his patient to follow his employment, and that he be not restricted, as under the National Health Insurance Acts, to a period of 24 hours; (2) that where he is satisfied that his patient is suffering from a chronic illness, he should at any time after the second week be entitled to issue a certificate valid for a period of three months; (3) that the rules governing the reissue of certificates in support of applications for additional supplies of rationed foods be amended to vest the practitioner with a

discretion regarding the period of validity according to the condition of his patient; (4) that a practitioner should not be required to issue a certificate requested by an employer, whether private or Governmental, regarding the incapacity of an employee during the first and second days of the illness.

Simplification of Certification

The Association has given careful consideration to the necessity of reducing the variety of forms of certificate and is convinced that it should be possible to devise two standard forms to serve the following purposes: (i) One simple certificate of unfitness to be used for all N.H.S. purposes; (ii) a simple statement of recommendation (without a certificate of unfitness) for use in connexion with the "free list" recommended above.

The following model forms are recommended:

FORM A:

NATIONAL HEALTH SERVICE (ONLY)

*FIRST *FINAL
*INTERMEDIATE

To (Name of Patient).....

I certify that I examined you on the undermentioned date, and that in my opinion you were then incapable of work by reason of

In my opinion you will be { fit to resume work to-morrow* onday.*
incapable of work for.....weeks.*

Any other remarks by doctor.....

Date of examination.....

Date of signing.....

Signature of Doctor.....

*Strike out whichever is inapplicable.

FORM B:

I certify that the condition of.....
is in category*.....

Signature of Doctor.....

Date

*The category of the patient should be inserted in code, in accordance with a key printed on the cover of the book of certificates. It is suggested that the various conditions in respect of which concessions are granted should be classified according to the concession. Thus the code number would indicate the purpose for which the certificate was issued without necessarily disclosing the condition from which the patient was suffering.

With regard to Form B, there will be no difficulty when only one concession is indicated, as the form will then be taken or sent to the appropriate office. Where, however, two or more concessions are indicated it should be possible for the form to be returned to the patient for his further use at each office at which he presents it, after the appropriate action has been taken. It is suggested, however, that it would greatly help sick persons, or their relatives, if Government departments by an interdepartmental arrangement could where more than one concession is recommended make available all the concessions without the patient having to go from one department to another.

Diligence of Diagnosis

The profession has for some time been disturbed at the growing practice of Government departments and other bodies of demanding information regarding the condition of the patient, including the diagnosis. Whilst it is recognized that it is appropriate where the certificate is required for the purpose of claiming benefit under the National Health Insurance or National Health Service Acts, the Association holds strongly to the view that the practitioner should not be required to state the diagnosis for the purpose of receiving some concession or privilege for his patients.

A simple statement that the application has medical support should be sufficient for this purpose, particularly as in most cases the certificate is furnished to a lay officer. The procedure outlined above would overcome this difficulty to a large degree, as the certificates would be retained in the office of the Ministry of Health (or National Insurance).

School-children

Under the Education Act, 1944, the responsibility of ensuring that a child of school age receives regular education is placed upon the parent, and the local education authority is empowered to take proceedings in default of the parent.

The Association is concerned that it may become a normal practice for local education authorities to require medical certificates in respect of the absence of a child from school owing to illness, in view of the very heavy obligation upon the profession which this would entail. It is suggested that the whole question of the certification of school-children should be the subject of discussion between the Ministry of Health and the Association after the Departmental Committee has reported.

Non-medical Certification

The Association wishes to refer to the increasing number of certificates which practitioners are asked to complete in support of such applications as for passports, in respect of lost ration books, old age pensioners' tobacco concessions, etc. The certificates require to be witnessed or countersigned by one or other of certain classes of the community, such as teachers, schoolmasters, relieving officers, doctors, etc. It is the experience of the profession that individuals bring such certificates more often than not to their doctor, and in many cases certification involves an otherwise unnecessary visit to an applicant confined to the house.

Recommendation.—The Association strongly recommends that practitioners should be relieved of this burden as far as possible.

Remuneration of Civilian Practitioners Engaged by the War Office

(Continuation of para. 20 of Annual Report)

164. Following representations made in accordance with Minute 67 of the A.R.M., 1947, the War Office has now agreed that for the purpose of the per-case scale of fees for occasional attendances upon Army personnel a night visit shall be regarded as one made between the hours of 8 p.m. and 9 a.m. The department has also agreed to make additional payments in respect of especially expensive drugs or appliances supplied by the practitioner similar to the arrangements which now exist under the N.H.I. scheme.

As previously reported, the Council has urged the War Office that the revised daily rates payable to civilian practitioners engaged on full- or part-time duties should be applied retrospectively to November, 1946, when negotiations were first opened with the department. Notwithstanding an earlier undertaking that the time taken in considering the matter would not affect the effective date of any increases which might be approved, the department now refuses to antedate the new rates beyond July 1, 1947. The Council is pressing its claims for the retrospective application of the revised rates to November, 1946, and proposes also again to raise with the department the question of the overriding daily maximum payments.

Remuneration of Police Surgeons

(Continuation of para. 24 of Annual Report)

165. The Council has again made representations to the War Office with a view to securing the adoption throughout the country of minimum rates of remuneration for medical attendance upon members of police forces and for police calls, drawing attention to the fact that in some cases police authorities have been reluctant to take individual action in the absence of any guidance from the department.

The department has, however, reaffirmed that it has no control over the arrangements made locally by police authorities provided they result in the provision of a satisfactory service.

As regards the question of medical attendances upon members of police forces, the department has indicated that the principle has been accepted that provision shall in future

Capitation Fee of Medical Officers of the Gas Light Benefit and Hospital Society*(Continuation of para. 47 of Annual Report)*

173. The Council is now able to report that the Gas Light Benefit and Hospital Society has agreed to increase the capitation fee payable to its medical officers for the treatment of the dependants of members of the Society from 25s. to 35s. per family with effect from Aug. 1, 1947.

Priority Supply of Milk to Mothers of Children under Twelve Months*(Continuation of para. 48 of Annual Report)*

174. The Council is now able to report that following further representations to the Ministry of Food the Minister has restored to the mothers of children under the age of 12 months (in cases where the child is given National Dried Milk in substitution for liquid milk) the priority supply which was withdrawn in April, 1947.

Regulations under the Cremation Act, 1902

175. In October, 1947, the Home Office announced that the Home Secretary had appointed a departmental committee to review the existing Regulations under the Cremation Act, and invited the Association to assist the departmental committee in its inquiry by giving its views on the question generally or on any particular aspect of the Regulations in respect of which it wished to make representations.

The Council has accordingly considered the existing Regulations, and has sought the views of the Cremation Council of Great Britain, of medical referees to cremation authorities, and of other interested parties. It has also had submitted to it the comments of an undertaker on the practical aspects of cremation.

The following statement of evidence has now been prepared for submission to the departmental committee:

After careful consideration the Association is satisfied that in general the present Cremation Regulations provide sufficient public safeguards without being impracticable in their application or inflicting any undue measure of hardship or embarrassment upon the relatives, and not being of themselves a deterrent to the practice of cremation.

A suggestion was made that the Confirmatory Medical Certificate required to be signed by a practitioner other than the medical attendant upon the deceased is of little practical use and should accordingly be abolished. It has also been suggested that it should be left to the discretion of the medical referee to require a confirmatory medical certificate only in cases where he considers it desirable. To these proposals the Association is strongly opposed. It considers that to place such a discretion in the hand of the medical referee would be to burden him with an altogether undue responsibility, and would lead inevitably to unnecessary distress to the relatives in cases where he exercised the discretion. The Association considers, moreover, that the requirement of the completion of two medical certificates by practitioners unrelated one to another, either professionally or in law, is sound and in the public interest.

The Association recommends:

That the existing Regulation requiring two medical certificates to be completed in cases of cremation by practitioners, unrelated to one another either professionally or in law, be maintained.

There are, however, certain practical difficulties with which practitioners are faced in completing the forms of medical certificate laid down in the Regulations.

Thus in the Certificate of the Medical Attendant (Form B) the practitioner is asked to state in answer to Question 10: "What was the mode of death? (Say whether syncope, coma, exhaustion, convulsions, etc.) What was its duration, in days, hours, or minutes?" Unless the practitioner is present at, or shortly before, the time of death it is often difficult to answer this question.

The Association recommends:

That Question 10 in the Certificate of the Medical Attendant (Form B) be deleted.

The Confirmatory Medical Certificate provides greater difficulty, inasmuch as the practitioner is required to see and question a number of persons. Before the second practitioner is called in the body has frequently been removed to the private mortuary of the undertaker, and the practitioner is required to make a number of visits—i.e., to the mortuary, and to the homes of the deceased, the nurse (if any), and the medical attendant—before he is in a position to issue the certificate. It is suggested that, particularly in the case of his medical colleague, the practitioner could obtain the information he required by telephone or correspondence.

The Association therefore recommends:

That the wording of Question 4 on Form C (Confirmatory Medical Certificate) be amended to read "Have you questioned . . ."

The present Regulations do not clearly lay down that the practitioner issuing the Confirmatory Certificate shall have seen the body, though the wording of Questions 1, 2, and 3 on Form C implies that this should be done.

The Association recommends:

That it should be expressly stated in the Regulations that the practitioner completing Form C (Confirmatory Medical Certificate) is required to view the body.

The Association is informed that it is becoming increasingly common to have the body embalmed before cremation, and while it does not suggest that any difficulty has arisen in the past it is suggested that it should be clearly laid down that no embalming or interference with the body of any kind should take place before the second practitioner has had an opportunity of carrying out his examination. Further, practitioners on occasion are handicapped in carrying out an examination owing to the fact that the body has already been placed in the coffin.

The Association recommends:

That Regulations should provide that the body be not placed in a coffin, nor any other action permitted which would hinder the practitioner completing the Confirmatory Medical Certificate (e.g., such as the removal of viscera, or of external signs of the cause of death).

The Association understands that difficulty is experienced in establishing new crematoria on account of Section 5 of the Cremation Act, which prohibits the erection of crematoria within 200 yards of a dwelling-house, except with the consent of the owner, lessee, or occupier. The Association supports the recommendation of the Cremation Council of Great Britain that the limitation should be reduced to 100 yards as in the case of burial grounds, and the suggestion that the consent of the owner or occupier should not be necessary unless his interest had been acquired before the authority had announced its intention to build a crematorium.

The view has been expressed by the Cremation Council that the fees charged for the medical certificate required under the Regulations act as a deterrent to cremation. Members of the medical profession have always shown themselves very ready to vary their charges to meet the circumstances of their patients. The Association therefore does not accept the view of the Cremation Council and suggests that there is no evidence to support it.

The Association further recommends:

That the appointment of Medical Referees should continue, but that vacancies should be publicly advertised.

Attendance upon Wives of Members of Tottenham and District Gas Company's Co-partners' Welfare Association

176. The Council has had under consideration a request from the above-named Association that its scheme for medical treatment of the wives of members should be extended to include those with incomes between £400 and £500.

During the course of the negotiations a tentative proposal was put forward that the Association should approve the suggested extension on the understanding that the capitation fee would be increased from 16s. 6d. to 25s. per head per annum both for the dependants of members earning below £400 p.a. and for those earning between £400 and £500, and the Council accepted this suggestion subject to the revised capitation fee being made retrospective to July 1, 1947. The Tottenham Gas Company's Welfare Association has now indicated, however, that in view of the short period before the inception of the National Health Service it does not wish to proceed with the proposed extension. The Council is therefore pressing for an adjustment in the existing capitation fee to bring it into conformity with that paid under the National Health Insurance Acts.

National Deposit Friendly Society

177. The Council has had under consideration Minute 92 of the Representative Body, 1947, recommending the review of the rates of payment of the National Deposit Friendly Society.

There is no contract between the profession and this Society, and therefore no obligation upon any practitioner to accept the payments made as a full discharge of his fee. In 1941-2, however, the Council suggested to the Society that in view of the rising cost of living and increased prices of drugs it should increase its scale of payments by at least 20% to bring them more nearly into line with the normal charges of practitioners, particularly as many members of the profession did in fact

cept the payments of the Society in full settlement of their accounts. The Society maintained, however, that it was unable, within its existing resources, to increase the scale of payments to members, and the Council therefore urged that the Claim Form should be amended by the inclusion of a statement that the payments made were "grants in aid" which might have to be supplemented by the members themselves. To meet this point the Society altered the words "Scale of Charges" to read "Scale of Allowances" and members of the profession were advised to treat the payments made as grants in aid and to charge their normal private fees with a 20% wartime increase.

It is evident that the amendment of the wording on the Claim Form has had little effect in establishing the true nature of the payments, and misunderstanding and embarrassment have often been occasioned between practitioner and patient where the former was not prepared to accept the payments of the Society as a full discharge of his fees. The Council has therefore again approached the Society with the proposal that it should increase its scale of payments to bring them more nearly into line with the normal charges of the profession, or that it should make it abundantly clear to its members that the payments are only grants in aid.

The Society is now considering a rearrangement of its benefits necessitated by the inception of the National Health Service but has expressed its anxiety to reach a satisfactory settlement for the immediate future. It has therefore agreed to amend its scale of payments by the addition of 20% to each claim submitted.

Examination of Recruits to the Women's Land Army

178. In 1947 the Council was successful in obtaining an increase in the fee for the examination of recruits to the Women's Land Army from 5s. to 10s. 6d. but its attention has now been drawn to the fact that the following overriding maximum payments have been imposed—namely £2 2s. for 5 to 8 cases; £2 12s. 6d. if 10 cases are examined at any one time.

Representations have been made to the department that these overriding maxima rates should be abolished.

It has also been drawn to the attention of the Council that in many areas the Women's Land Army has appointed its own medical examiner, and that as a result recruits would appear no longer to have the right to be examined by the doctor of their choice. This question has been raised with the department, which states that it prefers that wherever practicable the recruit should be examined by a practitioner selected by the department. Where, however, a recruit expresses a wish to be examined by a particular doctor no objection is raised provided the department is satisfied that the practitioner in question understands the physical requirements involved in Land Army work.

The Council is urging upon the department that it should in all cases make clear to recruits for the W.L.A. that they have the right to choose their own doctor for the purpose of examination if they wish to do so. The department is also being asked for information regarding the method of appointment of medical examiners.

Examination of Persons Suffering from "Prescribed" Diseases Under the National Insurance (Industrial Injuries) Act, 1946

179. With the coming into operation of the National Insurance (Industrial Injuries) Act in July next it is proposed that a workman claiming benefit under the Act on the ground that he is suffering from a "prescribed" disease will, in the first instance, be referred to a single practitioner for examination and report, with a right of appeal from the decision of that practitioner to a medical board. The Ministry of National Insurance proposes to draw up a list of practitioners to be called upon to undertake these examinations, and—at the outset—to utilize the service of examining factory surgeons appointed under the Factories Acts. In appropriate cases a consultant will be associated with the examination.

The fee now payable to examining surgeons for a comparable duty under the Workmen's Compensation Acts is 5s., and the Ministry has provisionally approved, in connexion with the new arrangements, a fee of 10s. where the examination is carried out at an appointed place, with mileage at the standard rate of 1s. per mile where carried out at the workman's home.

Public Medical Services and the National Health Service

180. The Council has received reports from public medical services regarding the difficulty which members of their staffs are experiencing in obtaining suitable alternative employment.

The question of the compensation or re-employment of P.M.S. staffs upon the inception of the National Health Service was raised with the Minister of Health in 1946. The Minister at that time expressed the view that public medical service staffs would not be eligible to receive compensation for loss of office under the National Health Service Act. He stated, however, that he was anxious that the fullest use in the new Service should be made of experienced staffs, and that it would be an endeavour to see that the staffs of public medical services should be found suitable employment in the new local bodies which were being set up.

The fact remains, however, that senior members of P.M.S. staffs, particularly in the administrative grades, are finding the greatest difficulty in securing suitable alternative employment. The Council proposes therefore to make inquiries to ascertain the number and status of persons affected and in the light of the information thus obtained again to approach the Ministries of Health and National Insurance on the subject.

Supply of Additional Milk to Infective Polyarthritides Cases

181. The Council has been notified by the Ministry of Health that, upon the recommendation of the Special Diet Committee of the Medical Research Council, the Ministry of Food has decided to allow to patients with active polyarthritis, associated with a raised erythrocyte sedimentation rate and loss of weight, a priority supply of liquid milk of 1 pint a day. To enable a patient to obtain the concession the practitioner is required to furnish a certificate in which he must state:

- That the condition is an active, infective polyarthritides
- Whether there has been loss of weight
- The value of the sedimentation rate, and the date at which it was taken.

The Council, while welcoming the proposal to make additional milk available to sufferers from polyarthritides, is of opinion that the conditions under which it is intended the supply shall be granted will render the arrangement largely impracticable, owing particularly to the difficulty of obtaining blood sedimentation tests in many areas, and to the expense to the patient involved. This view has been conveyed to the Ministry of Health, which has replied to the effect that it is proposed to restrict the additional supply to cases suffering from a well-defined form of illness, the view of the department being that patients under treatment for such a condition would inevitably require B.S.R. tests to be made. If the conditions were relaxed the number of cases put forward might render the scheme unworkable in view of the limited supply of milk available.

While appreciating the attitude of the department, the Council feels that it has not properly visualized the difficulties, particularly in rural areas, and it proposes therefore again to press its views upon the department.

CONSULTANTS AND SPECIALISTS

Fees Payable to Medical Referees under the Workmen's Compensation Acts

(Continuation of para. 67 of Annual Report)

182. The Minister of National Insurance has stated that it is not thought to be practicable at the present time to consider the adoption of the revised scale of fees recommended by the Council for medical referees under the Workmen's Compensation Acts. As the present scale will be superseded on July 5, 1948, upon the introduction of the National Insurance (Industrial Injuries) Act, 1946, the Council considers that no further action should be taken in the matter.

Ministry of Pensions and Ministry of National Insurance Medical Boards

(Continuation of para. 69 of Annual Report)

183. It has been agreed with the Ministry of Pensions that as from Oct. 1, 1947, specialist members of medical boards should be remunerated at the rate of £4 4s. per session where

three or more cases are involved, and that where there are insufficient cases to occupy a specialist for a whole session the fee would be £2 12s. 6d. for one case and £3 5s. for two cases. The Ministry of National Insurance has confirmed that specialist members of medical boards under the National Insurance (Industrial Injuries) Act, 1946, will be remunerated at these rates.

NURSING

184. The Council has now completed its consideration of constructive proposals (referred to in para. 80 of its Annual Report) regarding the recruitment and training of nurses. A memorandum embodying these proposals, which is reproduced in Appendix V, has been submitted by the Council to the Minister of Health in conjunction with the British Hospitals Association and the Medical Superintendents' Society. At the request of the British Hospitals Association there has been added to the memorandum a statement drawn up by it after the document had been approved by the Council and by the Medical Superintendents' Society.

PUBLIC HEALTH

Fees for Doctors Called in by Midwives

(Continuation of para. 94 of Annual Report)

185. The Council's proposals for the revision of the prescribed scale of fees for doctors called in by midwives, which were confirmed at the A.R.M. 1947, were discussed with the Ministry of Health and local authority associations in January. There was no agreement, however, and an alternative suggestion for a percentage increase on the old scale was put forward by the Ministry but was rejected by the Council as inadequate. Entirely new proposals were then formulated by the Ministry. These contained a number of innovations, chief of which was the inclusion of a post-natal examination in the services for which the main fee is payable. Further discussions took place in March and April, and agreement was eventually reached on the scale, which is now incorporated in the Medical Practitioners (Fees) Regulations, 1948, and is reproduced below. Agreement on the Council's part was subject to the reservation, recognized by the Ministry, that if after experience of the working of the Regulations there is evidence that the scale is not satisfactory in certain respects, including mileage, then the Ministry would look further at the items concerned.

The Ministry has stated its intention of taking steps to secure an extension of the present statutory period of two months in which a practitioner must submit his claim for payment.

Scale of Fees

(i) Fee for all attendances of a medical practitioner during the period from the commencement of labour until the child is born, whether or not operative assistance is involved, including subsequent visits to mother and/or child during the first fourteen days inclusive of the day of birth, and including also a post-natal examination at or about the sixth week after the birth, except where owing to circumstances beyond his control the practitioner cannot undertake such examination, £4 14s. 6d.

(ii) Fee for all or any of the following, namely, version in labour, removal of adherent or retained placenta, exploration of the uterus, treatment of post-partum haemorrhage or any operative emergency arising directly from parturition, including subsequent visits during the first fourteen days inclusive of the day of birth, and including also a post-natal examination at or about the sixth week after the birth, except where owing to circumstances beyond his control the practitioner cannot undertake such examination, £4 14s. 6d. A fee shall not be payable under this paragraph when a fee under paragraph (i) hereof is payable.

(iii) Fee for a single attendance only, either during the period from the commencement of labour until the child is born (whether or not operative assistance is involved) or for any of the purposes mentioned in paragraph (ii) hereof, £2 12s. 6d. A fee shall not be payable under this paragraph when a fee under paragraph (i) or paragraph (ii) hereof is payable.

(iv) Fee for either of the following, namely (a) suturing the perineum, the umbilication of baby, £3 3s.; Provided that where

only one attendance is made a fee of £2 12s. 6d. shall be payable in lieu of the said fee of £3 3s. A fee shall not be payable under this paragraph when a fee under paragraphs (i) to (iii) hereof is payable.

(v) Fee for induction of labour whether or not more than one visit is involved, £2 12s. 6d. A fee shall not be payable under this paragraph when a fee under paragraphs (i) to (iv) hereof is payable.

(vi) Fee for attendance at, or in connexion with, an abortion, miscarriage, cases of threatened abortion or ante-partum haemorrhage after the 28th week of pregnancy, including all visits in respect of such attendance during the fourteen days from and including the first visit, £4 4s.; Provided that where only one attendance is made a fee of £2 12s. 6d. shall be paid in lieu of the said fee of £4 4s.

(vii) Fee for attendance of a second medical practitioner to give an anaesthetic, whether on the occurrence of abortion or miscarriage, at parturition or subsequently, £1 15s.

(viii) Fee for visits to mother and/or child not included under paragraphs (i) to (vi) hereof:

Day (9 a.m. to 8 p.m.): First visit, 12s. 6d. Subsequent visits, 10s. 6d.

Night (8 p.m. to 9 a.m.): £1 1s.

(ix) The usual mileage fee of the district to be paid for all attendances under paragraphs (i) to (viii) hereof: Provided that one mileage fee only shall be paid in respect of one journey, whether such journey shall have been made for visiting one or more than one patient.

(x) Fee for attendance on mother or child at the medical practitioner's residence or surgery, 5s.

(xi) The appropriate fee as prescribed above shall be increased by the amount of any reasonable expenses necessarily incurred by the practitioner in supplying any of the drugs or preparations specified below where such a drug or preparation is essential for the proper treatment of the mother or her child.

List of Drugs and Preparations

Carbon dioxide	Penicillin preparations
Ergometrine	Pethidine
Lobeline	Sex hormones
Liver extract and injections of liver	Sulphonamide preparations
Methylamphetamine	Vasopressin
Oxygen	Vitamin B ₁ complex
	Vitamin K

Equal Pay

186. Consolidation of local government officers' salaries with the temporary cost-of-living bonus introduced during the war has taken place, but, although women in some grades have been dealt with in accordance with the principle of equal pay, there is evidence that local authorities, in some areas at least, are granting to women in other grades, including medical officers, a slightly lower consolidation addition than men, thus perpetuating the difference which previously existed between men's and women's bonus rates. The Council has informed local authorities of the Association's "equal pay" policy, and that it is not consistent with such policy to accept advertisements of medical appointments from local authorities which differentiate between men and women medical officers in the matter of salary.

Measles and Whooping-cough

187. Following representations made by the Council to the Ministry of Health, which were reported to the A.R.M. 1947, the Minister has introduced the Measles and Whooping-cough Amendment Regulations, 1948, which bring the notification fee for measles and whooping-cough into line with the statutory notification fees for infectious diseases generally.

PSYCHIATRY AND THE LAW

188. The Memorandum on Enuresis in Children and Adults referred to in paragraph 142 of the Council's Report is published as an appendix to this Report (see Appendix VI). Additional copies of this Memorandum are available for all who are interested in the subject.

SUPPLEMENTARY REPORT OF COUNCIL

SCOTLAND

Reorganization of the Association in Scotland (Continuation of para. 145 of Annual Report)

89. The principles for the reorganization of the Association in Scotland as outlined in the Annual Report have now been considered in detail and definite proposals have been formulated as follows:

Formation of Regional Consultants and Specialists (including Hospitals) Committees.—The principles adopted in respect of formation of these committees in Scotland are basically those described in para. 60 of the Annual Report of Council in respect of England and Wales. The method of composition, however, differs in detail. Unlike England and Wales, it is possible in Scotland, by simple grouping of the Branches of the Association, to correlate their areas to those of the five Regional Hospital Boards and so to use the Branch machinery for the purpose of election of the committees. So far as the actual composition of the committees is concerned conditions vary markedly in the regions that no attempt has been made to lay down a definite constitution, and within certain broad principles the method of election will be left to local determination. The proposals adopted by the Council on the recommendation of the Scottish Committee are:

- (1) That there should be established in Scotland Regional Medical Committees, to be called "Regional Consultants and Specialists (including Hospitals) Committees," covering the areas of the Regional Hospital Boards under the National Health Service (Scotland) Act.
- (2) That the functions of these committees should be (a) to present the views of the profession on hospital and specialist matters in the Regions, and (b) to maintain the interests of consultants and specialists in Scotland under the new Service. The committees should also keep the Scottish Consultants and Specialists Subcommittee fully informed and be guided by that sub-committee on matters of general policy.
- (3) That the Branch machinery of the Association in Scotland be used for the establishment of these committees and that for this purpose the Branches be grouped as follows:

Region	B.M.A. Branches
Northern	Northern Counties of Scotland (including the Counties of Banff and Moray)
North-eastern	Aberdeen, Northern Counties of Scotland
Eastern	—Part (Counties of Banff and Moray)
South-eastern	Dundee, Perth
Western	Fife, Edinburgh, and South-east of Scotland
	Glasgow and West of Scotland, Stirling, Border Counties (Dumfries and Gallo-way Division)

- (4) That the following should be the general principles governing the composition of the Regional Consultants and Specialists (including Hospitals) Committees in Scotland.

The Committee should be composed of:

- (a) Members or former members of the consultant staffs of hospitals or groups of hospitals engaged whole or part time in consultant or specialist practice, appointed in consultation with appropriate organizations by the grouped Branches in the Region by such means as seem to the Branches desirable, provided that the members so appointed are representative of consultants and specialists generally—members and non-members of the Association alike.

- (b) Members representative of the general practitioners of the Region.
- (c) A representative of the medical superintendents in the Region, nominated by the Scottish Branch of the Medical Superintendents' Society
- (d) A representative (or representatives) of medical officers of local authorities in the Region nominated by the Scottish Branch of the Society of M.O.s.H.

(5) That the number of members appointed under the above headings should be in due proportion, bearing in mind the conditions in the Region and the functions for which the Regional Consultants and Specialists (including Hospitals) Committee is established. There would thus be a preponderance of consultants and specialists on the Committee

Reconstitution of Consultants and Specialists and Hospitals Subcommittees of Scottish Committee.—Following the English

analogy, the Council has approved the appointment by the Scottish Committee of a new Consultants and Specialists (including Hospitals) Subcommittee in place of the existing Consultants and Specialists and Hospitals Subcommittees with the following reference and composition:

Reference

To consider matters specially affecting those engaged in consultant and specialist practice in Scotland, including matters referred from Regional Consultants and Specialists (including Hospitals) Committees, and all questions concerning hospitals. On any important matters affecting consultants and specialists generally, the subcommittee shall have power to report its findings and recommendations directly to the Central Consultants and Specialists Standing Committee, as well as to the Scottish Committee.

Composition

Chairman and Deputy Chairman Scottish Committee (ex officio).
Scottish Members of Consultants and Specialists (including Hospitals) Standing Committee.
Four members appointed by the Scottish Committee, not less than two being general practitioners.

Members engaged exclusively or predominantly in Consultant and Specialist practice, appointed by each of the Regional Consultants and Specialists (including Hospitals) Committees in the following proportions:

Western Region	..
South-eastern Region	..
Northern Region	..
North-eastern Region	..
Eastern Region	..

One member (or his deputy) appointed by each of the Scottish Medical Corporations:

Royal College of Physicians.
Royal College of Surgeons.
Royal Faculty of Physicians and Surgeons.
Royal College of Obstetricians and Gynaecologists (Scottish Committee)

One member each (or his deputy) appointed by the medical faculties of the Scottish Universities Edinburgh, Glasgow, St. Andrews, Aberdeen.

One member (or his deputy) appointed by the Royal Medical Psychological Association (Scottish Division)

One member (or his deputy) appointed by the Scottish Branch of the Society of M.O.s.H.

One member (or his deputy) appointed by the Medical Superintendents' Society (Scotland) with power to co-opt additional members up to six at its discretion.

Relationship of the Areas of Divisions or Division-Branches in Scotland to Executive Council Areas.—In dealing with the question of Scottish reorganization the Committee has also considered the relationship of the Divisions or Division-Branches to Executive Councils. In the majority of cases the areas of Division and Executive Council already coincide. Where the areas do not coincide the Divisions have been asked whether they would wish to retain their present entity, making liaison arrangements were appropriate with other Divisions for Executive Council purposes, or whether they would prefer to be reconstituted into one Division covering the Executive Council area. With the exception of one area opinion is in favour of the status quo.

Report of Working Party on the Recruitment and Training of Nurses (Continuation of para. 151 of Annual Report)

190. The Joint Committee of representatives of medical bodies in Scotland invited by the Secretary of State to comment on the Report of the Working Party on the Recruitment and Training of Nurses has now completed its deliberations and prepared its Statement on the Report. The Statement has been transmitted to the constituent bodies for their consideration and has been submitted to the Secretary of State for Scotland in the name of the Association. The Statement follows the form and to some extent the substance of the Report prepared by the Committee on Nursing of the Council.

Expenses of Local Medical Committees Established under the National Health Service (Scotland) Act

191. The Council has had brought to its attention the decision of the Department of Health for Scotland that the expenses of these Committees can only be defrayed from moneys due to medical practitioners for their services under the Scottish Act. This matter is being pursued with the Department in the hope of securing a reversal of its decision.

Fees for Medical Certificates under the Lunacy and Mental Deficiency Acts, and for Recommendations under the Mental Treatment Act, 1930

192. Para. 32 of the Annual Report of Council has been considered in its relation to Scotland. Appropriate action is being taken with a view to securing that the position in Scotland will be brought into line with the recommendation of the Council regarding fees for medical certificates under the Lunacy and Mental Deficiency Acts and for recommendations under the Mental Treatment Act.

Fees for Medical Practitioners called in by Midwives

193. Action taken in England and Wales in respect of increases in the scale of fees for medical practitioners called in by midwives is reported in para. 185 of the Supplementary Annual Report. The position in Scotland differs from that in England and Wales by reason of the operation of the Maternity Services (Scotland) Act, 1937. The operation of this Act has caused a very considerable reduction in the number of emergency calls received by doctors from midwives, and any revision of the scale for emergency calls would necessarily affect the fees paid under the Maternity Services Act. Proposals for the remuneration of general practitioners undertaking maternity medical services under the Scottish Act will be discussed by the Department of Health for Scotland with the profession prior to the inception of the National Health Service. In these circumstances it has been decided not to press at this late juncture for an increase in the scale of fees for practitioners called in by midwives so far as Scotland is concerned.

International Vaccination Certificates

194. Action has been taken in Scotland similar to that in England and Wales in respect of the authentication of International Vaccination Certificates issued by medical practitioners to travellers to countries abroad.

Incidence of Venereal Disease

195. A request has been received from the Scottish Council of Health Education for the support of the Scottish Committee in the efforts of the Council to secure a more stringent system of notification of venereal diseases. The Scottish Council has been informed that the Committee would support its efforts, provided that the system of notification proposed is in accordance with the recommendations of the Medical Advisory Committee (Scotland) on Venereal Diseases, 1944.

OVERSEAS

Terms of Service in the Colonial Medical Service

(Continuation of para. 159 of Annual Report)

196. As previously reported, the Council has invited the Branches in East and West Africa, Malaya, and Hong Kong to state whether they are prepared to accept provisionally the revised salary scales which have been implemented or are contemplated by the local governments as a result of the salary reviews which have recently taken place in most of the colonial territories. The replies so far received indicate that in general they are prepared to do so on the assurance, which has been given to them by the Council, that the Association will press for such a revision of salaries as is practicable as a result of the findings of the Spens Committees.

In West Africa, however, attention has been drawn to the fact that, although the revised salary scales of medical officers may be regarded as a satisfactory interim adjustment, the new conditions of service in so far as they apply to the holders of super-scale posts afford little if any improvement and contain many anomalies. The Council proposes therefore to take the position of these officers with the Colonial Office. In Hong Kong new rates of pay will be implemented as from Jan. 1, 1947, but, in the view of the Council, where the medical officer took up his appointment before that date, salary at the revised rate should be paid as from the date of his arrival in Hong Kong. The Branch supports this view, and the Council therefore proposes to make such representations to the Colonial Office.

Reorganization of the Malayan Medical Service

197. For some time past the question of the amalgamation of the Malayan Medical Service with the Local Government Medical Service has been under consideration, and in the summer of 1947 the subject was discussed with the Colonial Office and assurances received that full consideration would be given by the Governors and the Secretary of State to the position of serving European officers, and that the Association would be given an opportunity of examining and commenting on the proposals for the establishment of a single service before they were finally approved. In accordance with these assurances the Colonial Office has now furnished details of the proposed scheme of amalgamation.

The difficulty has been to draft a scheme which was in conformity with the principles accepted by His Majesty's Government that the unified service should afford equal opportunity and status to all officers, irrespective of race or domicile, which would at the same time provide adequate and reasonable safeguards to serving European medical officers. It is now proposed that the position shall be met (i) by raising the status of locally appointed medical officers to that of the Malayan Medical Service, but maintaining—for serving officers—separate parallel seniority lists in accord with the present seniority lists in the two services; (ii) by reserving the present number of super-scale (grade B) appointments for officers of the existing Malayan Medical Service; and (iii) by creating an equal number of super-scale posts for the locally appointed officers. Opportunity for promotion to the higher super-scale posts will be equal, and new entrants to the service, whether European or Asiatic, will enter on a single seniority scale.

It appeared to the Council that the Branch should have the opportunity of considering and commenting upon the foregoing proposals, and at its request the Director of Medical Services of the Malayan Union undertook to place them before the Branch. It is understood that this has now been done and that the proposals are receiving the active consideration of the local unit of the Association.

British Guiana: Workmen's Compensation Ordinance

198. During 1947 an ordinance made in British Guiana on the subject of workmen's compensation, and prescribing fees to be paid to registered medical practitioners for emergency treatment rendered to injured workmen, provided a penalty of fine or imprisonment in the case of a practitioner who failed to respond to a call for such emergency treatment.

Following a protest from the Branch, the Council raised the question with the Colonial Office, and it is now able to state that the penal clause in the ordinance has been repealed.

Royal Commission on Health in African Colonies

199. The Council has under consideration a lengthy memorandum prepared by the Kenya Branch recommending the appointment of a Royal Commission on health and sanitation in the African Colonies.

The Council is impressed by the thorough investigation carried out by the Branch and by the weight of evidence forwarded in support of its recommendation. It is therefore giving serious consideration to the request of the Branch that all possible action be taken to urge His Majesty's Government to appoint a Royal Commission as recommended.

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MEDICAL BENEVOLENCE

200. The sum of £11,518 7s. 5d. was received during 1947 by the Charities Trust Fund of the Association for medical charities, and the following statement shows the amounts collected and distributed during the twelve months:

	1947	£	s.	d.
Subscriptions and Donations collected for:				
(a) Distribution at the discretion of B.M.A. Charities Trust Fund	4,425	4	2	
(b) Royal Medical Benevolent Fund	3,714	11	3	
(c) Royal Medical Foundation of Epsom College	827	18	6	
(d) Royal Medical Benevolent Fund of Ireland	50	13	6	
Requests received and allocated to existing Medical Charities	2,500	0	0	
	£11,518	7	5	

proposals, which are to be regarded as truly the joint production of all the bodies concerned. It is hoped that the unanimity of view among these bodies will commend the proposals to the sympathetic attention of the Minister.

2. Acknowledgment is made of valuable help received from two members appointed to the committee as representatives of the Royal College of Nursing and one appointed as a representative of King Edward's Hospital Fund for London.

3. The Working Party has stated that it was not its aim to formulate "interim proposals to remedy or palliate the deficiencies of the present." The authors of this memorandum believe that the general plan advocated by the Working Party, even when regarded as a whole, is impracticable. In particular, they think that the training for the essentially practical occupation of nursing should be largely of the nature of an apprenticeship, and that, while the ward work of the hospital nurse should not be subordinated to the needs of the student, her status cannot be completely that of a student. They welcome the suggestion of a common basic training, but consider that a plan which would restrict the title and status of "nurse" to those capable of completing a comprehensive course of training and qualifying for State registration must continue to be of only academic interest, at least for many years to come.

4. The urgent problem is that of remedying the present grave shortage of nurses, but proposals directed to the solution of this problem need not necessarily be only makeshift and temporary. The aim of this memorandum is to present an outline of a plan which, while suitable for immediate adoption, might with advantage remain in operation for an indefinite period.

II. RECRUITMENT

5. Recruitment to the nursing profession can no doubt be improved by the provision of better material conditions, by the removal of unnecessarily irksome discipline, and by the extension of advisory services for those contemplating a nursing career. But such measures are not in themselves sufficient. There are two important problems the solution of which is urgently necessary if the requisite numbers of suitable candidates are to be attracted to the profession.

The Problem of the "Gap"

6. The first problem is that of the "gap" or in the words of the Working Party, "the loss of potential recruits owing to their leaving school too early to proceed straight to training and taking up some other occupation." The Working Party suggests that the importance of this problem has been exaggerated pointing out that some 55% of nursing recruits transfer to nursing from other employment. This figure gives no cause for complacency. It may well be that many potential recruits of high ability are lost to the profession because the success which their superior intelligence wins for them in their first years of employment makes them unwilling to relinquish positions offering good prospects of advancement.

7. It is suggested, therefore, that "preclinical" training for girls aiming at a career in nursing should be arranged in grammar schools as part of a general educational course of two years' duration, admission to which should be open to suitable candidates at the age of 16, whether or not they have gained a School Certificate. Preclinical courses should be available also in evening classes, particularly for the benefit of girls who have left school below the age of 16. In addition, the preclinical training should be given in hospital training units. Maintenance grants should be provided, through the Ministries of Health and Education, for preclinical students whose economic circumstances would otherwise make it impossible for them to undertake the training. Suggestions as to the content of the training are offered in Section III below.

The Problem of the "Assistant Nurse"

8. The second problem is that of increasing the attraction of the type of nursing now carried out by "assistant nurses." Because of housing and other conditions which make it difficult for patients to be treated at home, there is a growing tendency to admit to hospital patients who do not need nursing

	1947	£	s.	d.
Amounts distributed to:				
(a) Royal Medical Benevolent Fund—				
(1) Allocated from B.M.A. Charities Trust Fund for General Fund	3,181	4	3	
(2) Earmarked for Royal Medical Benevolent Fund Guild	2	0	0	
(b) Royal Medical Foundation of Epsom College	3,269	12	0	
(1) Allocated from B.M.A. Charities Trust Fund for General Fund	224	7	11	
(2) Allocated from B.M.A. Charities Trust Fund for Sherman Biggs Fund	811	15	6	
(3) Earmarked for General Fund	16	0	0	
(4) Earmarked for Sherman Biggs Fund				
(c) Royal Medical Benevolent Fund Society of Ireland—				
Earmarked for Fund	250	0	0	
(d) Children's Swiss Holiday Fund—				
Allocated from B.M.A. Charities Trust Fund	£11,518	7	5	

This continued increase over £7,438 for 1946 and £7,160 for 1945 is gratifying, and the Council hopes that it will be maintained during the current year and so assist the charities to meet the increasing demands on their funds.

H. GUY DAIN,
Chairman.

APPENDIX V THE RECRUITMENT AND TRAINING OF NURSES

Memorandum submitted to the Minister of Health jointly by the British Medical Association, the British Hospitals Association, and the Medical Superintendents' Society

I. INTRODUCTION

1. Each of the organizations jointly submitting this memorandum has already furnished, at the invitation of the Minister, critical comments on the Report of the Working Party on the Recruitment and Training of Nurses. The comments of the British Medical Association were drafted by a special committee of the Association on which the other bodies sharing responsibility for the present memorandum are represented. When the committee proceeded to discuss constructive proposals there appeared to be a large measure of agreement between the representatives of these bodies and the other members. The Council of the British Medical Association therefore decided to report the conclusions of the committee to the Councils of the other co-operating organizations in the hope that they would meet with general approval. The result is the submission of this memorandum jointly by the bodies named above. It is not merely that the other organizations have acquiesced in proposals formulated by the British Medical Association. The representatives of the Association's committee were not limited to expressions of their individual opinions, have taken an important part in the shaping of the

of a highly skilled form. Much hospital nursing—and by no means only in institutions for the chronic sick—can and must be carried out, under skilled supervision, by nurses who have achieved a satisfactory measure of practical efficiency in the basic duties of the profession but have not completed the course of training qualifying for admission to the State Register. An extended provision of preclinical courses to bridge the gap between school and hospital will not in itself produce a sufficient increase in the number of recruits of this type. The problem can be solved only by the removal of the stigma attached to the position of the assistant nurse through alteration of her training, status, and title.

9. The authors of the present memorandum believe that this can best be achieved by arranging a uniform preclinical training, followed by a uniform hospital training of a practical character, for all entrants to the nursing profession. They suggest that this common part of the training should occupy a period of approximately two years, at the end of which there should be an examination of an essentially practical nature. For those wishing to qualify for State registration a further period of training would be necessary, with a wider syllabus and more advanced theoretical instruction. For the girl content to work under supervision in practical bedside nursing no higher training would be required. On satisfactory completion of the common training in general medical, surgical, and sick children's nursing she would be given a certificate entitling her to be regarded as a nurse and to be called "nurse" (without a qualifying adjective of any kind). It is suggested that her statutory designation should be "enrolled nurse," which would enable her to place the letters E.N. after her name just as the State-registered nurse uses the letters S.R.N. In an address on the occasion of a nurses' prize-giving in October, 1946,* Sir Ernest Rock Carling said: "I think there should be a basic training in the art and craft of nursing of two years' duration, that must be taken by everybody—everybody—at the end of which there should be entitlement to the name 'nurse'—not 'assistant nurse.' This should be open to all girls without any difficult educational test." It is believed that the girl of modest abilities, if she is allowed in this way to start along the same road as her more gifted sister, and is accorded a definite professional status even should she decide not to go all the way, will be able to occupy a recognized position in the profession with a proper sense of the dignity of her calling, knowing that she is indeed a nurse and not merely some sort of inferior substitute for a nurse. The training necessary is outlined in greater detail in the next section.

Nursing Aides

10. As an additional means of improving the staffing of the hospitals the plans for recruitment should include efforts to attract, for practical training as nursing "aides," girls who would not wish to undertake the common nursing training referred to above but would like to be associated with the work of caring for the sick. The duties of the nursing aide should be related to nursing and not to domestic work. A standardized course of practical instruction should be arranged for this class of hospital worker, and consideration should be given to the advisability of a certificate being awarded by the Ministry of Health to those who complete the training satisfactorily.

III. TRAINING

11. The authors of this memorandum consider that it would be unwise to attempt in a period of two years to provide a training qualifying for admission to the State Register. While deprecating an excess of routine duties during the training period, they think that much repetitive work is essential to the proper acquisition of nursing skills, and that any time saved by the elimination of unnecessary tasks undertaken by student nurses at present should be used to reduce the pressure of work in the wards, rather than to shorten the duration of the training. They believe that, in the interests of maintaining the standards of the training and the high prestige which the British nursing profession justly enjoys, the course leading to the award of S.R.N. should continue to occupy a period of

three years. They favour, however, a shorter period of common training, satisfactory completion of which would entitle the student to the statutory designation "enrolled nurse."

12. There would then be two classes of nursing staff trained for general nursing duties—enrolled nurses and State-registered nurses. Every State-registered nurse would first have qualified as an enrolled nurse, and every enrolled nurse who wished to complete the full course of basic training would have an opportunity of becoming a State-registered nurse. The proportion of trainees qualifying for admission to the State Register would vary from time to time, depending on the extent to which recruitment measures succeeded in attracting students of superior ability. In short, whereas the scheme recommended by the Working Party would provide the hospitals with a relatively small body of nurses, all State-registered, which would have to be reinforced by a host of nursing orderlies, the plan advocated in this memorandum is designed to produce a sufficient supply of nurses, of whom a varying but substantial proportion would not be State-registered but State-enrolled.

13. The proposed scheme of training has four stages. First there is a preliminary or "preclinical" course, including an introduction to hospital work and leading up to the hospital training proper. Secondly, there is a practical hospital training in general nursing duties, at the end of which the successful student becomes entitled to the designation "enrolled nurse" and is fitted for nursing employment under supervision. The third stage is designed to enlarge the experience of the enrolled nurse and produce a State-registered nurse capable of occupying a responsible position in any type of hospital although not fully trained in any specialty. The final stage comprises a variety of post-registration diploma courses and is intended for those State-registered nurses who wish to specialize in particular branches of the profession.

Preclinical Training

14. All candidates for training in nursing should be required to complete successfully a preclinical course before admission to hospital training. As has been recommended above, the preclinical instruction should be made available in grammar schools (as part of a general educational course of two years' duration begun at age 16) and in evening classes; and it should be provided also in preclinical training units within the hospital system. The present preliminary training schools should be adapted for use as preclinical schools. Any additional accommodation required for residence should be arranged in hostels or lodgings. It is essential that maintenance grants should be provided, through the Ministries of Health and Education, for preclinical students in hospital schools and in grammar schools and evening classes who could not otherwise undertake the training.

15. The preclinical training should include, in the first place, elementary instruction in the basic sciences—anatomy, physiology, normal psychology, hygiene and preventive medicine, chemistry, and dietetics. Simple psychology should be taught in relation to physiology, emphasis being placed on the approach to the patient as a person. The object here is to impart an understanding of human relations as a foundation for the instruction to be given later in the nursing of psychosomatic and psychiatric conditions.

16. First aid and home nursing, as taught by the Red Cross and St. John organizations, should be included in the preclinical course; and an introduction should be given to the work of nursery schools and nurseries. The environmental conditions of the patient should be studied in connexion with social welfare activities, particularly the work of the almoner's department. It is inadvisable that this part of the training should be linked with the district nursing service, as the intrusion of young students into the homes of the people in the company of the district nurse would cause justifiable resentment.

17. Finally, instruction should be given in the theory and practice of nursing, and the student should be introduced, in the concluding part of the course, to the work of the hospital in all its departments—not merely the wards and out-patient clinics but also the kitchens, laundry, sterilizing-rooms, and so on. The various fields of employment open to the trained nurse should be explained and the student should be given an

* *Lancet*, Vol. 2, p. 100, Nov. 2, 1946.

understanding of the relation of the nursing profession to the social economy as a whole.

18. Those students who receive the preclinical training in grammar schools or evening classes should be transferred to hospital preclinical training units for the concluding four weeks of the course, which should be devoted to continuous training in hospital. Where the whole of the preclinical training is given in a hospital training school the duration of the course should be from 16 to 23 weeks. The period recommended for the common hospital training course, described below, is 69 weeks, the two courses being planned to occupy together approximately two years, including an allowance of six weeks each year for vacations.

19. Admission to a preclinical course should not be dependent on the passing of the School Certificate examination or any other academic test, but should be open to any girl who appears normally intelligent and not obviously unfitted by temperament for a career in nursing. The suitability of the student's choice of career should be reviewed at the end of the preclinical course, and it is at this stage that any appropriate psychological tests would best be applied, but a rigid standardization of the selection procedure is undesirable and it is important that account should be taken of temperament and character as well as of aptitudes. Those students who complete the preclinical course successfully should receive certificates from the General Nursing Councils, which should approve the syllabus of the course and the standard of the examination to be taken at its conclusion.

The Common Hospital Training

20. The first part of the hospital training proper should occupy a period of 69 weeks and consist of instruction of an essentially practical character in general medical, surgical, and sick children's nursing. This practical hospital training, like the preclinical course, should be undertaken by all student nurses and should carry the student up to the standard of proficiency required of the enrolled nurse. Of the 69 weeks, 53 should be devoted to medicine and surgery. The remaining 16 weeks should be allocated to the casualty department (4 weeks) and to paediatrics (12 weeks).

21. Ideally, the time given to medical and surgical nursing should be divided equally between the two departments, but this is not immediately practicable, as the intake of patients cannot be regulated in accordance with the theoretical requirements of nurse training. If frequent migration from one hospital to another is to be avoided, it is essential to permit some latitude in the distribution between the two departments of the total allowance of 53 weeks, but a period of 15 weeks should be regarded as the minimum for each department, to be exceeded wherever practicable. The instruction given in the medical wards and out-patient departments should include the psychosomatic approach to medicine, dermatology, and the care of the chronic sick. In the surgical department the student should be introduced to the work of the wards, out-patient departments, and operating theatre, including gynaecology, orthopaedic surgery, ophthalmic surgery, and surgery of the ear, nose, and throat. It is of the highest importance that all students of nursing should be given an insight into the psychological factors producing or complicating physical symptoms and should learn to handle the patient with understanding as a person.

22. A large general hospital with a paediatric department will be able to provide the whole of the common hospital training, but in some cases it will be necessary to transfer the students for 12 weeks to a sick children's hospital for the training in paediatric nursing. This can be arranged easily on an exchange basis; for the children's hospitals should continue to recruit their own trainees, who will need to be transferred to general hospitals for 12 weeks' experience in the nursing of adult patients.

23. Consideration should be given to the advantages of recognizing suitable mental hospitals and sanatoria, and also the major isolation hospitals where a wide variety of cases of infectious disease are concentrated, as parent hospitals for the purpose of the common training. The suitability of particular special hospitals for general training purposes would of course have to be determined by the recognized approving bodies, presumably the

General Nursing Councils. In such cases some elasticity would be essential in the arrangements for transferring the students to other hospitals for the 12 weeks' training in paediatric nursing and additional training in medical and surgical nursing, but a minimum of migration should always be the aim, as frequent movement from one hospital to another tends to have a very disturbing effect on the young student. Preferably there should be one migration only, and in no case should more than one be necessary.

24. Students should be examined at the end of the common hospital training. The examination should be an external one, held under the auspices of the General Nursing Councils, but reports on practical ability from the parent hospital should be taken into account. A student who passes the examination should be awarded a certificate entitling her to the statutory designation "enrolled nurse," and should be regarded as qualified for nursing employment under supervision. Having completed the common part of the training, and become competent to undertake nursing duties in a subordinate capacity, she will be free to continue her studies with a view to State registration if she so desires.

The T.A. Certificate

25. One exception should be allowed to the general rule that all students of nursing should be required to complete the preclinical course and the common hospital training. It is clearly desirable to continue the provision of a certificate in tuberculosis nursing for those girls who, through physical incapacity, are unable to undertake a general training. The authors of this memorandum have considered the advisability of restricting eligibility for the Tuberculosis Association Certificate, without prior training in general nursing, to students whose names are included in the Register of Disabled Persons. They are reluctant to recommend any wider departure from the principle of a common training, but they are inclined to the view that, if only as a temporary expedient to assist in staffing the sanatoria, the T.A. Certificate should continue to be granted to candidates, both fit and disabled, trained in tuberculosis nursing, whether or not they have received the common training in general nursing. A diploma in tuberculosis nursing, on the other hand, should be awarded only after a special course of training following State registration.

The Third Year of Basic Training

26. For those nurses who wish to become State-registered nurses a third year of training will be necessary, in which more advanced theoretical instruction will be combined with a wider range of practical work. An essential part of the third year's course is a three months' training in psychiatric nursing, during which the student must be resident in a mental hospital. A further period of three months should be divided between a tuberculosis sanatorium and a hospital for infectious diseases. Six weeks should be devoted to basic training in obstetric nursing, limited to antenatal and post-natal clinics and the nursing of the normal puerperium. Four weeks should be spent in acquiring knowledge of the public health field, including health visiting and district nursing. Public health nursing is regarded as a specialty for post-registration study, and it is considered sufficient to include in the general training a comparatively brief survey of the field, designed to give the student an understanding of the public health point of view.

27. Six weeks being allowed for vacations, there remains a period of three months to complete the full year. This should be spent in the parent hospital, where the student will "round off" her general training and acquire valuable experience of taking responsibility in a comparatively senior position. It is thought unnecessary to lay down any rigid rule as to the order in which the subjects of the third year should be taken, but the four weeks' introduction to the public health field might appropriately form the concluding part of the course.

28. The two preceding paragraphs have been written with the student in mind whose parent hospital is a general hospital or a paediatric hospital. In other cases some variation of the programme would clearly be necessary. A student trained in a mental hospital, for example, would spend twelve weeks in a general hospital during the third year, just as the student

from the general hospital would spend twelve weeks in a mental hospital. The programme involves frequent migration from one hospital to another, but this is likely to prove much less unsettling in the third year than at an earlier stage of training.

29. At the end of the third year the student will be ready to attempt the examination qualifying for State registration. Whatever the nature of the parent hospital, the certificate issued by the qualifying body should be in respect of the general training, the aim of the three years' course being to produce a nurse capable of undertaking all forms of nursing without being a specialist in any one form. True specialization will follow State registration. The nurse whose parent hospital has been a mental hospital, for example, and who decides to specialize in psychiatric nursing will be at an advantage in her post-registration training as she will already have covered much of the ground, but it is undesirable that she should be labelled in any way as a specialist until she has acquired a diploma in her chosen field after a special training following State registration.

Specialization

30. The authors of this memorandum have not discussed the scope and duration of the further training which should be provided for State-registered nurses wishing to acquire diplomas in particular specialties. They are merely concerned to recommend the principle of specialization being open only to those nurses who have completed the three years of basic training and who have been admitted to the State Register.

Male Nurses

31. It is highly desirable that male nurses should have wider opportunities of training and employment. The training of the male nurse should be as comprehensive as possible and, in all appropriate conditions, he should be eligible, equally with the female nurse, for promotion to posts of responsibility. The provision of a wide basic training for male nurses would be facilitated by the recognition of suitable mental hospitals as parent hospitals for general training purposes, as has been suggested above. It is realized that restrictions of accommodation make it difficult to improve the training facilities for male nurses at the present time, but the general plan of training outlined in this memorandum should be regarded as applying, in principle, to the male student.

IV. SUMMARY OF RECOMMENDATIONS

Preclinical Training

All candidates for training in nursing should be required to complete successfully a preclinical course before admission to hospital training.

2. The preclinical course should include: (i) the basic sciences: elementary instruction in anatomy, physiology, normal psychology (human relations), hygiene and preventive medicine, chemistry, and dietetics; (ii) first aid and home nursing; (iii) the work of nursery schools and nurseries; (iv) environmental conditions—the work of the almoner's department; (v) the theory and practice of nursing and the relation of the nurse's work to the social economy as a whole; and (vi) introduction to hospital.

3. For students wishing to remain at school up to the age of 18 the preclinical training should form part of a two years' educational course begun at the age of 16 and open to all suitable candidates, whether or not they have gained a School Certificate.

4. The preclinical training should be available in evening classes, particularly for the benefit of girls who have left school before the age of 16.

5. The preclinical training should be provided also in training schools within the hospital system, the existing preliminary training schools being adapted for use as preclinical schools, and the course occupying a period of 16 to 23 weeks.

6. Candidates who take the preclinical course at a grammar school or in evening classes should be transferred to a hospital training unit for four weeks' continuous training in the third year.

7. Through the Ministry of Education and the Ministry of Health, maintenance grants should be provided where necessary for preclinical students.

8. The student's ability to undertake a career in nursing should be reviewed at the end of the preclinical course, and a certificate should be awarded by the General Nursing Council to those who have completed the course successfully.

The Common Hospital Training

9. The preclinical training should be followed by a common hospital training of an essentially practical character, which should carry the student up to the standard required of the enrolled nurse. This should occupy 69 weeks, the preclinical and common hospital training together covering a period of approximately two years (including an allowance of 12 weeks for vacations).

10. The content of the common hospital training in a general hospital should be as follows:

(i) *Medicine*.—Out-patient departments and medical wards, including the psychosomatic approach to medicine, dermatology, and the care of the chronic sick.

(ii) *Surgery*.—Out-patient department, surgical wards, and operating theatre, including gynaecology, orthopaedic surgery, ophthalmic surgery, and surgery of the ear, nose, and throat.

(iii) *The Work of the Casualty Department*.

(iv) *Paediatrics*.—Out-patient departments and children's wards.

11. A total period of 53 weeks should be devoted to medicine and surgery, the minimum time allocated to each department being 15 weeks. Of the remaining 16 weeks, 12 should be allocated to paediatrics and 4 to the casualty department. An equal division of time between medicine and surgery is the ideal, and the period devoted to each of these subjects should be longer than 15 weeks whenever possible. This period is suggested merely as the bare minimum.

12. Where necessary, the students should be transferred to a children's hospital for 12 weeks for the training in paediatrics.

13. The common hospital training should be provided also in paediatric training schools. These schools should continue to recruit their own students, who should be transferred for 12 weeks, on an exchange basis, to a general hospital.

14. Suitable mental hospitals, the major isolation hospitals, and sanatoria should be included among the parent hospitals in the scheme of common training, the students being transferred as necessary to associated hospitals for training in paediatrics and additional training in medical and surgical nursing. The arrangements must be flexible and should aim at a minimum of migration.

15. Students should be examined at the end of the two years' common training. The examination should be held under the auspices of the General Nursing Councils, but reports on practical ability from the parent hospital should be taken into account. A student who passes the examination should be awarded a certificate and accorded the status and title of "nurse" (her statutory designation being "enrolled nurse") whether or not she intends to undertake a more advanced training. She should be regarded as qualified for nursing employment under supervision.

16. As an exception to the general rule of a common training, the Tuberculosis Association Certificate should continue to be available to students who, because of physical disability, are unable to undertake a general training; and also, as a temporary measure, to able-bodied candidates who have not received the common training.

The Third Year of Basic Training

17. For students proceeding beyond the first two years of training there should be a further year's course leading to an examination qualifying for State registration. Practical training should be combined with more advanced theoretical instruction in the third year.

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18. The content of the third year's course for a student whose parent hospital is a general or a paediatric hospital should be as follows, the order in which the subjects are taken being optional:

(i) <i>Psychiatry</i> (Training and residence in a mental hospital)	12 weeks
(ii) <i>Infectious Diseases and Tuberculosis</i> (Training and residence in a hospital for infectious diseases and a sanatorium)	12 weeks
(iii) <i>Obstetrics</i> (Antenatal and post-natal clinics The normal puerperium)	6 weeks
(iv) <i>General Training</i> (Completion of general training in the parent hospital)	12 weeks
(v) <i>Public Health</i> (Introduction to the field, including health visiting and district nursing)	4 weeks
Vacations	6 weeks
Total	52 weeks

Specialization

19. The certificate issued by the qualifying body at the end of the three years of basic training—whether the parent hospital has been a general or a special hospital—should be in respect of the general training and a diploma in any special branch of nursing should be awarded only to the nurse who has undergone further training after State registration. Suitable post-registration diploma courses should be provided for those nurses who wish to become specialists.

Male Nurses

20. In principle, the whole scheme of training should be regarded as applying to male as well as to female nurses, and all appropriate conditions made nurses or midwives eligible equally with female nurses for promotion to posts of responsibility.

ADDENDUM BY THE BRITISH HOSPITALS ASSOCIATION

The British Hospitals Association is in agreement with the proposal that preclinical nursing training should be included within a general education for girls at grammar schools from reaching age 16, to which assistance is made in many parts of the association, however, it is not possible to make this recommendation goes far enough in the matter of the figures and the fact to be met, since a large number of the girls who are training cannot be recruited from the patient numbers from the nurse alone.

It is understood that the total number of girls leaving school annually is approximately 250,000. Of these only 12,000 leave grammar schools at the age of 17, 18, and no fewer than 10,000 leave secondary grammar schools at the age of 16. The first category (forming the 12,000) has to be met by the nursing profession, and the second category (forming the 10,000) has to be met by the nursing profession and the medical profession. Teaching and other professions are not in a position to meet the full demands of the nursing profession, and the medical profession must also draw heavily upon the second category of 10,000 who leave at age 17. In consequence and with the difficulty of "bridging the gap" there is but a small residue from this source with which to increase recruitment to the nursing profession unless schemes can be devised which will enable a larger proportion of the second category to be employed—e.g., in day nurseries, child nursing, etc.—with partial continuation of general education and pre-clinical nursing training. As a fact seems, but all too few authorities have experimented with these lines, with results which fully justify development in the whole country. In this respect the position of the second category (the 25,000) is closely allied with that of the third (the 210,000 who leave at age 15 plus).

School leavers in this third category for the most part find full-time employment from age 15 plus onwards, and by the time they have reached age 18 either are loath to give up remunerative occupation, in which they have prospects of further advancement, or regard their employment as a means of living until marriage. In either case there is little inducement for them to undertake a completely new training for a new profession.

From this it is clear that the key to the problem is to provide schemes whereby suitable girls in this category can be provided with partial employment—e.g., in day nurseries, clinics, nursery schools, etc.—together with continuation of general education, including preclinical nursing training, for example, in day continuation schools, the pre-clinical training being linked, wherever possible, with a hospital Pre-nursing Training School) so as to give them an incentive to pass the entrance and subsequent nursing examinations and at the same time secure their interest in nursing as a career.

The very important source of supply provided by secondary modern schools must no longer be neglected, and the interest of as many girls as possible must be directed to the nursing profession if the urgent problem of the shortage of nurses is to be effectively countered.

The Association feels that these proposals merit serious and urgent consideration on a national basis, and the Minister of Health and the Minister of Education jointly should find a very wide field for experimentation within the limits of local factors and circumstances, and have already been put into operation successfully in varying forms by the authorities in some areas.

APPENDIX VI ENURESIS

Memorandum Prepared by the Joint Committee of the B.M.A. and Magistrates' Association on Psychiatry and the Law

1. This memorandum has been drawn up by a Joint Committee of the British Medical Association and the Magistrates' Association. It is put forward in the hope that it may be of interest and assistance to those responsible for the care and treatment of children and adults who suffer from enuresis.

2. Although enuresis is essentially the same condition in adults as in children and the one is usually continuous with the other, there are certain differences which suggest that the problem as affecting the two ages should be presented separately. Enuresis as affecting children and adults is therefore dealt with in different sections and a third section is given to general conclusions.

I. ENURESIS IN CHILDREN

Development of Control

3. The bladder of a newborn baby empties itself by reflex action. The control is automatic and centred in the spinal cord—the brain takes no part in the control and a baby therefore resembles a patient with a divided spinal cord. As the baby's nervous system develops, the nervous impulses from the bladder are relayed to the sensory centre in the mid-brain. He is now conscious of the state of fullness of his bladder, but though aware of this the toddler tends to act impulsively or receiving the signal "full."

4. In the next stage of development the messages from the mid-brain sensory centre are relayed to the grey matter of the highest level of the brain and control of the impulse to empty the full bladder becomes possible. With this acquired control it is possible to train the bladder to hold more urine and to empty it at times convenient to parent or guardian. This acquired skill of retaining urine becomes by repetition and practice a habit which persists even in sleep.

5. By the age of 3 the normal toddler should be dry at night—his control is no longer centred in the lower part of the spinal cord, but in the grey matter at the highest level of the brain.

Causes of Failure of Control

6. If all children who wet the bed at night to a significant degree after the age of 3 are to be considered as enuretics, it has been estimated that about 1 in 7 of the total population have at some time suffered from nocturnal enuresis.

7. Of nocturnal enuretics probably less than 1 in 10 wet the bed because physical abnormalities interfere with control. At one time it was thought that variations in the development of the bones of the spine were associated with enuresis, but recent investigations have demonstrated that these abnormalities in the fusion of the spinal vertebrae are as common in normal persons as in enuretics.

8. It has been estimated that 6% of enuretic children wet the bed because they have never been properly trained. They have been brought up in very poor homes with the minimum of bedroom equipment, and inaccessible lavatories, by mothers who are themselves so feeble and limited that the children have never been disciplined in that practice and repetition in controlling their bladders which leads to sound habit formation. But these two factors of physical abnormality and faulty training do not account for more than 15%. The great majority of enuretics (85%) are considered to be suffering from disorders of function.

Defective Control by the Brain

9. Physiological experiments carried out on these enuretics demonstrate that the failure is not in the spinal cord centre, or even in the mid-brain, but in the development of top-level control. Either this control by the cells of the grey matter may never have developed or it may have developed but have been disturbed, or in some individuals the innate defect is such that the achievement of sustained control by the grey matter is impossible.

10. In the second alternative, factors such as fatigue, excitement, pain, and fear interfere with potential control. Characteristically, the child has been dry and then control breaks down and bed-wetting begins again. The complex emotions stimulated by the arrival of a younger brother or sister, the fears and anxieties that follow separation from the parents, the pain following operations or accidents, may be sufficient to throw out of gear the relay system of nervous impulses between the centre of feeling in the mid-brain and the controlling areas in the grey matter.

11. The third alternative—namely, the impossibility of sustained and persistent control by the grey matter because of defects in the controlling centres—probably accounts for a large number of enuretics, especially that hard core of about 8% which resists all treatment. Most of these have wet the bed continuously from infancy; control has never been established; and the hypothesis that cerebral control is defective is supported when it is found that in this group is a high proportion of mental defectives, mentally retarded children, and psychopathic personalities.

12. That this failure of development of control is due to a defect in the highest centres of the brain, and that it is an inherited failure, is supported by the fact that in the family of each persistent enuretic on an average two other enuretic members can be found. Moreover, surveys have shown that emotional instability or social maladjustment is very frequent among the relatives of enuretics.

13. Enuresis sometimes shows itself as the first symptom which may indicate a more general failure to control impulses, and it may be found that the boy who has been reported as a bed-wetter may also be unreliable and impulsive in other ways. In other instances bed-wetting accompanies asocial impulses to pilfer, to damage wilfully, and to behave aggressively to other individuals. It is not surprising, therefore, that a proportion of delinquents should be enuretic, and it has been observed that when it does occur in such subjects it is much more persistent. The same lack of control is evident socially in their behaviour and physiologically in their bed-wetting. Nevertheless, in spite of this relationship between enuresis and delinquency it must not be assumed that all persistent enuretics are delinquent or unstable; indeed, there are many enuretics, both children and adults with a long history of bed-wetting.

14. To exclude enuretic delinquents from foster-homes, approved hostels, and homes is to turn away those members

of the community most in need of skilled environmental control. In the nature of things sufferers from this complaint must be expected in these places and provision should be made to deal with them.

Treatments

15. The multiplicity of treatments that have been tried for enuresis is sufficient evidence of the difficulty of the problem.

16. Certain drug treatments have been used with varying success and these are mentioned later, as also are certain devices and variations of daily routine and habit; but it is certain that there is no short cut to victory by any one method alone. There is no doubt that some of the failures in the treatment of enuretics have been due to too much concentration on the organ—the bladder—and the neglect of the person to whom the bladder belongs. Likewise, some of the successes claimed for a particular drug or method of treatment have in large measure been due to the personality of the foster-parent, warden, headmaster, or doctor employing the method. Confidence in the successful control of his symptom is the basis on which the enuretic child can identify and accept the control which by himself he cannot achieve.

17. The child should be examined by a doctor in order that any physical abnormalities or organic disorders may be detected and corrected. Sometimes the cure of a persistent infection of the urinary tract may be necessary. The large majority of cases, however, are due to a disorder of function, and in the treatment of these persistence and patience are necessary.

18. The parents or whoever may be responsible for the cure of the enuretic must first of all be instructed in the essential nature of the complaint. Where it seems that higher standards of cleanliness, discipline, and regularity are required in the home, parents should be educated to try to achieve this. The well-brought-up child is usually keenly sensitive about his bed-wetting, and punishments, scolding, and shaming should not be used against him as they are likely to aggravate fear and vengeful feelings and make conscious control more difficult. On the other hand rewards for success and incentives are frequent of value, particularly in intelligent, ambitious children. Often the bed-wetter is prevented from going to camp, visiting friends or joining a club because of his disability, and the prospect of being able to take part in these things when habitually dry often helps considerably to this end. A record chart showing the number of dry nights provides positive evidence of the possibility of control and has been known to be helpful. Above all the child must be helped in his emotional and social adjustment, and both he and those responsible for him must be made to realize that wetting is not a crime or an indication of baseness, and the feeling of hopelessness of cure must be dispelled. This hopelessness is often fostered by the all too common popular notion of the inevitableness of a "weak" bladder or "weak" kidneys.

19. Psychological treatment of enuresis is likely to be successful in those cases that have established control and subsequent broken down as the result of pain, or fear, or other emotional disturbance. Psychological treatment is less likely to help those who have never established control. In this connexion it is interesting to note the sex differences in enuretics. There are many more enuretic boys than girls, and girls respond, on the whole, much more rapidly to treatment.

20. A patient and careful inquiry into the social and environmental history of enuretics is always worth while and sometimes reveals a clue which leads to cure. This is well illustrated by a particular case in an institution of a boy whose bed-wetting had persisted for a year. Research showed that the trouble started when he was seven, and its onset coincided with his mother's second marriage to a brutal drunkard who immediately started to ill-treat his wife and disturb the home. It appeared probable that the lad's bed-wetting started as a result of being awakened at night by his noisy stepfather, and that incontinence due to fright persisted. This was explained to the boy, and he was told that since his stepfather was dead and the original cause removed his trouble should now cease. It did.

21. It is hard to assess the effect of drug treatments, since a psychological factor enters into the situation and the result often due to the personal influence of the doctor rather than to drug used. Nevertheless there is a place for drugs, especially

those which relieve spasm in the muscles concerned, such as belladonna, and those which diminish nervous tension, such as the various sedative drugs. Ephedrine and benzedrine have been tried with a view to increasing the efficiency of the control over the relay systems in the brain itself and so make the enuretic more aware of the sensations from his internal organs. Whether control is improved by this enhanced awareness is not proved.

22. The deprivation of fluids as a treatment seems, on the whole, to be unsuccessful, and restriction of fluids should never be for longer than three weeks. In any case it does not solve the problem of training the bladder to hold more. Thoroughly awakening the child to empty the bladder half an hour before the usual time of wetting has been found effective in many cases. After about a month, if in his own home, an alarm clock can be used to do the rousing. The enuretic is generally a heavy sleeper and is not easily trained by regular calling at night to awake himself to attend to his needs; he will, in effect, remain dependent upon the person who wakes him to control his bladder for him. Nevertheless, this method does enable many persistent bed-wetters to be relatively dry and thus improves their outlook and relations with others around them, and also it does serve to tide many intermittent enuretics over a bad spell. It is a method which has been found useful in many approved schools. Many schools have also reported the beneficial effect of a heated dormitory. Segregation in schools is not recommended, as this stimulates shame and casts a slur and thus makes matters worse by increasing anxiety over the symptom. What is needed is the minimum of fuss and unobtrusive reassurance.

23. The use of a rubber bag worn inside the leg of the pyjamas at night has sometimes been found to give confidence to the enuretic patient so that in time he has been able to discard it.

24. In spite of every effort of treatment there is bound to remain a hard core of incurable bed-wetters, and neither they nor those in charge of them can be blamed. In these cases everything possible must be done to mitigate the nuisance and to make life tolerable both for the patient and for those with whom he lives.

II. ENURESIS IN ADULTS

25. Although there is a marked general tendency for enuresis to lessen with age many adult enuretics exist. In nearly all cases the condition was present in childhood.

26. They fall into the same groups as children, but the majority belong to those groups for whom cure or even alleviation is difficult and sometimes impossible.

General Examination

27. Physical examination by a doctor should be a routine practice. Some adult cases are due to the defects in the brain mentioned in the description of young bed-wetters, and these cases are best dealt with by the methods described. There is also a group, small in numbers but important to discover, where there is a physical cause for the condition in the sense of actual physical disease or injury. The conditions involved are by no means restricted to the excretory organs. Indeed, enuresis may be an early sign of such a serious illness as disseminated sclerosis, which is a disease of the spinal cord and brain. The existence of a relevant physical disease or injury cannot be ruled out because there is a history of bed-wetting in childhood or even of continuous enuresis from childhood. It can be assumed, though, that when this symptom has not occurred until adult life a physical cause is highly probable if the patient is sane. In the elderly the condition may be due to mental illness, but even so physical factors are overwhelmingly the commonest cause. Indeed, the mental illnesses involved are often of physical origin, such as arterial disease or degenerative processes.

Management and Treatment

28. In all cases due to physical disease or injury treatment of the symptom must centre round that of the physical condition in question. Nevertheless, the general management of such cases often involves many of the methods which are discussed below, with certain common-sense modifications.

29. Many adult bed-wetters have been persistent since childhood, but many have had long periods of freedom. In general the fact that there have been long free periods is a favourable sign and every effort should be made to find the reason for the relapse. The methods that produced improvement earlier should be discovered and their present usefulness considered. Physical factors, as already mentioned, may cause the relapse, but far more often it is due to emotional stress. This may take the form of domestic worry, a nervous breakdown, unsuitable environmental change—anything in fact that can upset a somewhat narrow or precarious adaptation to life. In such cases the remedy is either to help the person to adapt to his new circumstances or to help him to restore his earlier conditions. In practice it is a question of which is practicable, but the former is the better since it produces a more adaptable person and one therefore more able to cope with future changes.

30. For the majority of adult bed-wetters the cause of the symptom is either a psychological one or the kind of brain defect mentioned above, or a combination of both.

31. The measures used to effect cure in these cases include all those remedies mentioned as applying to children. Improvement is often slow and much patience is needed.

32. In the adolescent and the adult more use can be made of direct appeals to social standards, though this must not be overdone in the case of a sensitive or neurotic patient in whom the response is not rapid. A good guide in relation to this is the degree to which he is ashamed of the habit. If he is really ashamed of it, it is unlikely that further stimulation of this feeling will help. If he is not, he needs to be educated firmly, albeit kindly.

33. There is a real need for caution about what may be termed disciplinary or punitive measures. It is fatally easy to assume that they succeed, and results must be checked and followed up for a year or two to assess the efficacy of the methods used. For example, it is often alleged that an enuretic soldier can be cured by making him sleep in an upper bunk, when his habit annoys the man below, who will "make him better." In some cases this practice produces results usually temporary, but never in the kind of person who would not benefit equally or to a greater extent by a less distasteful method.

34. Bladder control can sometimes be improved by encouraging the patient deliberately to restrain himself from passing water when he first feels the urge to do so. With persistence and practice this deliberate voluntary control results in decreasing sensitivity so that there must be a much larger quantity of urine in the bladder before any imperative desire to pass water is experienced.

35. Needless to say, as with most of these methods, medical supervision is needed.

36. It appears that good results follow an intensive course of treatment based partly on the psychological methods of persuasion and re-education, and partly on the physical methods of training the bladder (small or large) to contain large quantities of fluid injected by catheter without arousing any strong desire to pass water. Those who benefit most are young adult men of good personality who have had symptom-free periods spontaneously at some time in their lives. Men in this group are usually good workers and desirable citizens within the limits set by their capabilities. Unfortunately there is a high relapse rate under stress of ordinary life, though it seems probable that at least one-quarter of the recoveries are of lasting value.

37. Young women tend to respond better than men to persuasion and re-education, though statistics are not available.

38. A thorough search for causes, with medical aid, followed by a good all-round attack on the habit is needed. This attack includes environmental change, social education, medicines and other physical methods, appropriate psychological handling, and the education of both the enuretic and his associates on the lines indicated below.

39. The doctor is the obvious person to decide on the plan of campaign, though until knowledge is improved he will not always be right, but he will be able to help matters materially in many cases.

40. In the Army in wartime experience of the treatment of adults was disappointing, but in civil life better results can be expected, since environmental change is less limited and the

prolonged interest of one doctor more practicable. The family doctor is the adviser *par excellence*, but the psychiatrist will often be needed also, either for more intensive psychological treatment or to assist in diagnosis.

41. The outlook varies with the cause, though it is always better if there have been long periods when the symptom was absent. Three groups are deserving of special mention: (i) Those where mental defect is a serious factor; (ii) those who show a chronic maladjustment to life; (iii) those with good stable personalities, even though intelligence may be on the low side or though there may be some degree of neurosis present.

42. The last type gives the best results and is always worth prolonged effort.

43. The other two groups are far less hopeful and may not respond unless their mental defect can be very fully allowed for in their treatment and general management or the cause of their chronic maladjustment lessened in intensity—e.g., a neurosis alleviated or an awkward personality trait dealt with satisfactorily. Clearly these groups will need more psychiatric advice and handling than the third one, but the psychiatrist will often be attempting the impossible.

44. Occasionally adult enuretics are seen who appear never to have been adequately trained to regard such a habit as undesirable and who passively accept it. They need firm training, but they are so often subnormal in other respects that it is not surprising that failure is so frequent.

III. GENERAL CONCLUSIONS

45. Pessimism is not a good mood in which to approach the bed-wetter. Nevertheless it must be realized that many bed-wetters are persistent whatever is done. Even so, there is no need to be too pessimistic. An appreciably larger number of adult bed-wetters were referred for advice in the Services during the war than in civil life. There is need for follow-up of Service cases, since ultimate history of such patients is not really known. It does seem likely, even allowing for the existence of families where the habit is tolerated to some extent, that in the freedom of civil life, or in the protected life of those in institutions, the habit does frequently come at least within bearable limits. So it is worth while to persist in the attempt at cure and to persist in palliatives and educative measures even when cure is not achieved.

46. The chronic incurable cases deserve sympathetic understanding, and their lot, and that of those who live with them, can be made much happier by this and by the habitual use of bag urinals for night wear, mackintosh sheets, and so on. Full use should also be made of sedatives and other drugs and of any measures that will lessen anxiety.

47. It is amazing how often these simple methods for avoiding much of the nuisance caused by enuresis are neglected. It seems there is a real need for those who deal or live with chronic enuretics to guard against virtual neglect of the sufferer, especially when the habit annoys them.

48. At present, extra rations of cleaning materials are only allowed on a medical certificate that the condition is due to physical causes. In incurable cases and those where lack of cleaning materials makes cure harder this is unfortunate, since the cause is not often physical in the literal sense of a physical illness or malformation. However, it is open to individual opinion how far the condition of bed-wetting can be regarded as of physical origin in the sense of, say, a congenital cerebral defect, and many doctors would consider that cases did fall in this way within the conditions laid down by the Food Ministry. This consideration applies to persistent bed-wetters in all groups.

49. It is clear that training is needed both for the patient and those who live with him. It should be given with due understanding and an adequate recognition of the futility of punitive measures. Since many chronic cases are of low intelligence, training must often be given with very great patience, simplicity, and persistence.

50. Those who live with a bed-wetter often have a hard fight with their own annoyance, anxiety, and shame in the matter, and the bed-wetter often needs to be informed of this and will be helped by realizing the attitude of those around him.

51. These measures all tend to diminish anxiety over the situation, and this in itself is a valuable aid in the treatment of the habit. Indeed, the alleviation of worry

in the home must receive attention, since it seriously aggravates enuresis whether the worry is about the habit itself or quite other matters.

52. Thus, whatever the method used, training should aim at teaching the patient and those who live with him everything that can be done to mitigate the nuisance caused. It should also aim at convincing all concerned that this is both a long while and necessary and so help them to acquire a spirit of toleration. This toleration must be mutual.

CONFLICT IN AUSTRALIA

The Federal Council of the British Medical Association in Australia has advised members to return the formularies and prescription forms sent out by the Federal Government and to continue to prescribe on private forms after June 1, when the scheme for free medicine starts. The Council maintains that doctors must be free to prescribe what they think best and not what the Government considers suitable.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Poplar

Non-County Borough Councils.—Dartford, Radcliffe (limited to future appointments), Tottenham, Wallsend.

Urban District Councils.—Denton, Droylsden, Houghton-le-Spring, Huyton-with-Roby, Portslade, Redditch (restricted to new appointments), Tyldesley.

Scottish Burghs.—Motherwell and Wishaw.

Association Notices

SCOTTISH COMMITTEE

1948-9 Session

Election of three representatives by the Group of seven Divisions comprising Orkney, Shetland, Caithness and Sutherland, Inverness, Outer Islands, Ross and Cromarty, and Argyllshire.

In accordance with the Standing Orders of the Scottish Committee, nominations for these three vacancies shall be in writing and may be made (a) by a Division or (b) over the signature of not less than three members of the group. Nomination under (a) does not invalidate nomination under (b) or vice versa. Nomination forms have been sent to the Hon. Secretaries of the Divisions in the Group, and can also be obtained on application to the Scottish Office. If more than three members are nominated the election shall be by voting papers sent by post from the Scottish Office to each member of every Division in the Group. Nominations should be sent to me at the Scottish Office, 7, Drumsheugh Gardens, Edinburgh, not later than Saturday, June 12, 1948.

E. R. C. WALKER.
Scottish Secretary.

Diary of Central Meetings

JUNE

3 Thurs. Publishing Subcommittee, 11 a.m.

Branch and Division Meetings to be Held

METROPOLITAN COUNTIES BRANCH.—At B.M.A. House, Tavistock Square, London, W.C., Tuesday, June 1, 2.30 p.m. Ninetieth Annual General Meeting. Agenda: Report of Branch Council for 1947-8; report of Branch representatives on Central Council 1947-8; election of officers for 1948-9; address by incoming President.

PORTSMOUTH DIVISION.—At Kimbells Corner House Restaurant, Commercial Road, Portsmouth, Tuesday, June 1, 8 p.m. for 8.30 p.m. Dinner. 9.30 p.m. Annual general meeting.

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THE LIPOTROPIC FACTORS IN EXPERIMENTAL CIRRHOSIS

BY
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AND
C. H. BEST, C.B.E., M.D., F.R.S.

(From the Banting and Best Department of Medical Research, University of Toronto)

[WITH PHOTOGRAPHURE PLATE]

The term "lipotropic" was introduced by Best and Ridout (1935) to describe substances which decrease the rate of deposition and accelerate the rate of removal of hepatic fat. This definition has now been broadened to embrace other established effects of dietary choline or its precursors. These include the prevention of renal lesions (Griffith and Wade, 1939) and of cirrhosis in experimental animals.

The production of cirrhosis in rats and dogs by dietary means afforded a new experimental approach to the study of liver disease (György and Goldblatt, 1939; Chaikoff and Connor, 1940). In rats it was shown that cirrhosis could be produced by feeding, for an extended period, a diet low in protein and devoid of choline. The appearance of the cirrhotic changes could be delayed or prevented by adding choline or its precursor methionine to the offending diet (György and Goldblatt, 1941; Webster, 1941; Daft, Scorell, and Lillie, 1941; Blumberg and McCollum, 1941).

These observations aroused the interest of many clinical groups, and in the last few years methionine, choline, inositol, and combinations of these substances have been tested in the treatment of chronic liver disease. Owing partly to the inherent difficulty of controlling clinical studies adequately, and partly to the fact that the basal diets contained large and perhaps optimal amounts of the lipotropic factors, the results obtained are difficult to assess. In cirrhosis, especially that associated with alcoholism, it has been reported by a number of investigators (Russakoff and Blumberg, 1944; Barker, 1945; Beams, 1946, and others) that the addition of choline to the diet exerts a favourable clinical effect. The failure of this treatment to produce any beneficial result has also been reported (Yater, 1943; Man, Kartin, Durlacher, and Peters, 1945; and others).

It is well established that in animals in which cirrhosis has been produced by certain chemicals the hepatic lesions may disappear when the administration of the toxic agent is discontinued and a normal diet is supplied. It should be appreciated that most diets (whether for human subjects or experimental animals) which contain a large proportion of natural foodstuffs will provide adequate amounts of the lipotropic agents.

Cameron and Karunaratne (1936) observed that in cirrhosis produced by carbon tetrachloride extensive

regeneration of liver cells and return to a normal configuration occurred within a few weeks after the administration of carbon tetrachloride was discontinued. Edwards and Dalton (1942) made similar observations on the regression of the cirrhotic process in the livers of mice receiving carbon tetrachloride when its administration was stopped and a normal diet provided. Lowry *et al.* (1941, 1945) found that when rats with dietary (choline deficiency) cirrhosis were treated with choline, or given a high casein diet, removal of fat from the liver occurred and extensive regeneration of liver cells took place. Comparative studies on the influence of the various lipotropic agents in the repair of cirrhotic lesions produced by carbon tetrachloride have not hitherto been reported.

The results of the present studies demonstrate again the importance of the lipotropic factors in the repair process, and serve to indicate the relative merits of dietary protein, methionine, choline, and inositol, alone or in combination, in the treatment of carbon tetrachloride cirrhosis in albino rats under certain experimental conditions.

Production of Cirrhosis.—Cirrhosis produced by prolonged administration of carbon tetrachloride has some advantages for this type of study. It can be produced consistently and relatively rapidly, and resembles human portal cirrhosis in many respects (Lamson and Wing, 1926; Moon, 1934). In our first series of experiments the cirrhosis was produced by exposing rats to carbon tetrachloride vapour, and in the second by administering a solution of this substance orally.

Experiment 1

Male white rats (average weight 136 g.) of the Wistar strain were exposed to an atmosphere containing approximately 1,000 p.p.m. of carbon tetrachloride for four hours a day, five days a week, until moderate cirrhosis had been produced. This usually required from 25 to 35 exposures. The capacity of the exposure chamber was approximately 1,000 litres, and an air flow of 250 to 300 litres a minute was maintained.

The rats were kept in group cages and were supplied with a commercial stock diet ("purina fox chow") and fresh water. The 164 animals surviving the exposures were divided into 13 groups. One group of 20 animals was sacrificed immediately to provide initial histological and chemical data. One group (seven animals), to serve as a control, was placed on a hypolipotropic basal diet containing gelatin 12%, casein 8%, and

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dripping 10%, corn oil 2%, salts 5%, cellu flour 2%, vitamin powder 1%, sucrose 59.75%, cod-liver oil concentrate 0.015%, cystine 0.24%. This amount of cystine was added in order to make the total organic sulphur content approximately equivalent to that of a diet containing 20% casein.

The vitamin powder was of such a composition that the intake per 10 g. of diet was as follows: thiamin hydrochloride 50 μ g., riboflavin 25 μ g., pyridoxin hydrochloride 20 μ g., calcium pantothenate 100 μ g., and niacin 100 μ g. The cod-liver oil concentrate supplied at least 300 i.u. of vitamin A and at least 75 i.u. of vitamin D per 10 g. of diet.

Ten different diets were prepared by adding to the basal ration various lipotropic supplements, as listed below. The quantities stated are the amounts in grammes per 100 g. of final mixture, the supplements in each case replacing an equal weight of sucrose in the basal ration: (1) casein 7, arachin 5, fibrin 3; (2) casein 7, arachin 5, fibrin 3, choline chloride 0.3; (3) casein 30; (4) casein 22, arachin 5, fibrin 3; (5) choline chloride 0.3; (6) methionine 0.9; (7) inositol 0.3; (8) choline chloride 0.3, inositol 0.3; (9) methionine 0.9, inositol 0.3; (10) choline chloride 0.3, inositol 0.3, methionine 0.9. There were 20 animals in Group 5, seven in Groups 3, 4, and 6, and 13 in all the others.

A final group (20 animals) continued to receive the laboratory stock diet (purina fox chow), which is referred to as Diet 11. All diets, with the exception of the last-mentioned, were essentially isocaloric. While receiving dietary treatment the animals were kept in individual cages. Each rat was offered 15 g. of the appropriate diet daily and the actual food consumption was recorded. When the average daily food intake of the group which ate the least (Diet 7) fell to 13 g. a corresponding reduction was made in the food offered to the other groups. After three weeks, and at intervals for the succeeding nine weeks, three or more rats from each group were sacrificed and their livers were removed for chemical and histological examination. Extraction and analysis of liver lipids were conducted as described by Best, Lucas, Patterson, and Ridout (1946).

Experiment 2

A 20% solution of carbon tetrachloride in corn oil was administered to female white rats (average weight 160 g.) of the Wistar strain two or three times a week over a period of four months. A dose of approximately 0.2 ml. of the solution was given to each animal by stomach-tube. During this phase of the experiment the rats were kept in group cages and were offered the stock diet and water ad libitum. They were then divided into five groups of 10 rats each, and one group was sacrificed immediately to secure initial values. The remaining groups were placed on rations the following components of which were common to all four diets: beef dripping 10, corn oil 2, cellu flour 2, salt mixture 5, vitamin powder 1, cod-liver oil concentrate 0.015. After the addition of the supplements listed below, sucrose was added to bring the mixture to 100 parts: Diet 21 contained casein 10%, cystine 0.2%; Diet 22, casein 10%, cystine 0.1%, methionine 0.1%; Diet 23, casein 20%, cystine 0.2%, methionine 0.2%; Diet 24, casein 10%, cystine 0.1%, methionine 0.1%, choline 0.3%. Four rats from each group were sacrificed after two weeks and the remainder after 13 weeks on the test diets.

Results of Experiment 1

In the group killed immediately after exposure to carbon tetrachloride considerable variation in the gross appearance of the liver was observed. Most of the livers were coarsely but evenly granular (Plate, Fig. 1), of a yellowish-brown colour, and of a rubbery consistency. Microscopically, wide bands of fibrous tissue separated the liver cells into pseudo-lobules with a visible central vein. No normal lobular structure was discernible. Some cells were laden with fat, while others showed signs of fatty degeneration (Fig. 2). Cellular necrosis, haemorrhage, and haemorrhage into the parenchyma were present (Fig. 3). Groups of liver cells with mitotic figures were seen in many lobules. The average fat content, estimated by the method of Folch, Lees, and Sloane, was 6.4% of the wet weight. In the group killed three weeks after exposure to Sudan IV the amount of fat

visible suggested a greater deposition of lipid than that demonstrated by chemical analysis.

The livers of rats maintained on the hypolipotropic basal diet became very fatty (20 to 30% of wet weight), and all but one of the animals died within three weeks. The surviving animal, which was sacrificed at three weeks, also showed extensive cirrhotic changes. The kidneys of all these animals showed the dilated tubules and atrophic degenerative "nephrosis" commonly seen in older animals receiving hypolipotropic diets (Hartroft, 1948). When choline (0.3%) was added to the basal diet, either alone (Diet 5) or in combination with the other supplements (Diets 2, 8, and 10), fat disappeared from the liver and a remarkable regeneration of liver cells took place. In rats killed after three weeks on these rations (Diets 2, 5, 8, and 10), parenchymal cells filled the lobules, but only a few mitotic figures could be seen at this time. This probably indicated that maximum regeneration of parenchymal cells had already taken place. A number of circumscribed lobules of deeply staining cells were seen. The flattened cells at the periphery of these lobules produced a whorled appearance. Pressure due to the bands of fibrous tissue may have been responsible for this condition (Fig. 4). The fibrous strands were thinner but appeared to be stained more deeply than in the livers of the controls. This appearance was probably due to "condensation" of the fibrous tissue. In specimens secured after 6, 9, and 12 weeks gradual improvement was noted, so that latterly (12 weeks) the livers were normal in colour and consistency (Fig. 5). Microscopically, many sections of the livers were essentially normal in appearance (Fig. 6). When special stains for fibrous and reticular tissues were applied thin strands were seen forming a network around and through the lobules (Fig. 7).

Supplements of methionine (0.9%, Diet 6), or of a quantity of casein (30%, Diet 3) which added approximately the same amount of methionine, produced favourable and essentially similar results. Equally beneficial effects attended the use of the laboratory stock ration (Diet 11). The gross and microscopical findings observed on all these diets (Nos. 3, 6, and 11) resembled closely those described above for the animals receiving choline.

Supplementation with inositol alone (Diet 7) possibly had a favourable effect on survival of the rats. Although the growth was poor the mortality rate in the group receiving inositol was of the same order as in those receiving supplements of other lipotropic substances. However, with inositol the livers became very fatty (21 to 29%), as shown in Fig. 5 (lower right), and the extent of the fibrosis apparently increased. In the kidneys definite changes similar to those seen in animals suffering from subacute choline deficiency (Griffith, 1941; Hartroft, 1948) were invariably present.

In rats receiving the very high casein supplement (Diet 3) or the mixed protein supplement (Diet 4) the livers were larger than those of the group supplemented with choline alone but did not differ in other important characteristics. The high-casein diet (No. 3) contained about 1,260 mg. of methionine per 100 g. of diet.

A high-protein diet (No. 1), which was lower in methionine than Diets 3 or 4, produced less beneficial results. While the 15% supplement of protein (casein 7%, arachin 5%, fibrin 3%) made a total of 35% protein in this diet, it provided only about 670 mg. of methionine per 100 g. This amount permitted rapid growth, but the fat content of the livers of these rats rose to high levels while this was taking place. It was only when a plateau in the growth curve was reached that the level of liver fat decreased. At three weeks fat was distributed evenly throughout the lobule, but subsequently, as the fat content fell, distribution became limited to the region of the central vein. The livers were large, light brown in colour (Fig. 5, lower left), and firm to cut. Fibrous strands could be seen on the cut surface. It was not surprising, therefore, to find microscopically that fibrous tissue was present in larger amounts than in groups supplemented more adequately with the lipotropic factors.

In the groups receiving adequate choline or methionine (free or combined in protein) the normal columnar appearance of the liver cells was quickly restored, so that no apparent compression of bile canaliculi or sinusoids existed. In the groups not supplemented adequately these structures appeared to be compressed by cells containing fat. There was no evidence that

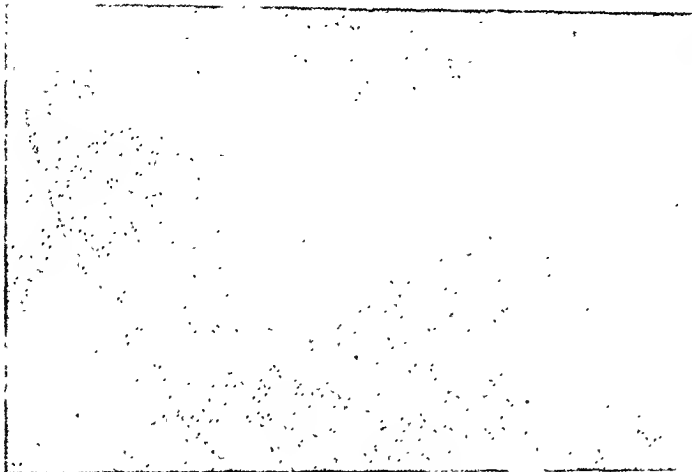


FIG. 1—Pin-head mottling in pneumoconiosis

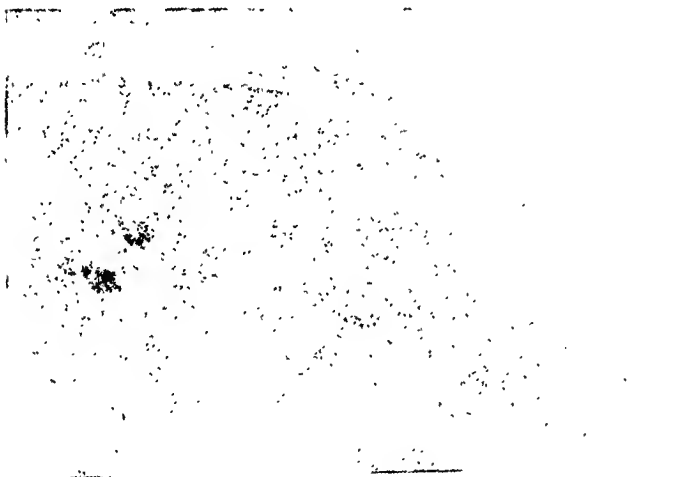


FIG. 2—Aggregates of pin-head mottling

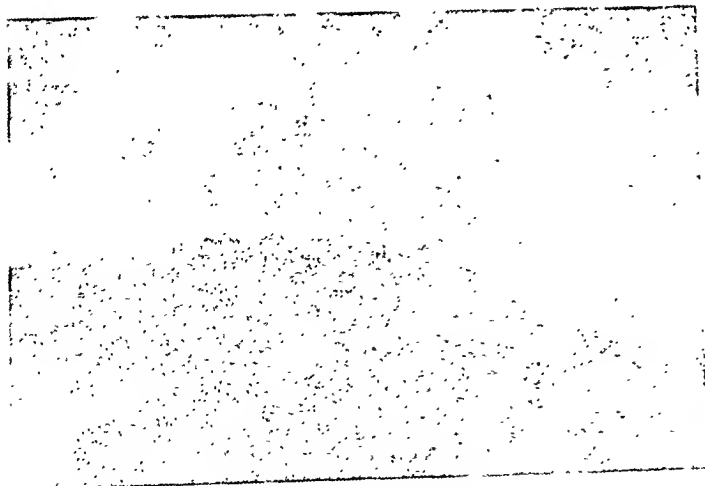


FIG. 3—Common mixed type of mottling



FIG. 4—Severe pneumoconiosis, 4-5-30
X-ray, Aug. 1941, on fluorographic work



FIG. 5—Same case as Fig. 4—July, 1942



FIG. 6—Same case as Fig. 4—Nov., 1946.

E. A. SELLERS, C. C. LUCAS, AND C. H. BEST: LIPOTROPIC FACTORS IN EXPERIMENTAL CIRRHOSIS



FIG. 1.—Cirrhotic liver of the type produced after 28 exposures of 4 hours each to carbon tetrachloride, 1,000 p.p.m.

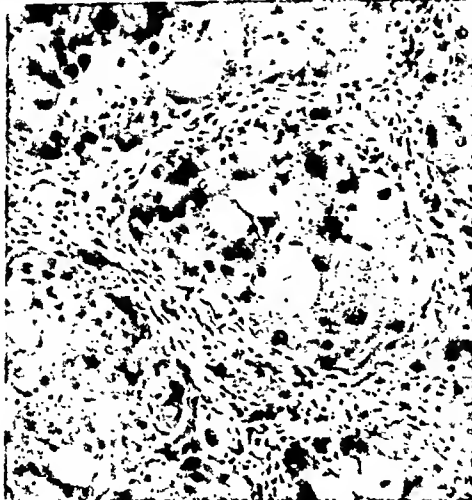


FIG. 2.—Cirrhotic liver (H. & E. $\times 180$). Fibrous trabeculae separate liver parenchyma into pseudo-lobules one-half size of normal lobule. Some hepatic cells laden with fat.

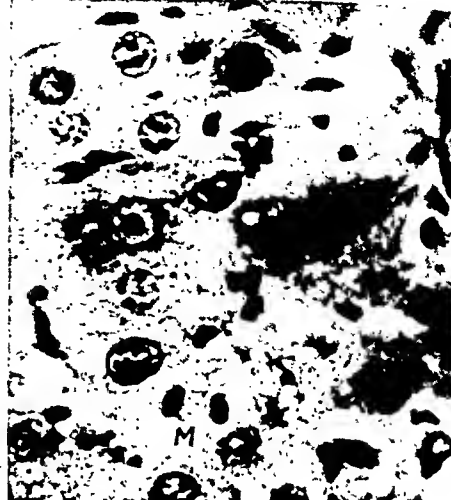


FIG. 3.—High power of same cirrhotic liver (H. & E. $\times 700$) shows nuclear degeneration and a mitotic figure (M). Vacuolation of cytoplasm indicates site of fatty deposits.

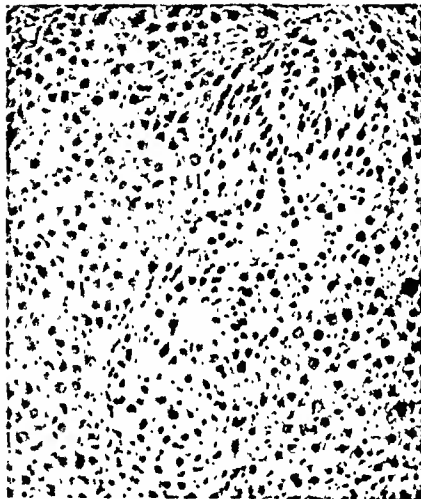


FIG. 4.—Liver from rat on Diet 5 (hypolipotropic basal diet plus choline) after 3 weeks' dietary treatment. Lobule of irregular shape made up of hyperchromatic cells is illustrated. Fat has disappeared from hepatic cells and extensive regeneration has taken place. Decrease in fibrous tissue is already apparent.



FIG. 5.—Illustrates appearance of livers after 12 weeks' dietary treatment. Upper: liver normal in appearance, as from animals receiving supplements of choline or its precursors. Lower left: large pale liver with surface irregularity, from Group 1 (high-protein diet of relatively low methionine content). Lower right: fatty cirrhotic liver from Group 7 (inositol supplement).

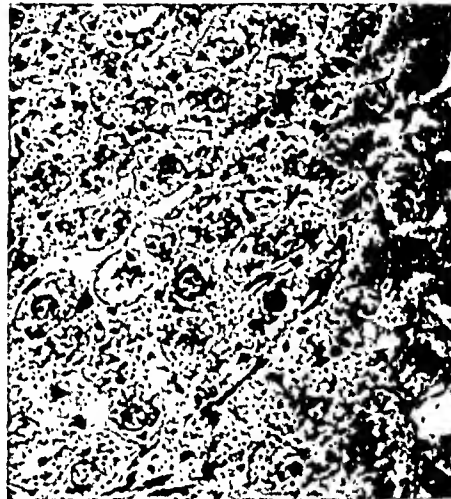


FIG. 6.—Photomicrograph of liver of rat on Diet 5 (choline supplement, 12 weeks) (H. & E. $\times 370$). Vacuolated appearance of cytoplasm revealed by special staining to be due to glycogen; fibrous tissue scarcely discernible.

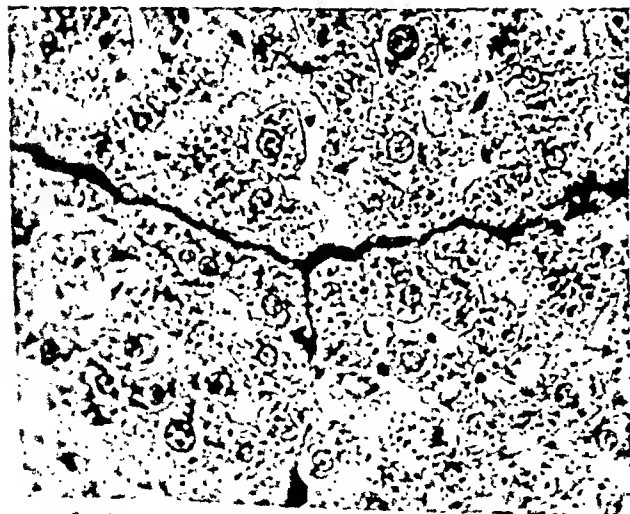


FIG. 7.—Liver from rat on Diet 5 (choline supplement, 12 weeks) (H. & E. $\times 370$). Liver stained to reveal fibrous tissue. Fibrous tissue can be seen in the illustration.

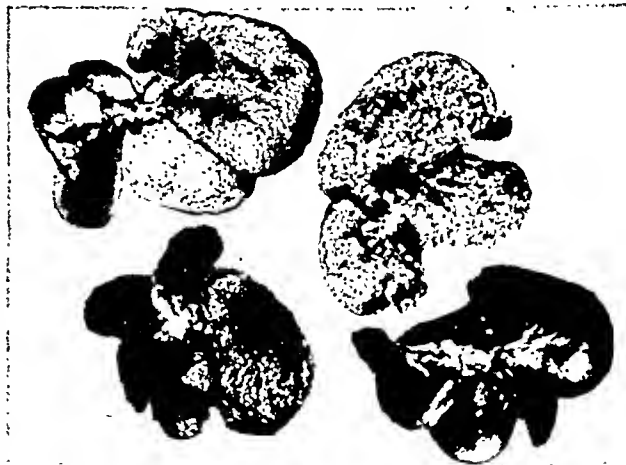


FIG. 8.—Appearance of livers of rats of Experiment 2 after dietary treatment for 13 weeks. Upper left: cirrhotic liver of rat fed Diet 21. Upper right: dietary methionine, increased but still inadequate (Diet 22), effects some reduction in liver fat but no improvement of cirrhotic condition. Lower left: protein supplement enriched with organic sulphur (Diet 23, methionine adequate) results in liver of normal size and colour but with slightly irregular surface. Lower right: liver of rat fed Diet 24 (i.e., Diet 22 supplemented with choline) appears normal.

JUNE 7, 1945

SILICEOUS GRANULOMA OF THE LUNG

W. A. MACKEY AND J. B. GIBSON



Fig. 1. Siliceous granuloma of the lung.



WILLIAM FALKER



Fig. 2. Siliceous granuloma of the lung.

Fig. 3. Siliceous granuloma of the lung.

GEORGE J. CUNNINGHAM: INTESTINAL LESIONS IN MALIGNANT HYPERTENSION

FIG. 1.—Low-power view of one of the many ulcers found in the ileum at necropsy.



FIG. 2.—Extreme diminution of arteriolar wall. Overlying mucosa can be seen at the top of the picture ($\times 150$).

FIG. 3.—Arteriolar necrosis. Vessel on left shows disintegration of its walls and cellular infiltration ($\times 100$).

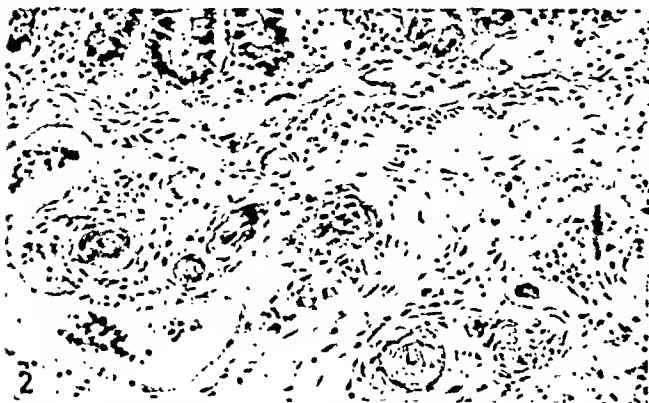


FIG. 4.—Arteriolar necrosis. Larger vessel shows disintegration of wall. Lumen identified only by presence of a few red cells ($\times 160$).

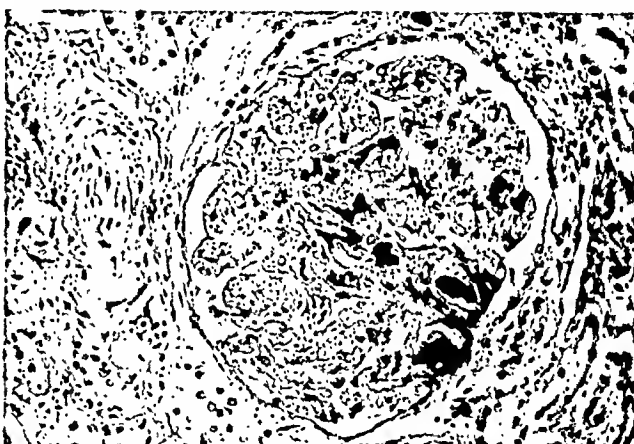


FIG. 5.—Glomerulus showing adherent tuft in which focal necrosis can be seen ($\times 150$).

K. DAMODARAN: THE LIVER IN INFECTIVE HEPATITIS

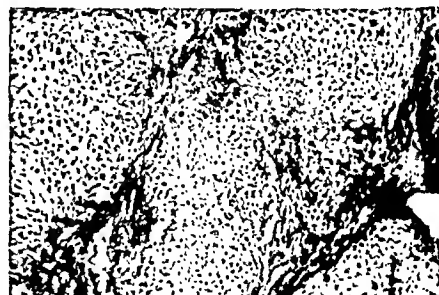
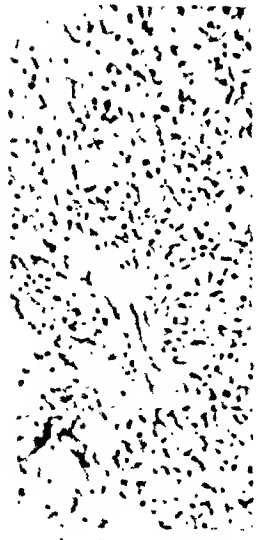


FIG. 4.—Subacute hepatic necrosis ($\times 30$).

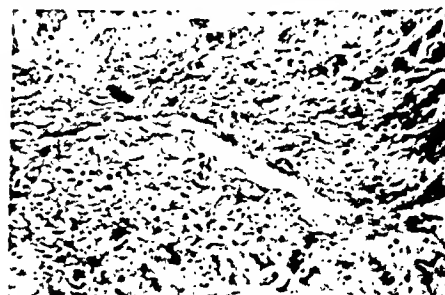


FIG. 5.—Subacute hepatic necrosis ($\times 170$).

the Chart the total liver lipids are seen to increase until a plateau is reached in the weight curve, after which a rapid decrease occurs. These data, and others to be published, suggest that when limited amounts of methionine are available it is used preferentially, but not exclusively, to meet growth requirements. The methionine content of this diet, which was insufficient for lipotropic action during the period of rapid growth, was adequate for removal of liver fat after rapid growth had ceased. While all essential amino-acids were present in Diet 1 in considerably greater amounts than are usually considered adequate, methionine was present in a proportionately smaller amount. Diet 1 contains about 670 mg. of methionine per 100 g., a quantity in excess of that usually accepted as optimal for growth. Since liver lesions persisted which would presumably have been eliminated by more methionine the amount supplied was obviously inadequate under these conditions. If sufficient methionine had been available to supply labile methyl groups for the biosynthesis of adequate amounts of choline the liver damage should have been repaired. Indeed, when choline was added to Diet 1 (Diet 2) the livers of the animals appeared normal on gross examination and nearly so microscopically. These observations illustrate the important nutritional interrelationship of methionine and choline, which will now be discussed briefly.

Methionine contributes to several metabolic requirements. The significance of the fact that these different metabolic roles exist is not always sufficiently appreciated. First, certain minimal quantities have been shown to be necessary, presumably as intact molecules, for maintenance and growth. Secondly, methionine serves as a source of organic sulphur for the formation of cystine and other sulphur-containing metabolites. Thirdly, it possesses a labile methyl group, and it is this characteristic which is of greatest interest in the study of lipotropic phenomena. Dietary choline cannot substitute for methionine in either of the first two roles. Thus in any diet choline can replace only that portion of methionine which is concerned with lipotropic phenomena; conversely, methionine supplements are not available for lipotropic purposes to a maximal extent until the first two (apparently more essential) roles of methionine have been filled completely. It would appear that in rats it is only under these conditions that dietary choline and methionine are maximally interchangeable. Moreover, not all dietary choline (or choline synthesized *in vivo* from dietary labile methyl groups) is used for lipotropic purposes, since it is obvious that some is utilized to satisfy structural and other needs. Only when the moieties of dietary choline and methionine that are used for lipotropic purposes have been assessed will it be possible to estimate a factor representing their lipotropic interchangeability in any diet. Similarly, cystine and methionine are interchangeable nutritionally to a maximal extent only when the minimal methionine requirement (i.e., as intact molecule) has been met and an adequate supply of choline (or dietary labile methyl groups) is present—i.e., when the deficiency involves only the supply of dietary organic sulphur. These interrelationships have recently become more clearly defined. Neglect to consider them has led to some confusion concerning the nutritional roles (particularly with regard to lipotropic phenomena) of choline, methionine, and cystine under different dietary conditions.

The apparent disappearance of fibrous tissue from the cirrhotic livers of animals which received the lipotropic agents deserves some further comment. After 12 weeks of treatment, in groups supplemented with choline or methionine, fibrous tissue could often be demonstrated only by special stains. Decrease in volume of individual lobules have accounted for much of this apparent disappearance, but the change from grotesque pseudo-lobula-

tion produced by the fibrous tissue to a more or less normal structure raises the question of actual removal of fibrous-tissue cells. This latter possibility is perhaps supported by the decrease in the number of nuclei of fibrous-tissue cells which can be seen. It should be emphasized that in our experiments the cirrhotic lesions which have been so strikingly affected by the lipotropic agents were of moderate degree and had not been present for long periods. A study of the action of the lipotropic agents on more advanced cirrhosis of long standing may be indicated, since clinicians are frequently confronted with this problem.

Certain potential clinical applications of the knowledge gained from the work on lipotropic factors, including that reported here, may be discussed briefly. Many clinical groups, stimulated in part by the findings of Patek and Post (1941), now use diets rich in protein and vitamins in the treatment of patients with cirrhosis. The favourable results which have been reported would appear to be attributable in large part to the occurrence of choline and methionine in these diets. We are not minimizing the obvious importance of inadequate amounts of minerals, other vitamins, and essential amino-acids. Estimations made in our laboratory and elsewhere show that normal diets may contain from 300 to 900 mg. of choline daily, and it may be calculated that the same rations would provide from 2 to 4 g. of methionine. If from one-fourth to one-third of this methionine were used for lipotropic purposes an additional 150 to 400 mg. of choline might be formed from it. Thus a normal diet may provide up to 1,300 mg. of available choline daily. The experimental evidence suggests that no beneficial effect in the treatment of cirrhosis should be expected from the addition of choline or methionine to a ration which is already adequately supplied with these factors—unless there should be interference with liberation of choline or methionine in the intestine or with the absorption or subsequent physiological actions of these compounds. No clinical conditions have yet been recognized in which the lipotropic actions of choline or methionine are inhibited, but this situation might conceivably exist in various diseases. However, there is convincing experimental evidence (Chaikoff, Entenman, and Montgomery, 1947) that interference with protein digestion by ligation of the pancreatic ducts or by removal of the pancreas decreases the liberation of methionine (and presumably the formation of choline). Excessive deposition of fat in the livers of duct-tied and insulin-treated depancreatized dogs has been observed repeatedly. In the depancreatized animals the progression of the lesion to cirrhosis has been followed (Chaikoff, Connor, Biskind, 1938). The clinician should therefore be on the look-out for signs of hepatic damage in cases of long-standing insufficiency of the external secretion of the pancreas.

Summary and Conclusions

Young adult rats in which a moderate degree of cirrhosis had been produced by the administration of carbon tetrachloride were placed on diets containing different amounts of the following lipotropic agents; choline, methionine, protein (containing methionine), and inositol.

None of the animals receiving only a basal hypolipotropic ration showed improvement in the cirrhosis. Deposition of fat in the liver increased, degenerative renal lesions appeared, and six of the seven rats in this group survived less than three weeks.

When adequate amounts of pure choline chloride or *DL*-methionine were added to the basal hypolipotropic diet a remarkable improvement in the gross appearance of the livers was noted within two or three weeks. After two or three months of this treatment the livers appeared normal, and on microscopical examination special stains were usually required to demonstrate any abnormal deposition of fibrous tissue. The

processes by which this fibrous tissue may disappear have been discussed briefly.

A high-protein diet, containing 35% protein but low in methionine, was not as beneficial as a ration containing 20% of similar protein to which adequate supplements of choline or methionine had been added.

A high-protein diet which contained an adequate amount of naturally occurring methionine produced results as favourable as those which were secured when suitable amounts of choline or methionine were added to diets of lower protein content.

While the experimental evidence indicates that the presence of the lipotropic agents is essential for the repair of the damaged liver under the conditions of our experiments, it does not suggest that the addition of choline or its precursor, methionine, to diets already containing adequate amounts of these factors will enhance the therapeutic effect unless some interference with the absorption or action of the lipotropic agents exists.

No evidence has been secured that inositol exerts a favourable effect on experimental cirrhosis.

On the basis of the experimental findings it is suggested that the favourable clinical results which have been obtained in patients with liver damage when an effective therapeutic diet is provided may be attributable in large part to the lipotropic factors which the diet supplies.

We wish to express our thanks to our colleagues Dr. Jessie H. Ridout and Dr. W. Stanley Harroft for their generous assistance in certain aspects of this work. The expenses of these studies were defrayed in part by a grant from the Banting Research Foundation.

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When Mr. Bevan opposed the proposal to limit the opening of new pharmaceutical units it was dropped. "This half-hearted attitude does not augur well for the future," Mrs. Jean K. Irvine, President of the Pharmaceutical Society of Great Britain, told its annual general meeting. "The consequences remain to be seen, but one of the main causes of unsatisfactory conditions in pharmacy will continue to operate and, other things being equal, will have the same results." The proposal that the manager of a pharmacy as well as the owner should participate in the contract under the National Health Service had also not been further pursued, she said, when the Minister indicated his opposition. The manager was dependent on his employer for furthering his point of view, and it was not necessary to attribute a hostile attitude to employers to realize how unsatisfactory it was that approximately half the pharmacists taking part in the Service would be denied the status their qualification and responsibility deserved.

PNEUMOCONIOSIS OF COAL-MINERS*

BY

C. M. FLETCHER, M.D., F.R.C.P.

Director, Pneumoconiosis Research Unit, Medical Research Council

[WITH PHOTOGRAPHURE PLATE]

The investigations of the Pneumoconiosis Research Unit have of necessity had a practical or *ad hoc* bias. There are many fundamental points of pathogenesis, of physiology, of cellular pathology, and so forth which remain obscure in coal-miners' pneumoconiosis, but, initially at any rate, we have had to set these points on one side and to seek information in the light of which appropriate administrative action might be undertaken in order to deal with the vast human and economic problems caused by the disease.

In South Wales, by the end of 1945, 12,000 men had been certified and new cases were still being certified at the rate of 100 a week. Nearly two-thirds of them were under 50 years old; one-quarter were under 40. The majority were coal-hewers, the most skilled class of mine workers. They found themselves, at an age when family responsibilities are at their heaviest, cast out of their accustomed work, with no training for alternative employment, and with weekly compensation amounting at most to 43 5s. for an unemployed man with a wife and three children. If the man obtained work his weekly compensation was reduced according to his earnings. No special system of treatment or after-care existed.

Post-mining Employment

Our first investigations, carried out under the supervision of Dr. Alice Stewart, were directed to studying these social problems. We asked the Social Survey to assist us, and during February, 1946, they carried out an inquiry, by house-to-house visits, into the post-mining employment of a one-in-ten sample of all the men who had been certified in South Wales before January, 1945. We also obtained a full employment history from the men whom we invited to attend for the clinical and radiological examinations which will be considered later. Lastly, we instituted inquiries at factories which were employing men with pneumoconiosis† in order to study the industrial performance of these men.

Generalization concerning the re-employment of men with pneumoconiosis is difficult because of the wide variety of the types of case to be considered. They range from young men with minimal disability to elderly men who are breathless at rest. However, 86% of the cases fall between the ages of 30 and 60, when any man should have a job, and there are two other important factors common to nearly all of them. They have all spent their adolescent and early adult years in coal-mining, at which they have become skilled, but they have no training for other forms of skilled employment, and they are, by reason of their breathlessness, incapable of undertaking strenuous physical exertion.

Bearing these points in mind, we may consider certain relevant statistics concerning the post-mining employment of certified cases of pneumoconiosis. Chart IV shows the percentage of the men in the Social Survey's sample of certified cases of pneumoconiosis and among all insured men and boys in South Wales who were employed each year between 1936 and 1946. It will be seen that under

*The second Goulstonian Lecture, given at the Royal College of Physicians of London, on Jan. 15. Lecture I appeared in last week's issue.

†In this paper the word pneumoconiosis includes silicosis.

conditions of full employment, such as existed in South Wales in the later years of the war, nearly 70% of the certified men found work; but that in the pre-war years and again in 1946, when the Royal Ordnance factories and other wartime industries were closing down, only 30-40% were employed. The contrast between the effect of scarcity of jobs on the employment figures for cases of pneumoconiosis and on those for normal workmen is striking, but it must be remembered that the two groups have not been standardized for age.

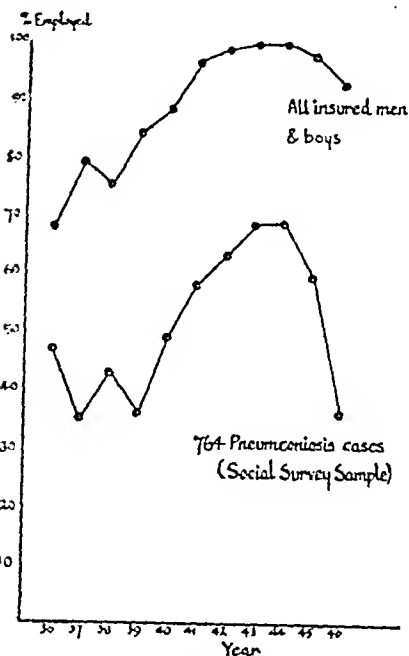


CHART IV.—Percentage of men in S. Wales employed each year, 1936-46. The 764 certified cases of pneumoconiosis are a 1 in 10 sample of all cases certified before January, 1945.

because of ill-health or because of old age. Thus under conditions of full employment some 20% of men certified with pneumoconiosis desired work but were unable to secure it.

Chart V illustrates the problem of re-employment of cases of pneumoconiosis between 1937 and 1946 in another way. It concerns all the men who were examined clinically (see below) and who were certified before 1940. The cases have been divided into those over and those under the age of 50 at the time of certification, and within these age groups they have been further divided into cases certified as Stage 1 silicosis, and those certified as Stage 2 and 3 silicosis.† It will be seen that the older men were very much less often employed than the younger men, but that in neither age group did the disease stage at certification have such an obvious influence on employment. The intermittent nature of the employment obtained by many of these men is also shown, and the infrequency of employment before and after the war relative to the wartime years is again evident.

When we considered the types of jobs obtained by these men (Chart VI) we found, in the Social Survey's analysis, that they were largely labouring, pedestrian, and bench-work jobs. Among the men whom we examined clinically the jobs were classified into skilled, semi-skilled, and unskilled. It will be seen that only a small minority of the men obtained skilled work. Thus the greater part of these skilled ex-coal-miners had to be content with unskilled

work. The classification used by the Silicosis Medical Boards is the following. The first stage is defined as being characterized by radiologically appearances not less than the presence of nodular shadows, with or without an increase of hilum shadows, linear shadows, and emphysema, with or without impairment of capacity for work. The second stage is characterized by an increase in the area of nodular shadows and a tendency to the confluence of the nodular shadows, and the presence of some degree of impairment of capacity for work. The third stage is considered unnecessary to describe, but implies a condition equivalent to total incapacity for work. It is characterized by massive consolidation.

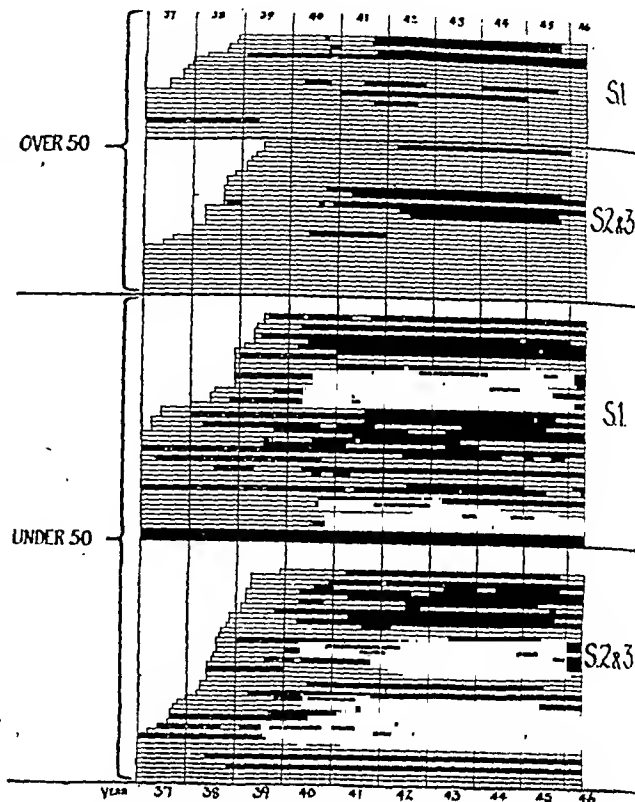


CHART V.—Employment from 1937 to 1946 among a group of men in South Wales who were clinically examined and who were certified before 1940. They have been divided into those over and those under the age of 50 at the time of certification, and into those certified as Silicosis Stage 1 (S.1), Silicosis Stage 2 and 3 (S.2 and 3). Each line represents the employment history of a single man. Blank portions = unemployed; solid portions = employed.

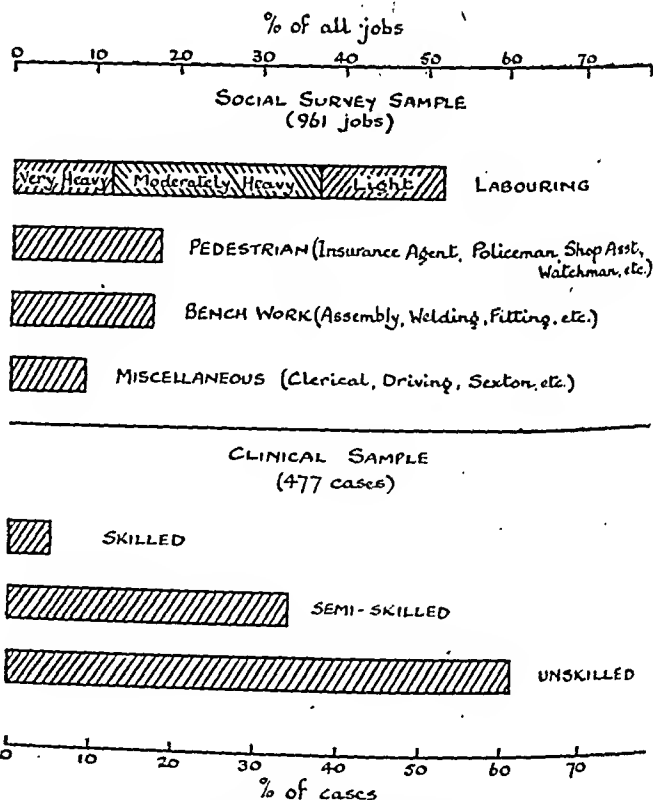


CHART VI.—Analysis of types of work performed by men in the Social Survey sample and in the clinical sample.

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work, and often with labouring, for which by reason of their disability they were least suited.

Only just over half of the men said that they regarded their present or most recent job as suitable. Among the remainder the most common objection was that the work was too heavy, with long hours and exposure to fumes and dust as the next most frequent objections.

The efficiency with which an ex-miner disabled by pneumoconiosis performs a job in light industry is not easily assessed—partly because of the great diversity both of the population under consideration and of the available types of jobs, which renders misleading a statistical analysis based on a small sample, and partly because of the difficulty of choosing any satisfactory quantitative measure of efficiency. Mr. Treasure, an economist working with the Unit, made an analysis of attendance records at two factories employing pneumoconiosis cases in light assembly, welding, and store-keeping, in which it was possible to make a comparison between groups of 50 cases of pneumoconiosis and 50 controls at one factory, and between groups of 24 and 50 controls at the other (Table IV). In both these factories the sick-

experience of men with pneumoconiosis as employees. The replies were strikingly uniform in expressing complete satisfaction with the performance of these men so long as they were not asked to undertake strenuous work or heavy lifting.

In summary and with some simplification our views on the post-mining employment of the certified case of pneumoconiosis are the following: If conditions of full employment or labour shortage can once more be reached in South Wales a high proportion of certified cases of pneumoconiosis will find employment. But the skilled jobs outside coal-mining will still be filled by men trained for them from their youth, and the lighter jobs in the factories, run by private industrialists who must cut their costs, will be filled by cheaper female labour. The man with pneumoconiosis will still be forced, as he was during the war, to take up unskilled work, which will as often as not be unsuitable chiefly because most unskilled work is heavy work. Some form of special provision must be made.

In October, 1945, a "working party" under the chairmanship of Mr. D. R. Grenfell, M.P., spent a fortnight in South Wales considering this problem. They recommended (Ministry of Fuel and Power, 1945) the building of ten special factories for light industries in which employers were to be encouraged to employ partially disabled cases of pneumoconiosis by being granted reductions in rent if they did so. In this way it was hoped that employment would be provided for 100 cases at each factory or for 1,000 men in all (out of a total number of 17,000 men to-day). Now, two years later, although all these factories are under construction, none has yet been completed, so that we cannot say whether the bait of rent reduction will be sufficient to obtain preference for cases of pneumoconiosis over female labour, and whether these ex-miners will be given a chance of developing a skill such as that which they developed in their former occupation and without which they will remain dissatisfied.

We fear that the man with pneumoconiosis will continue to stand at the end of the queue for the lighter and more skilled jobs unless some special scheme of retraining, and if necessary State-subsidized employment, are provided. The National Coal Board (1947) has expressed its intention of providing employment for its disabled employees in the ancillary industries of coal-mining, such as the making of mining machinery. This would be an ideal solution, but under present circumstances it is remote. It would, however, be possible to re-employ many certified men, even under existing legislation, in certain occupations within the industry both on the surface and even underground, but this possibility is not widely recognized, and little or nothing is being done at present to help the men in this way.

But no matter how good the provision of normal employment may be, a residue of some 20-30% of the men will remain unemployed, largely because they feel too old or too ill for ordinary work; and they will sit at home unproductively doing nothing, but "waiting for the undertaker," as they often say. We have observed a number of the older and iller men as in-patients. We have found how unhappy they are sitting at home all day doing nothing. They often live in precipitous streets along which a dyspnoeic man dare not venture. If you live in a house at the top of a hill, and if you cannot even manage a single flight of stairs without a pause, a bus at the bottom of the hill which might take you to work is beyond your reach. We have found these men surprisingly adept in learning simple handicrafts. One man, aged 56, breathless at rest, had done no work for six years before he entered our ward. He learnt leather work, and has made a profit of £30 in four months since his discharge by selling leather goods which

TABLE IV.—Average Hours Lost from Work during January to September, 1946, by Groups of Pneumoconiosis Cases and Normals (Treasure, 1948)

Group	Factory 1 (50 in each Group)				Factory 2 (24 in each Group)	
	Sickness Absence	Unauthorized Absence	Compensation Class	Total	Sickness Absence	Unauthorized Absence
Pneumoconiosis	63.5	54.7	Settled 42.9 Weekly 57.1	117.0	43.4	18.6
Control	43.6	32.6	—	—	—	14.3

Store Depot		
Group	Sickness Absence	Unauthorized Absence
Ex-miner (healthy)	26.9	20
Control	34.4	19.8

Pairs of figures between which the difference is significant appear in black type

ness and unauthorized absence rates for the two groups were observed during the first eight months of 1946. It was found that men with pneumoconiosis had significantly higher unauthorized absence rates than normals; they also had higher sickness absence rates, though the difference here was significant only at one factory. In the factory where the larger groups were investigated the cases of pneumoconiosis could be divided into those receiving weekly compensation (whose level is reduced according to the level of earnings) and those who had settled their compensation for a lump sum. This comparison showed a significantly higher unauthorized absence rate in the former than in the latter group. This emphasizes the unsatisfactory consequences of a system of compensation which places a premium on idleness. That these differences were attributable to pneumoconiosis and not to the different industrial backgrounds of the workmen is suggested by Treasure's finding that at a large service stores depot a similar study of ex-miners without pneumoconiosis and a control group without mining experience showed no difference between the absence rates in the two groups.

Too much weight must not be placed on this small-scale study. Moreover, although a low absence rate from work is an important criterion of industrial performance it is not a measure of efficiency at work. Treasure also sent a questionnaire to 150 firms in South Wales asking for the employers' opinion of cases of pneumoconiosis as workmen. Replies were received from 92 firms, of which 44 had had

be made at home. We believe that there is a need for the organization of home industries either at local labour clubs or actually in the men's homes, by which these men might feel that they are making some contribution for the common good and that they are not outcasts, disabled in the winning of coal and now forgotten. An excellent example of this type of provision is set by the settlement at Maesyr-Haf, in the Rhondda Valley. It is an example which should be followed. There must be no atmosphere of State-run charity. We cannot ask men to enter the hazardous occupation of coal-mining unless we can assure them that proper provision will be made for their needs if they are disabled.

Radiological Progression after Certification

The social or economic problems which face men certified with pneumoconiosis cannot be considered in isolation from their clinical condition. We need information in order to guide us in the prescription of methods of treatment and rehabilitation, and we also need to know whether the disease is arrested or whether it continues to progress after a man has been suspended from underground work. Hart and Aslett postulated that progression from reticulation or major consolidation was associated with continued exposure to dust, at least in high-incidence mines. Since their studies were confined to men who were still working they could provide no evidence on the effect of removal from such exposure. One object of the suspension of certified men from the industry, however, is to prevent progression, and we found there was a widespread belief that this object was achieved in most cases, although it was known that men in the later stages of the disease might progress after leaving the pits.

In order to study this question Dr. Alice Stewart invited a sample of men who had been certified before January, 1945, 650 in number, to attend at Cardiff for clinical and radiological examination. The sample was drawn partly from the high-incidence steam-coal area in East Glamorgan and Monmouthshire and partly from the anthracite area. It was chosen to be representative of interval since certification, of age, and of disease-stage at the time of certification. By the courtesy of Dr. Sutherland, Chief Medical Officer of the Silicosis Medical Boards, we had access to each man's x-ray film taken at the time of certification, so that we were able to assess progression by comparing in each case the first film with that which we took ourselves. We also made a full clinical examination and carried out a vital-capacity estimation, an exercise-tolerance test, sedimentation rate, haematocrit, and sputum examination in every case.

Dr. Stewart will soon be publishing a report of her findings (Stewart, 1948). I propose to confine my discussion to the nature and progression of the disease as we have observed it, particularly in the light of a more detailed analysis of the radiographs recently carried out by Dr. Idris Davies and Dr. K. J. Mann (1948). We found that progression after suspension from the industry is very common, but it is a slow process, and an interval of at least five years is usually needed to reveal it. I shall therefore consider only those who have been removed from exposure to dust for five or more years. Since all these men had been certified before the operation of the coal-miners' pneumoconiosis scheme, we did not expect to find any cases of reticulation, but the distinction between reticulation and massive fibrosis is not always easy, and in fact there were several cases which we considered to show only reticulation.

Most of these cases of reticulation remained stationary after exposure to dust, but a minority developed progressive massive fibrosis, usually in the upper

zones, and more commonly on the right than on the left. Once this appearance had developed, progression onwards to fluffy and massive shadows was the rule. An intervening stage of generalized nodulation was not seen, although a few cases of reticulation did develop nodular shadows. Cases of diffuse nodulation appeared to behave similarly to cases of reticulation, but with a rather greater tendency to advance by coalescence of nodules to the formation of massive shadows.

These changes are perhaps best illustrated by one case in which we were able to obtain intermediate radiographs between the earliest and the most recent. This man was a steam-coal collier when, in 1941, at the age of 34, an attack of pain in the chest while at work led him to apply to the Silicosis Board. His radiograph then (Plate, Fig. 4) showed reticulation in both lung fields, but in the outer half of the right upper zone there was coarser mottling. He was rejected by the Board and went into the Army. A further attack of pain in the chest led to his being x-rayed and discharged from the Army as a case of silicosis. He reapplied to the Board and was certified, his radiograph (not shown) being little changed except for a definite increase in the coarser mottling in the right upper zone. A year later a further radiograph was taken (Fig. 5). There is now an obvious fluffy shadow in the right upper zone and coarse mottling is apparent in the left first and second spaces. Three years later we saw him, and his radiograph (Fig. 6) then showed a large massive shadow in the right upper zone and a fluffy shadow in the left upper zone.

The fact that I have taken a steam-coal collier as an example is immaterial. Dr. Stewart was unable to find any difference between the disease as it appears in steam-coal and in anthracite colliers.

Pathologically, cases of reticulation and nodulation show diffuse non-collagenous coal nodulation, with or without focal emphysema (see below), although in some cases with radiological nodulation typical whorled silicotic nodules may be found. The progressive coalescent shadows are due to the presence of collagenous nodules, which may fuse to form large areas of dense coal-impregnated collagenous fibrosis. To this quite distinct condition we have applied the term "progressive massive fibrosis." It should be noted that the radiological reticulation and the underlying coal nodulation are both generalized throughout the lungs, whereas progressive massive fibrosis develops locally. This lends support to Belt and Ferris's contention that some sporadic factor other than dust is responsible for its development.

When we come to consider the frequency with which these changes are found we are in difficulties, because a considerable number of the men certified more than five years before we made our survey had died during the

TABLE V.—Radiological Progression of Certified Cases with no Dust Exposure between their Two Radiographs. (Stewart, 1948; modified by Davies and Mann, 1948)

Initial X-ray Stage	No. of Cases	X-ray Stage 5-14 Years after Leaving Underground Work			% with P.M.F. Appearing or Advancing
		Reticulation	Nodulation	Progressive Massive Fibrosis	
Reticulation	26	18	3	5	19
Nodulation ..	24	3	11	10	42
Progressive massive fibrosis ..	290	—	—	Stationary	88
				Progressed	
				36	254

interval and we could obtain no evidence concerning the progression of these fatal cases. Thus Dr. Stewart found that about 15% of the men certified with first-stage silicosis and 40% of those certified with second- and third-stage

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lucosis die within five years of certification. Presumably the fatal cases progressed more rapidly than the survivors, so that our figures based on survivors are certainly unduly favourable, especially in the more advanced cases. Table V is a simplified summary of our findings in cases with an interval of at least five years between certification and our examination, the maximum interval being 14 years. It will be seen that the vast majority of cases which at the time of leaving exposure to dust had already developed some degree of progressive massive fibrosis advanced further in the course of time, whereas the majority of cases with diffuse reticulation or nodulation remained stationary.

Radiological Progression under Dust Exposure

Having, rather to our surprise, observed this frequent progression in men who had been removed from exposure to coal dust, it was only natural that we should seek to discover in what way further exposure to dust might effect progression, especially in the earlier stages of the disease.

We were fortunate in having all the radiographs of working colliers taken by Hart and Aslett between 1938 and 1940. We found that approximately half of these men were still working underground, the remainder having left the industry for various reasons at various times. Davies and Mann have followed up a sample of these cases, all of whom continued to be exposed to dust underground for some period after their first x-ray examination. They have assessed progression in the same manner as in the certified cases by comparing the film taken by Hart and Aslett with their own findings in its early stages, so that the analysis of their findings is in its early stages, so that final quantitative results can be given, but certain preliminary conclusions may profitably be considered. (1) The interval with which we are dealing—namely, seven to nine years—is sufficient in those who have continued to work to become manifest in those who have since developed a certifiable degree of reticulation. (2) Men who have a certifiable degree of reticulation may continue at work at the coal-face even in a high-incidence mine for a period of seven years without detectable progression. (3) On the other hand, some men who had simple reticulation in 1938 and who have since developed large areas of progressive massive fibrosis.

The question is whether the development of progressive massive fibrosis is more frequent or less frequent in those men who remain at work exposed to dust than in those who are certified and leave the mines. Table VI gives a

TABLE VI.—Radiological Progression of "Certifiable" Hart and Aslett Cases. All these Cases were Exposed to Dust for at least some of the Interval Between their Two Radiographs

Initial X-ray Stage	No. of Cases	X-ray Stage 7-9 Years after First X-ray Examination			With P.M.F. Appearance or Advance
		Reticulation	Nodulation	Progressive Massive Fibrosis	
Reticulation	158	118	6	34	76
Nodulation	11	—	7	4	—
Progressive massive fibrosis	56	—	—	7	85
				Stationary	Progressed
				49	—

preliminary quantitative analysis of the progression shown by all the men in the Hart and Aslett series who had sufficient disease to have justified certification in the first x-ray film and who are thus radiologically comparable to Dr. Stewart's cases (Table V). The two series of cases, however, are not standardized for age, nor are the intervals between the

two films identical in the two series, although the interval in two groups is not very different. A comparison between the two series should therefore probably be permissible. The important distinction between the two series is that the Hart and Aslett cases continued to be exposed to dust underground in high- or medium-incidence mines for at least part of the interval between the two x-ray films, while the certified cases all left underground work after the first x-ray film. Despite this difference the proportions in the different initial x-ray categories showing advance into or within the progressive massive fibrosis category are very similar in the two series. It should be noted that these figures refer only to the number of cases showing progression in the different groups. A comparison between the rate of progression in those leaving and those remaining at work underground has yet to be made.

The results of these two radiological surveys suggest strongly, then, that the development of progressive massive fibrosis is due to some factor other than additions of further dust to the lungs.

Nature of Progressive Massive Fibrosis

What, then, is the nature of this progressive massive fibrosis? There are four sources of evidence to which it may turn for an answer to this question.

1. Clinical Evidence

This is not a very helpful source of information. The development of progressive massive fibrosis is associated with a steady increase of dyspnoea or cough and often with other consequences. The man remains fit in appearance when at rest, although breathless on exertion, until a late stage. Finally, wasting and a sallow look or oedema of the ankles suggest that the end is not far distant, but it is not easy to distinguish wasting due to the disease. Physical signs are rare, physical consequences of the disease. Physical signs are rare, and when present they are usually indistinguishable from those of chronic bronchitis.

The chief point of interest that Dr. Stewart has found lies in disturbances of the sedimentation rate. Table VII shows the

TABLE VII.—Relationship between Sedimentation Rate and Progression of Progressive Massive Fibrosis (Stewart, 1947)

Degree of Radiological Progression	Percentage of Cases with Raised and Normal Sedimentation Rates		
	Under 5 Years' Interval between Radiographs	Over 5 Years' Interval between Radiographs	
	E.S.R. Normal	E.S.R. Raised	E.S.R. Normal
Slight	58 (67)	42 (63)	85 (71)
Marked	19 (14)	81 (61)	36 (23)
	14 (18)	86 (50)	33 (65)

Figures in parentheses are the actual numbers on which percentages are based.

relationship in certified cases between an abnormal sedimentation rate, taken by the Wintrobe method, and radiological progression. In this table the type of progression has been divided into marked, slight, and no progression. In the most progressive group (those showing marked extension in less than five years) 86% have an abnormal sedimentation rate (10 mm or over in 1 hour), while in those remaining stationary for more than five years 85% have a normal sedimentation rate. In the intermediate groups (those with slower progression or those in whom progression may be starting but is not yet radiologically evident) cases with abnormal sedimentation rate appear in intermediate proportions. Here, then, we have a hint that we may be dealing with an infective process, and it is natural to turn to the bacteriologists for help.

2. Bacteriological Evidence

In classical silicosis, due to exposure to dusts containing a high proportion of free silica, progression after leaving exposure

to the dust is almost invariably due to the activity of the tubercle bacillus, although other pulmonary infections in a silicotic lung may leave excessive fibrosis in their wake (Strachan, 1948). In repeated bacteriological examinations of sputa from some 50 of our in-patients we have been unable to find any characteristic flora or any feature other than the presence of coal to distinguish these sputa from that produced by any case of chronic bronchitis, nor has there been excessive residual fibrosis in the few cases of pneumoconiosis in which we have been able to observe the development and resolution of a non-tuberculous pulmonary infection. Our attention has therefore been concentrated on the hypothesis that progressive massive fibrosis is the consequence of tuberculous infection in a lung already occupied by siliceous coal dust.

In Dr. Stewart's series 465 cases (the majority with progressive massive fibrosis) produced specimens of sputum. By the courtesy of Prof. G. S. Wilson, these were examined in Cardiff by Dr. L. Dowsett, of the Public Health Laboratory Service. There were only 17 (3.5%) in which she was able to isolate the tubercle bacillus on culture or guinea-pig inoculation. Sen (1937) found 12 out of 100 cases of pneumoconiosis in South Wales coal-miners with a positive sputum, but it is not clear how his cases were selected and how comparable they are to Dr. Stewart's. Although Dr. Stewart found that the cases with positive sputum were not usually radiologically different from the others, they did differ in that they appeared more ill.

We have observed 183 cases in various stages of the disease as in-patients. Of these, 8 (4.5%) have had a positive sputum. These positive cases had in common that they were ill men and they were all febrile at least for a few days during admission, whereas we have only occasionally observed fever in the sputum-negative cases, and then it was caused by obvious intercurrent infection. The serious significance of clinically recognizable tuberculosis has also been stressed by Gooding (1946).

Not infrequently cavitation occurs in areas of progressive massive fibrosis, an event which is usually associated with the classical history of coughing up a large amount of dense black sputum. We have had 15 cases of such cavitation under observation for several weeks as in-patients. It might have been expected that if progressive massive fibrosis is tuberculous in nature we should obtain positive sputum results from these cases. Dr. Dowsett has examined their sputum repeatedly by culture and by guinea-pig inoculation, but from only four of them (27%) could she isolate the tubercle bacillus.

Evidence from clinical bacteriology therefore suggests that these lesions are not essentially tuberculous but that they may be complicated by tuberculosis without modification of the radiological appearance, though usually with a change for the worse in the clinical picture. It is almost as if the invasion of the tubercle bacillus was but a terminal event.

Post-mortem bacteriology tells a rather different story. Dr. Enid Rogers (1946) has reported that she had evidence of tuberculosis in 75.8% of her cases of massive fibrosis at necropsy. In 1947 in a smaller series of 20 cases Dr. Sladden observed a similar proportion. However, Gooding (1946) found evidence of tuberculosis in only 26% of cases at necropsy, but he does not say how many of his cases had massive fibrosis. Dr. James, of our Unit, working under Dr. Gough's guidance in the Welsh National School of Medicine, has made a routine search for tuberculosis, by culture and guinea-pig inoculation, in 75 successive cases of massive fibrosis coming to necropsy, but has had a positive result in only 25 (30%).

3. Histological Evidence

I have already referred to Belt and Ferris's suggestion that the development of collagenous fibrosis in coal-miners' lungs is due to the operation of a "sporadic factor x," which might be tuberculosis. There was apparently the first definite suggestion of such a point of view in coal-miners' pneumoconiosis. Cummins and Sladden (1930) and later Cummins (1935) had attributed this collagenous fibrosis to the action of silica or to the action of siliceous coal dust into an area of pre-existing infective bronchitis. On the other hand, Policard (Policard *et al.*, 1936) has always maintained that collagenous fibrosis is of tuberculous origin in silicosis.

Our understanding of the pathology of coal-miners' pneumoconiosis has been considerably increased by the work of Dr. J. Gough, of the Welsh National School of Medicine, whose observations may conveniently be considered at this point. His first paper, in 1940, was concerned with the pathology of the disease in coal-trimmers, who load coal into the holds of ships. He showed that the condition was identical with that appearing in coal-miners, and that, since the trimmers work in an atmosphere heavily charged with nothing but coal dust, this dust must be regarded as fibrogenic. In agreement with Gardner (1933), Badham (1938), and Cummins (1938) he pointed out the emphysema which accompanies the disease. Gough (1947a) and J. E. Wentworth then developed a method of cutting sections of the whole lung which may be mounted on paper and viewed by the naked eye in order to make a side-by-side comparison between the pathological condition and a radiograph taken before death. This technique brought into prominence the focal nature of the lesions underlying radiological reticulation, which Gough called coal foci, thus disagreeing with Belt and Ferris's description of diffuse "dust reticulation," although he agrees that occasionally a diffuse type of coal infiltration of the lung is seen. Some of these foci are soft and impalpable, but others are hard and nodular. He also demonstrated clearly the distribution and severity of the emphysema lying in the immediate vicinity of these coal foci, for which he used the term "focal emphysema" in order to differentiate it from the large bullous type of emphysema which develops with the contraction and scarring caused by the larger areas of massive fibrosis and also from the emphysema of chronic bronchitis and asthma in non-miners. This focal emphysema, he suggested, was the most likely cause of the dyspnoea associated with reticulation and might be of fatal severity. He pointed out that this focal emphysema is not proportionate to the degree of fibrosis and is more severe in coal-miners than in cases of classical silicosis with typical collagenous nodules. A detailed account of the development of the coal focus has recently been published by Heppleston (1947), in which he attributes the development of focal emphysema to mechanical stress in the alveoli surrounding the coal nodules. Williams (1944), however, believes that the emphysema is due to stenosis of the respiratory bronchi as they pass through the coal foci.

Gough (1947b) supported the suggestion of Belt and Ferris that tuberculosis might be the agent responsible for the development of collagenous fibrosis. Indeed, he suggested it was the chief if not the sole agent. He drew a distinction between the simple coal foci and other quite distinct collagenous nodules which he called infective. Such nodules may occur discretely but are most often found in the early stages of the formation of massive fibrosis and at the periphery of such areas. They may be distinguished from the classical collagenous, whorled silicotic nodule which is found in men who have worked predominantly in rock.

Gough argues that the histology of the lesions in which tubercle bacilli can be identified and from which they can be isolated by culture is indistinguishable from the histology of lesions in which tubercle bacilli cannot be found, and that it is therefore reasonable to assign a common aetiology to all of them and to assume that the negative cases are those in which the initiating tuberculous process has died out. Moreover, there is nothing in the obviously tuberculous lesion to support the clinical suggestion that the tuberculosis is a later complication of a pre-existing non-tuberculous fibrosis. It appears as an integral part of the disease process.

4. Radiological Evidence

The radiological appearance of the earlier stages of progressive massive fibrosis is often similar to that of tuberculous infiltration. Davies and Mann (1948) have made a detailed study of these early shadows and consider that they may be divided into three groups.

1. Cases in which the appearance is typically tuberculous. The localization is apical, with a segmental distribution, often with a pleural reaction and with increased vascular markings converging downwards to the hilum. The focal shadows within the lesion are dense and do not show the granularity typical of the mottling or reticulation or non-infective coal nodulation.

2. Cases in which the appearance is *ambiguous*.—Tuberculosis is still suggested; the location is subapical, but often rather lower; there is a gradual transition from the granular mottling of the generalized dust effect to more homogeneous but still somewhat granular foci which are not of segmental distribution. There is little pleural reaction or increase of vascular shadows running to the hilum (e.g., Plate, Fig. 4, right upper zone).

3. Cases in which the appearance is *characteristic of progressive massive fibrosis*.—The shadows are subclavicular, but may lie in the lower zones. They are well separated from the periphery. At first they are composed of a coalescence of the typical granular mottling of the generalized dust lesion; later they form compact homogeneous masses (e.g., Plate, Fig. 6).

Among the Hart and Aslett cases that Davies and Mann have reviewed there were 147 that showed one or other of these types of localized shadow in addition to some degree of reticulation in either their past or their present films. Table VIII shows the types of progression they observed in these cases.

TABLE VIII.—Development and Progression of Localized Shadows in all Hart and Aslett Cases that Presented such Shadows in either the First or Second X-ray Film (Davies and Mann, 1948)

Type of Shadow in First Film	Type of Shadow in Second Film			Totals
	Tuberculous	Ambiguous	Progressive Massive Fibrosis	
Reticulation only	8	47	13	68*
Tuberculous (+ reticulation)	22†	0	1	23
Ambiguous (+ reticulation)	0	35‡	21	56

* Out of 461 cases in the whole series showing some degree of reticulation in the first film (169 of them certifiable)

† 9 of these cases had advanced; 13 had remained stationary.

‡ 28 of these cases had advanced; 7 had remained stationary.

The main points to notice in this table are: (1) When a tuberculous shadow is present in the first film it nearly always retains its characteristic appearance even in the presence of reticulation. In one case, however, a typical shadow of progressive massive fibrosis developed at the site of a typical tuberculous shadow, and this sequence of events has also been observed in a few other cases not included in this particular series. (2) The ambiguous shadows either remain ambiguous or develop into characteristic progressive massive fibrosis. (3) New shadows appearing in the second film in cases of reticulation are usually of the ambiguous type or characteristic of progressive massive fibrosis, but it is possible for a characteristic unmodified tuberculous shadow to appear in the presence of pre-existing reticulation.

Although the tuberculosis in this particular series showed a very benign type of progression we do see cases of reticulation with a superimposed rapidly progressing extensive tuberculosis.

Summing up all this evidence, then, we may say that, clinically, tuberculosis appears as an infrequent but often serious complication of the disease; pathologically, it appears to be the probable cause of most cases of progressive massive fibrosis; radiologically, when it can be identified, it usually runs an independent unmodified course, but in the presence of reticulation it may occasionally be seen to become modified and develop into typical progressive massive fibrosis.

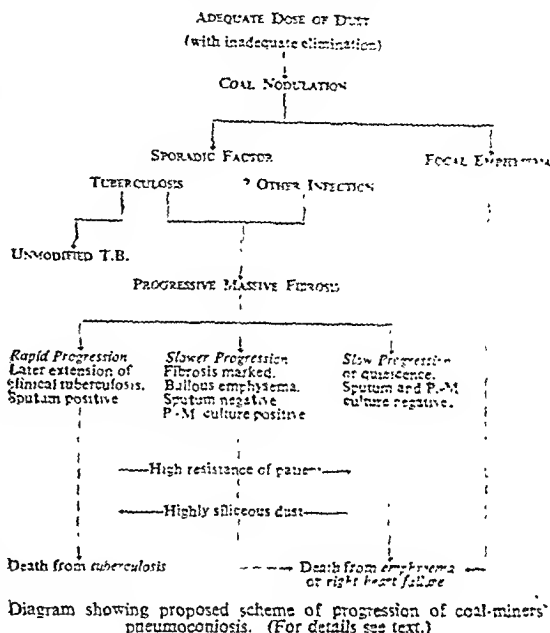
Synthesis of Present Evidence

With this conflicting evidence it is now possible to achieve any synthesis and to produce some provisional hypothesis both to interpret the observed facts and to provide a basis for action and for further investigation?

I have attempted to represent in the accompanying Diagram our present views on the nature of this disease. Any man receiving an adequate dosage of coal dust and in whom the natural means of elimination are overwhelmed may develop coal nodulation. One consequence of this in certain cases will be the development of focal emphysema. We do not know why only certain cases develop this complication. We cannot diagnose it in life, but it appears to

be uncommon except in the more elderly cases. It may become severe enough to be fatal.

Another consequence of coal nodulation is the liability to develop progressive massive fibrosis. We believe that the development of this complication may depend upon an adequate silica content of the dust and that it is due to the action of some infective agent which may be tuberculous, although tuberculosis may often pursue an independent course in the presence of reticulation. Depending perhaps upon the resistance of the patient, but also upon the silica content of the dust, progressive massive fibrosis may follow



three different types of course. (a) There may be rapid progression with the ultimate development of clinically recognizable tuberculosis and a positive sputum. Such cases die from their tuberculosis. (b) The progression may be slower, with the formation of masses of fibrous tissue which on contraction are associated with the development of bullous emphysema. Such cases are not clinically tuberculous, but from their lesions the tubercle bacillus may be cultured post mortem. They commonly die from their emphysema with right heart failure. (c) In certain cases we see very slow progression which may attain a state of quiescence. In such cases the tubercle bacillus cannot be recovered post mortem, but death is often due to the pneumoconiosis.

Our views on the nature of coal-miners' pneumoconiosis therefore lead us to talk of three diseases. There is the pure coal-dust disease, non-progressive and benign unless focal emphysema develops, when it may be fatal. In this respect it is a more serious condition than the second disease the classical non-infective silicosis of rock-workers, in which focal emphysema is much less prominent. In coal-miner these two diseases are often indistinguishably combined. Then there is a third disease process due to the interaction between some infective process, often tuberculosis, and the dust ensnared in the lung. The fundamental similarity of coal-miners' pneumoconiosis to pure silicosis is close. We believe the differences must be due, as Cummins (193) maintained, to some action of the coal dust in the lung subduing the toxic effects of tuberculosis both general

and locally, so that it is not clinically apparent, and so that the bacilli only occasionally escape from their fibrous prison to spread throughout the lung or appear in the sputum. The clinical differences between coal-miners' pneumoconiosis and silicosis are chiefly that the coal-miner with his focal emphysema and his anthraco-silico-tuberculosis is more breathless than ill and his death is like that of a chronic bronchitic with emphysema and right heart failure. He has, as Cummins has emphasized, miners' dyspnoea or miners' asthma. On the other hand, the silicotic with silico-tuberculosis is more often ill as well as dyspnoeic. He has miners' phthisis, and dies of clinically recognizable tuberculosis.

Prevention: Periodical Examinations

Having now outlined the observations that we have made on the progression and nature of this disease, the question of treatment needs consideration.

The most important preventive measure is of course dust suppression, but it may be ten years before we can properly assess the efficacy of dust suppression in reducing the incidence of the disease. For this reason some other immediate preventive measure is needed. This can be provided only by a system through which men can be removed from a dangerous environment before they have developed a significant amount of disease.

At present certification has this aim; but it is failing, for after certification the majority of men undergo serious progression. Since it is left to the initiative of the man to apply for certification, and since the early stages of the disease right up to progressive massive fibrosis may be symptomless, the present system is bound to fail. It is therefore necessary to institute a system of periodical x-ray examinations of all men exposed to coal dust, so that in every case the earliest stages in the development of the disease may be observed. In this way accurate and up-to-date evidence will gradually be accumulated of the success or failure of dust suppression. If at the same time routine periodical dust-sampling surveys are made at the men's working-places, essential information of value concerning standards of permissible dustiness will gradually be accumulated. More important still, it will be possible to advise men at the appropriate stage of the disease that they must leave a dusty working environment.

Here, however, lies the kernel of the problem. What is the appropriate stage? The final answer to this question can only be given in the light of experience gained by a system of periodical examinations in action. Since, however, it is a matter of urgency that such a system should be initiated, some provisional answer must now be given. The simplest answer would be to say that any man showing evidence of even the earliest stages of pneumoconiosis should be advised to leave the industry, but this should not be necessary if continuous medical supervision of all such cases can be assured. Moreover, large numbers of working colliers, at least in South Wales, show some early signs of pneumoconiosis in their x-ray films. To recommend all these men to leave the industry would be to cast them upon an unresponsive labour market without any training or skill outside their own profession. Further, it would mean closing a large number of the coal-mines in South Wales at a time when increased coal production is the nation's most urgent need.

Can we then provide any evidence of what may be regarded as a dangerous stage of pneumoconiosis at which men must be advised to leave a dusty working environment? The dangers which we must consider are the development of focal emphysema and of progressive massive fibrosis, for these are the chief causes of disability and

death in this disease. Unfortunately we have no evidence concerning the risk of development of focal emphysema at any particular stage of the illness, for this condition is not at present diagnosable in life. It should, however, be possible to discover at what stage of radiological abnormality a man becomes a potential candidate for the development of progressive massive fibrosis. I have attempted to get evidence on this point by reviewing all the Hart and Aslett cases which we have followed up, and of which we had a film showing progressive massive fibrosis at its earliest stage of development. There were only 28 of these cases. In all but three of them the degree of reticulation was sufficient to qualify for certification under present standards. In these three cases the intensity of the reticulation was only slightly below this standard.

The evidence at present is meagre, but, so far as it goes, it suggests that men might be ensured safety from progressive massive fibrosis if they were advised to leave a dusty working environment at a stage slightly earlier than that which at present qualifies for certification. We are now engaged upon seeking further evidence on this point.

Another factor that must be considered is the man's age. A man who does not develop a dangerous stage of reticulation until, say, the age of 55, and in whom serial x-ray films give little evidence of progression, will stand so small a chance of developing a serious degree of progressive massive fibrosis within his natural span of years that it would hardly be necessary to recommend him to leave his employment.

Next, there is the question of what a man who has already reached the dangerous stage, as I have defined it, should be advised. We have seen that there is some evidence that the development of progressive massive fibrosis may not be dependent on further exposure to dust. It is therefore questionable whether such a man would benefit by being advised to leave underground work. But we cannot deny that further accretions to the dust in the lungs may increase the liability to develop focal emphysema.

Finally, what of the man who has already developed some degree of progressive massive fibrosis? We have as yet no clear evidence on which to base an answer to this question, although we hope to obtain some evidence when we have completed our analysis of the progression shown by cases x-rayed by Hart and Aslett. The possibility that these men may develop open tuberculosis must be considered. It may be that they should be suspended in any case in the interests of their fellow workmen.

Under a system of periodical examination, then, the men to whom a change of environment should be firmly recommended are the younger men in whom serial examinations show that reticulation is approaching but has not yet reached the present certifiable level. It should be unnecessary to suspend them altogether from coal-mining, but only to offer them working places which, from continuous dust estimations and the results of periodical examinations of the men working there, are known to be safe from a risk of pneumoconiosis. The older and non-progressive cases and those who have already reached a "dangerous degree" of pneumoconiosis could, if they wished, remain at their work so long as they were free from symptoms which would necessitate their undertaking a less strenuous occupation.

The urgent necessity for the institution of an appropriate system of periodical x-ray examinations, which alone can give our coal-miners security from pneumoconiosis, cannot be over-emphasized. Such a system was recommended by the Industrial Pulmonary Diseases Committee of the Medical Research Council in 1942. It was again recommended by the Advisory Committee on Treatment and

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rehabilitation in 1944 (Ministry of Fuel and Power, 1944). Such a system has for many years safeguarded the gold-miners at Johannesburg and Ontario and elsewhere; it is already in operation in certain silica-risk industries in this country; and it has recently been set going throughout the coal-mines in France, in which the problem of pneumoconiosis is almost as severe as it is in South Wales. The sincerity of the industry's and the Government's concern with the health of coal-miners will be judged by the speed and thoroughness with which such a system is instituted in this country.

Therapy

With regard to therapeutic as opposed to prophylactic measures, we cannot offer cure. There is no known method for reducing the fibrosis which is already present in the lungs, and at present the scarcity of sanatorium accommodation does not render practicable a proposal to treat the earlier stages of progressive massive fibrosis by prolonged bed-rest. Dr. M. C. S. Kennedy has recently joined the Unit to undertake trials of aluminium therapy, which will be started among cases of pure silicosis in the Potteries, but at present we must be content with palliative measures, which are often of value.

In the 183 cases seen as in-patients in Llandough Hospital it was found that we can help in two main ways. First, we can remove the fear of an early and distressing death under which so many of the men labour even in the earliest stages where the prognosis is good. The consequence of this fear is the grafting of a form of effort syndrome on top of the organic disability. It is too early yet to make a proper assessment of our results, but with simple, graduated general and breathing exercises we have been able to produce subjective improvement in the symptoms of many of our patients. One story may illustrate the psychological effect of such methods. It concerns a man who had been in the ward previously and had returned after six months for further investigation. He said he had been very much improved by his earlier stay in the hospital.

He asked him, "Is your breathing any better?" "No," he said. "Then is your pain in the chest any better?" "No," he said. "Then have you gained any weight?" "No," he said. "Then in what way are you better?" "Spiritually," he said. "No one but a Welsh miner would have given this answer. He illustrated what he meant by explaining that during the great frost of 1947, when the bus which took him one mile and a half to work stopped running for four weeks, he walked the whole way in the snow every day, a feat which he would not have attempted before his admission to our ward."

Secondly, we find, as many observers have found in classical silicosis, that in the dyspnoea of the later cases bronchial spasm plays an important part. Antispasmodics, specially in the form of aerosols for inhalation, may produce a dramatic improvement in exercise capacity in many cases.

Physiological Studies of Disability

I will refer briefly to one other among many lines of investigation which we are pursuing.

Dr. J. C. Gilson and Dr. P. Hugh-Jones are studying the disturbances of respiratory function in cases of pneumoconiosis by physiological methods. Apart from its intrinsic interest, this study has two important practical aspects derived from the fact that the degree of radiological abnormality in any case does not give an accurate indication of the severity of the associated respiratory disability: first, there is the need to provide some objective method of disability assessment for purposes of compensation and job selection; secondly, there is need for a means of diagnosis

in certain cases in whose x-ray films we believe that focal emphysema may have obscured the underlying coal nodulation. Two contrasting cases may illustrate the problem.

The first of these men, a steam-coal collier aged 55, is so dyspnoeic that he can only walk very slowly on the level. Although his radiograph shows some reticulation, and he has sufficient abnormality to qualify for certification, and he has been three times rejected by the Silicosis Board. In contrast to this case is the second case, that of a steam-coal collier aged 39. He works as a railway porter and finds no difficulty in carting sacks of potatoes about, but his radiograph shows massive shadows in both lung fields. This man holds our local record for the quarter-mile dash with a time of 79 seconds.

Acting on the hypothesis that emphysema, either focal or bullous, is an important factor in the causation of disability in cases of coal-miners' pneumoconiosis, Gilson and Hugh-Jones have first studied disturbances of the different divisions of the lung volume, with particular reference to the proportion of the total lung volume occupied by the residual air. This test for emphysema has hitherto proved unsatisfactory, largely because of the wide range of variation found among normal subjects, which means that it is not possible to be confident of the degree of abnormality revealed by a single estimation in any one case, but it may be of greater value in studying cases of pneumoconiosis when periodical examinations are carried out, for it will then be possible to use earlier observations on any individual case as a base-line, deviations from which may be significant even within the accepted range of normality. A report on this work will shortly be published (Gilson and Hugh-Jones, 1948). Studies of minute-volume during exercise in relation to the maximum breathing capacity are now being made. Disturbances of alveolar gas exchange are also being investigated, but preliminary results suggest that impairment of the ventilatory function of the lungs in cases of pneumoconiosis is more important than impairment of alveolar gas exchange.

Future Action

I have said that the inquiries of the Pneumoconiosis Research Unit have been largely directed towards practical sound preventive and therapeutic measures upon which it is natural, therefore, that we should look with interest for developments in the field of administrative action.

Following upon a conference held by Mr. Shinwell in Cardiff in January, 1947, a National Joint Pneumoconiosis Committee was set up in the following July, under the Chairmanship of the Parliamentary Secretary to the Ministry of Fuel and Power. On this committee the various Departments concerned with the problem of pneumoconiosis of coal-miners are represented at a high level. It has four subcommittees reporting to it on dust prevention, medical examination, treatment, and industrial rehabilitation. Members of the Pneumoconiosis Research Unit serve on these subcommittees, and a direct channel is thus provided between research and administrative planning.

The aim of this National Committee is "to prepare a co-ordinated plan for future action and to make recommendations accordingly." This is an excellent aim, but recommendations have been made in the past and they have not always been followed by action. We know that pneumoconiosis is a preventable disease and that much can be done to help those already disabled by it. The call to action is imperative.

Summary

The history of coal-miners' pneumoconiosis is briefly considered, and the investigations into the disease carried out under the Industrial Pulmonary Diseases Committee of the Medical Research Council are summarized.

The introduction of the term "reticulation" to describe the earlier radiological changes of coal-miners' pneumoconiosis is criticized.

A short account is given of dust-suppression methods. The importance of the biological approach to the design of dust-suppression methods is stressed.

The rapid increase in certification rates in recent years is described. It is suggested that in most areas it is due chiefly to the effect of the Coal-miners' Pneumoconiosis Order and to increased awareness of the disease, coupled with opportunities of alternative employment outside coal-mining, rather than to a true recent increase in disease incidence. In the steam-coal pits of East Glamorgan, however, there has been a true increase in incidence recently. There may also have been a true increase in incidence in certain other coalfields in Great Britain, but the incidence there is not likely to become as serious as in South Wales.

It is suggested that the variation in incidence of disease from pit to pit in South Wales is due chiefly to differences in the concentrations of air-borne dust underground rather than to qualitative differences in the dusts.

The post-mining employment of certified cases of pneumoconiosis is considered in the light of investigations carried out by the Pneumoconiosis Research Unit. Reasons are given for suggesting that special employment provisions are needed in addition to those already planned.

The radiological progression of certified cases who have left underground work is compared with that seen in cases continuing to work underground. Progression takes the form chiefly of the appearance of localized shadows which develop into large massive shadows. The name "progressive massive fibrosis" is applied to this condition. Its development appears to be independent of continued dust exposure.

Consideration of clinical, pathological, histological, and radiological evidence suggests that infection, perhaps tuberculous, superimposed upon a lung already occupied by dust is responsible for the development of progressive massive fibrosis.

Prevention of the disease may in the future be achieved by dust suppression. It can at present be assured only by the institution of periodical medical and x-ray examinations of all underground workers in coal-mining.

Therapy at present is only symptomatic, but much can be done by reassurance and exercise in early cases and by the use of antispasmodics in certain more advanced cases.

The physiological mechanism of breathlessness in coal-miners' pneumoconiosis is being investigated.

The prevalence of pneumoconiosis among coal-miners in Great Britain, and particularly in South Wales, calls for speedy and effective action directed to prevention and after-care.

Every member of the Pneumoconiosis Research Unit has contributed in some measure to the preparation of this paper: to them and to Dr. J. Gough, of the Welsh National School of Medicine, I wish to express my thanks for their help. I am also grateful for facts and figures supplied by the medical staff of the Silicosis Medical Boards and by officers of the Ministry of Fuel and Power and of the Ministry of Labour and National Service. The social and clinical studies that I have described have been made possible by the enthusiastic assistance given to me and my colleagues by the South Wales Miners' Federation.

I should like to thank Mr. A. V. Lambert and Mr. F. Meade for their skill in preparing the illustrations to these lectures.

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"Each Regional Hospital Board should have a permanent committee consisting of members of the Board and co-opted persons, whose function would be to co-ordinate the control of tuberculosis together with that of major respiratory conditions, with the ultimate object of creating a complete service for tuberculosis and chest diseases." This is one of the recommendations that the National Association for the Prevention of Tuberculosis has recently made for the consideration of Regional Hospital Boards. The N.A.P.T. draws particular attention to certain aspects of tuberculosis that it considers neglected at present: It lists (a) the treatment of those patients with tuberculosis of more than one organ simultaneously; (b) genito-urinary infection; (c) tuberculosis in children apart from those gross cases treated in orthopaedic departments; and (d) tuberculosis in pregnant women.

intestinal fibrosis, the change is not comparable in severity to that seen in the ileum.

Uterus.—Arterioles of uterine wall show considerable narrowing as a result of intimal fibrosis.

Discussion

Although most attention has been devoted to the kidney in the study of hypertensive arteriolar lesions, the widespread nature of the change has been well recognized. Morlock (1939) studied the ratio of the size of lumen to thickness of arteriolar wall in a hypertensive and a control group and claimed to have found significant changes in a number of organs, including the gastro-intestinal tract. Foa, Foa, and Peet (1943) carried out similar measurements in muscle biopsies and compared them with those made in the arterioles of many organs from a series of post-mortem cases. They concluded that the abnormalities found in the muscle biopsies were representative of the general arteriolar changes in the rest of the body. An excellent and very complete study of hypertensive arteriolar lesions throughout the body was made by Moritz and Oldt (1937), who demonstrated that similar mild changes might be found in certain organs in non-hypertensive individuals, although severe changes were rare except in the spleen. When the changes in a hypertensive group were compared the organs most often affected were, respectively, the spleen, kidney, pancreas, adrenals, and gastro-intestinal tract. In these organs the lesions were in many cases classed as severe. It is therefore a very significant fact that two organs—namely, the kidney and the gastro-intestinal tract—should show frequent severe arteriolar lesions in hypertensive cases when in the control group showed any severe change in these organs. In contrast there were a number of cases with severe lesions of the splenic arterioles in the control group, and their appearance in hypertensive cases is thus of less significance (see Table). They furthermore noted

TABLE I
Incidence of Severe Changes (figures from Moritz and Oldt, 1937)

Organs	Severe Changes	
	Non-hypertensive Group	Hypertensive Group
Spleen	21%	55%
Kidney	0%	47%
Gastro-intestinal tract	0%	15%
Pancreas	5%	43%
Adrenals	6%	42%

that 38% of those with chronic hypertension showed superimposed acute degenerative, necrotic, and inflammatory lesions in the renal arterioles. This type of lesion was not, however, confined to the kidney, and it is interesting to note that it was found next most frequently in the gastro-intestinal tract. It is now well realized that a small number of patients with chronic hypertension, whatever the aetiology, may develop a terminal malignant hypertension, and the acute lesions described represent this condition. The fact that severe lesions are found more often in benign hypertension in the spleen, kidney, pancreas, and adrenals than in the gastro-intestinal tract is in marked contrast to the incidence in malignant hypertension. Here the gastro-intestinal arterioles are affected next in frequency to the kidney, and it clearly suggests that when severe gastro-intestinal lesions occur they are confined to cases of malignant hypertension. It should not, however, be forgotten that the renal vessels are not normally examined at necropsy, and probably have the highest incidence of all.

These observations have been amply confirmed in experimental work where the pathological picture was one of malignant hypertension. Wilson and Pickering (1938), produced hypertension in rabbits, noticed especially well-marked acute arterial lesions in the intestine. Wilson and

Byrom (1939) found in their hypertensive rats that, apart from the kidney, the most severe acute lesions were present in the mesenteric arteries, and that these lesions were as acute as to resemble those seen in human polyarteritis nodosa. This is of some interest when it is remembered that the kidney and gastro-intestinal vessels are so often affected in that disease. Pickering and Prinzmetal (1939) found acute arterial and arteriolar lesions in the gut of hypertensive rabbits and described petechial haemorrhage in that organ. This is reminiscent of Goldblatt's (1939) classical hypertensive experiments on dogs, in which he found similar petechial haemorrhages in the gastro-intestinal tract and which he attributed to rupture of a dissecting haemorrhage into the walls of severely degenerated hyalinized, or necrotic arterioles. This lesion of the arterioles he considered to be identical with that seen in malignant hypertension in man.

There are few references in the literature to gastro-intestinal arteriolar lesions giving rise to pathological changes such as ulceration and haemorrhage in man. This may be due to the fact that the disease has proved fatal before the gastro-intestinal changes have become sufficiently advanced. Klemperer and Otani (1931) described few cases of "haemorrhagic enterocolitis" in malignant hypertension, but gave very few details beyond noting that in one of these cases the lesion was confined to the jejunum and ileum. Jablons (1944) in a clinical study of gastro-intestinal symptoms in hypertension and renal disease found that most cases showed no "demonstrable macroscopic lesions" in the gastro-intestinal mucosa. He mentioned, however, that ulcerative lesions occur in malignant hypertension and are often responsible for extensive bleeding. In a series of ten cases he found ulcerative lesions of the large intestine in two. Jablons states that this ulceration may occur anywhere in the alimentary tract from the pharynx to the anus and may cause haematemesis or rectal bleeding at the outset of the disease, although it is commoner as a terminal feature. Professor Clifford Wilson (personal communication) states that he has observed vascular lesions in the bowel in many cases of malignant hypertension, sometimes leading to ulceration and in two cases to perforation and peritonitis. These observations are well in accord with the features of the present case, in which rectal bleeding developed just over two weeks before death, and in which ulceration of the small intestine with peritonitis was found at necropsy although no perforation had occurred. A clinical diagnosis was not made, probably because there was considerable sedative administration to combat the rather severe terminal hypertensive attacks.

It is therefore suggested that gastro-intestinal ulceration, haemorrhage, and perforation occur only in malignant hypertension. In this disease the arteriolar lesions are of necessity much more severe, and the gastro-intestinal vessels are involved in a greater number of cases. The recognition of such a possibility is considered to be of clinical importance, although it is realized that in a number of cases gastro-intestinal complications will occur only as a terminal event.

Summary

A case of malignant hypertension with intestinal ulceration, haemorrhage, and peritonitis is described.

The pathological lesions of the alimentary tract are accounted for by the increased vulnerability of the gut in malignant hypertension.

The possible clinical importance of recognizing such a condition is raised.

I should like to express my thanks to Dr. Geoffrey Bourne for permission to publish the case, to Prof. Geoffrey Hadfield for much valuable help and criticism, to Dr. G. S. Sansom for the photomicrographs, and to Mr. J. W. Miller for technical assistance.

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SILICEOUS GRANULOMA DUE TO TALC A CAUSE OF POST-OPERATIVE PERITONEAL ADHESIONS

BY

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[WITH PHOTOGRAPHIC PLATE]

Post-operative peritoneal adhesions have long excited the interest of surgeons and stimulated speculation about their pathogenesis. One is often surprised at operation by the scantiness, softness, and avascularity of intraperitoneal adhesions seen after the resolution in an unopened abdomen of a bacterial inflammation such as an appendicular abscess or a more generalized peritonitis. On the other hand, if it be necessary to reopen the abdomen after an aseptic laparotomy, adhesions may be found that are dense, vascular, and widespread. These findings suggest that laparotomy may on occasion introduce into the abdomen a substance more persistently irritant than bacteria. Observations over the past 15 years have identified one such irritant as talc—a complex magnesium silicate—the substance used almost universally in the preparation of gloves for operation. Two excellent reviews on the harmful effects of talc in the peritoneal cavity have appeared in the past year in America (Eiseman, Seelig, and Womack, 1947) and in this country (Roberts, 1947).

Within the abdomen the irritant action of talc elicits a proliferative response comparable to that found in traumatic siliceous granuloma (pseudotuberculoma silicoticum) (Shattuck, 1916; Faulds, 1935). The effects are not limited to the peritoneum, and the implantation of talc at laparotomy may be followed by granulomatous formation in the scar, by sinuses or faecal fistulae, stenosis of entero-anastomotic stomata, and, as Roberts has shown, by chronic fibrosis of the Fallopian tube with consequent sterility. The patient's history and the density of the peritoneal adhesions found at operation may suggest the diagnosis of siliceous granuloma, but the only certain proof is to find, in microscopical sections of the collagenous tissue, doubly refractile material with the appearance of talc closely related to foreign-body giant cells. The use of "polaroid" screens on the ordinary microscope is simple and usually leaves little doubt about the diagnosis, but, unless sections are examined for anisotropic material, cases may easily escape recognition and be diagnosed as tuberculosis, regional enteritis, sarcoidosis, keloid scar, or non-specific foreign-body reaction, although the situation of the granuloma may well occasion comment.

Foreign bodies such as suture material are often surrounded by giant cells and can show in varying degrees

the property of rotating the plane of polarized light, but they are unlikely to be scattered diffusely in the peritoneum, and the structure of talc as seen by polarized light is fairly characteristic (see Plate, Fig. 3). Many years after its implantation in the tissues talc has been recognized in sections prepared by routine histological methods (Roberts, 1947).

Case History

Miss B., aged 74, was admitted to the medical wards of the Western Infirmary on Oct. 3, 1947, for investigation of a severe anaemia which had developed over the past four years. She was found to be passing considerable quantities of altered blood in the stools, but intensive clinical, haematological, and radiological investigation failed to establish a source. Transfusion of 9 pints (5.1 litres) of blood over a period of a month scarcely replaced the loss, and her condition remained precarious. The decision to perform laparotomy was taken in the hope of finding the bleeding-point. She had undergone no previous abdominal operation.

First Operation.—On Nov. 26 Prof. C. F. W. Illingworth made a right paramedian incision in the upper abdomen, and his note states that wide exploration of the abdomen was carried out. A Meckel's diverticulum was found attached by its fundus immediately deep to the umbilicus. The diverticulum was not apparently the source of bleeding and so was not removed, though its tip was freed from the abdominal wall. The spleen was enlarged to perhaps twice normal size. The pre-hepatic haematological investigations having yielded no facts to contraindicate splenectomy, this was carried out and the arteries at the ends of both curvatures of the stomach were divided in the hope that the undischarged lesion might be in the upper division of the portal system. The patient recovered uneventfully from this operation, but bleeding into the alimentary tract continued. On several occasions aspiration of the stomach was carried out over long periods, but no blood was recovered. By Dec. 9 the haemoglobin level had fallen to 39, and it appeared necessary to explore the abdomen once more. In the absence of Prof. Illingworth the responsibility for this step fell on one of us (W. A. M.). The patient was prepared by transfusion of 4 pints (2.27 litres) of blood.

Second Operation.—This was performed on Dec. 9, 13 days after the first operation. There were dense adhesions of recent origin involving the stomach, omentum, the Meckel's diverticulum, and the anterior abdominal wall. The diverticulum was removed and opened but no ulceration was found. The entire small bowel contained altered blood, nowhere throughout its length could a polyp or ulcer be palpated, but accurate examination of the stomach was prevented by adhesions. The abdomen was then closed; recovery from the operation was satisfactory, and four days later the haemoglobin value was 82. Bleeding into the alimentary tract, however, continued as before, and to date is unexplained.

Pathological Report.—The specimen consists of a Meckel's diverticulum 3.5 cm. long. The peritoneum is dull and the wall thick and dense. The mucosa has a normal velvety appearance. Histological sections show zones of thickly woven collagenous connective tissue external to the muscularis and extending into it here and there for a short distance. This tissue replaces most of the subserous fat, is responsible for the increased thickness of the wall, and forms the outer surface of the diverticulum at several places (Plate, Fig. 1). Imbedded in it lie many foci of macrophages and foreign-body giant cells, arranged in some instances in the form of poorly defined follicles. These cells surround brownish crystalline doubly refractile particles of an average length of 15 μ and of a shape identical with surgical talc (Figs. 2 and 3). Similar material is seen underneath the serosa in varying concentrations in all parts of the diverticulum. The mucosa is of normal small-intestine type and no areas of gastric heterotopia are present.

Comment

There is no doubt that these lesions had their origin in the first operation, 13 days before the specimen was removed. It is comparatively rarely that the opportunity occurs to examine tissue removed from the abdomen such

a short time after laparotomy in an aseptic case, and we make this report to emphasize the speed with which dense fibrous tissues may form in response to a small quantity of talc. In the series of cases described by Eisman, Seelig, and Womack several patients complained only a few days after operation of symptoms later ascribed to talc granuloma, but histological examinations were not made in any of these until at least two months after the first operation. In our patient the reaction produced no symptoms despite its extent and intensity.

It is evident that the use of talc at operation constitutes a hazard potentially grave in its consequences for the patient. The authors of the two reviews quoted above recommend bluntly that it be abandoned. The suggested substitutes, potassium bitartrate and formolized starch, appear to be free of the irritant effect of talc, but unfortunately possess faults of their own, and the search for a completely satisfactory lubricant for gloves has not yet been successful. Until it is found we must obviously use talc with caution, make every effort to reduce the quantity to a minimum, and above all avoid depositing it in the peritoneal cavity.

Summary

The production of post-operative peritoneal adhesions by surgical talc is briefly discussed.

A case history is given of a patient whose abdomen was reopened 13 days after laparotomy. At the second operation extensive dense adhesions were found. Histological evidence is presented that these arose as a result of deposition of small amounts of talc at the time of the first operation.

We should like to thank Dr. W. R. Snodgrass and Prof. C. F. W. Illingworth for access to their records and permission to publish this case.

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"TUBERCULOSIS" (COEXISTENT WITH CARCINOMA OF THE UTERUS) SHOWN TO BE SILICEOUS GRANULOMA

BY

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[WITH PHOTOGRAPHIC PLATE]

The present case was previously reported as an example of the rare coexistence of carcinoma and tuberculosis in the same organ (Smith, 1945). The diagnosis of tuberculosis was made on histological grounds without much dubiety, despite failure to demonstrate acid-fast organisms in the sections. Roberts (1947), however, has proved that granulomata occurring in the Fallopian tube, with a histological picture very closely resembling tuberculosis, may in fact be siliceous and not tuberculous: these foreign-body granulomata apparently follow the introduction of talc (surgical gloves) into the peritoneum, and in all his five cases of siliceous granuloma of the tube a previous appendicectomy had been performed and could well have been the occasion of implantation.

Each of my case in the light of Roberts's work suggests that the original diagnosis of tuberculosis is incorrect and that of siliceous granuloma rather more likely, the more so as the patient also had undergone a previous

Case History

Mrs. A., aged 44, had a "chronically inflamed appendix" removed in November, 1943; at operation the uterus was noted to be enlarged, but no signs of tuberculosis were observed. In December, 1943, there was a sudden discharge of thick yellow pus from the vagina. The gynaecologist's report was: "Mass palpable through the anterior fornix." In April, 1944, she was readmitted with vaginal bleeding and abdominal pain; at laparotomy the uterus was seen to be enlarged and white nodules were visible in the walls of both tubes at the uterine ends. The uterus and right tube were removed and sent to the laboratory. No sign of pulmonary or renal tuberculosis was detected at the time of hysterectomy; she has been well since then (46 months), and at present shows no signs of tuberculosis or malignant disease. The patient's husband, however, has recently been found to have pulmonary tuberculosis.

Pathology.—The upper part of the uterine cavity is completely occupied by a bulky friable mass of tumour tissue covering most of the posterior wall. Two small, pale, button-like nodules are present on the posterior wall, nearer the cervix. The right Fallopian tube shows a firm white nodule 1 cm. in diameter at the uterine end. Microscopically, the appearance in the uterine mass are those of an anaplastic adenocarcinoma. At the margins of the main growth, and in the two smaller nodules of tumour below, there are follicular structures, histologically tuberculous, with giant cells, areas of necrosis, and surrounding lymphocytes. The sections of the Fallopian tube show that the nodule there is not neoplasm but a further tuberculous-looking granuloma with rather more connective-tissue proliferation.

Examination of sections by polarized light revealed the presence of doubly refractive particles both in the tissues and in a few of the giant cells (Plate, Fig. 2). It also revealed a superficial collection of talc crystals with accompanying round-cell reaction immediately below the serous coat of the tube (Fig. 1). This latter lesion, although not far from the main mass of the granuloma, is highly suggestive of direct implantation of talc on the serous surface of the tube as against transport into the lumen, suggested by Roberts to explain the striking localization of the talc in his cases. It is important to note that of 70 sections of the tube only 14 showed the presence of anisotropic material. This material, as Roberts also points out, when contained within the giant cells is not always acicular in shape. Fifty-six sections of the uterine lesions have also been examined through "polaroid" screens, but no acceptable anisotropic particles have been seen.

Discussion

It is suggested that talc from the surgeon's gloves was introduced into the peritoneal cavity during the appendicectomy in November, 1943, and that this is the origin of the siliceous granuloma formed in the Fallopian tube. Although the granulomatous foci in the uterus failed to show anisotropic bodies it seems reasonable to regard them also as siliceous in nature.

The minimum period recorded by Roberts as elapsing between laparotomy and the discovery of a tubal lesion is two years; in the present case the interval was only five months. The discovery of the granuloma was, of course, incidental to the treatment of the cancer, and it is possible that the siliceous lesions would not otherwise have declared themselves for some time, if at all. The more active necrotic character of the histological changes in my case compared with those described by Roberts may well be due to the earlier stage in development of the granuloma.

The period elapsing between the implantation of siliceous material and the subsequent appearance of a superficial dermal granuloma has generally been lengthy—more so in the accident cases than in those with a lesion in a surgical scar. In most cases there appears to be a latent period, and in one traumatic case mentioned by Roberts the silica, driven mechanically under the skin as a result of a fall, lay there without provoking any noticeable reaction for 43 years.

should be noted, however, that in this type of case the irritant is a different compound of silicon from that present in talc. Even then one was hesitant to accept the present case as being siliceous, in view of the short period of five months between the appendectomy, when presumably the talc was introduced, and the subsequent discovery of a tubal granuloma. Walker (see below) has now shown that in even weeks a siliceous granuloma can produce a firm peritoneal adhesion, and Mackey and Gibson (see p. 1077) describe a florid granulomatous lesion developing within two weeks of implantation of talc. Thus in the present case, with its five-months interval, one is justified, I believe, in accepting the siliceous origin. A further argument against as proof of the siliceous origin. The fact that the tuberculous nature of the granulomata lies in the fact that there were macroscopically similar nodules in the left tube, which was left *in situ*. If these had been tuberculous or, indeed, neoplastic in nature, it is reasonable to expect that clinical evidence to that effect would have presented itself by now.

Summary

A further case of siliceous granuloma of the Fallopian tube is reported. The patient had undergone appendectomy five months prior to hysterectomy for carcinoma of uterus. Microscopy reveals the presence in the Fallopian tube of a pseudo-tuberculous granuloma with giant cells containing doubly refractive material, almost certainly surgical talc.

A granuloma similar in histological structure but without discoverable crystals is present in the uterus alongside the carcinoma.

I have pleasure in thanking Dr. Jean Herring for the clinical data, Messrs. Corkhill and Fraser for their technical assistance, and Prof. Lendrum for the photography and his help with this paper.

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SILICEOUS GRANULOMA DUE TO SURGICAL TALC AS A CAUSE OF PERITONEAL ADHESION

BY

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(WITH PHOTOGRAPHIC PLATE)

The following case is reported to show that a single small post-operative peritoneal adhesion can follow the use of talc.

Case Report

A woman aged 58 had a strangulated left femoral hernia for which Lotheissen's operation was performed on Dec. 24, 1947. The sac contained strangulated small bowel and omentum. The former was delivered into the peritoneum, and after application of hot packs was considered to be viable. The omentum was excised and the hernial orifice closed. The patient did well until Feb. 6, 1948, when she developed symptoms first of acute obstruction and then of perforation. On admission to hospital on Feb. 10 she was in *extremis* and died within two hours despite restorative therapy.

The necropsy findings were general peritonitis and an obstruction of the small bowel due to adhesion and kinking 5 ft. (1.5 metres) from the ileocaecal valve. The mesenteric border of the ileum was doubled back on itself for some 6 in. (15 cm.) of its length, producing a U-shaped kink, the limbs of the U being firmly adherent to each other. The proximal limb of the U was grossly distended above the obstruction, and perforation had occurred through a gangrenous portion of its wall.

There was no recurrence of the hernia. Histological investigation of the zone of adhesion reveals a fibrous fusion (see Plate, Fig. 1) in which there are giant cells containing anisotropic crystals. In the giant cell shown (Fig. 2) as photographed through partially crossed "Polaroid" screens, the mass of talc enclosed in the cell has been slightly displaced, as so often happens during the cutting of a section.

In view of the history, the impression at necropsy was that the adhesion had probably arisen in the portion of the bowel involved in the earlier hernia. However, the recent interest in talc as a cause of siliceous granuloma (Roberts, 1947) led to the microscopic examination of the adhesion. The fact that in the giant cells in this area there are doubly refractive anisotropic crystals makes it highly probable that talc introduced at the previous operation was in fact the origin of the adhesion. The lesion is slightly older than that described by Mackey and Gibson (see p. 1077), and differs in being a solitary focus.

Summary

Histological examination of a single peritoneal adhesion, observed seven weeks after a previous laparotomy, shows the reaction of siliceous granuloma with anisotropic crystals in the giant cells, probably surgical talc.

This small circumscribed lesion resulted in death.

I have pleasure in acknowledging the assistance of Prof. Lendrum and Mr. J. W. Corkhill with the photography, and of the former in the preparation of the paper.

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THE LIVER IN INFECTIVE HEPATITIS*

BY

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(WITH PHOTOGRAPHIC PLATE)

This paper is based on the post-mortem findings on 17 cases of infective hepatitis—15 of them in Indians. The patients were admitted to four different military hospitals during 1943-7. The liver showed acute necrosis in eleven and subacute necrosis in five. The last case was under observation for hepatitis without jaundice during an epidemic of infective hepatitis in Malta.

Acute Necrosis

The onset of acute necrosis is sudden. It usually occurs within ten days after admission. In an average case of infective hepatitis the only warning, perhaps, is the presence of albumin in the urine. Mental irritability, vomiting, and stupor usher in cholaemia. Cheyne-Stokes breathing, coma, and pyrexia supervene, and the patient usually dies in three days. A marked diminution in liver dullness can be made out on percussion and the right lateral thoracic vein may be distended. There may be a significant fall in the serum proteins, especially albumin.

Case History

The patient from whom the specimen for the photomicrograph (Plate, Fig. 1) was taken was an Indian aged 22. He was admitted to hospital as an uncomplicated case of infective hepatitis in February, 1944. On the fourth day after admission he became semiconscious and irritable. The urine contained albumin, bile salts, bile pigments, and tyrosine crystals. Two days later he died. At the post-mortem examination the external appearance was that of deep jaundice. There were a

*A review of 450 cases of infective hepatitis by Damodaran and Hartfall appeared in the *British Medical Journal* dated Nov. 4, 1944 (p. 587). The reader is referred to that article for a better understanding of this paper.

few spots of petechial haemorrhage on the chest and abdomen. The peritoneum appeared normal; there was no effusion. The liver was about half the normal size and quite diffident; its surface was smooth and the capsule wrinkled on handling. The cut surface was engorged and was oozing dark-red blood. Serial sections showed no focal lesions of any type macroscopically, the changes described being entirely diffuse. The gall-bladder was small and, together with the larger biliary passages of the liver, contained a little green very viscid bile and much mucus. There were no macroscopic changes in the hepatic biliary tracts, and the mucosa of the gall-bladder and bile ducts was of normal appearance. At no point was obstruction apparent.

Microscopy of the liver showed the general picture of an acute hepatic necrosis. Except in a few scattered areas the normal architecture of the lobules was absent. Recognizable liver cells showed extreme necrosis, but many had entirely disappeared. Round-cell infiltration was particularly marked in the subcapsular areas and along the portal spaces. The biliary ducts showed no evidence of proliferation. Bile-pigment granules were scattered throughout the microscopical fields—either in the necrosed liver cells or in the macrophages. In the kidneys no changes were observed macroscopically, but microscopy revealed changes limited to the tubules, the cells of which showed marked cloudy swelling. Nothing abnormal was noticed in the other organs.

Comment

In some of these cases a pint or two of bile-stained fluid could be seen in the peritoneal cavity, and petechial haemorrhages and generalized bile-staining of the abdominal viscera were also common. The gall-bladder was never distended, nor was there any obstruction found in the bile passages. The mucous membrane of the gall-bladder appeared to be normal. It is often impossible to squeeze out bile from the gall-bladder through the bile duct and ampulla of Vater, though no obstruction is detected on opening the bile passages. The contents of the gall-bladder—a mixture of viscid bile and mucus—are so very viscid that it is impossible to squeeze them through the bile duct. This explains Eppinger's finding of obstruction of the common bile duct in the oft-quoted necropsy on a case of jaundice in which death was due to an accident.

If death took place a few days after the onset of jaundice early fibrous-tissue formation could be made out at the periphery of the lobules and the interlobular areas. Fig. 2 is the photomicrograph of a section of liver taken from a case about a fortnight after the onset of jaundice. Note the fibroblasts in the interlobular space. The tiny dark particles scattered throughout the field are pigment granules.

One of the cases of acute necrosis was receiving arsenic injections for syphilis. This patient developed jaundice after the eighth injection of N.A.B. and died on the third day after admission. Section of the liver showed the same picture as in acute necrosis, already described, but the necrosis was more advanced and extensive. In some areas the cell outlines were visible, but they were without nuclei. The portal tracts showed some infiltration with mononuclears.

Subacute Hepatic Necrosis

Subacute hepatic necrosis is a more frequent but less fatal complication. After a period of 5 to 6 months in hospital the patient often recovers. In some cases, however, the jaundice may clear up, only to relapse again and again, especially after indulgence in alcohol. These patients have a chance of slow recovery if they lead a careful life, to ban alcohol and other liver poisons.

Case History

A 35-year-old male was admitted in March, 1946, with a history of five days' constipation, dark urine, and loss of

appetite. The liver was enlarged to 2 in. (5 cm.) below the costal margin, and the spleen was palpable. The urine contained bile salts and pigments. Aldehyde and gel tests were negative. The jaundice did not clear up in spite of treatment in hospital, but slowly deepened. Ascites developed in June. The abdomen was tapped several times and large quantities of clear yellowish fluid were removed. Oedema of both legs developed later. He died on July 26. At necropsy the abdomen contained about 4 pints (2.27 litres) of clear deep yellow fluid. The spleen was firm and had increased in size, and the liver weighed 1,290 g., being markedly reduced in size; the capsule was only slightly wrinkled.

Microscopy of Liver (Figs. 4 and 5).—Section showed broad bands of fibrous tissue separating the liver lobules. The majority of the liver parenchyma cells had lost their nuclei. Some cells at the periphery of the lobules showed only normal nuclei or nuclear shadows. Many of the cells had undergone severe fatty degeneration, a number being almost completely replaced by fat globules. This change was most pronounced at the centre of the lobules. All the lobules revealed an increase of fine connective-tissue fibrils between the liver cells. The infiltration of mononuclears in the fibrous tissue is well shown in Fig. 5. There was slight proliferation of bile ducts. The fibrous tissue formed in these cases is so profuse that it is unlikely to be due to mere replacement fibrosis. It is more like a keloid growth.

Hepatitis without Jaundice

Between 1941 and 1943 I had under observation in Malta 18 cases of hepatitis without jaundice during an epidemic of infective hepatitis among the Forces. The characteristics of this group have already been described in the previous paper. The following case is mentioned because of the importance of the necropsy findings.

An N.C.O. aged 45 had a sudden onset of fever on May 16, 1942, with severe malaise, weakness, headache, and aching all over the body. His temperature rose to 105° F. (40.6° C.) on the first day, was swinging in character, and the pyrexia lasted for three days. The liver was enlarged to two fingerbreadths below the costal margin. The spleen was not palpable. On May 26 the liver was still palpable. Red cells, 4,700,000 per c.mm.; Hb, 90%; colour index, 0.95. White cells, 10,800 per c.mm. (polymorphs 44.1%, lymphocytes 48.1%, eosinophils 0.5%, basophils 0.5%, monocytes 7%).

This patient gave a history of chronic alcoholism. His age was rather too high for infective hepatitis; but the fever, enlarged liver, and marked lymphocytosis indicated a diagnosis of hepatitis without jaundice. A couple of months later he met with accidental death. At necropsy the liver was of normal size, but firmer in consistency. The surface was smooth. Microscopically, the general architecture of the lobules was maintained, but there were small collections of young vascular fibrous tissues between the lobules. The liver cells themselves showed slight fatty degeneration. The young vascular fibrous tissue must have been the result of his recent illness. The factor responsible for the hepatitis, whatever it might have been, had a destructive, degenerative effect on the liver cells and a stimulant, proliferative effect on the interlobular fibrous tissue. One is justified in assuming that he would have developed frank cirrhosis of the liver had he lived long enough.

Discussion

The study of individual cases alone gives no idea of the sequence of events, but the study of a series of cases for a long period enables one to picture what is happening in the liver. On the whole I have observed 500 cases of infective hepatitis, including 18 cases of hepatitis without jaundice, since 1941. The change in the parenchyma of the liver varies from cloudy swelling to frank necrosis of the cells with complete disappearance of the nuclei. Whatever the change is, it is not confined to a few lobules on but is diffuse throughout. The stroma, on the other hand, is stimulated to proliferation. The proliferative process leading to fibrosis is most marked on the periphery of the

the blood in infective hepatitis appears to be secondary to the disease process.

The higher incidence of infective hepatitis among officers compared with men cannot be explained on the basis of avitaminosis. It is due to the greater incidence of "jaundice-precipitating factors" among them as already discussed in the previous paper.

Summary and Conclusions

The liver changes observed in fatal cases of infective hepatitis are described in detail. The sequence of these changes is traced from acute necrosis to portal cirrhosis. If death occurs within a fortnight the findings are those of acute necrosis. After a fortnight fibrous-tissue formation becomes apparent, especially at the portal tracts. The pattern is that of portal cirrhosis. In three months' time portal cirrhosis is obvious. In eighteen months the picture is that of portal cirrhosis, both macroscopically and microscopically. Jaundice waxes and wanes according to the intensity of inflammation of the liver cells.

This sequence occurs in less than 1% of cases. In the remaining cases the liver appears to recover ultimately.

Homologous serum jaundice is not a separate entity. The difference between apparent and real incubation periods is pointed out.

My thanks are due to Colonel Chandra, Colonel Lambert, Lieutenant-Colonel Daukes, and Lieutenant-Colonel Thomson for permitting this work to be carried out in the hospitals under their command; to Captain Ross and Captain Krishnaswami for valuable help in providing slides and records; and to Mr. Dodds for the photomicrographs.

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TORULA HISTOLYTICA INFECTION OF CENTRAL NERVOUS SYSTEM

BY

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(WITH PHOTOGRAPHIC PLATE)

Tuberculous and torular meningitis give rise to very similar clinical pictures and to almost identical changes in the cerebrospinal fluid, so that the two diseases are not easily distinguishable. The clinical trials of streptomycin now being carried out make it important to differentiate between them. Levin (1937) summarized about 70 cases of torular meningitis, but the latest and most complete review of the disease is the monograph by Cox and Tolhurst (1946). Large numbers of cases have now been recorded, especially in America, Australia, and South Africa, but so far only three in Great Britain. Smith and Crawford (1930), in Harrogate, described the first case, which was diagnosed post mortem. Gelatinous swellings in the hypothalamic region and thickening of the basal and spinal meninges were found in which torula bodies were recognizable histologically. Greenfield, Martin, and Moore (1939), in London, recorded the second, which was also diagnosed post mortem. An adhesive meningitis around the basal cistern and pons was found, and torula bodies could be seen histologically in the meninges and in the perivascular spaces of the basal ganglia. Their presence was associated with granulomatous infiltration but no

caseation. Blair (1943), also in London, described the third case, which was apparently diagnosed during life by the finding of torula bodies in the cerebrospinal fluid. No details of the chemical or cytological changes were included. At necropsy the subarachnoid space over each cerebral hemisphere, together with the lateral ventricles, was filled with yellowish gelatinous material. A case has recently come to our notice in Wales.

Case Report

A clergyman aged 60 was admitted to hospital on July 24, 1947, having had severe headaches for ten weeks, with lassitude and loss of appetite. The headaches at first occurred at intervals of one or more weeks, but later became more frequent and were associated with vomiting and sometimes with blurring of vision and tinnitus in the left ear. The only abnormal sign on admission was a doubtful left extensor plantar reflex. Lumbar puncture yielded clear cerebrospinal fluid under normal pressure, with 66 lymphocytes per c.mm. and 95 mg. of protein and 684 mg. of chlorides (estimated as NaCl) per 100 ml., the Lange colloidal gold and Wassermann reactions being negative. Other investigations, including radiography of skull and chest, were negative. The headaches gradually disappeared and the patient was discharged at his own request, free from symptoms, three weeks after admission.

He was readmitted on Sept. 2, the headaches having recurred three days after he left hospital and become continuous, with daily vomiting. There was now slight mental retardation. His tendon reflexes in the right arm were brisker than those in the left, but both plantar reflexes were now flexor. There were no other significant physical signs. On Sept. 4 the cerebrospinal fluid was under increased pressure (220 mm.), but there was now only one lymphocyte per c.mm. The proteins had, however, increased to 150 mg., whilst the chlorides had fallen to 620 mg. per 100 ml. After admission his condition improved, but by Sept. 11 the headaches were again severe and stiffness of the neck and slight Kernig's sign were present. His right knee-jerk was brisker than the left, but the arm reflexes were equal. The cerebrospinal fluid pressure was now 300 mm. and the cell count less than one per c.mm. The proteins were 180 mg. and the chlorides 670 mg. per 100 ml. Ventriculography on Sept. 18 showed no abnormality. During the next month there was periodic mental confusion with drowsiness, and on Oct. 7 a left external rectus paresis and a right-sided papilloedema were noted. The cerebrospinal fluid findings on Oct. 22 were as follows: pressure, 180 mm.; cells, 25 per c.mm. (95% lymphocytes, 5% polymorphs); protein, 250 mg.; chlorides, 626 mg., and sugar 16 mg. per 100 ml. The colloidal gold curve was 3442221000. From this time onwards the patient's condition deteriorated, wasting appeared, and by Nov. 6 the right pupil was larger than the left and well-marked left hemiparesis was present. He passed gradually into coma and died on Nov. 13, six months after the onset of his symptoms. The whole illness was almost completely afebrile until the last four days.

Necropsy Findings.—Along the basilar artery and in some of the sulci over the cerebral hemispheres a few flakes of fibrinopurulent exudate were found. The pineal gland was imbedded in a yellowish gelatinous substance which filled the pial-subarachnoid space in that area. In the right side of the pons there was an area of softening about 1.5 cm. in diameter. The lateral ventricles contained slightly cloudy fluid, but were not dilated. There was an area of apparent softening beneath the ependyma of the right lateral ventricle, involving the adjacent portion of the caudate nucleus. Another area of softening involved the anterior portion of the left external capsule.

Hypostatic pneumonia was present in the lower lobes of both lungs, but there were no significant lesions in any other organ.

Histology.—Sections of the meninges showed granulomatous lesions, chiefly around the large blood vessels. The granulomata consisted of central caseation surrounded by cellular zones in which there were small round cells, polymorphs, and pale endothelial cells, some of them large and multinucleated. The lesions closely resembled tubercles, but scattered throughout

in the highly characteristic *Torula histolytica* could be seen. These are round or oval yeast-like organisms surrounded by clear zones which represent their gelatinous capsules (Plate, Fig. 1). The bodies were in some parts clustered together, and were so numerous as to exclude other cells. Their staining properties were variable, some taking a pale blue haemalum (as in Fig. 1), and with Gram stain a rather indistinct brownish colour. (We were unable to stain the spores, and no budding was seen.) The lesions in the pons and left external capsule were areas of simple softening, but a subependymal lesion in the cerebrum was a torular granuloma. It differed from the meningeal lesions in that endothelial cells, especially the giant cells, were more prominent, and there was no caseation. Occasionally a torula body could be seen in a giant cell (Fig. 2). The vessels in the surrounding brain tissue showed perivascular lymphocytic ring.

Discussion

During life this case was thought to be either a cerebral perculoma or tuberculous meningitis. This diagnosis was supported by the decreased chloride and sugar content of the cerebrospinal fluid and by the normal ventriculogram, although repeated search for tubercle bacilli was unsuccessful. As the possibility of torulosis was not considered, the torula bodies were not specifically looked for, but they may well have been present and overlooked in the cytological examination, for they are easily mistaken for red blood cells or lymphocytes. If present in the cerebrospinal fluid they can be demonstrated by mixing the centrifuged deposit with a drop of indian ink. In a smear or wet preparation they then appear as small refractile bodies surrounded by broad colourless haloes.

There were certain features which, had they been appreciated at the time, might have helped in the diagnosis of this case. The illness lasted six months, during which the patient was for variable periods quite symptom-free. Also, except for the last four days when pneumonia was developing, he was almost entirely afebrile. These facts favoured torulosis rather than tuberculous meningitis.

Our thanks are due to Dr. Idris G. Jones for permission to publish the clinical details, and also to Mr. J. P. Napper for his technical assistance with the photomicrographs.

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Medical Memoranda

Large Mesenteric Cyst

Mesenteric cysts are held to be the least frequent of intra-abdominal tumours. Warfield (1932) collated 129 cases published since 1920, to which he added two of his own. He estimated that by then about 500 cases had been published since the accidental discovery of a mesenteric cyst during a dissection by the Florentine anatomist Beneveni in 1507. Since the appearance of Warfield's paper another 104 cases have been reported. Most of these are described in the South American and Scandinavian literature, however, while in the British literature only eight cases are recorded—viz., those of Steel (1933), Hastings (1934), Cross (1935), Jackman and Mayston (1936), Jewesbury (1937), Luker (1938), Riggall (1940), and Jones (1943).

CASE REPORT

A boy aged 2½ was brought up to the out-patients clinic for investigation. He had been subject to attacks of abdominal pains, especially after a heavy meal, often culminating in vomiting. These attacks would pass off gradually. The mother, from whom

this history was obtained, had noticed that the child's abdomen frequently became distended during these attacks, and that a gurgling noise was audible towards their end, even though vomiting occurred. These attacks, obviously of intermittent intestinal obstruction, had been observed about every two to five weeks, starting when the child was eight months old, and were stated to have increased in severity.

X-ray examination, undertaken shortly after the beginning of these attacks, had been negative. They were repeated, and now showed considerable dilatation of the mid-coils of the small intestine, with definite delay in the passage of barium. An extrinsic pressure defect was noted on a coil of small intestine on the right side of the abdomen, suggesting compression by a soft tissue mass. Five hours after the barium meal had been given it was still seen to be held up in the small intestine, and none had reached the terminal ileum or caecum. "There is one very persistent coil," the radiologist reported, "closely looped upon itself, which suggests that this portion of the small intestine is actually partly rotated upon its axis and thus producing obstruction." Before this report had been delivered, however, the child had to be admitted for acute small-bowel obstruction.

Laparotomy was performed under general anaesthesia. A large cyst was found in the mesentery of a loop of the lower ileum. It extended for about 10 in. (25 cm.) along the mesenteric border of the ileum from a point approximately 4 in. (10 cm.) proximal to the ileo-caecal junction. The ileum was stretched over it almost to the point of obstruction. Apart from that the mesenteric base of the affected loop was very short and showed marked thickening and scarring, suggesting that volvulus had occurred previously, probably on several occasions. Indeed, twisting of this loop around its axis was noted at the time of operation. As the size of the cyst made it impossible to shell it out without interfering with the blood supply of the overlying gut, the whole loop was removed, a side-to-side anastomosis being made. Many enlarged glands were scattered throughout the mesentery. The child made an uneventful recovery, and was discharged home on the eighth day after operation.

Microscopical examination of the cyst showed the lining to consist of ciliated columnar epithelium with squamous patches. Muscular tissue was present in the wall, and the pathologist was of the opinion that the cyst was probably of teratomatous origin.

COMMENT

Warfield, and after him Luker, divided the cysts according to their origin into the following four groups: (1) Embryocystoma (from Wolffian remnants); (2) cystic dermoid or teratoma; (3) enterocystoma (foetal intestinal diverticulum); (4) chylus cyst.

The cyst described here was in a male child. This is of especial interest, since Warfield states that the cystic dermoids and teratomata always originate from displaced ovarian tissue. According to him no mesenteric cyst of that group has ever been recorded in a male patient, although teratomatous cysts have been met with in the spermatic cord. However, the testicle on its way downwards in the retroperitoneal tissues might occasionally leave some tissue behind, as it were.

I wish to thank Mr. H. H. Stewart, under whose care the child was admitted, and who performed the operation, for permission to publish this case. Also Dr. R. J. C. Campbell, who made the x-ray examination, and Dr. C. J. Young, who supplied the microscopical report.

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Recognizing that chest surgery requires a specially trained staff—medical and ancillary—with special equipment, the Society of Thoracic Surgeons has issued a "Memorandum on the Provision of a National Thoracic Service." It emphasizes that the organization must be regional and that the work must be concentrated in centres. Primary centres should be attached, if possible, to teaching hospitals, and there may be secondary and tertiary centres located conveniently in each Region. The surgery of both pulmonary tuberculosis and other chest diseases should be carried out in the same centre, but the patients should be segregated into separate wards or blocks. In London the special chest hospitals would naturally play a prominent part in the service.

Reviews

ENTOMOLOGY

Lehrbuch der Medizinischen Entomologie. By Prof. E. Martini. Third edition. (Pp. 633; 322 figures. Paper covers RM.27; stiff covers RM.29.) Jena: Verlag von Gustav Fischer. 1946.

Professor Martini's manual on medical entomology is one of the best known of the German publications on arthropods which cause and spread disease, and the present edition maintains the high standard of its predecessors. This volume contains more than 600 closely printed pages, and in so considerable a work the author might be expected to discuss in some detail most aspects of medical entomology as it relates to man. A closer examination of the text, however, shows that much of the book is on subjects which, although of great importance to the veterinary officer, protozoologist, and hygienist, are not directly the concern of the medical entomologist.

The first 120 pages are devoted to the general consideration, mainly systematic, of the *Arthropoda*, examples of which are usually, but by no means invariably, selected from creatures of medical importance. The nomenclature adopted in this section differs from that found in most modern textbooks on the subject, but the author has explained in the second and third editions his reasons for retaining this somewhat unusual classification. Pages 120-347 contain an excellent, but brief, account of "Arthropods as Parasites." The brevity referred to is due to the author's practice of including in the relatively small space available an account of insects mainly of veterinary importance. Thus, he gives as much attention to the medically unimportant genera *Gastrophilus* and *Hypoderma* as to the medically important genera *Cordylobia* and *Dermatobia*, while not only does he consider the ticks as parasites of animals as well as of man, but he includes an illustrated account of their control by dipping.

The next section of the book is entitled "Arthropods as Disease Carriers." Here again Professor Martini pursues his policy of describing the vectors of veterinary as well as of medical diseases. Furthermore, he describes the morphology and cycle of development of the parasites causing these diseases both as they appear in the arthropod vector and also during their sojourn in the vertebrate host. The result of this prodigality is that within the space of 180 pages he has packed in not only medical and veterinary entomology but a synopsis of helminthology and protozoology in so far as these subjects relate to arthropod-borne infections.

In the last section of the book he has gathered together some, but by no means all, of the more important methods for the direct control of the noxious arthropods. There is a comprehensive index and a bibliography containing almost 1,000 references. Professor Martini refers in the preface to the great difficulties under which he laboured in writing the third edition of his book, and it is significant of these difficulties, rather than a reflection on the author, that the literature quoted is nearly all from the pre-war period, and the reviewer has only noted forty-one references, of which thirty-nine are in German, to papers published after 1939. This volume is well printed and freely illustrated, indeed the production is better than most post-war publications in Britain, while the price seems most reasonable. We can recommend it as a general guide to the part played by arthropods in causing disease among men and animals.

R. M. GORDON.

PROBLEMS OF FRACTURES

The Cause and Treatment of Delayed Union in Fractures of the Long Bone. By Kenneth W. Starr, M.B., B.S., M.S., F.R.C.S., F.R.A.C.S., F.R.A.C.S. (Pp. 233; 105 figures. 42s., paper 12s.) London: Butterworth and Co. 1947.

This book is Colonel Starr's Jacksonian Prize Essay, and he has done his studies on delayed union in the fractures of the long bones during the war. The book is divided into three main parts, the first being on the morphogenesis of bone. The second deals with the histology and biochemistry and subdivides bone into primary bone, or the centre-fibred type, and secondary

or lamellar bone. It is unfortunate that he does not mention here Professor Baker's recent work on callus formation. This section of the book contains good illustrations of many sections of callus made at differing time intervals from material which became available to the author during the course of his study. He also surveys the literature on the biochemistry of bone.

The second part of the book is on the healing of fractures. The author discusses the functions of the periosteum, the blood supply, and the structure of the bone itself. He emphasizes the necessity for an adequate local blood supply in the healing of fractures. He also considers the effect of injury on living bone, and the avoidance of bone loss or destruction of the fragments. The third part of the book is a study of the aetiology and treatment of delayed union, and the author discusses chemotherapy, the closed fracture, the open fracture, the infected fracture, and the problem of plastic surgery in relation to open fractures. He stresses the value of multiple drilling of avascular bone ends in cases of delayed union; even the grafts used were subjected to this process, which was first described by Wilkey in 1913. The importance of multiple drilling is the main point of the book. No mention is made of on-lam grafting of the single or dual type. The last portion of the book contains a very useful bibliography. There are also several short but interesting historical sections. This study is scholarly one and can be recommended to all who are interested in the problems of fractures.

R. G. TAYLOR.

BIOGRAPHY OF BANTING

Sir Frederick Banting. By Lloyd Stevenson, M.D. Second edition. (Pp. 446. 25s.) London: William Heinemann Medical Books. 1947.

Dr. Stevenson gives a most interesting account of the man who was responsible for the discovery of insulin. Born on a farm in Ontario and in no way remarkable at school, Banting went to Toronto University with the intention of becoming a minister. After a year he abandoned this idea and entered as a medical student. Here again he was in no way remarkable except for his perseverance and his interest in medical matters. He qualified in 1917 and entered the Canadian Army Medical Corps in the 1914-18 war; he served in France and was awarded the Military Cross for his courage and skill under shell fire. After the war he started in practice in London, Ontario, which proved a disheartening experience: he worked at the medical school as an instructor in anatomy, physiology, and clinical surgery. It was here that he read a paper by Moses Barron on "The Relation of the Islets of Langerhans to Diabetes, with Special Reference to Cases of Pancreatic Lithiasis." He conceived the idea that it would be easy to make an extract of the islets of Langerhans if the acinar portion of the pancreas had degenerated. Dr. Stevenson's account of the trials, difficulties, and finally the success is very full and most interesting.

After insulin had been isolated his knowledge of physiology was insufficient for working out the new problems and clinical experience was inadequate for treating patients. It was not easy to work with under these conditions, and eventually turned to other fields of research. The enthusiasm in Toronto and throughout the world over the great discovery resulted in large funds being subscribed, not only for the manufacture of insulin and the care of diabetic patients, but also to provide a research institute, to which Banting was appointed director. Although he worked hard, and useful work was done in the Institute, nothing of outstanding merit was achieved in his lifetime. Many honours came to him. He was given the Nobel Prize together with Professor McLeod, was elected a Fellow of the Royal Society in 1933, and knighted in the same year. The tragedy of his death in an aeroplane accident was well described.

GEORGE GRAHAM

COMFORTING THOUGHTS

Peace of Mind. By Joshua Loth Liebman. (Pp. 206. 8s. 6d. London: William Heinemann, Ltd. 1947.

If a Rabbi who happened to be one of America's leading preachers and a Jewish metaphysician to boot were to write about Judaism and tranquillity, it would no doubt be possible for some accredited colleague to say whether his theology

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within its prescribed limits, sound. If he were to write on dynamic psychology and peace of mind it would certainly be possible for a psychologist to say whether or not his presentation was reliable. But when a "religionist," to use his own words, "attempts to find new answers to the basic problems of human nature," "to explain what modern psychology has discovered about human beings" and "why we lose faith in life and in God," he puts himself beyond scientific criticism. He may be, as indeed Dr. Liebman believes of himself, the bearer of a new idea of God, or he may be, as the success of his book in America suggests, a not too accurate dispenser of bromides. It is not within the reviewer's province to determine these points. All he can say is that, judged by psychological standards, the book falls flat at the first hurdle. No amount of lip service to Freud—which incidentally Dr. Liebman renders freely throughout his book—can redeem the author's first and irretrievable error about repression. This he describes as "sensual evil"—that is, according to Dr. Liebman, against "sensual thoughts and impulses." It is frankly impossible to take any book on psychodynamics seriously which begins with such a common and constantly refuted error. Indeed the main interest of *Peace of Mind* is the light it sheds on the post-war tendencies of popular psychology in America. Equipped with a familiarity with psycho-analysis and an equally fleeting and uncoordinated knowledge of psychiatry and "psychosomatic" medicine, the author makes a running survey of the field of mental conflict. The reader might gather therefrom that the aims and techniques of psychiatry can strengthen the therapeutic force of religious belief and vice versa. Comforting thoughts, no doubt, for those ready to be so comforted.

EDWARD GLOVER.

Brompton Hospital Reports are always a welcome addition to the library of the chest physician, for in spite of their modest subtitle they include some of the best papers of the year on various chest conditions, medical and surgical. Volume XV (Research Department of Brompton Hospital, 10s) is no exception. It opens with a short but eloquent appreciation of the late Mr. Tudor Edwards, by whose passing the Hospital has lost a distinguished surgeon. The first paper is a modified version of his Presidential Address in 1946 to the Association for the Study of Diseases of the Chest on "Carcinoma of the Bronchus." This is a masterly survey of the main advances in knowledge over the past 25 years. No one was more competent than he to sum up these advances in pathology, diagnosis, and treatment, for he had taken a leading place in all three. The last paper is also a Presidential Address, that of Dr. Maurice Davidson to the Section of Medicine of the Royal Society of Medicine. It should be widely published, for his remarks on the present trends in medical policy are interesting and savour of Wilfred Trotter's wisdom and philosophy. In their reprint of *The Segments of the Lungs*, and Hoyle review all the investigations necessary for the mapping out of the segmental areas of both lungs, give their radiological features with ample and excellent illustration, and discuss the application of these to medical and surgical problems. The postgraduate student will find this monograph particularly useful because it sums up the advances now possible in differential diagnosis and local treatment by the judicious combination of film examination and bronchoscopy in lung abscess, bronchiectasis, and bronchial carcinoma.

The Medical Annual, edited by Sir Henry Tidy and Mr A. Rendle Short (John Wright and Sons, 25s.), provides in its 65th year its usual wealth of information, and criticism is disarmed by the publisher's apology for its late appearance. The slow tempo of book production is particularly unfortunate in a publication of this type, which undertakes to review the year's work. A random glance at 100 references reveals the effect of the publisher's difficulties, for 45 were dated 1945, 38 1946, and only one 1947. But these minor criticisms do not detract from the usefulness of the range is difficult to select specific articles for comment when the range is so wide and the standard so high, but Prof. Crew's review of social medicine, the article by Dr. Swan on rubella and congenital malformations, and that by Drs. Blodgett and Elliott Cutler on the surgical treatment of hypertension would alone make the book a profitable investment. The format and production are in accord with the traditions of John Wright, but, presumably for reasons of economy, the type face is small enough to be inconvenient to all but the most orthoptic

[Review is not precluded by notice here of books recently received]

Hallmarks of Mankind. By F. Wood Jones, D.Sc., M.B., B.S., F.R.S., F.R.C.S. (Pp. 66. 10s. 6d.) London: Baillière, Tindall, and Cox. 1948

Two lectures on the origin of man and his relation to the monkeys and apes.

Private Enterprise or Government in Medicine. By L. H. Brill, A.B., M.D., F.A.C.P. (Pp. 201. 25s.) Springfield, U.S.A.: Charles C. Thomas. 1948.

An account of private and State-controlled systems of medical service throughout the world, with special reference to the U.S.A.

Dentists Register. (Pp. 415. 18s.) London: Dental Board of the United Kingdom. 1948

Fundamentals of Human Reproduction. By E. L. Potter, M.D. (Pp. 231. 21s.) London: McGraw-Hill. 1948

Intended principally for nurses

Elements of Surgical Diagnosis. By Sir Alfred Pearce Gould, revised by Sir Cecil P. G. Wakeley, K.B.E., C.B., D.Sc., F.R.C.S., F.R.S.E. 9th ed. (Pp. 718. 15s.) London: Cassell. 1947.

A manual for students and practitioners

The Battle of the Conscience. By E. Bergler, M.D. (Pp. 246. \$3.75.) Washington: Washington Institute of Medicine. 1948

A psychiatric study of the conscience

Annata Terapeutica. Edited by M. Coppo (Pp. 672. No price.) Rome: Clinica Nuova. 1947

A review of recent therapeutics.

Experimental Physiology. By G. H. Bell, B.Sc., M.D., F.R.F.P.S.G., F.R.S.E. 4th ed. (Pp. 228. 10s. 6d.) Glasgow: John Smith. 1947

A practical manual for the medical student: More experiments are described in this edition

1947 Year Book of Endocrinology, Metabolism, and Nutrition. Edited by W. O. Thompson, M.D., and Tom D. Spies, M.D. (Pp. 575. 21s.) London: H. K. Lewis

Abstracts and notes on recent advances

Science News 7. (Pp. 127. 1s. 6d.) Penguin Books. 1948.

Includes an article on annvitamins by Prof. J. Yudkin and notes on recent scientific research by Mr. A. W. Hackett

Genetics. By H. Kalmus, Sc.D., M.D. (Pp. 171. 1s. 6d.) Pelican Books. 1948

An account for the layman

Trichomonas Vaginalis and Trichomoniasis. By R. E. Truss, M.D. (Pp. 277. 30s.) Oxford: Blackwell. 1947.

An experimental and clinical account, with a section on treatment.

Teaching Psychotherapeutic Medicine. Edited by Helen L. Wiener, Ph.D. (Pp. 464. 21s.) London: Geoffrey Cumberlege (O.U.P.). 1947

An account of a short experimental course in psychiatry taken by general physicians.

The Practice of Local Anaesthesia. By George Bankoff, M.D., D.Ch., F.R.F.P.S., F.R.C.S. 3rd ed. (Pp. 290. 30s.) London: Staples Press. 1948.

A practical guide to local analgesia, with many illustrations.

Rheology in Relation to Pharmacy and Medicine. By G. W. Scott Blair, M.A., D.Sc., F.R.I.C., F.Inst.P. (Pp. 20. 2s.) London: Pharmaceutical Press.

Two lectures on the flow of matter.

Hernia. By L. F. Watson, M.D., F.I.C.S. 3rd ed. (Pp. 72. 67s. 6d.) London: Henry Kimpton. 1948.

A textbook of the surgical treatment of hernia, with references and many illustrations.

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SAFEGUARDS SECURED

The Special Representative Meeting called to consider the results of the April plebiscite and the recommendations of Council last Friday brought to an end a debate which has lasted nearly six years by passing the Council's recommendation advising the medical profession to co-operate in the National Health Service. The meeting also had before it a letter from the Ministry of Health outlining the proposed content of the Amending Bill and referring to other matters recently discussed. This letter and an account of the meeting are recorded in this week's *Supplement*. By deciding to co-operate the Representative Body brought B.M.A. policy into line with responsible public opinion, and has confirmed its reputation for sane judgment in the world of medical politics. The meeting was a great occasion for Dr. H. Guy Dain, the Chairman of Council, who dealt in a forthright and stringent manner with the criticisms levelled against the Council and expressed in a motion which was carried deploring the holding of the April plebiscite. It had been the policy of the Representative Body, Dr. Dain said, in matters of the Health Service, that the responsibility for decision should be placed upon the individual members of the profession. During the past years there had been a constantly changing position, and the Council would have been unreasonable if it had not ascertained the views of the profession in the light of the changes taking place. Division of opinion in the Council was reflected in the results of the April plebiscite. The majority of general practitioners to justify collective opposition had not been obtained. "You cannot go back on your undertaking to the people who signed both plebiscites that unless 13,000 general practitioners agreed to stay out of the Service you would not hold them to their vote against coming in. The issue of continued opposition to entrance to the Service cannot be taken up by you to-day in view of the pledge you have given."

Dr. Dain went over the points that had been gained. "What we were most afraid of was the Minister's overall powers. He has now agreed to an Amending Act which will limit his powers in creating a whole-time salaried service." The Minister had agreed that the profession shall always be consulted about Regulations, and be able to put in protests before such Regulations are made. And Dr. Dain reminded the meeting that with one exception the Ministry of Health had for thirty years always dealt with them fairly over Regulations under National Health Insurance. They had, he went on, got the right to freedom of speech and writing properly safeguarded; they had retained the position in which basic salary as a principle appeared; they had an agreement that the

Medical Practices Committee would nominate the few over-doctored areas and that in the rest of the country a practitioner could set up wherever he liked; they had been able to obtain an important modification in the midwifery service whereby any practitioner, whether on the obstetric list or not, might attend a patient on his list and be paid for it. The Minister had agreed to put into the Act that Executive Councils should elect their own chairmen. He had set up a legal committee to clarify the partnership position set out in Sections 35 and 36 of the Act and had agreed to amend the Act in accordance with the committee's findings. The Minister had agreed that if substantially more than 17,900 general practitioners join the Service the amount of the compensation (£66,000,000) will be substantially increased. He had agreed that when the Service starts on July 5 the profession can immediately raise through the Whitley Council machinery the betterment factor and the remuneration of the Spens Report. "Therefore," Dr. Dain said, "we are not bound to the present conditions as set out in the remuneration offer if we can prove to the Whitley Council that the amount is not the proper one."

They had not been able to alter the Minister's intentions about the ownership of goodwill. On that point, Dr. Dain observed, we had no support from Parliament or any political party. "What we have tried, therefore, to do," he continued, "is to see how far we can get round this point as well. We had said to ourselves: 'What is it that we own when we own goodwill?' We own the right to choose our partners and assistants, to arrange our work with one another, to say who shall succeed us, and to arrange the performance of our duties. The Minister has agreed that we may do all this so long as money does not pass which is in the nature of payment for goodwill." They had not succeeded in obtaining the right of appeal to the court but on practically every other matter, Dr. Dain said, they had succeeded in either getting rid of the difficulties that confronted them or modifying them in such a way that they would be practically non-existent. He had always been opposed to entering the Service if their freedoms were not sufficiently protected, but, in view of the modifications obtained during the last few weeks, "I believe we are now sufficiently protected to be able to say to the profession that not only can we co-operate in the further negotiations but that the safeguards we require have been effectively secured."

Dr. Dain asked whether the things which had not been given were of outstanding importance, whether they were such that would prevent them from taking a proper place in the Service. "When the position of those," he added "who wish a comprehensive service is satisfied or sufficiently satisfied, then we are left with a cleavage of opinion which began to appear at the Council meeting, between those who did not want any Service at all and those who were satisfied that the Service was such that we can enter it." They had to face that position and to bear in mind the interests of those not concerned in the Service.

The opposition to Dr. Dain's views found its most effective spokesman in Lord Horder, who considered that the April plebiscite suggested to the profession as a whole that in the minds of the Council "the so-called concessionary

of the Minister were of great importance. Lord Horder probed into the events which took place after April 7 and said that there had been doubt and confusion. "Where," he asked, "did the rot set in? Was it at the centre or the periphery, or both at the same time?" The burning question was whether the situation could be retrieved. The Council, he believed, had acted, and in the recommendations before them was proposing to act, past its mandate. The amendment to which he was speaking asked "that the *status quo ante* should be restored. It calls on the Representative Meeting to arouse itself and resume the fight." Mr. R. L. Newell, a member of Council, observed that he admired the clinical acumen of Lord Horder, but feared that his diagnosis had been warped by the acute symptoms developed in the Marylebone Division. Dr. J. A. Pridham said that the B.M.A. was the only organization outside the T.U.C. which had persuaded the Minister to its point of view. Dr. R. W. Cockshut said that though attached to the principle of retention of goodwill he would hesitate to advise the profession to go into a long and difficult fight on that question, throwing away by doing so all that they had gained; and he reminded the Meeting that the profession had agreed to a comprehensive service for 100% of the population. Dr. S. Wand and Dr. J. A. Brown pointed out that they had gained practically everything except the retention of goodwill in practice. Dr. Dain completed the rout of the opposition in a short and pungent speech. The statement that they had accepted defeat, he said, was nonsense. They had gained the greatest victory against the Government, which had been compelled to accept an Amending Act before the main Act had come into force. The Kingston-on-Thames amendment, to which Lord Horder spoke, was lost by a large majority, and finally the first recommendation of the Council advising co-operation was carried by a still larger majority judging from the show of hands. To this was added the following rider: "That the medical profession should accept service under the Act on the understanding that, in the event of an Amending Act and terms of service being unsatisfactory to the Representative Body, members serving under the Act may hand in their resignations or take such other step as is considered necessary by the Representative Body."

The important business of the day concluded, the Representative Meeting then indulged in heresy hunting. First of all, on a motion from Guildford, the Meeting was called on ask for the resignation of the Council. This was effectively met by Dr. Dain, who submitted that they had won the greatest victory of any profession against the Government, and that nothing in the Council's action justified the Guildford motion, which, on being put to the Meeting, was supported by only two or three out of the three hundred-odd representatives present. Then came a notion from Burnley complaining of "the disastrous effect on the plebiscite of the *B.M.J.* editorials of April 17 and 24," and calling upon the Representative Body for the discharge of the Editor of the *Journal*. If any defence were needed for editorial policy since April 7 it was found in full measure in the principal speech by the Chairman of Council. The leading article in the *Journal* of April 17, under the heading "Mr. Bevan's Gesture" concluded thus: "There is, therefore, everything

to be gained in responding to this gesture in a similar manner." By pressing its case in a new atmosphere those who have conducted negotiations with the Ministry of Health and the Minister have quickly reached the position in which the Chairman of Council was able to say to the Meeting: "I believe we are now sufficiently protected to be able to say to the profession that not only can we co-operate in the further negotiations but that the safeguards we require have been effectively secured." If the *Journal* has played any part in this it can receive criticism—even harsh criticism—with equanimity.

It is now up to those who support the B.M.A.'s "whole-hearted desire for a comprehensive medical service" for 100% of the population to do all they can to make the new Service as efficient as possible in circumstances which are admittedly difficult. But the difficulties, many and immense as they are, can be lessened by willing co-operation and hard work. The B.M.A. has a big task in front of it in helping to shape the new Service and in securing satisfactory terms and conditions for those who work in it. It has also an obligation to those of its members who wish to stand outside the Service, and will do what is necessary to protect their interests. The B.M.A. has come through the ordeal of six years' debate with enhanced prestige and strength, and by protracted and difficult negotiations has so modified the comprehensive Health Service advocated by all political parties that it is possible for the medical profession to take a foremost and active part in moulding it according to the highest traditions of a learned profession.

SOME DUST DISEASES OF THE LUNG

Since Koch's discovery of the tubercle bacillus tuberculosis has been the most closely studied of the diseases of the chest. It was not until about 1930, when improved technique began to have an effect, that radiological investigation became an essential part of the examination of the chest, and it was soon evident that many dusts caused abnormal shadows in x-ray films. Since then there has been much argument about the terminology of these shadows. This is probably a phase which will pass as soon as it is realized that the appearances vary much with the radiological technique. They are only shadows, and the same type of shadow may be caused by collections of inert material in the lymphatic spaces of the lung or by fibrosis in the lung itself. The essential thing to decide is the nature of the pathological process which gives rise to the shadows, the amount of disability that it causes, and the course which the condition is likely to pursue. The next great advance may well follow a study of the contaminants of the air breathed into the lung. These contaminants include not only dusts but gases; in an industrial community there must be some exposure to acid gases such as nitrous fumes, chlorine, and phosgene among others. And it is not only in an industrial community that grave disease of the lung may be caused by dust, for Fawcett¹ has shown that farmers in Cumberland may develop extensive fibrosis of the lung after handling mouldy hay, and this has also been reported recently from Switzerland² and Sweden.⁴

In this and last week's issues of the *Journal* Dr. C. M. Fletcher gives an account of the work of his research unit in South Wales. In the past three years 10,000 men from that coalfield alone have been certified as suffering from pneumoconiosis. This huge figure shows the seriousness of the problem. The survival of the nation depends on coal, and if the nation is to attract men to this industry and then keep them in it, the dust problem must be solved. It is not of course a problem confined to the coal industry alone but is one with which our other basic industries will also have to contend. The complacency with which the situation has been regarded in the past, and, judging by the lack of teaching in our medical schools, one might almost say is still regarded, is well illustrated by Fletcher's quotations from two Milroy lectures. Shufflebotham (1914) said: "At the present time in Great Britain fibrosis of the lungs among miners can be said to be practically non-existent"; and Collis (1915), "Miners' asthma, common though it used to be, has passed unobserved from our midst, and conjectures as to its character and causation are idle." Yet in 1947 men were certified in South Wales at the rate of 100 a week, and certification has risen in all the other coalfields of Great Britain, the provisional figures for 1947 showing a rise of about 1,000 in that year.

Fletcher thinks that the incidence of the disease is related to quantitative rather than qualitative differences in the dust, though he does not claim that the qualitative differences are of no importance. He has shown that there is no great difference in incidence between steam-coal areas and anthracite areas, and that while the incidence is higher in South Wales than the rest of the country the dust concentration is greater in South Wales than elsewhere. High concentration is due in the anthracite mines mainly to poor ventilation, which was especially bad during the nineteen-twenties, and in the steam-coal mines to the introduction of intensive mechanical methods of mining in the dusty coal-seams of East Glamorgan during the next decade.

In the pathological field Gough's work has been outstanding.¹ The method of cutting sections of the whole lung and mounting them on paper so that they can be viewed side by side with a radiograph taken before death is a most useful contribution to the correlation of x-ray appearances with pathological changes. These pathological changes consist of coal foci in the immediate vicinity of which are areas of severe emphysema described by Gough as "focal emphysema," and it is this focal emphysema which is the main cause of the shortness of breath from which these miners suffer. Superimposed on this focal type of disease is a progressive massive fibrosis, often necrotic in the centre and thus containing a cavity. Fletcher has concluded that so long as the disease was confined to coal nodulation and its associated focal emphysema it generally ceased to progress if the man stopped working in a high concentration of dust; but in a great many cases in which massive fibrosis had developed the condition was progressive even after the man had ceased to work underground.

It was associated with a raised sedimentation rate, and there was suggestive evidence that it might be tuberculous in origin, the "koniophthisis" of Belt and Ferris.⁶ Nevertheless, tuberculosis could often be recognized as a separate disease in addition to pneumoconiosis.

In contrast to the progressive nature of pneumoconiosis in coal-miners, Doig and McLaughlin⁷ have recently recorded the present condition of the 15 electric-arc welders who provided them with the material for their description of the condition of welders' siderosis in 1936.⁸ Of the six men in whom well-marked radiological changes had been present, two had ceased to work as welders, with the result that the iron oxide was eliminated and the abnormal shadows diminished in intensity. The process here, then, is reversible. The other four men continued to work as welders and still had abnormal shadows on x-ray examination, but after 12 years remained in good health. Two of the seven in whom radiological changes were not originally apparent now had developed abnormalities. These radiological changes, which are quite indistinguishable from the early changes of coal-miners' pneumoconiosis, are due to a dust which does not cause pulmonary fibrosis, and therefore the two conditions can be sharply contrasted.

In a recent number of *Tubercle*⁹ attention was drawn to the figures of the Registrar-General showing the great increase in carcinoma of lung during the century, which was much more marked in males than in females, and was closely correlated with the increase in cigarette smoking. These figures are of much interest in view of the work of Bradford Hill and Fanning,¹⁰ who discovered a high incidence of carcinoma of lung and skin in chemical workers handling an arsenic powder. The incidence was three times as high as in control groups in the same factory and same town. Here, then, an industrial dust gives rise to carcinoma of lung; but it is worth while recalling Thomas and Collier's observation that the arsenic content of cigarette fume may be as high as 10.5 mg. per cubic metre.¹¹ There is also a growing impression that the incidence of carcinoma of lung is high among those exposed to asbestos dust. This has been reported from France¹² and Germany,¹³ and Wyers¹⁴ has suggested that the incidence may be as high as 20% in this country. Asbestosis itself is a most disabling and rapidly progressive disease; yet since exhaust ventilation was installed in the factories in 1930 few cases have developed in persons who were not exposed to the pre-1930 conditions. The industry is therefore an excellent example of the triumph of the engineer over dust.

Holman¹⁵ has provided a historical record of the methods used by mining engineers to suppress dust up to the present time. Now that Fletcher has shown how important in the aetiology of coal-miners' pneumoconiosis is the "quantity" of dust, we can look forward with confidence to our mining engineers devising some means of suppressing the dust and thus eradicating the disease. Indeed Craw¹⁶ has already suggested that the Wether dust-allaying projector, introduced into the Cumberland

¹ *J. Pathol. Bact.*, 1929, 11, 373.
² *Brit. J. Indust. Med.*, 1931, 23, 17.
³ *Brit. J. Indust. Med.*, 1932, 24, 151.
⁴ *Brit. J. Indust. Med.*, 1933, 25, 151.
⁵ *Brit. J. Indust. Med.*, 1934, 26, 151.

⁶ *Brit. J. Indust. Med.*, 1935, 27, 151.
⁷ *Brit. J. Indust. Med.*, 1936, 28, 151.
⁸ *Brit. J. Indust. Med.*, 1937, 29, 151.
⁹ *Brit. J. Indust. Med.*, 1938, 30, 151.

⁹ *Tubercle*, 1948, 28, 40.

¹⁰ *Brit. J. Indust. Med.*, 1948, 5, 1.

¹¹ *J. Indust. Hyg.*, 1945, 27, 201.

¹² Giroux, M., et al., *Sem. Hôp. Paris*, 1947, 23, 1820.

¹³ Linzbach, A. J., and Wedler, H. W., *Virchows Arch.*, 1941, 307, 307.

¹⁴ *Glasgow Thesis*, 1947.

¹⁵ *Brit. J. Indust. Med.*, 1947, 4, 1.

¹⁶ *Ibid.*, 1947, 4, 30.

DUST DISEASES OF THE LUNG

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iron ore mines in 1935, has reduced the dust from many millions of particles per ml. to an average of 2,500 particles per ml., and together with strict medical control has eliminated silicosis from the mines. The insistence on medical control is important, and it is amazing that Fletcher should have to make a special plea to get established such an obvious procedure as periodical x-ray examination.

DIETETIC TREATMENT OF HEPATIC CIRRHOSIS

A form of cirrhosis closely resembling Laennec's cirrhosis in human beings can be produced in experimental animals by purely nutritional means,^{1,2} and this has led to the hope that established cirrhosis in man might prove amenable to dietary therapy. This hope is further enhanced by observation that some forms of experimentally induced cirrhosis pass through a reversible phase from which complete anatomical recovery is possible,³ but unfortunately the reversible phase cannot be distinguished histologically from the irreversible. Two factors in the diet are of outstanding importance to the liver—namely, choline and thioamino-acid cystine—and deficiency of either leads to a characteristic and specific hepatic lesion.⁴ That resulting from choline deficiency is a gradually increasing fatty infiltration, progressing to fibrosis and culminating in so-called portal cirrhosis; cystine deficiency causes a massive type of necrosis resembling acute yellow atrophy and ending either in death or in recovery with post-necrotic carrying and nodular hyperplasia. Connor⁵ has called particular attention to the former sequence of alcoholic infiltration preceding cirrhosis—in the genesis of the accumulation of fat in the liver that nutritional therapy is directed.

Owing to conflicting reports on the efficacy of such therapy in hepatic cirrhosis a study has been made in Best's laboratory in Toronto of the effects of various nutritional factors known to affect the liver upon the cirrhosis produced in rats by chronic poisoning with carbon tetrachloride. The results are published in our opening pages. Two important conclusions can be drawn from them: (1) there is a close relation between the fat content of the liver and the progression of the cirrhosis; (2) all factors that arrest or reverse the cirrhotic process are lipotropic—that is, they prevent the deposition or facilitate the removal of fat from the liver cells.

A more rational and presumably more successful use of dietary therapy might be expected from a better understanding of the mechanism by which fatty infiltration produces cirrhosis. Though there is no general agreement on this matter, strong evidence exists that the action is largely mechanical and due to impairment of the intralobular circulation. It is of especial interest that a similar mechanism has been suggested to account for the centrilobular zonal lesions that result from carbon tetrachloride poisoning.⁶ In both cases impairment of the intralobular

circulation has been demonstrated by *in vivo* microscopy and by perfusion techniques. It is the resulting malnourishment and anoxia of the centrilobular liver cells that leads to their atrophy or necrosis and consequent fibrous replacement. Since methionine is no more effective in preventing or curing cirrhosis than choline equivalent lipotropic dosage the centrilobular injury cannot be the result of thioamino-acid deficiency. It is more probable that anoxia is the most important consequence of impaired intralobular circulation, though evaluation of other essential metabolites cannot be excluded.

Recently some exceptions to the correlation between fatty infiltration and hepatic cirrhosis have been recorded. Handler and Dubin⁷ observed that severe fatty infiltration of the liver could be produced in rats on a diet containing as much as 18% of casein if 1-2% of nicotinamide was incorporated, but that cirrhosis did not appear even after six months on this diet. Hypothyroidism also leads to accumulation of fat in the liver, but despite this the subsequent development of fibrosis is retarded.⁸ The explanation of these discordant findings probably lies in the relation between metabolic activity and blood supply. A degree of vascular impairment that proves fatal at one level of metabolic activity may be quite adequate for maintenance at a lower level. Thus fatty infiltration causing intralobular circulatory insufficiency may result in centrilobular liver injury if normal thyroid activity or hyperthyroidism is present but might have no effect in association with hypothyroidism.

The fundamental change underlying the transition of reversible to irreversible cirrhosis must be one of great importance. Cameron and Karunaratne⁹ state that "we know of no histological features by which the two stages can be distinguished." Since, however, the genesis of dietary cirrhosis, and probably of carbon tetrachloride cirrhosis, is closely related to circulatory impairment, it is not inconceivable that reversibility is retained so long as the intralobular circulatory impairment is mainly the result of sinusoidal compression by distended liver cells. A stage, however, is ultimately reached at which the contraction of the fibrous tissue and the formation of regeneration nodules so distorts the vascular tree that sinusoidal compression becomes of secondary importance. At this stage the cirrhosis becomes irreversible, in the sense that neither cessation of exposure to toxic agents nor the administration of lipotropic agents can significantly affect the intralobular circulation. With carbon tetrachloride cirrhosis in rats this stage is reached after about 5 months' exposure, and the maximal period of exposure in the experiments recorded by Best was well within this period.

On the basis of these nutritional experiments on animals by Best and others a more optimistic view of the treatment of human cirrhosis is justifiable, but the indiscriminate blunderbuss therapy with proteins, amino-acids, and vitamins of the B complex is to be deprecated. Good results can be expected only if attention is given to the following points. First, the disease should still be in the reversible phase. Secondly, continued exposure to hepatotoxic agents

¹ György, P., and Goldblatt, H., *J. exp. Med.*, 1939, 70, 185.
² Chaikoff, J. L., Eichorn, K. B., Connor, C. L., and Emenman, C., *Amer. J. Path.*, 1943, 19, 9.
³ Cameron, G. R., and Karunaratne, W. A. E., *J. Path. Bact.*, 1936, 42, 1.
⁴ Himsworth, H. P., and Glynn, L. E., *Clin. Sci.*, 1944, 5, 93.
⁵ Connor, C. L., *Amer. J. Path.*, 1938, 14, 347.
⁶ Glynn, L. E., and Himsworth, H. P., *Clin. Sci.*, 1948, 6, 235.
⁷ Handler, P., and Dubin, I. N., *J. Nutr.*, 1946, 31, 141.
⁸ Handler, P., *J. Biol. Chem.*, 1948, 173, 295.
⁹ Macdonald, A. H., *Arch. Path.*, 1928, 5, 23.

must be avoided. Thirdly, administration of lipotropic agents is indicated only if the cells are laden with fat, and consequently the prognosis is better in cirrhosis in those with swollen than in those with shrunken livers. Fourthly, the metabolic activity of the liver should be reduced so far as possible. Protein in large quantity, as commonly advised, probably neutralizes, by its stimulant effect on metabolism, the advantage gained by the lipotropic action of some of the constituent amino-acids. Finally, the use of antithyroid drugs might be considered worthy of trial.

DANGEROUS TALC

It is only within the last forty years that the use of sterilized rubber gloves has become a standard part of surgical operative technique. In thus reducing the risk of bacterial infection the surgeon has unwittingly introduced a new wound hazard whose harmful potentialities are only now becoming recognized. It is customary to sterilize gloves by steam, and talc powder is used to prevent them from adhering and to facilitate the insertion of the hand. The outside of the gloves is left covered with adherent talc and the tip of each finger commonly contains a somewhat larger quantity. Since talc sticking to the gloves after steam sterilization is not easily removed by rinsing in saline or water, handling the exposed tissues with such gloves introduces talc into the wound. If in the course of operation the fingertip of a glove is perforated, the talc accumulated inside may escape into the wound in dangerous amount, particularly if the puncture is unnoticed.

The effects of talc in the tissues were first recognized by Antopol¹ in 1933 and confirmed by Feinberg² and Gardner³ four years later. German⁴ described the characteristic follicular giant-cell reaction and by 1943 had collected 50 cases of talc granuloma following laparotomy. He showed that the talc particles often became widely distributed in the abdominal cavity before setting up a reaction. A new aspect of the unforeseen harm done by talc was revealed by Roberts,⁵ who showed that granulomatous lesions of the Fallopian tubes might result from the intratubal migration of talc particles introduced during a previous appendicectomy, and that sterility was the usual consequence. At a recent meeting of the Association of Clinical Pathologists Cappell and Faulds both mentioned the occurrence of tubal siliceous granuloma following diagnostic insufflation of the Fallopian tubes.

Three papers on the subject of siliceous granuloma appear in this issue of the *Journal*. Mr. Arthur Mackey and Dr. J. B. Gibson draw attention to the greater density and severity of adhesions after laparotomy as compared with those resulting from purely bacterial inflammation in the unopened abdomen, and they provide striking evidence that such adhesions may be brought about by talc within so short a period as 13 days. Dr. W. Walker describes fatal intestinal obstruction occurring only seven weeks after laparotomy and shows that the adhesions causing the fatality contained abundant talc crystals. Dr. G. Harvey Smith adds to the tubal group a case previously reported as tuberculosis (associated with carcinoma of the uterus).

There is no doubt that complications from the use of talc are much more common than is generally realized. Post-operative adhesions are not often examined microscopically, and even then their fundamental cause may escape

detection unless the sections are studied by polarized light; when the anisotropic character of the talc particles renders them conspicuous, as is shown clearly in the photomicrographs elsewhere in this issue. The newer "polarizing" screens enable the histologist to detect double-refraction with the minimum of trouble; they are so much in use in practice than Nicol prisms that they should be of constant use in every pathological laboratory in the routine examination of microscopical preparations.

These papers emphasize that talc can produce a variety of lesions, some of which may fortuitously become latent. The finding of an acceptable substitute is therefore an urgent problem. Lycopodium powder is equally harmful, and potassium bitartrate, proposed by Seelig⁶ as a substitute, is unacceptable because of its macerating effect on the hands. What is wanted is a colourless powder with the lubricant properties of talc or graphite, unaffected by steam sterilization, and giving rise to no reaction in the tissues. The problem is one first for the chemist, but, when an acceptable substitute is found, surgeons aware of the potential dangers of talc could minimize the risk by insisting that there should be no excess powder in the tips of their gloves before inserting the hands, and by removing any surplus talc from gloves before handling the exposed tissues.

PERSONNEL SELECTION

Some of the opposition to tests for the selection of candidates derives from the misconception that they are applied in a mechanical way "from the book" and that the results are right or wrong according to some predetermined scheme. As Lord Moran¹ said in the debate on entry into the Civil Service in the House of Lords on May 26, "When a callous youth who has never heard a shot fired in anger confidently claims that by his psychological tests he can tell whether an upstanding lad who has done well in the front line should or should not have a commission, naturally . . . soldiers and sailors grow impatient." It is essential that those who perform these tests should be experienced people—and more than merely experienced at setting tests. This condition is fulfilled at CISSB, where candidates for the Civil Service undergo tests of personality and intelligence for 48 hours. Some of the abundant evidence that may be obtained by such methods is described at p. 1094 of this issue. Whether what is discovered about candidates is in fact true, and whether the correct inferences are made from it, can be decided only by following up their careers for many years. The evidence from cases followed up so far indicates that the CISSB tests are helpful and not misleading, and the Foreign Office is so impressed by them that it requires all its candidates to attend the "house party"; only 25% of candidates for the administrative class of the home Service do so.

We would emphasize that the examiners applying tests for such qualities as "contact" with other people, vigour of thought, or ability to collaborate, negotiate, or win confidence must be people of great experience and mature judgment, for their opinions are often arrived at intuitively. Lord Lindsay of Birker expressed many people's fears when he said in the same debate, "I think you must restore the solid evidence of achievement in a big written examination, because all other things are so extremely subject to personal judgment." He was deploring the proposals of the Foreign Office to dispense entirely with the long written examination, and so far as medicine is concerned there is no doubt that these must remain. But it is doubtful

¹ *Can. Path.*, 1933, 18, 326.

² *Can. Path.*, 1937, 24, 36.

³ *Can. J. Path.*, 1937, 13, 13.

⁴ *Can. J. Path.*, 1940, 10, 245.

⁵ *Lancet*, 1943, 78, 501.

⁶ *J. Surg.*, 1947, 34, 417.

⁷ *J. Amer. med. Ass.*, 1943, 123, 970.

¹ *Hansard* (House of Lords), May 26, 1948.

² *Report of the Inter-departmental Committee on Medical Schools* ("Goodenough Report"), 1944. H.M.S.O.

³ *The Training of a Doctor*, 1948. London: Butterworth.

either the evidence of learning they provide is much more objective than the evidence relating to personality elicited by suitable tests. Two candidates know all about differential diagnosis of lobar pneumonia, yet one expresses himself lucidly, the other in a more orderly fashion; the first reveals a widely cultured mind, the second penetrating and logical one. Intuition enters into judging these qualities, yet many who disparage personality tests seem to forget this. Experienced examiners are accustomed to forming judgments with the help of intuition based on ill-designed tests. The tests need not elicit answers that can be only right or wrong; indeed, they are often not this kind. The Civil Service Commissioners are continually testing their methods in the only possible way—following up their results.

Tests of "intelligence" are useful adjuncts to tests of knowledge, and are used as such at CISSB. The candidates must have taken or be warranted able to take at least second-class honours degree. Critics of them often argue that intelligence as well as learning is revealed in long written examinations, but there can be no doubt that long examinations tend to favour the "swotter" at the expense of the man who is equally or more intelligent but who has interests outside his textbooks. The bookworm is not wanted in the Civil Service, and places for him in medicine are few. Unfortunately the scholarship system (apart from the selection of Rhodes scholars) encourages schoolmasters to train mere scholarship winners, often to the detriment of their health and character. If tests of personality and intelligence were widely adopted in selecting suitable candidates for higher education, the quality of school education as well as of the people who finally qualify for a profession or other occupation might be greatly benefited. Men are not horses to be trained for the Derby and then put to stud. The B.M.A., in its evidence to the Inter-departmental Committee on Medical Schools² attributed "some of the inefficiency which undoubtedly exists in the profession to-day" to the fact that a number of students were entering the medical schools who could pass examinations but had not the requisite aptitude, character, or staying power for a medical career. Recently the B.M.A. Medical Curriculum Committee³ has emphasized the need for experimenting with such tests, and, further, for reviewing "the suitability of the medical student to continue his course at later stages of the curriculum."

Aptitude tests can be properly designed only if a detailed job-analysis is first carried out. We understand that the Civil Service has done this. The problem for the medical profession is more complex. In the first place men with a much greater diversity of aptitude and temperament can become successful and contented doctors; in the second, the tests would be applied to a youth at the end of his schooling instead of to the semi-finished product of a university. The "house parties" at CISSB are an instructive example of how our administrators are trying to select people who will rule us intelligently and humanely.

CARBON TETRACHLORIDE POISONING

Like many other chlorinated hydrocarbons, carbon tetrachloride when inhaled in large quantities may seriously damage the liver. It also has a special affinity for the renal tubular epithelium, and, though in many of the reported cases of acute intoxication (frequently from the use of fire extinguishers) the hepatic symptoms have been most obvious, in others evidence of renal involvement has overshadowed that of disturbance of liver function. In such cases, in which oliguria or even complete anuria may be accompanied by hypertension and severe azotaemia, the

prognosis is perhaps worse than in those where hepatic injury is the more evident. It has been found both in animals and human beings that after single heavy exposures to carbon tetrachloride the liver parenchyma is capable of rapid regeneration. It appears that this process of repair can also take place in the damaged renal tubular epithelium, but less rapidly and less completely than in the liver, and unless functional restoration corresponds with anatomical the outcome is almost certain to be fatal.

Treatment in such "renal" cases must therefore be directed primarily to the kidneys, though accompanied by those measures which have been found valuable when the liver is chiefly involved. These measures, and particularly dietary treatment, are discussed at length elsewhere in this issue. In recent years peritoneal lavage and the use of the artificial kidney have been increasingly tried as a means of eliminating toxic end-products of metabolism during periods of suppressed renal function, since it has been shown that numerous substances such as urea, sulphates, phosphates, creatinine, and other waste products are filtered freely across the dialysing surface of the peritoneum.

Peritoneal dialysis is not an operation to be lightly undertaken, since it entails certain risks, not the least of which is lethal peritonitis, and its use should be restricted therefore to cases of acute renal failure associated with reversible renal changes. A recent case¹ of acute carbon tetrachloride poisoning in which the procedure was used certainly fulfilled these conditions, because oliguria had been present for nine days when peritoneal lavage was begun, and subsequent histological examination showed some degree of anatomical regeneration of the injured kidneys. To the dialysing fluid used—modified Tyrode's solution—was added the sodium salt of heparin to inhibit the formation of fibrin on the peritoneum and penicillin to inhibit bacterial growth. When peripheral oedema indicated that fluid was probably being absorbed from the peritoneal cavity into the circulation the constitution of the irrigating fluid was further modified by decreasing the amount of sodium chloride and increasing that of sodium bicarbonate, so that a closer approximation to normal blood plasma was obtained. Unfortunately, in spite of an initial subjective improvement following peritoneal lavage, the patient developed progressive symptoms of exhaustion, bronchopneumonia, and pulmonary oedema, and died ten days after admission to hospital.

The presence of new cells in the tubular epithelium showed that in this case some degree of anatomical regeneration was taking place. These cells had replaced the injured elements, but they were apparently immature and probably not capable of normal function. It was thought that if life could have been maintained for a few more days restoration of function might also have been achieved, with the prospect of complete cure. In a similar though less severe case of carbon tetrachloride poisoning with renal symptoms predominating, complete cure did take place under conservative therapy only, with a return of the blood pressure to normal and disappearance of evidence of renal disease.²

These cases emphasize the necessity of recognizing that the chief point of attack of carbon tetrachloride may be the kidneys rather than the liver, and of instituting treatment as early as possible with the object of maintaining renal function until the process of repair is established. The urgency of functional restoration must constitute the justification for such a relatively drastic measure as peritoneal dialysis.

¹ Pearson, G. C., *Proc. Mayo Clin.*, 1947, 22, 305.
² Clinton, M., *New Eng. J. Med.*, 1947, 237, 183.

PROBLEMS OF INTERNATIONAL TRAVEL

BY

H. S. GEAR, M.D., D.P.H., D.T.M.&H.

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Special disease hazards result from the increasing speed of international traffic, and the gravity of these problems more than warrants a periodic examination of the situation. However, there is another aspect which is apt to be neglected in medical writings but is nevertheless important in world affairs—the effect of medical decisions on international trade and travel.

From the earliest days there has been an increasing tendency to avoid too drastic interference with traffic by quarantine practice. In his comprehensive review Stock (1945) shows that the elucidation of the causes and modes of spread of various diseases has been followed, if tardily, by an increasing international concord in reducing arbitrary medical action against traffic between countries. Stock also indicates how recent conventions have been designed to define the *maximum* measures consistent with disease control which any country may take against the people and trade crossing her borders. These modern agreements in theory, therefore, abolish unrestricted action by any country against international traffic. Nevertheless the conventions remain as compromises between modern epidemiological opinion and the demands of some authorities.

Medical Certificates

The emphasis given to some present questionable quarantine procedures has arisen paradoxically with the newer knowledge of disease spread and control. The development of immunology, for instance, has had repercussions on quarantine methods. The international traveller is increasingly being harassed by demands for certificates of vaccination against a lengthening list of diseases. The vaccination certificate has received special prestige in connexion with yellow fever, and the various processes now linked with such documents constitute a distinct obstacle to the free movement of peoples in many parts of the world.

If the yellow-fever certificate could be accepted as evidence of an absolutely reliable barrier to the spread of yellow-fever virus then no trouble would be too great to enforce its possession by all travellers. In my view the reliance placed on this document is frequently misplaced. The success of vaccination in developing a high degree of immunity in most individuals is well established. Vaccination is therefore justly accepted, but there is a considerable difference between recognizing vaccination against yellow fever as a reliable procedure and acknowledging the obligatory certificate as beyond reproach.

A yellow-fever vaccination certificate is a document, whether on an official standard form or not, which may or may not be indicative of a high level of immunity in its holder. There are both innocent and discreditable reasons for this doubt. Many certificates honestly issued are not an index of high immunity because of defects in the production and the maintenance of the viability and potency of the vaccine actually injected. Other certificates are forged. Forgeries and alterations have occurred on a considerable scale. This danger has been recognized by the wise architects of the conventions, but as yet no effective and practicable counter to the illegal and doubtful document has been evolved. The devices of standard forms and lists of approved vaccinators are but partial

remedies. Lists of approved medical officers of all the countries of the world will naturally be changing so continuously with additions, deletions, amendments, and transfers that only large bureaux can hope to compile and maintain such lists. In addition checking and deciphering signatures and designations in many languages is a laborious and difficult task unlikely to be done efficiently at most frontier posts. There is but slight similarity with immigration passport practice. A suggestion useful in theory but unlikely to appeal in practice is the assumption of quarantine control by an international authority. In the present state of the world even such a limited surrender of sovereign rights is bound to be unacceptable to most States.

That a prescribed vaccination certificate is not necessarily proof of a high level of immunity against yellow fever is only one weakness of this quarantine requirement. An equally valid criticism is that not all travellers in the particular geographical regions carry certificates. At present with air travel largely in the hands of established reputable air transport services most air travellers carry certificates. But the era of the private and charter plane is well launched, and it can be prophesied that these planes will rapidly enter inter-territorial travel in vast numbers. Little imagination is necessary to foresee the difficulty if not impossibility of applying quarantine restrictions to such craft. Land- and water-craft are also passing from endemic to non-endemic areas at speeds which bring them well within the yellow-fever danger limits. Their human complements rarely carry vaccination certificates.

The theory of the statutory yellow-fever vaccination certificate is that it implies the exclusion of carriers of virus from non-endemic areas. As the certificate is itself not always trustworthy, and as not all potentially dangerous travellers carry certificates, reliance on such a method alone is foolhardy. Even the rigid control and discipline possible in the best-organized military medical services in the recent war did not overcome these difficulties. How much less can it be expected that civilian administrations with their usually weaker control and looser organizations will achieve greater success?

The yellow-fever certificate fashion is spreading. Yellow-fever vaccination is at least highly reliable, but it is with much less assurance that complete protection can be expected in every individual vaccinated against such conditions as plague, typhus, and cholera. Thus there is smaller justification for requiring certificates against these diseases. Another unsatisfactory development is that some authorities, though their territories harbour endemic infections, demand vaccination certificates against these conditions for passing travellers. As a measure of control this seems particularly futile.

Medical Examinations

Medical examinations of passengers are not a normal routine at most quarantine posts. When applied, however, they are exceedingly drastic in their effect on both travellers and traffic. The most superficial clinical examination causes delay, annoyance, and frequently confusion, and the value of such examinations as a quarantine measure is very limited. Manifestations of infection are so protean that even in such a frank disease as smallpox, clinical examination, whether thoroughly done by experts or not, is unlikely to detect all affected persons. Further, since the dissemination of infection is a function of such varied contributors as frank, atypical, and incubating cases, subclinical infections, and carriers, it is clear that elimination of the frank and the atypical cases—the most to be expected from clinical tests—cannot stop spread.

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Military experience is again a valuable practical test of such procedures. One convoy embarked its troops in West Africa, where they had had the usual critical pre-embarkation medical examination. All sick soldiers were rejected and a clinically healthy population began the voyage to the Middle East. At Cape Town this convoy reported outbreaks of chicken-pox, dysentery, and meningitis. Vigorous medical action was taken, resulting in all cases and contacts being landed. Again the convoy proceeded, but merely to report further cases of chicken-pox and chicken-pox at Aden. A further weeding out at this port was also unsuccessful and fresh cases were still appearing on arrival at Suez. The many appearances of small-pox and the lesser exanthemata in troopships may also be mentioned as illustrating the futility of ordinary clinical examinations in filtering off infection. Laboratory techniques are similarly too crude or too cumbersome as yet to demonstrate invariably the presence in human beings of disease agents. Yet in times of crisis many nervous quarantine authorities give way to the hysteria of the occasion and demand, for instance, the wholesale examination of stools from every unfortunate passenger on ships suspected of harbouring cholera.

Many other examples could be given to show that, despite military control and discipline, after the isolation of frank cases and the removal of contacts infection still persisted. The less adequate control and facilities possessed by the average civilian quarantine organization give still less hope of removing infection, especially when it is realized that much human movement occurs beyond any possible official supervision.

Disease Vectors

The rat and the mosquito are the two vectors of human disease prominent in quarantine regulations. The reliance frequently placed upon frontier station methods for preventing the ingress of these potential carriers of plague, yellow fever, and malaria is often unjustifiable. The degree of attention given to vector control is inclined to vary according to the type of vessel or aircraft. Modern ocean-going liners and air-transport of the well-known lines usually conscientious in observing regulations, receive the most detailed inspection by quarantine authorities. All too often the more careless and hence more dangerous craft, such as small tramps, coastal and local sailing vessels, barges and private aeroplanes, escape the full application of vector control. Land transport—trains, motor vehicles, animal-drawn transport, and caravans—is too often completely ignored or forgotten. Thus reliance on frontier vector control alone is risky. Though fortunately not generally a major cause of obstruction or delay to international transport, arbitrary action under the relative clauses of vector control in international conventions does occur. There have been occasions when official or too nervous administrations have used the legislation to hold up ships unnecessarily for many days while searching for *Aedes aegypti* or to submit ships already in possession of satisfactory certificates and patently free of vermin to further anti-rodent measures.

Some General Criticisms

The retention of outmoded views on infection and epidemiology in spite of the spirit and principles of existing international quarantine legislation is also the source of certain general reactions on the part of many health administrations. First, the barrier motive behind vaccination certificates, frontier medical examinations, isolation of sick and contacts, and frontier vector controls has produced an all too common complacency. It is a medical

Maginot Line complex which, however fitting in the days of well-marked caravan and trade routes and stable populations, is out of place in the restless modern world. The emphasis given to quarantine measures is especially wrong when there is but spasmodic or inadequate attention given to the more important internal preventive organization. A true perspective would give precedence to the latter in rodent destruction against plague, *Aedes* control against yellow fever, louse control against typhus, and improved sanitary and health conditions within the community. Weaknesses in the barriers against the entry of infective agents which the realist must accept as almost inevitable at present will not then be so very important.

Secondly, the present legislation and practice foster unreasonable allegations concerning the origin and spread of infection which too frequently provide inter-territorial irritation. A region suffering an outbreak of one of the major communicable maladies is prone to place the blame not on its own inadequacies but on the alleged neglect or even malice of its neighbours. Communities in which a particular disease is endemic are not above seeking the explanation of recrudescences in imported infection. Such forms of recrimination are illogical, unscientific, and unhelpful in view of the demonstrable inherent weaknesses in barrier methods of quarantine practice. When the tendency to arouse international sensitivity is associated with interference with traffic, quarantine methods of doubtful medical advantage are hard to defend.

Thirdly, under existing conditions many health administrations, especially in an increasingly bureaucratic era, are often forced against their better judgment to apply the full armamentarium of quarantine. They appreciate that in the occurrence of any untoward event a scapegoat is likely to be sought. Any omission in observing the convention commandments, whether defensible on technical grounds or not, is apt then to arouse severe censure. Conversely other administrations, indifferent to lax internal conditions, conceal their deficiencies behind a façade of frontier medical activity in terms of the conventions.

Some Recommendations

In this age of speed the medical administrator would welcome above all reforms which would lessen his fear of such conditions as yellow fever, smallpox, plague, typhus, and other major aerial and vector-borne hazards. If such alterations in sanitary conventions and quarantine practice simultaneously benefit international relationship and transport they call for early adoption. As many of the prohibitions and absolute obligatory provisions of the present conventions are here claimed to be both ineffective and indirectly harmful there seems to be no justification for imposing yet more drastic frontier controls. The revision sought is rather an acceleration of the process implemented by the experts of the Office d'Hygiène Publique International, the Health Organization of the League of Nations, and U.N.R.R.A., which has been to define international control in harmony with epidemiological principles.

It is suggested that a considerable advance in the legislation is now possible which, far from reducing control over the origin and dissemination of disease, will enhance it and yet enable travel and trade to move more freely. The following principles therefore deserve prominence in the new international sanitary conventions.

(1) In view of the complex epidemiology of most major communicable diseases and of the insuperable administrative difficulties of achieving satisfactory medical control of international traffic, each State, however weak, should rely primarily on internal measures for increasing resistance rather than on efforts to prevent the entry of infection. With population movements

increasingly disturbing the "epidemic constitution" of both national and international human "herds" it is only the application of this principle which will protect the public health.

(2) Each State should recognize that there is no quarantine measure yet available which can be accepted as of anything but very limited and relative value in excluding infection from a community.

(3) It should be recognized also that no existing quarantine measures are infallible in the diagnosis of infection. Consequently allegations against other countries of "exporting" infection are fruitless.

(4) Medical advantages of any international procedure must be balanced against disadvantages imposed upon communications and trade in a world increasingly dependent upon and dominated by facilities for rapid transport.

(5) The conventions should clearly state that any application of measures in excess of those prescribed will bring repudiation by the international health authority.

If such principles are adopted it will then be questionable whether certain present absolute legal prohibitions and sanctions can be retained in the new conventions. The following may be instanced as requiring re-examination:

(a) The *obligatory* possession of immunity certificates by travellers. It is perhaps unnecessary to emphasize that the suggested deletion of the absolute legal requirement in no way diminishes the desirability of all travellers being persuaded to accept immunization. Furthermore, the change in emphasis from frontier barriers to internal protection will imply the need for large-scale programmes of vaccination for population at special risk.

(b) The forcible detention or delay of ships, aircraft, and land-craft for medical examination of the crew, passengers, freight, or accommodation.

(c) The examination, detention, or removal of contacts or suspects with consequent delay of craft.

These last two sanctions have been abused so often that their reduction, especially in the face of their doubtful usefulness, is overdue. It is not the purpose of this paper to review the other features of international sanitary legislation and practice. The establishment of epidemiological bureaux, the exchange of epidemiological and medical intelligence, the investigation of health problems, the programme of health and medical education, the improvement of the conditions of ships, aircraft, sea- and air-ports, and many other excellent results of the sound construction of the conventions are fully acknowledged. It is also not necessary to refer to the vast prospect of mutual co-operation and regional co-ordination now opening with the appearance of the new World Health Organization.

The removal or reduction of obligations and practices in the conventions which are scientifically unsound or administratively impossible should enhance the value and status of all international medical legislation and agreement. There should then follow a better approach on the part of health administrations to both their internal and external responsibilities, which in turn must lead to improved health and well-being for their communities. Such a reorientation in the sphere of international medicine will be a direct contribution to fuller and more harmonious international relations.

Summary

Medical interference in world traffic still exists in spite of the advance in international sanitary legislation. This partly arises out of the increasing demand for travellers to hold vaccination certificates and to submit to medical examinations, and partly to medical interference with shipping and aircraft. Arguments are put forward suggesting that such restrictive vaccination practice is of limited value and is dangerous to the public health and to the sense of security. It cannot guarantee exclusion of infection and is no protection against the recrudescence of disease. It leads to the neglect of more valuable

internal measures for improving medical organization and sanitary conditions. It also contributes to international friction.

There is thus a need for the international sanitary convention now being revised to reduce "police" measures, to emphasize national self-reliance and responsibility, and to clear the way for better national health services and world transport less shackled with medical restrictions.

REFERENCE

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SELECTION OF CIVIL SERVANTS

[FROM A CORRESPONDENT]

The Civil Service has acquired the unfortunate (and perhaps unjustifiable) reputation of recruiting men of first-class intellectual ability but of indifferent personality, or, if it succeeds in attracting men endowed with humanity, vigour, decisiveness, and sound judgment, of so restricting the development of these qualities that their possessors in time become timid, brittle, hermetic. Many people may have been surprised, therefore, when Sir Percival Waterfield, the First Civil Service Commissioner, recently defined the qualities required in the administrative class of the home Civil Service or the senior branch of the Foreign Service as "brains, personality, effectiveness, judgment, and integrity, the whole blended into a sane and balanced individual by the process of education."

The old opinion of our administrators was perhaps not wholly a myth; the administrative class of the Service was formerly more remote from professional, trade union, and business interests than it is to-day. Its staff must now sometimes mix in the rough world outside Whitehall, and the Civil Service Commissioners are therefore trying to recruit a rather different type of man or woman and to prevent the entry of those who, though highly intelligent, have not the capacity for personal negotiation and humane administration. They have now the additional problems of obtaining staff for vacancies that occurred during the war but were not filled, and of selecting men and women who were not then free to enter but who can now apply—people whose ages range up to 32. One method that they are using is the 48-hour "house party," where personnel selection tests are applied. The Civil Service Selection Board—CISSB for short—which was set up in August, 1945, holds these examinations at a delightful country house at Stoke d'Abernon, in Surrey. As an observer I recently joined a "party" and watched the candidates being put through their paces.

At present all vacancies in the Foreign Service and 25% of those in the administrative class of the home Civil Service are filled by candidates who have been through CISSB. They must have obtained, or be certified by their tutors as able to obtain, at least a second-class honours degree, and they must have passed a qualifying written examination on general topics, where also they must show that they can express themselves clearly in good English. About 40% of the candidates fail at this stage. CISSB does not pass or fail the other 60%; it elicits evidence and makes recommendations; a Final Selection Board accepts or rejects the candidates.

The CISSB staff is drawn from the Civil Service, the universities, the Forces, business, and elsewhere, and includes a number of trained psychologists. In addition to this diversity of experience they are helped by confidential reports on each candidate from his school, university, employers, and commanding officer, and by the candidate's personal references.

Mental Tests

When I arrived the candidates had already been given numbers, by which they are known throughout the test, been sorted into three groups of six to eight (seven is considered the most suitable number), and were drinking tea copiously but in a subdued manner to refresh themselves after two hours' mental testing during the afternoon. These tests are of two kinds—cognitive and projection. The former are "intelligence" tests specially designed for this type of sample of the population and are performed at high speed against the clock; only

the most able succeed in completing them. The first, a general information test, consists of a long list of names of notable men and women in all walks of life which any diligent newspaper reader with a retentive memory ought to know; against this list is a column of descriptions, arrayed in a quite different order, by which they can be identified; the candidate is required in a third column to mark the description that fits the name. On the whole this test is not difficult for the man who has a practical and varied interest in public affairs.

Their perceptual efficiency is then tested by means of simple line diagrams. A standard set is shown, and then 200 fragments of one or other of those in the sample must be identified as being detached from one of the complete diagrams. People with mathematical or mechanical ability tend to excel in this test. Two word tests follow. In the first a list of words lies beside a list of half words. Each half word has to be completed so that it means much the same as its mate—e.g., lucky, *fortunate*. The second is two lists of words with a blank column between them. Into the space between each pair of words the candidate must insert a word that rhymes with the first and means the second—e.g., lucky, *plucky*, courageous. Facility in the use of language is naturally a help in performing these tests.

Finally a number of paragraphs, some of considerable complexity, extracted from official documents are shown to the candidate together with a list of inferences that may or may not be truly made from them. He is required to mark the correct inferences. This test sets just those problems that will often beset the Civil Servant, and, though they struck me as formidably dull, several candidates whom I subsequently asked about them all replied that their interest had been aroused.

The projection tests give some insight into a candidate's personality. A number of photographs of mildly emotive human situations are thrown on to a screen; they depict perhaps a man parting from a woman on the highway, children quarrelling, and so on; and the candidate is allowed 2½ minutes to write a few sentences commenting on the scene. The screen is then shown blank, and the candidate must describe an imagined picture and comment on it. A matter-of-fact or highly imaginative interpretation, a sensitive, indifferent, or hostile attitude to human relationships, tenderness, harshness, aggression, and cynicism—all these may appear in the responses and suggest the presence or lack of certain qualities in the candidate.

A word association test elicits information of a similar kind. Thirty simple words such as tree, snake, father, station, class are presented successively for 15 seconds and the candidate writes his response in a short sentence or phrase. The associations aroused may be consistently platitudinous, unusual, negativistic, or a well-proportioned mixture. A few clichés and cracker mottoes from potential Civil Servants may not be a bad thing, though they should be leavened by some homely and personal associations; but many bizarre responses might indicate a cast of mind that would be more at home, perhaps, in Parliament or journalism.

Each candidate also writes a short account of himself as though, first, by an appreciative friend, and, secondly, by a discerning critic. Such comments reveal the man with good or poor insight into his mind, the capacity to criticize himself justly or unjustly, the narrow judgment of a prig, the conscience of a pickpocket or a Puritan, the man "assured of certain certainties."

Group Tests

After tea I was allotted to one of the groups to watch their first group test—an informal discussion for twenty minutes on "The Role of the United States in World Affairs." Three assessors test each group—a chairman, an observer, and a psychologist. One of them announces the title of the discussion, but they do not take part in it. We sat around in easy chairs. The sort of qualities revealed in these discussions are ability to discern quickly the point of an argument, to stick to the point, to argue rationally, to develop the discussion rather than jump continually to another aspect of it, to use common sense or academic learning, to summarize quickly, to form an independent judgment, to show an imaginative interest in the topic, and so on. Some candidates make boring speeches instead of discussing; some speak too briefly, some too long; somebody may

try to dominate the group, others may submit too easily. The practical man may stick to concrete examples, the academic talk from a book, the impatient interrupt too often, the honest man show his integrity. Some tend always to agree or disagree. (In this discussion nearly all agreed with the others: "I agree with you, but . . ." was a favourite phrase of entry; they were still rather shy and thus tried to shelter in the group.) Some candidates contribute their opinions in the form of questions—"Don't you think that . . ."—rather than affirm their beliefs; some state their beliefs without supporting them rationally; or a candidate may sum up and define without contributing fresh ideas.

This test—so simple in form—is remarkably revealing, and as soon as it is finished the assessors meet to discuss the candidates' performance and allot marks. The qualities that they consider include vigour and clarity of expression, prolixity or conciseness, methodical presentation of facts, practical outlook, sophistication, adaptability, the candidates' convictions, their insight into human problems, whether they are aggressive, adaptable, sensible, alert, whether they encourage the group to collaborate, whether, indeed, they talk sense.

In the evening the candidates are introduced to "Fantasy Island," where the population is mixed, the administration and amenities primitive, and well-meaning philanthropists want to set things right. They study the data and write a short paper on its problems.

The next morning each group holds "committee discussions" on the problems of Fantasy Island, first on the paper previously written, when the chairman is elected by the candidates, and then on short questions set by the assessors, when the candidates take the chair in turn. The chairman is expected to show ability in presenting the problem clearly to the committee, working through the agenda in the time allotted (about 20 minutes), keeping his colleagues to the point, being responsive to their opinions rather than forcing his own on them, and in lucidly summing up the committee's agreed decisions. The other committee members show whether they talk sensibly, persuasively, naively, solemnly, and so on.

In the afternoon each candidate speaks to a small audience for 10 minutes on a subject chosen by the assessors from a list of several that he has previously handed in, twenty minutes being allowed for preparation. He also states the kind of audience he imagines he is addressing, such as a trade union meeting, a university discussion group, a gathering of a women's institute. When candidates are not speaking they are either having private interviews with the psychologist attached to their group or forming part of the audience.

During the day the assessors of all three groups meet and rearrange the candidates into three fresh groups. Each of these "mixed groups" holds a group discussion in the evening of the same day or morning of the third. The subjects are chosen by the assessors and are more abstract than that discussed on the first day; to some extent they vary according to the type of candidates in each group. I watched them discuss "Criteria for Democracy," "The Conflict between Private Conviction and Public Duty," and "Individual and Community." By mixing the groups for these discussions the assessors gain a wider background against which to set the candidates in their original group.

Finally, each candidate ranks on a form his group companions in the order in which he thinks they would be most suitable (1) as a Civil Servant, and (2) as a holiday companion.

The assessors now meet to sum up the candidates' abilities and qualities at every stage and all have had private interviews with them. They pay great attention to the candidates' academic and personal testimonials, and have acquired considerable skill in interpreting the usually laudatory phrases of such documents. They take into consideration age, war service or other work, and academic distinction, and relate these to what they have learned of the candidates at the "party." His records will often show whether a candidate is hard-working, enjoys social activity, has wide interests, or fits from the common man's another. Does the candidate appreciate the common man's point of view? Is he good-hearted, vigorous, buoyant, impulsive? Can he make contact with an audience, negotiate well? The assessors consider these and many other points and finally allot the marks.

Value of CISSB

Is CISSB a success? The Foreign Office thinks so and requires all its candidates to pass through it. The home Service is more cautious; most of its candidates still enter by examination and final interview. They defend their opinion on the grounds that a certain type of candidate—perhaps the dour Scot or the “prickly” Englishman—might create a very unfavourable impression at the “house party” and its report mislead the Final Selection Board. Only a careful follow-up of the results can tell, and CISSB is carrying this out. So far 150 candidates have been reported on after one year, and a report on every candidate after six months is received. Statistical analyses are also being made to find out what each part of the CISSB procedure contributes to the final result and what features of the candidates’ background are most closely correlated with success or failure at the “party.”

Apart from the problem of whether CISSB succeeds in discovering those candidates with the qualities required by the Civil Service Commissioners is the much wider one of whether the men and women with these qualities will be contented in the Civil Service. Unless the follow-up investigations are carried out with this distinction in mind they may lead to inaccurate results, for the men may prove to be failures in the Service because their personality, effectiveness, and judgment—correctly discerned by CISSB—are frustrated too often. Sir Percival Waterfield, who found time to visit CISSB while I was there, emphasized that the Service to-day welcomes such men and finds the right work for them. On the other hand I have heard men with some experience of the Service in a humbler capacity dissent from that view, or maintain that it is only the senior men who are able to give full rein to the vigour, enthusiasm, and interest in human affairs that should characterize our administrators.

Most of the candidates consider the tests fair and searching. They seemed to enjoy themselves, so far as any examination can be enjoyed.

REMUNERATION OF GENERAL PRACTITIONERS

ARRANGEMENTS UNDER N.H.S.

The following explanatory notes have been issued by the Ministry of Health for the guidance of practitioners:

The standard of remuneration proposed for general practitioners taking part in the National Health Service is based on recommendations made by a committee under the chairmanship of Sir Will Spens. The Spens Committee was appointed in February, 1945, and was asked to recommend the right standard for remuneration of “a registered medical practitioner in any publicly organized service of general medical practice.” The Committee was half medical and half lay, and the findings were accepted and published by the Government in May, 1946. [The Spens Report was printed in full in the *Supplement* of May 18, 1946.]

The original proposal made by the Minister of Health was that remuneration for a general practitioner should take the form of a fixed annual payment of £300 per annum plus a capitation fee of 15s. 2d. (based on 95% of the population using the Service—higher if less than 95% use the Service). But to counter the doctors’ fears of this leading to a full-time salaried service the Minister announced in the House of Commons on April 7, 1948, that he was prepared to alter this. [This statement by Mr. Bevin appeared in full in the *Journal* of April 17 at p. 763.] The Minister made the following suggestions:

1. Doctors in established practice may elect either to have a fixed annual payment only or to have the fixed annual payment plus a capitation fee at a proportionately lower rate—subject to conditions to be discussed with the profession, to avoid the individual doctor being disadvantaged by the expense of other doctors.

2. All new entrants to general practice as principals should have a fixed annual payment of £300 per annum, plus the capitation fee, for a period of three years.

3. After three years doctors under (1) may choose which method of remuneration they prefer, i.e., £300 per annum plus a lower rate of capitation fee, or a higher rate of capitation fee only.

Doctors under (a) are free to change from one system to the other at any time. The fixed annual payment of £300 will normally be subject to the condition that the practitioner shall have not less than 500 patients on his list within two years of his inclusion in the medical list as a principal. Taking the annual payment of £300 plus capitation fees at the lower rate (say 15s. 2d.), here are some examples of what, approximately, a general practitioner would be paid under the National Health Service, apart from any extra fees (see below) he would get:

No. of Patients on List	2,000	2,500	3,000	3,500	4,000
Capitation payments	£ 1,516	£ 1,895	£ 2,275	£ 2,654	£ 3,033
Fixed annual payment	300	300	300	300	300
Expenses (say 2%)	726 (40%)	878 (40%)	969 (37%)	1,034 (35%)	1,111 (33%)
Net payment	1,090	1,317	1,606	1,920	2,222

The general practitioner who chooses to be paid wholly by capitation fee would probably earn about the same amount, although generally the fixed annual payment plus the lower capitation fee will be slightly more favourable to the practitioner with the small list and the plain capitation fee to the practitioner with the large list. There are also many possibilities for a doctor to add considerably to his earnings within the general medical and maternity services. Some of the actual figures cannot yet be given, as Regulations have yet to be made, but at present it can be said that the individual doctor’s income may be increased in the following ways:

1. Mileage payments.

2. “Inducement” payments. There will be a fund of over £400,000 a year for extra payments to doctors who practise in difficult and unpopular areas.

3. Training of assistants. Grants for supervision will amount to £150 per annum plus the salary of the assistant and boarding expenses (together not exceeding £700 a year) and an allowance not exceeding £150 a year if an additional car is necessary.

4. Fees for obstetric services. Where a doctor provides ante-natal care, attendance at the confinement (if necessary), medical supervision of mother and child during the puerperium, and post-natal care—7 guineas. A reduced fee will be paid where the patient changes her doctor or discontinues treatment before the services are complete.

5. Payments in respect of drugs and dressings which a doctor is required to supply on the spot. The rate will be 2s. 6d. per annum (or more in certain areas) for every hundred persons included on his list.

6. Payments for drugs, etc., where the doctor dispenses by arrangement with the Executive Council, either on the basis of the actual drugs and appliances he supplies or at a flat rate per annum in respect of each person on his list, with additional payments for specially expensive items.

7. Doctors providing general medical services or maternity medical services and assistants in the employ of such doctors come within the scope of the Superannuation Scheme set up under the National Health Service Act. A doctor will contribute 6% of his net annual receipts from the Service and the Exchequer will contribute 8% of those receipts. In return, after a qualifying period of five or ten years a doctor will be entitled to a wide range of benefits, including (after five years) a lump sum on death or on retirement after age 60 or on incapacity, and (after ten years) on retirement a pension and lump sum, and on death a death benefit and a widow’s pension, the amounts depending on the number of years for which he has contributed.

Miscellaneous Payments

Apart from all these receipts in respect of general medical and maternity medical services, doctors may have income from, for example, the following sources:

1. If the general practitioner is in practice as a principal before the appointed day, he is entitled to get interest at 2½% on the unpaid compensation money.

2. Fee for general practitioner working in clinics of local health authorities. Current fee is £2 5s. a session.

3. Fees for general practitioners on medical boards for Government departments, insurance companies, etc. Current fee

for medical practitioners on Government boards is about £2 12s. 6d. a session.

4. Fees payable by local health authorities under the Midwives Acts where the doctor is called in by a midwife and the obstetric fees mentioned above are not payable.

5. Fees from private patients.

N.H.S. and National Insurance

As much confusion appears to exist between the National Health Service Act and the National Insurance Act, the following explanation may be helpful. There is no need to have any insurance qualification to use any or all of the services within the National Health Service. This means that every man, woman, and child in the country, *without any exception*, whether within the National Insurance Scheme or outside it, is eligible for *all* the health services. There is no age bar, so the new Service is open to old folk just as it is to any other members of the community. About five-sixths of the total cost of the National Health Service will come from taxation in the ordinary way, and only one-sixth comes from the National Insurance Fund. Of an insured man's contribution of 4s. 11d. per week under the National Insurance Scheme, only 8½d. goes towards the cost of the Health Service, and 4s. 2½d. is to cover him for cash benefits—retirement, widows' pensions, unemployment, sickness, and disablement benefit, and so on.

AFTER THE APPOINTED DAY POSITION OF PATIENTS

The following statement has also been issued by the Ministry of Health as an indication to patients of the changes that will take place on July 5 under the National Health Service as compared with the present position under the National Health Insurance Scheme.

N.H.I.—Only 20 million persons in England and Wales—mainly wage-earners—pay insurance and thereby get the services of a doctor without charge.

N.H.S.—Over 40 million people—i.e., every man, woman, and child in England and Wales—will be entitled to the services of a doctor.

N.H.I.—Compulsory insurance is paid by all manual workers and by non-manual workers earning up to £120 per annum (in a few cases there are exceptions), but doctors' bills must be paid for wives and children of insured persons (unless the wife is an insured person in her own right).

N.H.S.—The new scheme is comprehensive. No one at all need have any more doctors' bills to pay. Moreover, the National Health Service will provide *all* forms of medical advice and care—hospital and specialist as well as a family doctor—and it will not depend upon insurance qualification.

N.H.I.—You are free to choose any doctor able to look after you so long as he takes insured patients.

N.H.S.—Freedom of choice remains for both patient and doctor.

N.H.I.—You may change your doctor, but, unless the first doctor consents, you can only change at the end of March, June, September, or December, and then only if you have given at least one month's notice.

N.H.S.—You may change your doctor whenever you wish, without notice.

N.H.I.—Treatment is personal and confidential.

N.H.S.—It will remain personal and confidential.

Dental and Ophthalmic Services

N.H.I.—Dental service is an "additional benefit" provided by some but not all Approved Societies out of surplus funds. A qualifying period is often necessary. A few societies pay the whole cost, but the majority pay about one-half or two-thirds of the cost. About half the insured population is covered.

N.H.S.—Although you may not be able to get full dental treatment without waiting, owing to a shortage of dentists, all dental treatment provided under the scheme will be free of

charge with the exception of treatment or dentures which are more expensive than are clinically necessary and replacements due to carelessness. There will be about 4 million dentists' bills per annum met under the new scheme. There will be no qualifying period. There will be no forms to obtain. Your dentist will have a form, and at the start of treatment all you have to do is sign your name on it. Special arrangements will be made for priority treatment for expectant and nursing mothers and young children.

N.H.I.—The same applies broadly to ophthalmic benefit, which is also an "additional benefit."

N.H.S.—All ophthalmic services will be available to everyone. There will be no "waiting period." About 3 million pairs of spectacles are expected to be issued free of charge each year. There will be a range to choose from, but a charge will be made for special types which are more expensive than the standard types, and for replacements or repairs due to carelessness.

Deaf Aids

N.H.I.—Deaf aids are provided by some Societies which give "additional benefits"; contributions towards the cost of such appliances are made according to the funds available.

N.H.S.—Specialist ear clinics will in time be set up at hospitals. A beginning will be made as soon as possible with the distribution of hearing-aids, and the number will be increased as supplies become available and the Service is developed. Batteries and maintenance will be provided without charge.

N.H.I.—Fees are charged for ambulances by many Local Authorities. Societies sometimes pay travelling expenses incurred in obtaining treatment which is provided as an "additional benefit."

N.H.S.—Local Health Authorities will provide ambulance service without charge.

N.H.I.—Medicines necessary for treatment which are prescribed by doctors are issued free of charge to all insured persons.

N.H.S.—All medicines necessary for your treatment which are prescribed by your doctor will be supplied without any cost or other limit.

Hospitals and Convalescent Homes

N.H.I.—Payments towards the cost of hospital (in-patient) treatment and convalescent home treatment are made by some Societies as an "additional benefit." The cost of specialist services received in hospital may be included in the cost of hospital treatment and paid for by the Society.

N.H.S.—All hospital treatment, including surgical operations and the help of consultants and specialists, will be provided. Your doctor will arrange for you to see the specialist when necessary and also fix your hospital accommodation.

N.H.I.—Medical and surgical appliances are provided by some of the Societies which give "additional benefits"; contributions towards such appliances are made according to the funds available.

N.H.S.—Appliances which are medically necessary will be provided; only in cases where the patient wants a more expensive type will a charge have to be met.

N.H.I.—Payment towards the cost of convalescent home treatment is made by some of the Societies which give "additional benefits."

N.H.S.—Convalescence for hospital patients needing regular care during recovery will be arranged. Facilities will be limited at first. A more general after-care service in the home will be provided by Local Health Authorities.

Other Points

Domestic help is provided in the home by some Local Authorities in cases of illness or maternity. A charge is made according to means. The existing arrangements will be taken over and expanded, the charge continuing to be made according to means.

Health visitors are primarily concerned with the care of mothers and children. Health visitors' work will be extended to cover the health of the entire household, including preservation

of health, precautionary measures, and health education. The health visitors will work in close co-operation with the family doctor.

Many mentally ill or mentally defective people are in work-houses. Others in institutions run by Local Authorities have to pay charges. After July 5 it will be illegal for a mentally ill or mentally defective person to be accommodated in a work-house. All mental hospitals and institutions (except those run for private profit) will be taken over by the Regional Hospitals Boards, and accommodation and treatment will be free of charge.

Mental and physical health are sharply divided at present. As the National Health Service provides for both the mental and physical well-being of the community, much closer co-ordination will be possible.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

ANNUAL MEETING OF BOARD OF GOVERNORS

The annual meeting of the Board of Governors of the London School of Hygiene and Tropical Medicine was held on May 19, when Lord Milverton was elected chairman of the Board in succession to Sir Holburt Waring.

In presenting the annual report Lord Milverton said that this year the report was of a special character intended to celebrate the centenary of public health legislation. About half of it was occupied with a historical review, prepared by a team of students, of the various public health measures from the Public Health Act, 1848, down to the consolidation of social security and medical care by recent legislation. This history had been compiled from contemporary sources (including, as the excerpts showed, the files of the *British Medical Journal*). Lord Milverton also drew attention to an interesting analysis of the subsequent careers of about 500 students of the School who had taken the D.P.H. during the last twenty years. One feature of the analysis was the much larger proportion of students in post-war than in pre-war classes entering academic research and industrial medicine.

Prof. J. M. Mackintosh, the Dean of the School, mentioned various staff changes, including the appointment of Prof. E. T. C. Spooner to the chair of bacteriology and immunology, the conferment of the title of professor of bacteriology as applied to hygiene on Dr. J. C. Crumckshank, and of reader in medical mycology on Dr. J. T. Duncan. Prof. N. Hamilton Fairley had succeeded to the directorship of the department of clinical tropical medicine. Prof. G. S. Wilson had left the School to take up the key appointment of director of the National Laboratory Service, and Sir Philip Manson-Bahr's period of distinguished service to the School, for which he would be long remembered, had come to an end.

Research on Malaria Transmission

The Dean went on to say that the present year marked not only the public health centenary but the jubilee of Ross's discovery. It was appropriate in such a year that the School should have been associated with an important discovery in malaria which Prof. H. E. Shortt and Dr. P. C. C. Garnham had done much to further. This was the attempt to discover the pre-erythrocytic stage of mammalian malaria. The first success was obtained when pre-erythrocytic parasites were discovered in the liver of monkeys suffering from monkey malaria due to *Plasmodium cynomolgi*. The first forms seen were those present on the seventh day of the incubation period and represented developing schizonts of large size found in the parenchymal cells of the liver. Afterwards the earlier and later stages of the development, from the fifth to the tenth day, were also obtained. Following up this discovery, an attempt was made to discover similar forms of human malaria with the assistance of the Malaria Unit of the Ministry of Health at Horton Hos-

of *P. vivax* of man was discovered. As expected, this was found to be similar to the form previously found in monkeys. O. application of this finding was that in future the action of drugs intended to produce causal prophylaxis could be checked by visual observation of the pre-erythrocytic forms.

At the chairman's invitation Dr. Garnham gave the meeting a brief demonstration, with lantern slides, of this piece of work. For the experiment at Horton a willing volunteer was secured. He was heavily infected with *P. vivax*, and later he was operated upon by Mr. Radley Smith and the material examined by Prof. Shortt and Dr. Garnham. The similarity of the happenings in man to those in the monkey was fully confirmed. It seemed likely that this discovery might lead to new advances in knowledge of the treatment and prophylaxis of malaria and of its immunology.

Continuing his review of the School year, the Dean referred to the gradual resumption of pre-war activities in the department of bacteriology and immunology, where heavy teaching duties had left little time for research; the work on nearly 1,500 mycological specimens received for diagnosis in the sub-department of medical mycology; the investigation of mould metabolic products in the department of biochemistry, and other work in the departments of entomology, of applied physiology, and of human nutrition. The department of public health had had an unusually large registration of students for the diploma. During the spring term of 1947, when practical work was being done with medical officers of health, it became necessary to arrange for the distribution of students in six boroughs in London or Greater London in addition to rural work and special visits.

Reference was also made to the acquirement of Winches Farm, St. Albans, as the Field Station of the School. The work on plant helminthology and the workers concerned had been transferred to Rothamsted. At Winches Farm the breeding of laboratory animals on a scale sufficient to supply the wants of the various departments of the School had been begun.

TRAINING IN CHILD CARE

CONFERENCE IN LONDON

A conference organized by the National Society of Children's Nurseries was held at the London County Hall on May 21, when the need for training in child care, teamwork in child health, and administrative problems in training the nursery nurse were discussed. The conference was largely attended by members of local public health departments and voluntary services from all parts of the country.

Alderman Reginald Stamp, chairman of the Health Committee of the L.C.C., said that his Council had been responsible for the development of some very fine residential nurseries, and on the "appointed day" it would inherit the day nurseries at present owned and controlled by the 28 Metropolitan boroughs, with their visiting doctors, nurses, and health visitors. Many nurseries were in improvised and unsuitable accommodation, and his Council was "moving heaven and earth" to obtain additional premises. He saw an opportunity through the new Regional Hospital Boards for developments in nursery work in districts where so far it had hardly gained a footing.

An address on the need for preparation in child care was given by Dr. William Moodie, of University College Hospital. Some people supposed, he said, that with the ordinary girl the play of her maternal emotions would be sufficient to enable her to undertake child care, but that was seldom true. The maternal instinct in a young unmarried girl was immature; she was likely to be attracted to the child as if it were a living doll rather than a person, and even the youngest children were persons. For the natural development of the child it was necessary that he should have emotional security, affection, that is to say, the assurance that he was loved, and some outlet for his energies in the form of work. In his psychiatric clinic he constantly saw children who were emotionally unbalanced because their energies had not been recognized and used, so that the overplus of energy went to the emotional side and ministered to fear and anxiety. Anxiety, after all, was only the state of not knowing about things; once knowledge was imparted, whilst there might be disappointment or vexation, there was no further anxiety. Dr. Moodie spoke also of the need for the child's

The pre-erythrocytic stage was the subject of an article in the *British Medical Journal* of Jan. 31, 1948, and a preliminary account of the work of the London School of Hygiene and Tropical Medicine appeared in the issue of

to be stable and well adjusted, to maintain an objective attitude, and to refrain from using the nursery as an outlet for imbalanced or unsatisfied emotion in herself.

Need for Teamwork

The need for teamwork in child health was emphasized by J. D. Kershaw, M.O.H. for Colchester, who said that it only during the last forty years or so that there had been constructive effort in the direction of child health—an effort which took the form not merely of supervision with the aim of preventing disease but of making the most of the capacities in which the child was endowed. For this purpose the family needed some assistance from outside. While the mother might be able to detect some departure from normal health in the child, she was not trained to detect minor but none the less significant deviations. The family needed help in this respect, the help must not be such as to relieve the family of all responsibility. Three agencies were concerned with child health, the home, the nursery or school, and the medical service. These must work together. He illustrated how effective such cooperation might be in dealing with squint, speech defects, bad posture. He spoke against a sudden and automatic break between nursery and infant school at the age of 5; transition should be graduated between 4 and 6. A nursery which was used as a parking place for the child, and nothing else, was breaking up the family. Dr. Neil R. Beattie, senior medical officer, Ministry of Health, said that, although child care had developed beyond all imagination, yet with all the advances large problems remained. Proof of which it was necessary only to point to juvenile delinquency and the conditions set out in the Curtis report. Many illiterates and semi-illiterates were still to be found, and a great deal of maladjustment in after-life derived from lack of proper child care. He spoke of the adult attitude towards the child and of the need for an enlargement of the conception of child care beyond the satisfaction of physical needs and instruction. Dr. Elizabeth Findlay discussed administrative problems in training the nursery nurse, and there was a useful exchange of constructive opinion and experience on the value of training in child care.

HUMAN FACTORS IN INDUSTRY

BRITISH ASSOCIATION CONFERENCE

The British Association for the Advancement of Science held its conference on "Human Factors in Industry" at the Assembly Hall, Leamington Spa, on May 8. Sir Henry Tizard presided over the first session on working conditions and Sir George Colchester took the chair at the second session on human relations.

Prof. R. E. Lane in his introductory survey said that the contribution of the doctor to industrial health must be, in the first place, on the educational side. The failure of both industry and of municipal undertakings to use the vast amount of information available on human industrial problems was due often to ignorance rather than wilful neglect. There was still not enough co-operation between industry and research organizations. Work undertaken by the Industrial Health Research Board might not have appeared to the practical man to have obvious applications in industry. Research workers should bear this in mind and approach realistically the problems which faced industry.

The doctor was also responsible for seeing that the worker was fit for the job and that the job was fit for the worker. The medical assessment of the workman should have its counterpart in job analysis with a physical and psychological assessment of the needs of the job.

Co-operation was needed between medical scientists and engineers in the design of plant. Other problems which would engage the attention of the doctor in industry were resettlement after illness or accident; casualty services, which must be of a high standard; and certain ancillary services such as ophthalmology and chiropody. The hazards of occupational disease applied to a comparatively small number of men in industry, but the reassurance provided by skilled medical care had an important effect on the morale of other workers. The

doctor must win the confidence of employer and employees. He should help to settle the conflicting claims of, say, the industrial psychologist and the production engineer. He needed much knowledge of industry and of industrial processes and a profound knowledge of people.

Coal-mining

Dr. C. L. Cope said that in coal-mining in Britain deaths on the job averaged about 550 per year. Accidents sufficiently severe to cause an absence of more than three days numbered 180,000 per year and had been increasing steadily for a number of years. Certifications of incapacity on account of pneumoconiosis numbered about 4,000 per year and this incapacity was, of course, permanent. Certifications for nystagmus numbered 1,800 per year and for dermatitis 1,000. There were relatively few places where the effective working temperature exceeded 82° F. (27.8° C.), the temperature at which efficiency began demonstrably to deteriorate, but dust and darkness persisted although big efforts were being made to overcome them.

The number of cap lamps in use had risen from 1 per 100 men in 1928 to 34 per 100 in 1946, and the efficiency of these lamps was being steadily improved. Fluorescent lighting had now been installed not only in haulage ways but also at the coal-face in several collieries. It had not yet been possible to assess the effect of different methods of lighting on the incidence of nystagmus and on accident rates. Attempts were now being made to introduce a uniform method of recording accidents in collieries throughout the country.

Increasing mechanization had tended to increase the amount of dust in the mines, but this was now being reduced by spraying with water or with water and wetting agents or with foam. In one colliery in South Wales effective dust suppression by spray and infusion was started in 1942. Dr. Jenkins in a survey of several hundred miners was able to collect two small groups: one group had worked in the pit in the pre-1942 dusty days for up to five years and the other group had only worked there in the relatively dust-free period. Of the former group of 18 men, 17 showed Grade I or Grade II lung changes; of the latter group of 22 men, after up to five years' exposure, none showed any radiological changes. Dr. Cope concluded by saying that improved environmental conditions would bring better physical health, but the medical profession was now more aware of the importance of mental health and of the way in which this was influenced by the human rather than the physical environment.

Heating and Ventilation

Dr. T. Bedford, who contributed the last paper in this session, discussed some of the problems of heating and ventilation. Recent work suggested that as a general rule fresh air should be supplied at the rate of not less than about 600 cubic feet per person per hour, and that preferably there should be 1,000 cubic feet per person per hour. The Factory Department pamphlet on the ventilation of factories recommended a ventilation rate of six air changes per hour. In most instances this represented good ventilation, and if such a rate could be maintained it would probably provide a reasonably clean atmosphere from the standpoint of bacterial contamination.

For persons doing very light work the air temperature during the winter months should be as nearly as possible 65° F. (18.3° C.). It was undesirable that it should fall below 60° F. (15.6° C.) or exceed 68° F. (20° C.). The 1937 Factories Act required that in rooms where a substantial portion of the work was done sitting and did not involve serious physical effort the temperature must not be below 60° F. (15.6° C.) after the first hour of work. For more active work somewhat lower ranges of temperature were sufficient. For active yet light work a temperature of 60° to 65° F. (15.6–18.3° C.) was suitable, while for work requiring more muscular exertion a temperature of between 55° and 60° F. (12.8–15.6° C.) was desirable.

Even at ordinary room temperatures a high atmospheric humidity tended to cause feelings of stuffiness. At such temperatures the moisture content of the air should not exceed 70% of the saturation value, and should preferably be well below that figure. In the average factory where there were no wet processes the humidity would generally be satisfactory if the fresh air supply was adequate. Discomfort was felt when the wet-bulb temperature exceeded 70° F.

When a task required considerable manual dexterity uncomfortably low temperatures were undesirable, for as the hands became chilled their dexterity diminished. In one series of experiments the investigators imitated an industrial process by assembling the links of a bicycle chain. When the room temperature was 50° F. (10° C.) the time required to perform the test was 12% longer than when the temperature was 62° F. (16.7° C.). In another series of laboratory experiments the effect of temperature on the work done by a group of men while weight-lifting was studied. The men worked at their own discretion and were paid a bonus on the amount of work done. At a temperature of 75° F. (23.9° C.) they did 15% less work than at 68° F. (20° C.). Other observations had shown that when work was done at a constant rate an increasing strain was imposed on the body as the temperature of the environment rose.

Dr. Bedford also discussed the effect of temperature on accidents, particularly in coal-mining, and on industrial sickness. Steel smelters had a sickness rate 23% greater than that for the whole body of workers, and the rate for puddlers was 20% greater. Tinplate-mill men and rolling-mill men had sickness rates 18 and 8% above the average. He concluded by saying that the ventilation and heating of a factory should be under the effective supervision of one person who had been trained to pay special attention to the proper use of the appliances and arrangements provided. Particular care should be taken to ensure that the temperature was suitable for the work which had to be done, and that overheating was avoided. Unduly low temperatures at the beginning of the day and excessive warmth later were still too often observed. These troubles could be avoided by adequate supervision.

Human Relations

In the second session the introductory survey was given by Dr. T. G. Tredgold, and he was followed by Mr. D. Chapman, who discussed incentives.

Mr. Chapman pointed to a number of factors which suggested that the national morale had declined over the last thirty years. He thought that tackling production problems by exhortation on a national scale had had little or no effect, and might even have had a bad effect. In the final solution financial incentives would play an important part, but their effectiveness would depend on the total situation. Good management, intelligent and sympathetic foremen and departmental managers, democratic participation of workers in management, and effective but not paternal welfare schemes were all as important in their way as satisfactory lighting, heating, and sanitation.

The problem of deterrents was considered by Dr. A. T. M. Wilson. Among other things Dr. Wilson said: "It is an almost universal feature of industrial concerns that reciprocal scapegoating systems have been developed and that they are often heavily sanctioned on what is alleged to be a basis of experience. It may be wise to remark in passing that such systems are not confined to the industrial world but are a universal human phenomenon." He had found that pep talks worked in the opposite direction to that in which they were intended. Autocratic practice—and the expectation of it—was so deeply entrenched in industry that any attempt to change towards a more co-operative state of affairs was likely to be met with considerable scepticism, which must be accepted and understood. In disposing of conditions acting as barriers to co-operation in industry a start could be made almost anywhere and by anyone, provided that those who sought to make changes were men of integrity and sincerity of purpose. Not enough was known in the scientific sense about industrial problems of this kind, and this he regarded as a justification for active research and not for inactivity. But there was a danger that the scientific method might be discredited in human affairs, and particularly in industrial problems, because it was too often inadequately applied.

The Central Council for Health Education has completed arrangements for its annual summer school in health education at "High Lodge" Hotel, Herts, from Aug. 11 to 25 (*Journal*, Jan. 10, 1948). A few places are not yet taken, and information may be obtained from the Medical Adviser and Secretary, Central Council for Health Education, Tavistock House, Tavistock Square, London, W.C.1. The total cost of the course per person is 16 guineas.

Reports of Societies

RADICAL EXCISION IN CARCINOMA RECTUM

In the Section of Proctology of the Royal Society of Medicine on March 19, with Mr. DICKSON WRIGHT in the chair, subject for discussion was radical excision of carcinoma of the rectum, with conservation of the sphincters.

Prof. G. GREY TURNER referred to the operation which older generation associated with the name of Prof. Hartmann. A section of the bowel was removed as thoroughly as in other operation, but the mucous membrane at the lowest of the rectum was denuded from its sheath and the bowel drawn through the sphincters and sutured to the anal ring. He could not forget seeing in 1931 the demonstration of Hartmann of this operation and the care and thoroughness with which he carried it out. He had had the opportunity of examining one or two cases in which the operation had been done two or three weeks previously and was able to observe the perfection of the sphincter apparatus. He gave statistics of a group of 17 cases, in 14 of which there was a malignant condition; 6 had died with recurrence or dissemination within 5 years, but 7 were alive and well more than five years after operation.

The operation was very satisfactory in dealing with frankly non-malignant conditions, for example papillomata. The type of bowel removed depended to a certain extent on the size and type of growth. It was necessary to pull down the upper bowel so that an anastomosis could be made without tension. It was not an easy manoeuvre, it took a long time, and the surgeon must satisfy himself that enough bowel had been excised. A point to be considered was stenosis. Where there was stenosis one could dilate with the finger or an instrument, and then instruct the patients to give up what they took to make a stool fluid. The stool then, being solid or semi-solid, acted as a natural dilator. None of his patients had had a permanent stricture; most of them had as good control as before operation. Prof. Grey Turner added that he was not fond of methods of irrigation, but he could not forget the wonderful results which Gordon-Watson brought before the Section some years ago. There might be other methods of using irrigation which could be combined with an operation of a radical nature. Some people were very satisfied with colostomy, but he thought that patients dreaded it, and also that it was regarded with misgiving generally by surgeons.

Technique and Results

Prof. C. A. PANNETT said that for many years in this country and in America the surgery of carcinoma of the rectum had been dominated by the personality of the late Ernest Miles. Everybody recognized the great work he did and the correctness of his observations; where he went wrong, or where others who followed him went wrong, was in the deductions from those observations. It was true that with patients dying of carcinoma of the rectum the growth spread outwards and downwards, but in the operable case, when the disease was at a stage at which the growth could be removed and a conservative operation done, this was not likely to be the method of spread, which might be upwards only. Prof. Pannett then proceeded to deal in detail with various points of surgical technique. He seldom did a colostomy before operation. There were cases where the growth was too low to be dealt with from above, and then he thought it right to do the combined operation which he had described in 1934, but the longer he went on the more patients he found who were capable of being treated by the one operation alone. In conserving the sphincters a great amount of the work of the operation was eliminated, and if it could be done from the abdomen the patient was less shocked. Prof. Pannett concluded by saying that he had lived to see the hollowing of cherished surgical beliefs demonstrated and to feel that scientific advances could be made only if they regarded their contemporary beliefs as always wrong or at best as half-truths; but when he considered patients who had undergone this operation and had lived twelve or fifteen years of perfectly normal life he could not help feeling that the foundations of the operation could be placed among the dependable half-truths.

Mr. O. V. LLOYD-DAVIES said that it had always been one of the aims of the surgeon to remove growths without the necessity of permanent colostomy. Some in the past had relied upon colostomy, since it was realized that increased gas tension might be the determining factor in success or failure. Few considered the advisability of transverse colostomy, which was a distinct advance towards safety. With regard to the combined excision operation as performed by Ernest Miles, figures from many clinics suggested that 50% of five-year cures was about the best which could be attained, and only early diagnosis would improve the results. Mr. Lloyd-Davies showed specimens of cases where wide removal had been done, but in spite of this there had been recurrence two or three years later. He entered into details of the three types of operation which were performed at St. Mark's, and concluded by saying that a high local recurrence rate was too big a price to pay for the avoidance of a permanent colostomy. These patients must be followed up for the rest of their lives.

The discussion was continued by Mr. NAUNTON MORGAN and Mr. W. B. GABRIEL. Mr. J. P. LOCKHART-MUMMERY said that when he started on this line of work the chief consideration was mortality, which at that time at St. Mark's and anywhere else was about 85 or 90%. By using the Hartmann operation mortality was reduced to more reasonable proportions. Next came the question of recurrences; a careful selection of cases for the combined operation had reduced the recurrence rate quite considerably, so that to-day a patient who had to face an operation for carcinoma of the rectum had a very good chance of only surviving but of having no recurrences. The new problem was whether as good results could be obtained by an operation which did not involve a permanent colostomy. This had not yet been achieved, but it would be done, and the only way to tackle it was the way in which Mr. Lloyd-Davies and Mr. Morgan were tackling it, namely, by scientific methods and by careful examination of their procedure and their specimens.

MILLION-VOLT THERAPY AT ST. BARTHOLOMEW'S

Analysis of Results

A report on the million-volt therapy installation at St. Bartholomew's Hospital was given at a meeting of the Section of Radiology of the Royal Society of Medicine on May 21, with Dr. J. S. FULTON presiding.

Mr. G. S. INNES, physicist in charge of the installation, said that the experiment at St. Bartholomew's began in 1936 with an installation for 600,000 volts, which operated successfully initially at 700 kV, and later, in 1939, this was stepped up to one million volts. He described and illustrated the various details of the equipment. Among other matters he mentioned that the tube was about 30 ft. long and weighed 12 tons, and, inasmuch as it was impossible to adjust the tube to the patient, the floor was made movable up and down, and the movements were nearly as simple as those of a normal free-moving x-ray tube. The installation had operated almost non-stop since 1939, with only one major shut-down of one afternoon, though occasionally it was stopped for an hour and a half while a rectifier filament was changed. During the war, although the department lost its ceilings, windows, and doors, and on one occasion part of its roof, the plant was never out of action. In the clinical experiment which was undertaken it was realized that the applicators would become too heavy at a million volts, and therefore a diaphragm system was installed, giving some 450 different field sizes.

The main physical advantage gained by the installation was the increased depth dose, particularly with small fields. He gave a comparison of the transmission through various substances as between the million-volt installation and the 200 kV. In thick bone, such as the shaft or head of the femur, with 200 kV there was 86% transmission (compared with water), whereas with the million-volt installation the transmission was 95%. The installation also allowed the use of large doses without damaging the skin. Again, with unilateral lesions, often it was not necessary to irradiate the other side of the patient. Mr. Innes concluded by expressing his great indebtedness to the eight medical officers with whom he had worked, for the understanding they had shown of the physical problems encountered in such an experiment.

Reactions

Dr. ARTHUR JONES gave a brief account of the effect of these radiations on the patient and of the relatively few unfavourable reactions which had been met with in the use of the plant for the treatment of malignant disease. A voluminous literature had been accumulated on the variation of skin response to x-ray treatment. The skin dose, fractionated over 3-5 weeks, for a second-degree erythema lay between 4,000 and 5,000 r. Erythema developed more slowly than with 200 kV, and reached its maximum later. In the deep-therapy range the factor limiting the radical treatment was often the severity of the skin reaction. But the million-volt therapy might produce a "treatment-limiting" mucosal reaction in the vicinity of the tumour. This was observed particularly in the pharynx and larynx and in the pelvis. In the pelvis these mucosal reactions might affect bladder, rectum, and vagina. As for general reactions, radiation sickness did occur in patients having supervoltage therapy, but was probably less frequent than at 200 kV. In the Year-Book of Radiology in 1937 the editor observed that presumably the operators of the then projected million-volt plant would familiarize themselves with the not always happy effects of supervoltage therapy which had been recorded in America. This had been done, but relatively few severe injuries had occurred at Bart's, and this was a tribute to the careful planning of the treatment of each individual case by Mr. Ralph Phillips and Mr. Innes. Skin reactions had often left a mild chronic radio-dermatitis as a sequel. Skin atrophy was less common than with the 200-kV therapy, but fibrosis and oedema giving a leathery skin were not infrequently encountered. Subcutaneous fibrosis affecting fatty tissue was also more common. A true radio-necrosis was of rare occurrence, but the incidence of necrosis after irradiation of anal canal tumours was unfortunately high, developing in 5 patients out of a total of 23. Muscle fibrosis occurred in the neck: in 3 out of 15 cases treated for thyroid carcinoma. Irradiation of the oesophagus for carcinoma had resulted in rather dramatic sequelae in two cases. One of these was in a man aged 57 who was given a tumour dose of 5,200 r in 35 days by six fields for carcinoma of the middle third of the oesophagus. The clinical response was good, but two months later he died of a sudden haemorrhage. The oesophagus and the aorta were found to have communicated through a large hole: there was no sign of growth nor any evidence of necrosis above or below the perforation. Here again he felt that they were dealing not so much with a true necrosis as with a failure of the reparative processes. The other case was somewhat similar. Possibly with some different method of fractionating the dose such a disaster might be avoided in the future. A most unusual case of fatal hepatic disorder occurred during irradiation for bronchial carcinoma. The patient was given 4,500 r in 25 days. It appeared subsequently that during the irradiation he was incubating chicken-pox. Post-mortem examination revealed gross abnormality of the liver.

Results of Treatment

Mr. I. G. WILLIAMS gave an analysis of the results of treatment. Five main types had been chosen for analysis: carcinoma of the breast, inoperable, but without distant metastases; carcinoma of the cervix in all stages; carcinoma of the upper air passages; inoperable carcinoma of the rectum; and carcinoma of the oesophagus. Research had been handicapped by the war; on humanitarian grounds it had been necessary to treat patients other than those in these classes. It had been the policy at St. Bartholomew's to treat early malignant cases by surgical rather than by radiotherapeutic methods; thus the patients who were referred for million-volt therapy were incurable by any other means because of the nature of the tumour, its anatomical extent, or the general condition of the patient. Less than 5% fell into a really operable category. Their experience emphasized clearly that early disease could be cured and that late disease could not be cured, though considerable palliation could be offered.

The number of cases available for analysis was 726. A few of the patients were untraced, and these were counted as dead, and therefore to that extent the figures were weighted against the therapy. Mr. Williams said that in cancer of the breast he could confirm Phillips's observation that disappearance of the primary tumour and the regional lymphatic metastases was

more certainly and easily obtainable with supervoltage than with ordinary deep x-ray therapy. Of 14 patients with advanced carcinoma of the tongue all were dead: 9 died in the first year, 3 in the second, one in the third, and one in the fourth. In 6 cases the primary growth regressed before the patient died from metastases. Between 1939 and 1945, 20 cases of carcinoma of the antrum were treated, 13 of them primarily by irradiation. Of these 13, 4 were alive—one in the eighth year, one in the fifth, and two between the third and fourth. The average dose given in these cases was 4,500 r in 21 days. There were 34 cases of extrinsic growth of the larynx; 2 were moribund on admission. Of the 32, 3 had survived—two of them for five years or over, and the third was about to reach the fifth year. Of 20 cases of intrinsic carcinoma of the larynx treated primarily by irradiation, 10 were alive—4 at five years, 4 at four years, and 2 at three years. Of the 10 who were dead, 5 died of the disease, 2 of other causes, and 3 of damage due to treatment.

Carcinoma of the bronchus was treated in 148 cases, in 46 of which the treatment was palliative; of the remaining 102, 100 were dead, and 2 alive, having survived five years and four years respectively. The problem here was not entirely one of dosage, for the cases treated with high dosage had done no better than those treated with low dosage. The relief of symptoms, however, was very real.

Of 40 patients with carcinoma of the bladder, 5 died within three weeks; of the remaining 35, 8 were alive and 27 dead. In only one case was the bladder severely damaged by the treatment. Of 23 cases of squamous-celled carcinoma of the anal canal, 5 had a serious radiation necrosis, which was probably responsible for the death of one patient. Out of 11 of these patients who were treated five years ago 3 were alive and well. One patient died in his fifth year without any symptom referable to the anal canal; two of the survivors had strictures, both necessitating colostomy. The number of cases treated for carcinoma of the rectum was 192, and the total number of survivors was 20. In 42% there was relief of the symptoms which were due to the primary growth, and 60% of the patients were quite comfortable until they died of metastases. Of 16 patients with cancer of the thyroid, 4 survived for periods of eight, seven, five, and four years, respectively.

In comparing the results with those obtained by the use of 200-kV therapy, there appeared to be no very marked differences. Tumours which responded poorly to ordinary radiation treatment showed little difference in their response to million-volt therapy, with the possible exceptions of cancer of the bladder, rectum, antrum, and larynx. There was no doubt that every radiotherapeutic department should have a high-voltage machine to increase its range of usefulness. With such equipment more could be done for some of the cases, and the application was made more easy for the patients and also for the technicians and physicists. It was disappointing that the results were not better, but that was the tale they had to tell.

Higher Voltages

Dr N. S. FINZI recalled that in his Mackenzie Davidson Lecture to the British Institute of Radiology some fifteen years ago he had suggested a test of the higher voltages, and this was made possible at St. Bartholomew's through the generous Sassoon benefaction when in 1936 the department was started for the treatment of patients at 600 kV, and in 1939 was keyed up to a million volts. It was realized from the beginning that no staggering improvement was to be expected. The research was planned to comprise certain definite groups of cases, but unfortunately the war interfered with the programme. The figures were too small to be significant, though they were probably significant for the breast, the antrum, the larynx, and possibly the rectum. The occurrence of necrosis was mostly in the early cases and when large fields were being used. Later, with very small fields, carefully checked by isodose charts, these troubles were reduced. With million-volt therapy these results could be obtained with less damage to normal tissues. Apart from improvement in results, those who worked with this apparatus preferred it to lower-voltage installations on account of ease of manipulation and the greater accuracy obtainable. In some respects enough had been achieved to justify the hope that better results would be forthcoming, and with further

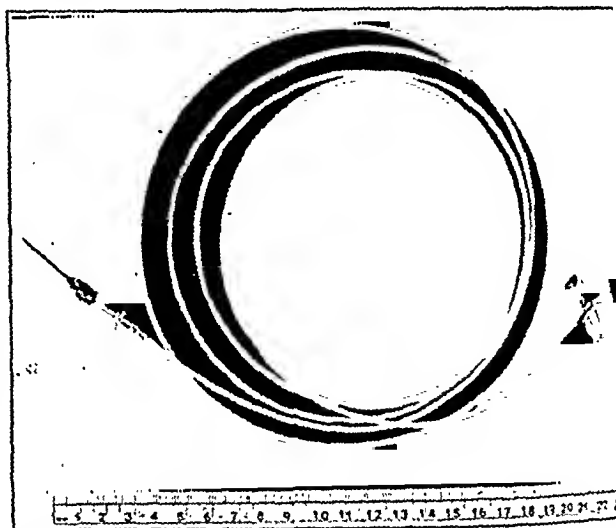
increases in voltage there might be better results still. There was some difference of opinion on whether a big jump in voltage should be taken or intermediate stages should be tried, himself was not in favour of the big jump; the optimum might in that way be missed. He thought they should aim at a plant giving from three to five million volts, and afterwards if it was considered desirable, go up to twenty million. Results obtained with one million volts seemed to indicate that malignant disease should be treated with higher voltages still.

Mr. F. C. W. CAPPS, speaking as a surgeon at St. Bartholomew's, said that in carrying out laryngectomy he preferred pre-operative irradiation. He knew that some preferred radiotherapy to be done post-operatively, but he never regretted arranging it the other way, and he had also found that it made the growth more manageable from a surgical point of view. Dr. T. ANTHONY GREEN, Prof. B. WINDEYER, and the President added some further remarks mostly congratulating those concerned in the Bart's experience.

Preparations and Appliances

AN EXTENSION FOR THE GORDH NEEDLE

Dr. C. F. SCURR, Registrar in Anaesthetics, Westminster Hospital, writes: The apparatus illustrated is intended to facilitate the intravenous administration of anaesthetic drugs during operations in which a vein is not readily accessible to the anaesthetist—e.g., thyroidectomy, radical mastectomy, and operations in the lateral position. On the left is shown an ordinary intravenous needle which is introduced into the chosen vein; this needle is then connected, by means of the nozzle shown, to six feet of the finest "polythene" tubing, at the other end of which is fitted a standard Gordh diaphragm needle.



The Gordh needle is placed in a position convenient to the anaesthetist, who will probably be at the patient's head; usually it is fixed on to the anaesthetic table by strapping.

The apparatus is sterilized by boiling and is filled with sterile normal saline before use. Injections of thiopentone, *d*-tubocurarine, etc., are made with a syringe and needle through the diaphragm in the usual way. If a brand of *d*-tubocurarine is used which is not compatible with a barbiturate, the apparatus is washed through with 2 ml. of sterile saline in between the injections of the drugs; a similar procedure is used to draw through injections of small volumes. As the capacity of the whole apparatus is only 1 ml. the lag is negligible; the resistance to injection is of a similar order to that encountered when making an ordinary intravenous injection. As there is no "backlash" in the system, blood does not enter the intravenous needle and clotting does not occur. In trials on numerous occasions and in very prolonged operations blocking of the needle has not been encountered.

The "polythene" tubing was supplied by Portland Plastics, Ltd. The complete apparatus can be obtained from Medical and Industrial Equipment, Ltd.

Correspondence

Domestic Difficulties in the N.H.S.

SIR.—I have a small house with only two sitting-rooms and hall on the ground floor. It is the only house that I could buy when I returned to practice after the war. The hall is the sitting-room, and for my surgery I use the best sitting-room. My family are restricted to the second lounge and a parlour for meals. It has not been comfortable, but we have managed, although frequently there has been standing room only in the hall. A living-in maid is unobtainable, and the half-day domestic help has not as yet been too difficult about the mud brought in on the patients' shoes. My wife holds the fort while I am out and spends her few moments of leisure in answering the telephone and inquiries at the door, many of which are unnecessary and very irritating.

It is conditions such as these that make many doctors dread life intolerable when, to make a living wage, one will have to encourage mass-production medicine. I would ask our negotiators to urge the Ministry to authorize Local Executive Councils to set up at once National Health Service surgeries conveniently spaced on main bus routes. Such surgeries should not in any way be considered as health centres, which will evolve later, we hope, on an experimental basis. Any ordinary dwelling house will suffice, subdivided into a waiting-room and consulting-rooms, with secretary receptionists, capable of typewriting hospital letters, certificates, reports, etc., two nurses to chaperon women patients and assist in minor operations, and telephonists.

By staggering hours of consultation a number of doctors could be accommodated, and the only equipment required would be a sterilizer, the necessary furniture, and filing cabinets for record cards. Doctors would bring their own instruments and voluntary aid societies would no doubt help to improve the atmosphere by dispensing tea and light literature in the waiting hall. Combined surgeries of this kind would provide more comfort for the patients than I can supply and would be an even greater help to young doctors, who could then live in a hotel or flat until a convenient house was available. The relief and joy of our wives would rejuvenate them and we would all start the N.H.S. in a happier frame of mind.—I am, etc.,

H. W. TOMS.

Leigh-on-Sea.

Questions of the Hour

SIR.—I have refrained from writing to the B.M.J. as there is an intense desire among many members to publish their opinions. However, now that the B.M.A. has decided to yield to the Minister without a fight for our rights, I would like to make the following observations.

I agree it was about time that something was done to rationalize or regularize the P.M.S. and the National Deposit on lines similar to the N.H.I. I also agree that the Spens Report was a fair judgment in so far as the N.H.I. remuneration was concerned. However, we are being paid according to the Spens Report on the basis value of the £1 in 1939 and not 1948. The B.M.A. has made no provision in its stand about protecting our remuneration and the terms of service demanded, but rather has left it to a gentleman's agreement. After the Minister has got his Service going he can reduce the remuneration to 15d. and we can do nothing about it.

Furthermore, I should like to know where I stand about my property before I decide to join the Service. If I continue my practice at my home (which is incidentally specially designed in the best of B.M.A. tradition for the purpose), and should I decide at some future date to resign, have I to get permission from the Minister or his committee before selling my home? If, on the other hand, I decide to rent a shop in the neighbourhood and cease to practise in my home (which, of course, would reduce the facilities or ease for my patients being able to get me), is the sale of my house still subject to the Minister's control? If so, is any other property that I may possess subject to the Minister's control?—I am, etc.,

Enfield, Middlesex.

Simplify the Work

SIR.—Now that it seems probable that the profession will attempt to work this pernicious and ill-considered Health Act, I suggest that our negotiators should insist on making working conditions as easy and simple as possible; otherwise the administrative side is bound to become chaotic.

From the point of view of the G.P. who cannot afford a secretary one or two things are essential. First, they must be allowed a rubber stamp for signatures, then certificates must be reduced to a minimum. This craze for separate certificates which all employers demand must be done away with. There is no earthly reason why the statutory certificate cannot be shown to the employer and noted in his files without a separate piece of paper being issued.

The design of clinical record cards should be made or approved by our negotiators. The card should contain a printed list of (a) subjective symptoms, e.g. pain (location), sleep, appetite, cough, bowels, etc.; (b) objective symptoms, e.g. colour, T. and P.R., fauces, tongue, heart, lungs, other organs. These lists should be printed in the first column of the card, the second and subsequent columns to be used for notes on symptoms under the date. The N.H.I. record cards entailed too much writing.—I am, etc.,

Stone, Staffs.

R MURRAY BARRON.

Division in Profession

SIR.—As probably a last act as Chairman of the Shropshire and Radnorshire Medical Independence Association, I write to protest against your ill-conceived editorial in the issue of May 15, which attempts to see even partial victory for our cause as a result of the recent activities of the B.M.A. Council in wisdom in its rushed and badly timed April plebiscite. Outmanoeuvred, outwitted, and outstampeded, the Council rushed that plebiscite upon us without our having sufficient time to consider and discuss the full implications of the Minister's tardy modifications to certain details of the Act which we could not accept. There is no doubt there should have been insistence on a postponement of the appointed day to permit of this. But this was not done, and, as a result, many areas the profession either voted as stampeded, isolated individuals or refrained from voting their opposition, which had already been so strongly expressed in the February plebiscite. The result is a debacle.

The Representative Body meets, therefore, on May 28 in circumstances which no effort can avail to restore the shattered unit of the profession. We are now in a situation the reverse of democratic in which the majority feel we are being forced to operate an Act by the blind and injudicious votes of a minority and an *ipse dixit* of the Council. Every important and vital matter affecting the future of ourselves and our profession will ever be settled in any satisfactory way. Our boats have been burned before our eyes. Truly, the Representative Body meets in tragic circumstances. We in the provinces have lost faith in our central organization as a negotiating body, and, unless the Representative Body by determined action can to some extent retrieve the situation by insisting on a strength in negotiating hitherto sadly lacking, the B.M.A. as a medium of implementing the will of the profession will meet the fate its great failure has deservedly brought upon it.—I am, etc.,

Shrewsbury.

W. J. GRANT.

Bewilderment

SIR.—May I endeavour to express my complete agreement with Dr. J. McIntosh Rattray's letter (May 15, p. 951) and my bewilderment that so wise and courageous a colleague as Dr. Alfred Cox should advise capitulation (p. 949) on matters of principle?

The leading articles are so brilliantly written that they naturally exercise great influence on the profession, and in the issue of May 15 (p. 936) it is stated that the Minister has offered a compromise, and that compromises are the traditional English way of settling disputes. For the medical profession to reject the compromise and to be intransigent would cost the support of public opinion.

LEON CHALMERS.

The profession compromised (and in my settled opinion committed a fundamental error) when the Representative Body affirmed its desire for a comprehensive service available to everyone, instead of a comprehensive service available to those who needed it. After exhaustive discussion, certain fundamental principles were accepted as essential if there was to be any freedom for the public or the profession. I suggest, Sir, that you are confusing compromise with surrender.

I would like to ask Dr. Cox if he does not think it an extraordinary fact that in spite of the change in lead in the *Journal*, in spite of the persistent State propaganda of the *Lancet*, in spite of the absence of support from any political party and the nauseating exhortation in the House of Lords by Lord Moran, so many of his colleagues are still convinced that to implement the present Act would be a disaster for Medicine and for the happiness of this country.—I am, etc.,

Bournemouth.

E. D. GRANGER.

Comprehensive Service

SIR,—I have read with much pleasure Mr. David Hardie's letter (May 8, p. 898). To my mind he sums up the matter very clearly. Some form of comprehensive medical service I believe most doctors desire, but the crux of the whole matter, as Mr. Hardie states, is that this service, while being open to everyone, should still be one to which everyone is free to subscribe or not; in other words, it should be one which preserves entire both the freedom of the patient and the freedom of the doctor.—I am, etc.,

London, S.W. 3.

BASIL BROWNING.

Extend N.H.I.

SIR,—I wish to express my utter dismay at the puerile and inefficient attempts of the B.M.A. to resist the enslavement of the medical profession. With a display of bravado we, the general practitioners, who are the backbone of any medical service, were assured that the B.M.A. would, on our behalf, fight. What a fight! Unlike that great strategist Montgomery it would appear that the B.M.A. have a new technique—i.e., fight without weapons even though they be there for the handling.

At a meeting in Leicester Dr. Guy Dain informed us that the armoury was well stocked and all doctors would soon receive printed propaganda for distribution to their patients informing them of the views of the profession. We are still waiting. At this date only a minority of the public is informed on important details of the scheme, such as the fact that only 10d. of the forced levy per week is to be utilized for the medical services. With a little intelligent co-operation between the medical profession and the general public a powerful weapon could have been forged which would have ensured a successful new health scheme. The B.M.A. has failed completely in any attempt to bring the views of the medical profession to the forefront for examination by the general public.

All that is necessary for a new scheme to be acceptable to public and doctors alike is to include dependants of insured persons in a comprehensive scheme so that the working man would have the right to call in a doctor to his wife and family in a time of need without worry of bills to follow. Such a scheme would be acceptable to the profession and would necessitate no new officials or such a sweeping clearance of methods which have withstood the test of time. The scheme in its present form is a mass of inconsistencies and leaves the general practitioner with a sense of utter frustration.

Such matters as the supply of house and surgery for the use of an incoming practitioner to a new practice are apparently beneath the dignity of a Minister of Housing to consider, but when any change of practice is attempted this must cause complete confusion, since a practitioner may not sell his house and bricks and mortar. With regard to goodwill, under the present N.H.I. scheme a doctor takes his salary from the State, and he would want the goodwill of his practice—to whose detriment, I ask? Do two wrongs make a right? If it is wrong for a doctor to sell goodwill, how does it become right for the State to buy goodwill, lock, stock, and barrel?

I am at all times convinced that, if the B.M.A. were to put in an understandable form the conditions under

which doctors are being blackmailed into a service which majority thoroughly dislike, then the public would have opportunity of assessing the value of the services they are to obtain from a dissatisfied profession. It is the people are being called upon to pay for this new service, and have the right to know how their money is being spent, many consultations or bottles of medicine will the public see for the sixty-odd million pounds that Mr. Bevan proposes spend on buying the goodwill of doctors' practices? If it is all this money available to spend would it not be possible put it to better use than merely using it as a lever by a political party to keep doctors in their place—i.e., as employees of the State with no right to criticize their employers except at risk of dismissal?—I am, etc.,

Kibworth, Leicester.

RAYMOND F. SIMKIN.

National Health Service

SIR,—Two years ago the then Editor of the *Journal* refused a letter from me on the new Health Act as being likely to offend or prejudice. I made three points then—namely, (1) that the Minister of Health would not negotiate in the ordinary way expected of him, that he was determined to get his way, and on this account we should be prepared for a lengthy battle; (2) that we should use all and every method, even to strike (our ideas striking), to prevent the Minister getting away with it; (3) that from the highest officials and chiefs of Headquarters to the humblest practitioner we should try to get a promise of "no surrender" until we had a fair and square deal.

After two years of fruitless negotiations this letter of 1946 does not seem offensive to-day. I am appalled and grieved at the way the "sponge has been thrown in" in these last few weeks. Examining the position coolly and impartially, I was proud to stand the B.M.A. and ourselves were making up to the first plebiscite. Democratically we were informed of the situation and asked to vote "yes" or "no" on three or four important issues. We had the all before us—"no whole-time service," "right to buy and sell practices," "right of appeal," etc. The majority answered "No" to the lot, not to one vital principle alone. As was to be expected this was too much for Mr. Bevan and the Government, who let the wind up so badly as to stage a debate on an already passed Act, a most unusual and rare parliamentary procedure, and, in the form, the Minister's utterances were given full play. This debate, of course, had no object but to frighten us and affect the plebiscite. It failed to do either.

Now armed with the results, the B.M.A. Negotiating Committee had all the strength and weapons it wanted, and the Minister knew this well. Airily, in response to an arranged question, he told Parliament of his good will, and as some doctors did not agree to accept the Act as it was, if it was only a matter of not making us Civil Servants (as he had always promised not to), and if an Act of Parliament was a little more reliable than his word, he was willing to introduce it.

Next comes what to me staggers the intellect, that because of the crumb thrown by the Minister we are by the "considered" judgment of the Council asked to vote again. Why? Hadn't the Council already got their mandate? Did the fact that Mr. Bevan gave in in one particular answer for the other unsolved questions? Then consider the way this plebiscite was carried out. Voting papers were quickly sent out. A few days only were given to consider the questions. No information like the first plebiscite, but a slight innuendo that things were better and that we might now change our minds with honour if not with impunity. Thousands of men like myself did not vote, could see no reason in voting, and it did not require prophetic sense to see what the results would be.

The long and the short of it is that the second plebiscite, whether meant to or not, gave a loophole to (1) those who could not make up their minds before, (2) those who would work the Act anyway, no matter what the terms were (nothing to lose, something to gain), (3) certain sections of the profession to whom money and the quickest ways of making it are all-important, principles and ethics of little or no importance—in short, renegades and black sheep. I must omit from these lists, of course, many honourable and strict members who conscientiously thought the Act an improvement on the present health service, and always said so from the start.

Naturally then, when the result of the second plebiscite was known, defaulters made their mark, but even so the majority still refused service, and what is democracy but the majority rule? Still we are told that if we can't get less than a certain number, minority rule. Who fixed this 13,000, and even if 13,000 voted for the Bill, could the Minister work it with these 13,000? What need was there for a second plebiscite at all, except to spend money which was scarce some weeks ago? If the Minister conceded another principle might we then have a third plebiscite? Meanwhile he, the Minister,

CORRESPONDENCE

JUNE 5, 1948

sets out his medical cards to the public before any agreement has been reached with the doctors. A diabolical trick to confuse and force them to accept the Act. The resolutions of the Council ("considered judgment," when we all know there was only a small majority for resuming negotiations) under the first of which, while professing our altruism and magnanimity instead of our complete lack of spunk and courage, the profession is advised to work the concessions. After all that has happened, after all the machinery the B.M.A. had with the Ministry, is it likely once the machinery is set in motion on July 5 that Mr. Bevan will be more conciliatory?

What a betrayal! What a come-down! As I said in my letter two years ago, Mr. Bevan cares little really for the National Health Act. What he does care for is to imitate and emulate his illustrious countryman, Lloyd George (though I am afraid he will have to be reincarnated), and when we are all busy quiet gentlemen doing our work under the State he will hurry back to Wales and tell his excited audiences that he has beaten the doctors to smithereens, got them where Lloyd George never did, and *ipso facto* he is the greater statesman of the two. What is the ambition behind all the sneers and insults and annoyances to a profession which I am sure has never harmed a man but has always been ready to help the community and the country. There is still time. The R.B. can yet save us. It's now or never. We must cling to our professional liberties and, most important, the liberties of those who come after us. If not, any unpleasant epitaphs will be written and thoroughly deserved.—I am, etc.,
Walton-on-Thames Surrey.

Royal Colleges' Action

SIR.—The result of the latest plebiscite shows the profession nearly equally divided for and against the National Health Service. This contrast to our previous solidarity has been brought about to a large extent by three factors: (1) The action of the Council in turning down the Gateshead resolution without allowing a free vote of representatives; (2) the financial "sanctions" imposed by the Minister, who will not allow compensation to those joining the Service after the appointed day; (3) the attitude of the Presidents of the Royal Colleges, who quote Dr Basil S. Grant (May 1, p. 854) "failing to learn from the unhappy results of their previous intervention, have superseded the Negotiating Committee in its dealings with the Minister."

We cannot now do anything about points (1) and (2), but it does seem important to take steps to prevent further interference by the Royal Colleges in the important negotiations still to come. The profession are now in a much weaker position than previously, and it is imperative to get rid of this Trojan Horse whose presence has twice had such disastrous effects. I can only suggest a strongly worded resolution at the next S.R.M. pointing out that no matter how strongly these gentlemen favour the nationalization of medicine (after all, the N.H.S. is only part of the nationalization programme) they represent only a tiny fraction of the profession, and that any further pronouncements by them be ignored. In addition, representations might be made to the Colleges asking them not to take any further unilateral action in support of the Minister.—I am, etc.,
G. A. BAKER, WATERS

Lincoln

Postpone Service

SIR.—We are told that it will not be possible to introduce an Amending Act until next session. It is impossible to frame terms of service for consultants until the Spens Committee reports—not earlier than July. Surely there is only one sensible course. Let us offer to attend our present N.H.I. patients under the old terms for a further six months while negotiations are continued. If Mr. Bevan agrees, it would give time to straighten out difficulties. If he does not agree he would be doing a great disservice to the insured population, and the public would see it as such.—I am, etc.,
Birmingham

SIR.—We are mostly an inarticulate profession and leave letter-writing to the other man. However, that does not mean to say that we do not feel deeply how badly we have been let down

by our Council. I write to support those who are asking for postponement of service until a satisfactory Amending Act is on the Statute Book, and I feel certain that a vote on this point would show an overwhelming majority of the profession in favour of postponement. We must not go into this Service until we can do so as absolutely free men and women.—I am, etc.,
East Hove Surrey.

BASIL S. GRANT.

Hybrid Service

SIR.—It is not easy for those of us who cannot see behind the scenes to understand why, after such a long-continued expression of opinion against the conscription of doctors into a State service, the Council of the B.M.A. should suddenly advise doctors to join. Surely the Council realizes that nationalization will mean the end of British medicine as the world has known it? After a prolonged and tumultuous labour, a hybrid will emerge endowed with the characteristics of that parody of medicine the N.H.I. and the sterility of Service medicine. The true aspects of nationalization are being realized by the public now, and for the Government which at the present time is purloining for a national service which is a piece of political expediency a branch of the profession can give it a piece of political expediency. We frequently wonder how the peoples of great nations like the Russians, the Germans, and the Czechs have managed to do so. The past apparently willingly forsaken individual freedom for State serfdom, yet we Britons at the present time are not prepared to do anything which differs not in kind but only in degree. Many doctors who remained outside the B.M.A. because they have constantly disagreed with its policy must have joined to help in the fight for freedom. The deplorable action of the Council now calls for resignation. Mine has already been sent to the Secretary.—I am, etc.,
Guernsey

FRANK R. NELBERT

Medical Partnerships

SIR.—Apart from (1) direction of doctors by committee rule and (2) loss of many doctors' houses and surgeries to medical practice which the forbidding of the right of sale of the goodwill of practices and partnership shares will involve, two further drawbacks emerge:
(1) The partnership of work will not be practical where the senior partner requires help to ease his work in a so-called inadequately saturated area. A doctor who takes a partner will find him quickly purchased but will never work otherwise.
(2) Doctors will not be able to retire because, read, with the high rate of taxation few medical men can save for retirement, and after July 5, 1948, superannuation will not enable them to live in reasonable comfort, nor will a pension be sufficient for their wives, nor will the capital levy encourage anyone to save. Previous to this Act the practice and house could be sold and the sum obtained together with savings (the future superannuation) made a living possible when supplemented by fees from a few private patients. This source of supplementary income will cease when the comprehensive service commences.

Even Mr. Bevan's belated concession that "consent" for doctors to choose their own partners and assistants will be "automatic" becomes inoperative when conditions arise in which partnership is discouraged and undesired. It is obvious that there are two separate elements in the reasons for having and choosing a partner: the first is suitability of character, the second the business element. The profession has been given the concession of the first, but this is meaningless without the second, the element of introducing the partner by sale of share. Established doctors will select only a proportion of the doctors newly coming into practice, for whose entry the consent of the Central Practices Committee will be automatic, but the majority will still be directed by so-called "negative direction" and have to "squat" with a basic annual salary of £300 at the discretion of the three statutory committees whose decision will not be "automatic." This discrimination against the unselected is unfair.

There seems then to be an unanswerable case both for the public and the profession to press for independent medical practice. This can be achieved only by: (1) Retention of the right of sale of family practice (2) retention of the right of sale of partnership shares; (3) retention of the right of sale of goodwill.

W. MORISON.

(3) independent hospital service with independent administration and consultant service; (4) safeguards for those entering the State Service to prevent any political or other patronage from influencing appointments to hospital or family-doctor practice.

It is urged that doctors should not accept contract of service under this Act, either in the family-doctor or consultant service, until the Amending Act with its terms and conditions of service has been considered and accepted as workable by their representatives. This is not only on behalf of doctors and patients who are forced by economic pressure into the Service but also on behalf of those who are able to stay out of it. Doctors should negotiate as a whole for both groups.—I am, etc.,

London, W.1.

GEORGE ROSSDALE.

Avoid Confusion

SIR.—In 1946 a powerful Government gave promise that the profession's avowed object—efficient doctoring based on pathology rather than the purse of the patient—might be realized. Instead into the medical arena was precipitated an ignominious Act.

Our victorious forces brought back to the mother country an expectant spirit. The strategic move of the Ministry was to have captured its volunteers instead of coerced and diffident doctors. Such an enthusiastic, well-knit profession would have achieved wonders while the "men and the guns" were being doubled for a national health campaign. The existing machinery of the profession was good—"double the quantity" was the main need, to give us time for early diagnosis and easy admissions when hospital beds were needed. Good health guarantees good production too.

But it was not to be. The Act made havoc of our machinery, replacing it by promises which are empty and never could provide the standard of service that we require. Instead of restoring and raising the prestige of the family doctor, conditions under the Act will breed a race of medical prostitutes as the gap between precept and practice widens. This truth has dawned on the busy lives of doctors and made them uneasy accomplices in a shabby service. There is a hollow ring now about the words of exhortation by the Minister when introducing the Bill, bidding us "dedicate our lives to the tasks of peace."

Elementary prudence indicated that instead of getting Parliament to pass it over our heads the Minister should have sought from the profession which has to work it the basic plan of a new health organization. Hasty fanaticism is out of place where even in these days the "man in the street" would proceed with caution. This omission doomed the Act to failure.

1948 is here and confusion reigns in place of construction. The appointed day draws on and there will follow it the day of public retribution over a degraded service, unless the people are warned and retrieve the deplorable situation that threatens. It is never too late to avert disaster, but all the more imperative to do so when one of such magnitude as the national health is at stake. Why preach "Keep death off the roads" if you avoidably pile it up in hospitals? Let our public relations committee flood the country with emergency meetings telling the people that the Act does not accord with the interests of either the public or the profession. Implore them to write to their M.P.s to amend the Act according to this proposition: "Doctors are all overworked and medical reform can only proceed by stages, starting with regionalization of hospitals and extension of panel benefits to the whole family and dependants of the insured as an interim measure."—I am, etc.,

Bury.

A. WILFRID ADAMS.

Civil Servants

SIR.—One must respect what Dr. Alfred Cox (May 15, p. 949) says, but must also note the remarks of Dr. H. Simpson, P.R.O. to Bury Independent Committee (p. 950). The truth is that on July 6 doctors become unwilling Civil Servants, and we do know that the public will get what the New Zealand public has already got—unsatisfactory service. No doctor worthy of the name will accept a serious case, but economic blackmail

is the only way the Government can make a new Act and get it passed. They could not do this if good-

will had been retained. The Council's jubilation at a session undermined the last plebiscite. We at the time think we have been "sold out." The whole fight seems to have been in order to get a big majority in the February poll. Is that all we have striven for, with all the meetings, journeys? Why consider public opinion on a compromise like this? Many people do not want this insurance for them, but they have not been asked, and a similar applies to the question of capital punishment.

As Dr. J. McIntosh Rattray (p. 951) says, in giving up the nationalization of our souls we are betraying the entire cause. We had an opportunity granted to none others so far—State servitude.—I am, etc.,

Newquay, Cornwall.

J. P. O'NEILL

Regular Working Hours

SIR.—At this time when the hours of "workers" are so fully regulated to minimize fatigue and to allow for leisure is an opportunity and a justification to be rid of the ridiculous evening surgeries which have been so burdensome to the practitioner. Mr. Bevan has said that the National Health Service should be to the advantage of doctor and patient. Let us then insist most firmly upon hours which will allow a chance of relaxation and not accept times laid down by Executive Councils as we did under the old panel system, am, etc.,

London, W.1.

R. M. AYTON-ORMISTON

Policy for Peoples

SIR.—Your leading article on "Policy for Peoples" (May 15, p. 939) has an ominous ring. You state that the aims of P E P (Political and Economic Planning) are to increase the size of families and at the same time to widen the scope of contraceptive clinics. Just why the scope of contraceptive clinics should be widened if increase in size of families is encouraged is difficult to understand. One would have thought that all experience tended to the opposite view.

Then you say that P E P "expects a great deal from the National Health Service." Some of us who voted for the Bill did so in the faith that a British Government would always have a bias on the side of individual liberty. Yet you say that "in giving contraceptive advice generally doctors will help to foster the new attitude to parenthood without which a population policy based on democratic principles is bound to fail." Does this mean that doctors by their work would be expected to foster a Government policy, that is if the Government were to accept the advice of P E P?

Finally, you say that "there are individualists who maintain that no attempt should be made to influence people's reproductive behaviour." This naive statement might be more convincing if instead of the word "individualists" were substituted the word "individuals," for among the individuals concerned might be found the majority of the mothers and fathers of families in this country.—I am, etc.,

Braintree, Essex.

M. C. WILKINSON.

Otosclerosis

SIR.—It is not my desire to take up valuable space in your journal in order to prolong unduly an argument about otosclerosis, but I would like to place on record the conclusion which I and my colleague, Dr. J. Salomon-Danic, have drawn from a hundred fenestrations performed in the last 18 months.

First, it seems to me that the results should only be assessed after the lapse of at least a year; they seem to me to be roughly proportional to the value of pre-operative bony conduction, grouped according to Shambaugh's classification (a loss of 30 decibels in the 3 "conversational" frequencies—512, 1024, and 2048—dividing the cases into three classes, A, B, and C). Although this classification is imperfect, it seems to me to be worthy of retention, and in the evaluation of end-results it should play a part. Further, the improvement in bony and aerial conduction in the ear not operated upon, although very inconstant, is not a myth; a comparison of pre-operative and post-operative audiograms permits its recognition. Source had already drawn attention to it a long time ago. Up to 1947



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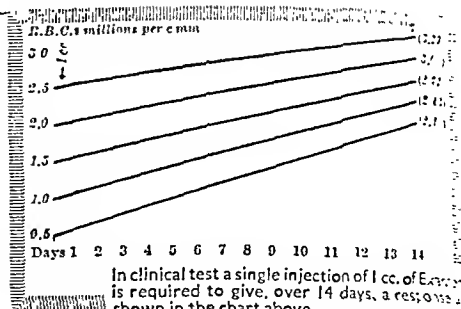
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CORRESPONDENCE

son for this peculiar phenomenon appears to be unknown.
ns, however, to be purely transitory.
I think that, in the interests of the patients and for the
of the reputation of the operation, fenestration ought only
be performed by surgeons already perfectly trained in aural
ery and with considerable experience of fenestration on the
ver. It appears to me that professional ethics forbid the
ormance of this very specialized operation by surgeons who
not the necessary training.—I am, etc.,
Paul Dubs.
Hospital St. Antoine, Paris.

Cutaneous Cancer

SIR.—Your leading article on the above subject (May 22, 1946) recalls an experience which may amuse your readers. In the early summer of 1937 the Bill which became subsequently the great Factory Act of 1937 was considered in Standing Committee. The Committee consisted of 70 Members of Parliament from all Parties, and for the greater part of its activities as the only medical Member. There were 27 sessions of the Committee. The Bill bristled with medical problems, and, being only Member with medical experience, I was a frequent speaker. Sir John Simon, as Home Secretary, was in charge of the Bill; my seat was directly behind his, and duologues between him and myself were constantly repeated. One of our most serious disagreements came over the schedule of industrial diseases subject to notification. The Bill was a consolidating Bill, superseding all previous Factory enactments, whose purpose and effect would be to legislate for a generation to come: the previous main Act was the 1901. In that Act a number of diseases had been scheduled as notifiable the incidence of which had materially diminished in 36 years, and other diseases had assumed greater importance. I pointed out that phosphorus poisoning, notifiable in 1901, had almost ceased to exist in 1937, but cutaneous cancer showed a sharp upward curve of frequency. I contended that phosphorus poisoning should be omitted from the notifiable schedule and cutaneous cancer included, notification of which would lead to earlier recognition and treatment and thus prevent the serious consequences which were frequent in many of the items as possible from the 1901 to the 1937 Schedule, and the Schedule of notifiable industrial diseases in the 1937 Act (*vide* Section 66) remains, as in 1901, restricted to lead, phosphorus, arsenical or mercurial poisoning, or "anthrax."—I am, etc.,
E. GRAHAM-LITTLE
House of Commons.

Risks of Dicoumarol Therapy

SIR.—In your annotation on the risks of dicoumarol therapy (May 22, p. 988) the work of Glueck and her colleagues¹ is quoted on combined heparin-dicoumarol therapy in coronary thrombosis, the results in a treated series of 44 patients compared with 44 controls being as follows:

Thrombo-embolic complications			
	Present	Absent	Total
Treated	3	41	44
Controls	12	32	44
Total	15	73	88
	Died	Recovered	Total
Treated	9	35	44
Controls	20	24	44
Total	29	59	88

It is then stated, "Though these figures may not satisfy statistical demands, it is only by the accumulation of the results of careful clinical studies that final decision will be reached on this important problem." Readers may be puzzled as to why significant differences are dismissed as not satisfying statistical demands, so it may be helpful to point out how the misconception has arisen, a misconception that is due to the authors of

the paper rather than to the writer of the annotation, for he has simply quoted their conclusions.

In the body of the original paper the data referred to 25 treated patients and 25 controls, and among these neither of the differences shown above, though favourable to the treated, is significant, as is pointed out in the conclusions. A short addendum is then appended giving results for a further 19 treated patients and 19 controls, observed after the manuscript had been submitted. The authors, however, do not point out in the addendum that with the addition of these new results the previous conclusion as to the statistical significance of the differences requires modification.

Both the tables shown above give $\chi^2 = 5.143$ (using Yates's correction). Thus in both instances the chance of drawing two such diverse samples from a homogeneous population is no more than 1 in 43, the usual conventional level of statistical significance being 1 in 20. The authors selected patients for the two series by the sound method of choosing alternate subjects for treatment. They remark in their conclusions (on the total of 50), "Although the series of cases is too small, and the variables of the disease itself too wide to make statistical analysis significant . . ." This might be taken to imply that even if the results were significant they would still be doubtful, owing to the variability of the disease, as to whether differences might not be due to some accident in the selection of alternate patients rather than to the results of treatment. They have, however, tested a considerable number of variables, and scrutiny of their tables shows (in the first 50 at least) that none could account for the more favourable experience in the treated group. If then detailed analysis of the 38 additional patients yields the same results as the original series, it would seem that a good, though not of course overwhelming, case had been made out for the beneficial results of anticoagulant therapy.—I am, etc.,
J. A. FRASER ROBERTS.

REFERENCE

London, W.C.1

1 *Am. Heart J.*, 1945, 35, 253

Peptic Ulceration

SIR.—I am very glad to hear Mr. C. Jennings Marshall's approval of the analogy between the pains of chronic peptic ulcer and of chronic ulcer of the leg (March 13, p. 523), but I am sorry that he is dissatisfied and has reservations, seen in his question. "Surely the production of pain in the peripheral nervous system has a mechanism different from that in the viscera?" Then again, it appears that he is dissatisfied with the secretory function as a middle term in the pain mechanism, so he selects the motor function. This is not very strong positive evidence in favour of his middle term and I am sure he is dissatisfied with this position also. He rightly indicates the mechanism no different from that in the visceral. There may be a quantitative difference because pain fibres are more sparse and less efficient in the viscera, but surely there is no essential difference.

Next, he insists that "food relationship of ulcer pain inevitably introduces gastric function as a middle term." Food relationship inevitably introduces gastric function, but not necessarily as a middle term. It only becomes necessary to introduce the awkward middle term if the stomach functions are conceived in terms of only a secretory and a motor system. But, if it be remembered that the stomach has in addition a functioning circulatory system, gastric function will be found already included in the first term. In the leg, the circulatory and circulatory changes directly explain the ulcerous cellulitis and directly painful motor behaviour of the leg.

A further advantage of these forward steps is that Mr. Jennings Marshall will find that his own favourite "most

potent cause," the ebb and flow of inflammation, will be found adequate to explain the symptoms without the interposition of direct motor causes. Moreover, he will no longer fear the Greeks, even when bearing a question about pain-relief from haemorrhage, for he will be able to discard "muscular atony from acute anaemia" as an unsatisfactory explanation, either in peptic ulcer or congestive dysmenorrhoea. Such prostration, as is implied, does not necessarily accompany pain-relief.

Finally, if he leaves out the myogenic middle term, he will not be called upon to explain how nebulous motor disturbances can directly cause pain in ulcer patients, while definite and violent motor disturbances fail to cause pain in obstructive or regurgitant vomiting after gastro-enterostomy, or in obstruction at the duodeno-jejunal flexure due to carcinoma. Nor will he be asked to explain why, in pyloric obstruction, "the very powerful peristaltic waves which can be seen through the abdominal wall are rarely accompanied by any discomfort" (Hurst and Stewart).—I am, etc.,

Sydney, Australia.

V. J. KINSELLA.

Acute Intussusception in Childhood

SIR,—I read the article on acute intussusception in childhood by Drs. Brenda Morrison and Donald Court (April 24, p. 776) and letters in subsequent issues. The authors of the article state that it is very difficult to satisfactorily examine a healthy baby. With this I cordially agree, and it is particularly difficult during the contractions of the intussusception (when it is hard and most palpable) because then the baby yells most lustily. It is at this stage that, barring accidents, 100% of the babies should be saved.

There is only one way by which one can make absolutely certain that an intussusception is or is not present—that is by a bimanual exploration with the right forefinger in the rectum, under anaesthesia. Quite light anaesthesia is sufficient and chloroform the best anaesthetic. If the case is in hospital the child can be examined in the theatre and either the abdomen opened or the surgeon retire with a perfectly easy mind. The authors of the article and subsequent correspondents make no mention of this method. By carrying it out one can explore every part of the abdomen in a child under 2 years.—I am, etc.,

Great Yarmouth

LEONARD LEY.

SIR,—May I add a further point to Drs. Brenda Morrison and Donald Court's timely article (April 24, p. 776) calling for earlier diagnosis in acute intussusception in children? Under the heading "Signs in the Abdomen" insufficient stress is given to palpation of the abdomen. In the initial stage of the condition, and before obstruction and peritonitis have occurred, the mass is only palpable during active peristalsis, and it may be necessary to palpate the abdomen several times before a clear and unmistakable cylindrical tumour is felt. Usually colic occurs at that instant, but it may not be severe. Only by repeated palpation in the early stages, when vomiting and flexion of the thighs or the abdomen are the presenting signs, will the initial and pre-inflammatory stage of intussusception be diagnosed.

Mention is made in the article to the similarity in description in most British textbooks, and I would refer the authors of the article to that given in the 4th and 5th editions of the textbook on paediatrics published by Messrs. E. and S. Livingstone.—I am, etc.,

London, W.1

BRUCE WILLIAMSON.

Pain in Phantom Limbs

SIR,—I was very interested in Dr. J. Donaldson Craig's letter (May 8, p. 904) on "Pain in Phantom Limbs." The subject of painful stumps is a difficult one. As a medical student I do not remember a single instance of my teachers telling me anything about the subject; and as to the question of phantom limb, the paucity of the literature concerning this distressing condition speaks for itself. Space does not permit of my dealing with painful stumps and I will therefore only briefly discuss the question of phantom limbs.

In the intact body there is a continuous stream of impulses bombarding the brain from the sensory nerve endings in the muscles of

the body. This bombardment is evenly balanced on both in a state of equilibrium. When a limb is amputated muscular imbalance immediately results (see diagram), play a great part in future motor activity of the individual influence his phantom limb.

It is the readjustment of the remaining muscles of the altered state which now throws additional strain on the cerebrum and makes the previously existing state of equilibrium so liable to be upset. It is the constant effort of the central activity to maintain this equilibrium between the continuous stream of impulses from the remaining part of the body which makes a phantom limb an ever-present possibility and brings the awareness of the absent member to consciousness.

The capacity of the individual's sensorium to readjust itself to the new conditions of his body and its new environment after an amputation may or may not give rise to the varied manifestations of a phantom limb. The physical alterations and mental fluctuations in his subsequent life will act as stimuli and as predisposing factors to cause a central release which will result in pain in the phantom. All amputations are associated in the mind of the individual with a varying degree of pain. This is not dependent on whether pain has preceded the amputation. Further, the individual will react to this pain according to the degree of subconscious pain which already exists in his sensorium, and this phantom pain will be further modified according to his level in the phylogenetic scale. It has been noticed that highly intelligent, sensitive patients are more prone to phantom pain than the more phlegmatic, unimaginative individuals.

It has been observed that wearing an artificial limb is often a comfort to the patient with a phantom pain, and tight bandaging, at night, when his phantom pain becomes aggravated, relieves this pain. In fact, many individuals often hold on firmly to their stumps with both hands in order to relieve the pain. This pressure has the effect of restoring temporarily the balance of the impulses which impinge on the sensorium and so relieves the pain. These observations influence treatment. The patient himself often doubts the reality of his own sensations. Fear of accusation of insanity makes him reticent to talk about his symptoms and he prefers to hide them until he can no longer bear them. This may result in gross mental disturbance, and the sufferer of a phantom limb is often regarded as psychotic.

The patient who shows the slightest indication of phantom pains should be told that we believe he gets these pains—that they are very real to him; and, since he has lost his limb, from his point of view there is no foundation for the stimulus now. Eventually the pains will cease, which indeed they often do.

I agree with the statements that all the operative measures of these conditions usually fail, and I would like to point out that local injections are of very fleeting value. A simple and effective method of treatment by firm bandaging of the stump bears out the hypothesis which I have postulated above: "Sensation removed by amputation must be replaced by further sensation." I would further like to say that phantom limbs are not analogous to causalgia. Amputations of the fingers are not infrequently accompanied by causalgic pains, while phantom pains are rare in fingers because there has been no loss of bulk stimulus. Causalgic pains are not relieved by pressure: phantom pains are.—I am, etc.,

Queen Mary's Hospital, Roehampton,
London, S.W.15.

LEON GILLIS.

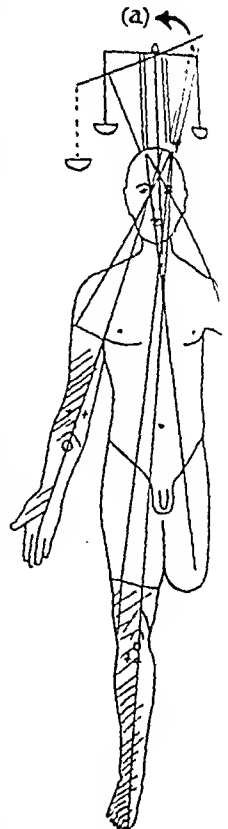


Diagram showing (a) balance produced by amputation, and (b) normal state of equilibrium.

2.—May I add a few notes to the reply to the inquiry concerning pain in phantom foot ("Any Questions?" April 24, 1947)? French statistics show that 72.5% of all amputees, at least, complain of pains, most of them being phantom pains (personal statistics).

In 1938 I established that such pains are greatly relieved by parenteral thiamine in a very high proportion of cases. In this quite easy method fails to give relief we perform a sympathetic ganglia "novocain" block or a periarterial injection of novocain. Intra-arterial administration of the drug sometimes relieves the pain immediately and suppresses the phantom limb sensations. At the next stage we proceed with barbiturate or cervical sympathectomy, advisable in cases in which block gives only transitory relief. The surgical treatment by the main sensitivity route (excision of the terminal neuroma, sympathectomy, cordotomy) is performed in cases of failure of the above-mentioned more conservative methods. Recently some authors claimed the success of excision of the nerve, but their trials seem to remain merely in an experimental stage. Lately, psychotherapy has been introduced in the treatment of this very refractory condition.—I am, etc.,

A. SLOSBERG,
Consulting Physician of the Fédération
des Amputés de Guerre de France.

Tetanus Neonatorum

SIR.—The two cases of tetanus neonatorum recorded by Drs. A. St. Hill and H. Lederer (May 22, p. 980) lead me to report the following:

On May 14, 1948, there came to my clinic a young man, aged 21, complaining of pain in the front of the left thigh which had been present from infancy; he said he rarely went a week without it. He had been called up at 18 for military service and had been awarded A1 and served his full time. He was accompanied by his father, who told me that he had been under my care in the Lincoln County Hospital when aged 12 days, with tetanus. I immediately remembered the case, for it was most remarkable. I looked up the notes, but unfortunately they were scanty. He was born at full term, and breast fed until 7 days old, when his mother was "locked" and he could not suck; he had had nothing to eat for 5 days prior to admission. Temperature was 104° F (40° C.). He was wasted and profoundly dehydrated. Every muscle was in extreme tonic spasm, and the legs were crossed in extension. He could be held in any position, the head, back, and limbs being perfectly rigid. Placed on the palm of one's hand he was as like a piece of board. He remained in this condition for about three weeks and then began to recover, often having appeared on the point of death. The stump of the cord was septic as well as the prepucium. He was fed by nasal tube and later with a dropper. 100 units of A.T.S. were given intrathecally. The C.S.F. was clear and not under pressure.

On May 14, 1948, he appeared a healthy young man with a lightly waddling gait. He was working as an apprentice electrician. My examination revealed nothing to account for the pain; in particular his C.N.S. was not abnormal. I referred him to my colleague, Mr. E. J. Bilcliffe, orthopaedic surgeon, and he reports as follows: "Marked loss of power in his left quadriceps, and can barely hold his leg from the couch; some limitation of movement of left hip." X rays of both hips show marked coxa vara, with considerable shortening of necks of both femora and very shallow acetabula. The coxa vara on the left side is more pronounced than on the right. Is the tetanus a factor in the cause of the condition?—I am, etc.,

H. CECIL BARLOW.

Lincoln.

Inserting Needle for Local Analgesia in Dentistry

SIR.—To minimize the pain of inserting the needle into the gums we have a number of analgesics for surface application at our disposal, but we cannot depend on surface application alone because of its insufficient penetration, and the technique of inserting the needle has to be added. Already in my time as assistant it was my aim to make the dreaded insertion of the needle as humane as possible. Guided by this principle, I soon found that only the insertion of the needle at absolute right-angles to the injection surface brought favourable results. The reason for this is that the skin remains in its place and not stretched away by the pull or pressure of the needle. By injection

for extractions of teeth, although it may not always be possible to place the needle in at right-angles, one can follow the described principle as far as it is possible.

This process—with the exception of palatal injection—is done in three phases. The first phase is the short and quiet insertion of the sharp needle into the skin. The second phase consists in bringing the needle almost into line with the skin. During the third phase the needle is by constant flow of analgesic brought slowly to the position where the injection fluid is to be discharged. All injections which are easily accessible can be done according to the described three-phase system from "vestibulum oris" with the mouth not being much opened. According to requirements the teeth can also be completely closed. Awkwardly accessible are the injections in the lower jaw from "cavum oris." One is here compelled to follow the described principle as much as possible.

For the extraction of the lower molars the "endosteal" injection method is more to be recommended, and I refer here to my publication "Das endosteale Injektionsverfahren zur Extraktion unterer Molaren." in *Schmerz-Narkose-Anästhesie*, Leipzig, 1937, vol. 1, and *Folia Stomatologica* (Zagreb), 1939, Part 1.

Before writing down these small points about the injection technique in the sphere of dentistry, the thought came spontaneously to me that any pain-reducing measures, however small, should be made available to the practitioner. The fact that on the publication of my article on the same theme in 1943 in the organ of the Bulgarian Odontological Federation, Sofia, the editor of the *Zahndärztliche Rundschau* Sofia, made a footnote of appreciation expressing his pleasure in printing this work, shows for me that I followed the correct course.—I am, etc.,

(105) Frankenhayn Nr. 12
Über Garmisch-Partenkirchen,
Germany.
Russian Zone

JOHN VANDEN

The Problem of Caries

SIR.—Mr. J. F. Volker (May 22, p. 1000) suggests that the most unsatisfactory aspect of dental caries research is unscientific criticism by medical colleagues and explains this attitude as resistance to new ideas. This seems a superficial view of the unsatisfactory state of medical knowledge and opinion.

First, there is nothing new in the idea that caries is the result of acid fermentation of food residues, and that sugar is especially responsible has been recognized for centuries. Recent dental research has not done much more than slowly accumulate piecemeal experimental evidence of what was already obvious from general observations of diet and dental disease.

Secondly, the problem of caries is not its histopathology, which is now fairly well understood, but the practical and sociological problem of its prevention. Doctors, in Britain at least, have done as much to solve this problem as dentists. The names of Drs. Harry Campbell, James Wheatley, and R. A. Lyster come to mind, and of course Dr. J. Sim Wallace, who is a dentist as well. How can doctors, without formal training in dental pathology, be expected to appraise adequately the voluminous and confusing literature on dental disease? A great part of this is itself unscientific and some of it is frankly antiscientific.

The medical profession might be blamed for completely handing over to dental surgeons responsibility for dental health, instead of merely delegating dental surgery to them. The dental profession, having gained independence, is much more to be blamed for failing to inform the medical profession and the public in a coherent way how dental disease should be prevented. Volker mentions the repeated experimental proof that fluoride applications reduce caries by 40% in American children. English dentists are simply incredulous; they scarcely seem to distinguish between this completely substantiated claim and the vague, exaggerated, or unsubstantiated claims made for vitamin D, calcium, or humus-grown vegetables! Whose fault is this? Surely not our medical colleagues?

While research has shown that the defects of modern diet which are responsible for caries are not, in the main, nutritional deficiencies, yet the country's diet is planned for health on purely nutritional considerations. The B.M.A. has appointed a nutrition committee: could it not invite the B.D.A. to assist it with an authoritative statement on the dietetic prevention of dental disease? Collaboration of this sort in the U.S.A. has been very fruitful.—I am, etc.,

London, N.W.6.

R. B. D. STOCKER.

Curare in Treatment of Spastic Conditions

SIR.—Dr. Edward B. Schlesinger (May 8, p. 905) queries the potency of the curare in oil used in the treatment of our spastic cases. Only two preparations were available to us, that supplied by Messrs. Burroughs, Wellcome and Co., and that by Messrs. E. R. Squibb and Sons ("intocostin"). After a trial of both we preferred the former as it appears to give more uniform results. Of its potency there can be little doubt judged by the production of diplopia, a feeling of drunkenness, and ataxia in many cases.

The experiment was an attempt to determine the clinical value of the drug in cases with pyramidal spasticity (hypertonus). We think that the evidence of patients in such conditions is of more value than the myogram and motion pictures, for such a drug is of no practicable value unless the patient is improved so that he can appreciate the improvement.

We note with interest that Dr. Schlesinger in his detailed report of four cases (*Arch. Neurol. Psychiat., Chicago*, 55, 530) refers to subjective improvement and "perceptible decrease in spasticity" without mentioning the myogram, the range of motion changes, or other data "gleaned from the skills of the physiotherapist and neurologist."—We are, etc.,

C. ASTLEY CLARKE.
R. D. HOTSTON.

Liverpool.

The Mystery of the Eosinophil

SIR.—With reference to the interesting leading article on eosinophilic mysteries (May 15, p. 938), most common causes are mentioned, with one exception. Later it is stated that eosinophilic pleural effusions are common but unexplained. Surely tuberculosis is a common cause of eosinophilia in the blood, and also the cause of the unexplained eosinophilic pleural effusions? There is a well-known paper by Dr. L. S. Fry on eosinophilia in tuberculosis. Perhaps the learned writer was just trailing his coat here to invite discussion.—I am, etc.,

FELING, Essex.

FRANK MARSH.

SIR—Completeness is too much to hope for in reviewing within the space of a leading article (May 15, p. 938) such a complicated subject as eosinophilia. I was disappointed, however, that you did not mention familial eosinophilia, a rare but well-established condition.

Histamine may well be the "missing link" which connects together the various conditions in which eosinophilia is commonly found. In nearly all of them there is evidence of protein disintegration and allergy with consequent excessive production or liberation of histamine.¹ This substance is found in appreciable quantities in the granular cells, and especially in the eosinophilic cells.² The blood in eosinophil leukaemia contains a large excess of histamine.

My only attempt to verify this hypothesis has been unsuccessful. "Benadryl" and "anthisan" did not produce any consistent changes in the peripheral blood in a small number of cases of eosinophilia of various origin. This crude test, however, is not conclusive in either way.

The hypothesis has the attractiveness of simplicity, but, as always in science, facts must have the last say. Further research is needed, and I hope this letter will stimulate it.—I am, etc.

LONDON N21

E. MONTUSCHI.

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Harrison's Grooves

SIR.—Dr. J. Naish and H. R. E. Wallis (March 20, p. 541) have doubtless made a very useful contribution on the matter of the serratus magnus as you say. However, they should take more notice of its anatomy. I quote from their article: "The serratus magnus interdigitate most intimately with the fibres of the external and internal oblique muscles. Moreover, the serratus magnus runs diagonally across the thorax."—Harrison's grooves.

The insertion of serratus magnus is, in fact, into the lower border of the scapula. The lowest three or four slips of serratus magnus do indeed interdigitate with the oblique muscle of the abdomen; but serratus magnus interdigitate with the internal oblique muscle, intimately, otherwise.—I am, etc.,

Melbourne.

ROBERT S. LAWSE

Termination of Pregnancy

SIR.—A recent trial served to draw attention to the legal aspects of termination of pregnancy on psychological grounds. This is a comparatively new concept in both medical and law and one which, from its very nature, abounds in difficulties. Whether the grounds are physical or psychological it is essential to consider the woman as a total person against her own personal background and that of the contemporary world. If she is married the marital relationship and husband's attitude are vital considerations. Of equal importance is the question of whether or not the woman wants the child, since, obviously, if she does not, the prognosis is less favourable.

In addition to these general considerations others apply to psychological cases and present peculiar difficulties. When psychological grounds are presented we can usually verify the patient's condition and make a reasonably certain prognosis of the effect of pregnancy. In psychological cases, however, we are dealing with many factors and to a considerable extent unpredictable elements. Even with far greater knowledge than we have, we should still be handicapped by the difficulty of applying objective tests to the mind in general and the fact that each individual mind is unique and that reaction to a given set of circumstances cannot be prognosticated with an equal degree of certainty. It is essential to obtain confirmation of the history which patients give in psychological cases since the picture which they present will inevitably be coloured by their highly emotional state.

Perhaps the greatest difficulty, and one which seems all too often to be overlooked, is the psychological trauma—the profound and lasting feelings of guilt and remorse—which can result from termination of pregnancy. Even when continuance of the pregnancy would be inadvisable from every point of view, the psychological effects of termination might prove far more disastrous. In other words, termination is not the simple solution that it may appear to be on the surface. The choice between termination and continuance of pregnancy is rarely, if ever, one between good and evil, it is practically always one between a greater and a lesser evil. The determination of the lesser evil can never be certain. Nor are there any easy compromise solutions.

Perhaps the most common advice given to single girls is for them to have their babies and offer them for adoption. This may seem the only solution, but in fact it is rarely a satisfactory one. While escaping the stigma of unmarried motherhood, many of them will be haunted all their lives by guilt and remorse, especially if, as nearly always happens, they are allowed to see their babies and even persuaded to nurse them before adoption.

However much experience may lie behind our decision to terminate or to recommend the continuance of a pregnancy on psychological grounds, we can never be certain of the result. I personally terminated two pregnancies and recommended the continuance of one to preserve the women's health, only to find that in all three cases their entry into mental institutions had been hastened. The more experience we acquire in this sphere, the more we realize the difficulty of assessing a case, with its tragic result that at our present stage of knowledge and experience many pregnancies are terminated which should be continued and many continued which should be terminated.—I am, etc.,

London, W.1.

EUSTACE CHESSEB.

Barbiturates in Acute Porphyria

SIR.—Dr. Ernest Petrie (May 15, p. 926) describes a case of acute porphyria which shows many of the usual signs and symptoms of the disease. It is commonly stated, though so far as I am aware with insufficient evidence, that barbiturates may increase the severity of an attack, or even initiate one. Neither of these misfortunes befell Dr. Petrie's case, in spite of his patient having received phenobarbitone in the course of treatment. Discombe and I¹ described a somewhat similar case, and we were fortunate to be able to follow the progress of the

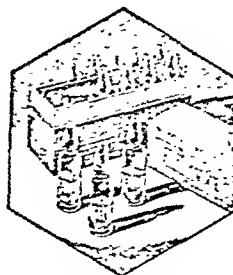
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CORRESPONDENCE

MEDICAL
 This, I think, shows an unwillingness of the authorities to
 allow publication, or, if heads of departments also intervene,
 even submission of any material which might contain any criti-
 cism of either the Colonial Service or its policy or deficiencies.
 In this territory there is no scheme for control, diagnosis, or
 treatment of tuberculosis, and as far as I know no real desire
 for one.—I am, etc.,
 ANOTHER EAST AFRICAN.

ANOTHER EAST AFRICAN.

Professional Secrecy in Services

Professional Secrecy in Services

SIR,—While serving as a naval medical officer I was ordered by my commanding officer to divulge the name of a rating suffering from gonorrhoea. I had previously complained regarding this matter in my quarterly report and on this occasion I refused to give the name. As a result I was placed under arrest and relieved of my duties as a medical officer for disobeying an order. The final outcome was obscured by my charge being unrelated to this event. As this matter still rankles and is of some importance, as pointed out by previous correspondents, with regard to a State health service, I would be glad to know of the legal pros and cons of this situation.—I am, etc.

EX-SURGEON LIEUTENANT, R.N.V.R.

EX-SURGEON LIEUTENANT. R.N.V.R.

Manipulation in a State Service

Manipulation in a State Service

SIR,—May I take this rather late opportunity to refer to Dr. J. H. Cyriax's letter (Feb. 21, p. 362) entitled "Manipulation in a State Service"? The importance of this neglected form of therapy has been stressed in some quarters through the years, but has apparently passed unheeded as far as the average practitioner is concerned. Manipulation is still shrouded in mystery and those who practise it are still regarded with suspicion.

As long as manipulation is not taught, and taught expertly, and those whose manipulation is of therapy remain in unorthodox areas, so long as a valuable field of therapy, many catastrophes occur unnecessarily, which must be taught and prevented.

So long will a valuable field of therapy remain in the hands and so long, quite unnecessarily, will catastrophes occur with its use. But, Sir, it is the doctor who must be taught and not the physiotherapists alone, as Dr. Cyriax recommends. The correct use of manipulation is the doctor's duty. It is the doctor's duty on diagnosis, and this is the manipulation and how far his manipulation also to know when to manipulate and how far to maintain the range of movement which the doctor restores and not to try to improve on it, for anything that may go wrong—and even in the most experienced hands things do go wrong—is the responsibility of the doctor.—I am, etc..

JOHN McM. MENNELL.

New Zealand.

Medical Service

I feel it n

JOHN McM. MENNELL.

Criticism in Colonial Medical Service

Criticism in Colonial Medical Service

SIR,—I am forwarding the following to you as I feel it may be of interest to those engaged in the struggle over the Health Service and freedom of criticism of this service. It is from a Colonial Office circular about an essay competition organized by the National Association for the Prevention of Tuberculosis, and shows, I think, the fear of criticism existing in the minds of Ministers and higher officials of any Government service.

Like many others, I joined the Colonial Service after this high hopes, but already I am sadly disillusioned.

—I matter—this is immense—but by the treatment. Drugs and dressings are unbelievable.

Like many others, I joined the Colonial Association for the last war full of high hopes, but already I am disappointed not by the lack of clinical matter—this is immense—but by the lack of facilities for diagnosis and treatment. The lack of facilities for the medical stores in an unbelievably parsimonious way. I have not even a blood-counting apparatus, and such things as vitamin concentrates—almost essential with every patient here—are practically unobtainable. When I have ventured to ask for such things I am informed that they are not stocked. Anyway, here is the extract for you. It is from Circular 12412/12 '48 from the Colonial Office, the Church House, Great Smith Street, London. S.W.1. and appears over the signature of A. Creech-Jones.

Para. 3, Rule 8 [of the essay competition] provides that essays sent in shall become the property of the National Association for the Prevention of Tuberculosis and that any of them may be published at its discretion in the author's name. In order to ensure that nothing is published which might misrepresent the policy of Colonial Governments or of His Majesty's Government, the Secretary-General of the Association has agreed to arrange that essays which it is desired to publish should first be submitted to the Colonial Office, and in view of this I do not expect that you will think it necessary to require competitors to send in their essays through the heads of their Departments. However, I would not object to your imposing this requirement if you thought it desirable.

Must the Doctor Tell?

Must the Doctor Tell?

SIR.—The frivolous and irresponsible attitude revealed in recent letters from R.A.F. medical officers (April 17, p. 750, and May 8, p. 907) on V.D. probably shocked numerous others with Service experience apart from myself. Clearly, it is necessary in a disciplined service that a commanding officer should be acquainted with all facts concerning the welfare and efficiency of his men. If medical officers arrogate to themselves the decision to keep V.D. secret, they are simply not doing their duty. Such middle-headedness is nothing to be proud of, nor does it imply a high ethical standard professionally.

Such middle-headedness is nothing to be proud of, nor does it imply a high ethical standard professionally. Such middle-headedness is nothing to be proud of, nor does it imply a high ethical standard professionally.

acquainted with the R.A.F. and his men. If medical officers are supposed to keep V.D. secret, they are simply being muddle-headed. Such muddle-headedness is nothing to be proud of. It implies a high ethical standard professionally. In recent years the Air Council have from time to time expressed concern at the standard of discipline in the R.A.F. Your correspondents' impunity would seem to corroborate this. "Flight Lieutenant" was right in at least this point when he wrote, "Of course we should have been court-martialled . . .". I am, etc.,

GEORGE G. SHERRIFF.

London. W 8

GEOFFREY G. SHERRIFF.

POINTS FROM LETTERS

Direction and Right of Appeal
H. SHAW (St. Mawes, minor matter)

POINTS FROM

Direction and Right of Appeal

Dr. B. H. SHAW (St. Mawes, Cornwall) writes: . . . Compromise is all very well on minor matters, but direction and absolutism is co-part of the Minister are very grave issues as far as freedom is concerned. Are we or are we not to remain free from bureaucratic interference in discharge of our professional duties? That is the crux. Dr. Cox considers that the best way to prevent the Labour party from carrying out their declared intention at some future time would be "to use the interval for providing such a satisfactory service that the public would be against any attempt to unsettle the profession once more." It is not sufficiently realized that there is a very considerable difference between the views of the public and the ambitions of bureaucracy. The granting of the right of appeal is essential.

Agreed

(Chickenhead) writes: It is now well over 10 years since the Medical Councils by stating that the public interest would be served by the deterioration of the profession.

A Plea for the Aged

A Plea for the Aged

Dr. D. J. GAIR JOHNSTON (Birkenhead) writes: It is now well over a year since I startled my fellow councillors by stating that the general fitness and stamina of the people were definitely deteriorating. . . . The knowledge of nutrition in all its phases—digestion, absorption, assimilation, and elimination—is far from complete and allows no room for dogmatism. The question of getting sufficient nourishment of a kind suitable and agreeable to old people whose physical and digestive powers are failing is a real problem and, if they live alone, truly pathetic. . . . As a medical officer to a Home for Aged (about 180 inmates) for 25 years, I notice the dead hand of deprivations and restrictions has caused a very obvious depression. No smiles, no light-heartedness—just a dead monotony of gloom compared to other days. If those in authority would only realize that human beings are really human, not mere animals to be fed on calories, it would help to bring back a little of that light-heartedness and joy which is so lacking to-day in all classes of society.

Obituary

SIR GEORGE NEWMAN, G.B.E., K.C.B.

Former Chief Medical Officer, Board of Education and Ministry of Health

We announce with regret the death on May 26 at the age of 77 of Sir George Newman, who held for twenty-eight years the position of Chief Medical Officer of the Board of Education. Sir George Newman was also Chief Medical Officer of the Ministry of Health from the time of its creation in 1919 until his retirement in 1935. His service at Whitehall covered the period of the rise and growth of the school medical service and saw the initiation of some of the outstanding developments in public health.



(Press Portrait Bureau)

George Newman, the son of Henry Stanley Newman, of Leominster, Herefordshire, came of Quaker stock. He was born on Oct. 23, 1870, and studied for his profession at Edinburgh University and at King's College, London. He graduated M.B., C.M. in 1892, and took the M.D. of Edinburgh, with the gold medal, in 1895. In the same year he took the Cambridge D.P.H. From 1896 to 1900 he held the post of senior demonstrator of bacteriology and lecturer on infectious diseases at King's College, of which he was later to become Fellow. By the early

years of the present century he was already known as a writer on public health subjects, having published works on the bacteriology of milk, on the relation of bacteriology to public health, and on infant mortality. Dr. Newman's first experience as a medical officer of health was in the county of Bedfordshire; afterwards he was appointed medical officer to the metropolitan borough of Finsbury. In all these spheres—teaching, authorship, and administration—he showed evidence of unusual ability and was plainly marked out for a high position in the Civil Service. When in 1907, the year in which the system of medical inspection and physical care of school-children was introduced, his appointment as Chief Medical Officer to the Board of Education was announced it was generally felt that the new school medical service could not have a better official head.

This was a period of new beginnings. The Education (Administrative Provisions) Act of 1907 made it the duty of local education authorities to provide for the medical care of school-children, and this was followed by the Mental Deficiency Act and the Act providing for the care of epileptic and other defective children. The National Health Insurance system, which was introduced in 1912, had its indirect effect on the health of the school-child, and there followed developments in the field of maternity and child welfare, the dental service, Poor Law administration, hospital provision and usage, and public health services in general. The war of 1914-18 gave a new impetus to preventive medicine, and the idea of a Ministry of Health to co-ordinate all health work, including maternity services, and to provide guidance and inspiration to local authorities, appeared on the legislative horizon. Meanwhile on Feb. 14, 1919, Dr. Addison, as he was then, President of the Local Government Board, appointed Sir George Newman as Chief Medical Officer of the Board. It was understood that he would retain his position under the Board of Education and that the arrangement marked a further step towards the unification of the public health services which was to be one of the principal objects of the forthcoming Ministry. The post was a new one, and the holder was to have the status of a member of the Board as well as administrative responsibility for the work of his department. The Ministry of

Health was established under the Act passed in 1918. Dr. Addison was appointed Minister in June of that year, the Ministry took over the functions which had previously fallen to the lot of the Local Government Board and National Health Insurance Commissions. That great administrator Sir Robert Morant became its Secretary and Sir George Newman its Chief Medical Officer.

While it would be wide of the mark to say that Newman was the instigator of all the various health reforms which preceded and followed the establishment of the Ministry of Health, his genius made itself evident in many directions. Perhaps his mind was interpretative rather than creative. He had an unusual power of awakening public interest in health matters. He was in fact the perfect medical publicist, and he became more than any other man of his time to make the English people "health-conscious." He had, too, a real enthusiasm for increased knowledge on health matters and a determination to make people understand the facts. Entering the Civil Service at as late an age as 37, Sir George Newman never quite accommodated himself to its practice and traditions, which, with all their virtues and limitations, have meant so much to the country. He was always the medical man rather than the Civil Servant, and the health propagandist above all. If never fitted into the cadres of Whitehall, his passion for science, his high ideals of citizenship, his alert mind, his ability both to inform those whom he addressed and to move their hearts were of the greatest value to the nation, especially at a time when public opinion was focused on the "common health," to use the form of toast to which he once responded in a noteworthy speech at a British Medical Association dinner.

Sir George Newman's role as the official head of the health services was as often persuasive as administrative. Many examples of his wise guidance could be cited. One that immediately comes to mind is the list which he issued of the methods of prevention of rheumatism in childhood, a subject that always deeply interested him. A residential school of recovery for rheumatic children, which he first recommended to the Board of Education, was later declared by a special committee of the British Medical Association to be a necessity for every town.

The brilliant series of annual reports issued by Sir George Newman, first as an officer of the Board of Education and later as an officer also of the Ministry of Health, are his abiding memorial. These reports extend from 1908 to 1935. To many secretaries and others the compilation of an annual report is casually undertaken as a sort of appendix to the year's work, but to Newman it was much more. His reports were not merely a record of past or a forecast of future achievement, they were intended to be a kind of serial scripture for those engaged locally in the administration of public health. They had inspirational value, probing into causes as well as describing results, urging ideals as well as advising on methods. To a large extent they were from his own pen. Some parts of them dealing with special subjects were the work of his colleagues, but one could usually detect his own writing from its literary style, and from something more than style, from the warm glow of evangelistic fervour which informed it.

Over and over again in those reports Sir George Newman as the head of the preventive medical services of the country paid tribute to the work of the private practitioner as a pioneer in preventive medicine. In his official position he never failed to appreciate the importance of the family doctor's contribution. He realized that it was upon the general practitioner that the safeguarding of the public health depends, and that it is possible for health departments, both central and local, either to alienate practitioners or to enlist their whole-hearted service. In an annual oration to the Hunterian Society he strongly rebutted the view that the public medical services are designed to exclude the private practitioner. The contrary, he said, was in fact the case, and he pointed to the Poor Law medical service, which had 4,000 medical officers for outdoor medical relief practically all of whom were general practitioners.

Apart from the heavy and constant work which attended his double office Sir George Newman undertook many other important labours. During the war of 1914-18 he was chairman of the Health of Munition Workers Committee, a body which still lives on in the form of the Industrial Health Research Board. Another war activity of his was that of

OBITUARY

ical member of the Central Control Board (Liquor Traffic). Many interdepartmental and other committees of which he was a member were concerned with such subjects as play-grounds, reformatories, tuberculosis, medical research, the production and distribution of milk, the registration of dentists, and graduate medical education, and maternal mortality. He was in 1919 until 1939 Crown Nominee on the General Medical Council, and during the latter part of that time served the Council as Senior Treasurer. Medical education was one of his great interests and the theme of many of his public speeches. He was also medical assessor to the University Grants Committee.

In later years, as became a respected senior and wise counsellor, Sir George Newman was often invited to the lecture platform, a position which he valued and in which he always gave his best. He was often eloquent in speech and had the power of assembling facts and arguments in an attractive way, though a certain shrillness of voice when he became animated took away a little from the pleasure of his utterance. He gave Yale lectures in 1927, taking as his subject "Citizenship and the Survival of Civilization." He was Linacre Lecturer in 1928, Gresham Lecturer in 1929, Halley and Social Evolution, 1930, when his subject was "Health and Social Evolution," and Heath Clark Lecturer in 1931. The same elevated diction which characterized his orations appears in his published works in addition to the books already mentioned there appeared in 1919 his *Outline of the Practice of Preventive Medicine*, and in 1927 *Interpretations of Nature*. This last work includes some choice essays in which he indulged his love of the history of learning and of medicine. One of them, which he dedicated to St. Bartholomew's, justifies his veneration for the ancient University of Padua. Another is on Thomas Sydenham on the occasion of his bicentenary; another, written for the University of Edinburgh, is on the Medical Faculty of the Dutch physician. His studies of Boerhaave, of Louis Pasteur, and of William Osler are excellent. It is indeed a fortunate thing that two departments of the Government should have had at a formative period in its English social history two such servants as Morant and Newman. The many honours which were bestowed upon Sir George Newman included the honorary degrees of D.C.L. of Durham and LL.D. of Edinburgh, McGill, Toronto, Glasgow, and Leeds, the Honorary Fellowship of the Society of Apothecaries of London, and the Freedom of the New York Academy of Medicine. He was knighted in 1911, the K.C.B. followed in 1918, and the G.B.E. in 1935. A lifelong member of the Society of Friends, he was for forty years the anonymous editor of the *Friends Quarterly Examiner*. He married in 1898 the daughter of Samuel Thorp, of Alderley Edge. There were no children of the marriage, and Lady Newman died in 1946.

C. A. RAISON, M.B., F.R.C.S.

We announce with regret the death of Mr. C. A. Raison, the well-known Birmingham surgeon. He died in the Queen Elizabeth Hospital on May 8, at the age of 57, after a long and painful illness. Cyril Alban Raison received his medical education in the University of Birmingham and qualified M.B., Ch.B. in 1914. After serving as house-surgeon to Prof. Leedham Green, he joined the R.A.M.C. and saw active service in Salonika. He was promoted major and had charge of a surgical division. In 1921 he obtained the F.R.C.S., and in 1928 he became assistant surgeon to the General Hospital, Birmingham. At the time of his death Mr. Raison was honorary surgeon to the United Hospital, and he was also on the staff of the Children's Hospital. He was lecturer in operative surgery in the University and was consulting surgeon to the Nuneaton General and Infectious Diseases Hospital.

In 1939 he volunteered again for the R.A.M.C. He was not accepted, because his health was already impaired. Despite this he continued with his heavy practice and took his full share in the treatment of air-raid casualties in the General Hospital and later on in the nearby underground hospital in the centre of the city.

Raison had a staunch spirit in a slight frame. He was a general surgeon and a strong defender of the genus. Perhaps he would have said that he was trained at a time when a young British surgeon received the finest all-round training surgeons ever have received or ever will. Certainly his large practice and the fact that he was in great demand locally bore testimony to the excellence of his work. He loved his association with the University and with teaching, and gave much time and thought to these matters. Raison was one of them, probably be part of a medical school. He wrote little, but was because he rejoiced to be a part of it. He wrote little, but was sound and thoughtful. He was one of the men who carried on the great traditional teaching of the craft of surgery as it has been carried on since the beginning. It is for this that he will be remembered, and he would have wished for no better memorial.—H.D.

Dr. DAVID STONE, who died at his home in Northampton on April 10, was born in 1865 at Ardochrig Farm, East Kilbride, Lanarkshire. He was educated at St. John's Grammar School, Hamilton, and Glasgow University, where he graduated M.B., C.M. in 1887, proceeding M.D. in 1903. After acting as an assistant in Coatbridge he undertook voyages as ship surgeon to Canada and the U.S.A. and on his return acted as lecturer in a number of practices before finally settling in Northampton in 1889. There he carried on his own practice until his retirement in 1936. In this year he was made chairman of the Northampton Insurance Committee. Dr. Stone was a keen ambulance worker and lecturer, and was made an honorary serving brother of the Order of St. John of Jerusalem. He was an ardent linguist in both ancient and modern languages, an omnivorous reader, and had a profound knowledge of the Bible. His ministry was most valued among the Open Brethren, with whom he had a lifelong association. His steadfast Christian principles, his unshakable integrity, and the kindness of his disposition earned for him the respect and love of his fellow townsfolk and patients. His death severs yet another link with a past generation. He is survived by his wife, his son, Dr. Noel Stone, and two daughters.—N.E.S.

Dr. PETER FRANKEL, who died at Colindale Hospital on April 16 at the early age of 33, came to this country from Breslau, Silesia, in 1933. He was the nephew of Dr. Felix Pinkus, the celebrated dermatologist, and was a descendant of the great Ehrlich. He graduated M.B., B.S. as a student at St. Bartholomew's Hospital in 1939. He worked for a time at the British Postgraduate School of Medicine and thereafter took posts in several general hospitals. He proceeded M.D. in 1943, joined the R.A.M.C., and served in Belgium and Germany with the rank of captain. On his return to this country Dr. Frankel obtained the M.R.C.P. At this time he became engaged to Dr. Diana Owen, who was also resident there. He was appointed registrar to St. John's Hospital for Skin Diseases shortly before his death, which terminated a promising career. A man of wide culture and varied interests, he was always conscientiously concerned with the welfare of his patients. His sincerity and charm of manner, his depth of feeling, coupled with a fine sense of humour, made him always welcome to a wide circle of friends, who deeply mourn his loss. Bernard Shaw once said there are friends who are not taken from us when they die but only when we die. Peter Frankel was such a friend. We offer our deepest sympathy to his mother and sister and his fiancée.—B.W.R.

Dr. GEORGE THOMSON died at the age of 75, on April 16, at the Derbyshire Royal Infirmary. He graduated M.B., C.M., at Aberdeen University in 1894. The village of Codnor, Derbyshire, and the surrounding district mourn his passing. He was medical practitioner there for forty-four years until his retirement in 1945, and he knew them all, even to the second and third generations. He was, moreover, a first-rank medical practitioner, a hard worker, conscientious almost to a fault, and there seemed no limit to his tireless energy. He played a good game of golf and tennis and enjoyed an occasional dance. Yet he found leisure for medical reading and study, and was at all times conversant with the current medical advances in his own field of activity. The writer assisted him for a time on

¹ *British Medical Journal*, 1947, 1, 548.

included Mr. Miller's firm, the agency found employment for nurses at the salary which the nurses required. Mr. Miller introduced the nurses to the patient, rendered the accounts to the patient, collected the sum due, and paid it to the nurse after deducting 10% commission. The Council conceded that there was nothing wrong in an agency supplying nurses on the basis that they made their own bargains, nor in a nurse supplied at the Council's maximum rate making some additional bargain with the patient and recovering some extra money. As the court pointed out, if the nurse would not work for the maximum fixed by the Council, the curious position would be reached that the patient would have to pay one sum to the agency and another to the nurse. In the view of the court this was not a condition for securing the proper conduct of the agency. The provision in the Act was aimed at undue fee-snatching : it had often been found that unscrupulous agents charged excessive fees and prevented people from getting proper employment unless they paid such fees or imposed on their employees improper or undesirable terms. If, however, a nurse demanded, say, seven guineas a week and the agent told the patient that that was the charge, that was perfectly proper conduct by the agency. Mr. Justice Singleton agreed that the condition objected to was not in any sense necessary for securing the proper conduct of the agency but went outside anything of the kind. The court therefore upheld the justices' decision that the maximum fee in this licence was invalid.

The issues in this case affect about 20,000 nurses, half of them in London.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

The following degrees were conferred on May 15.

M. CHTR.—L. L. Bromley.
M.B., B.CHTR.—*M. T. Gilkes, *H. W. H. Kennard.

• By proxy.

UNIVERSITY OF LONDON

The following candidates have been approved at the examination indicated:

Maided M.B., B.S., 35P. Freelandman, 15Atem H. Hampton, 18L A. Hatch,
15E T. Hughes, 17Catherine E. Latch, 14TFH. Lum, 16TG. C. Mathers,
14H. W. Matthews, 14C.F. Mills, 14G.R. Moore, 13P.R. Noel, 13AL J.
Rubinstein, 18D.B. Stone, 14Elizabeth K. Tang, 14N.L. Teck-Kam, 16L J.
Temple, 15A.G. Thompson, 15A.W. R. Williamson, R. C. P. Aldridge,
J. C. U. Alexander, D.D. Allbrook, J. A. S. Amos, K. Anderson, W. McC.
Anderson, D. R. Bangham, Anne L. Barlow, Audrey Brader, R. C. T. Bellamy,
Nancy L. C. Barry, J. Bihari, G. L. Blewett, A. S. Bligh, Barbara A. Boodson,
Joan M. Bremner, D. S. N. Briefley, C. O. S. B. Brooke, A. E. Brown, W. W.
Bryett, J. P. Bush, R. St. J. Buxton, A. R. P. Calder, Dorothy B. D. Callander,
Pamela H. Canham, Jill C. Clark, Clark Lester, L. Clements, K. W.
Colebourne, R. O. N. G. Colley, A. W. Cook, M. H. D. Cooper, Kathleen
Corbishley, E. Corsi, J. C. Couch, L. Coussiant, L. A. Crutenden, A. P.
Curpin, Phyllis Dagrell, Brenda M. Davies, H. E. F. Davies, R. L. G. Dawson,
M. J. Deane, H. D. R. Vitre, B. P. Doyle, P. H. Drake, C. J. Earl, C. N. E. J.
Eastes, M. W. Eddings, P. W. Edward, V. G. Edwards, S. E. Ellison, F. J.
Emminton, A. B. A. Evans, D. K. Evans, P. A. Eyre, B. Fairburn, D. J. Felix-
Davies, O. D. Fisher, P. R. Fleming, D. D. Forbes, M. G. G. Guider, T. W. A. Glenister,
Gammon, P. H. Garrard, A. A. Gavourin, R. J. S. B. W. E. Medd, R. A. Miller,
J. Ll. Goodger, Jeanie F. Gordon, R. Harben, G. Harris, R. H. Harris,
J. Ll. Goodger, Jeanie F. Gordon, R. Harrison, T. G. Harvey, M. C. Head, C. E. D.
Pamela N. Harris-Wright, R. T. Hill, H. W. Holland, P. W. T. Hollis, M. C. Holby,
Hearn, H. Herbert, D. Hume, V. E. Ireland, H. M. R. James, Rosalind E. S. James,
Annie Hoskins, J. W. G. Johnson, Millicent M. Johnston, H. E. Kane, H. Kane,
N. Jones, J. W. G. Johnson, Millicent M. Johnston, H. E. Kane, H. Kane, J. Livera,
K. J. Kingsbury, J. E. H. Lahaise, J. M. Ledingham, A. L. Levene, C. MacDonald,
C. E. Livingston, D. Lonsdale, K. N. H. Lowing, R. J. S. B. W. E. Medd, R. A. Miller,
I. L. Macfarlane, Elizabeth A. Martin, R. J. S. B. W. E. Medd, R. A. Miller,
R. Mitchell, J. C. Mitchell, P. R. Morgan, H. S. Moore, Jean M. Moore,
E. R. Mitchell, J. C. Mitchell, P. R. Morgan, H. S. Moore, Jean M. Moore,
P. B. Li. Moss, R. J. Moylan, Margaret G. Oyston, D. L. Palmer, J. D. K.
O'Neill, B. D. Orr, J. D. Owen, Margaret G. Oyston, D. L. Palmer, J. D. K.
Palmer, D. S. Parry, G. P. Parr, G. R. Parry, R. A. Payne, Winifred I. Pearce,
J. R. Peckover, C. I. G. Phillips, R. S. Pine, A. J. Popert, K. A. Porter, J. R.
Price, A. V. Price, Jean M. Randall, M. W. Reece, E. R. Reid, J. Rose, O. T. T.
W. Renton, P. G. Roads, W. D. V. Roderick, J. Una Scorer, H. M. G. Shanly,
Samani, D. E. G. Savers, L. Schaffer, R. Schwinger, J. H. Sherry, R. G. Shorter,
P. A. Shave, D. J. Sheerboom, J. G. H. Shepherd, A. G. Smith, E. S. Snell, R. J. Sollars,
B. J. Silkoff, K. Simpson, C. A. Stephens, D. C. Stevenson, J. A. Stewart,
P. G. Spaul, B. J. Stephens, J. G. H. Shepherd, A. G. Smith, E. S. Snell, R. J. Sollars,
L. V. Sphyr, J. Stanton, F. Taylor, P. B. J. Taylor, N. B. Thadani, J. M. L.
Thompson, Valerie M. Thompson, J. A. Yuse, J. Weeks, M. M. Winterbotham, L. P. J.

1 With honours. * * * * *
forensic medicine. * * * * *
pharmacology and * * * * *
obstetrics and gynaecology.

HUNTERIAN TRUSTEES

A meeting of the Hunterian Trustees was held at the Royal College of Surgeons of England on May 12 with the Earl of Athlone in the chair. Others present were Sir Alfred Webb-Johnson, B.A., President of the Royal College of Surgeons of England, Sir Arthur Keith, F.R.S., Sir Holburt Waring, Mr. R. H. Burns, F.R.S., Prof. Matthew J. Stewart, Viscount Leverhulme, Prof. F. Wood Jones, F.R.S., Sir Frank Colyer, Prof. H. A. Harris, Sir Adolphe Abraham, and Dr. E. Bellingham Smith.

The Trustees inspected the surviving parts of the Hunterian Collection, once more on exhibition in the museum. They also approved the plans for rehousing the Collection in the new museums which are to be built to replace those destroyed by enemy action.

Medical Notes in Parliament

The Mental Treatment Rules, 1948, and the National Health Service (Emergency Mental Treatment) Regulations, 1948, were presented to Parliament on May 25. On the same date the Report to the Lord Chancellor on the number of visits made and patients seen by the Visitors of Lunatics between Oct. 1, 1947, and March 31, 1948, was laid on the Table.

The Mental Treatment (Adaptation of Forms) Rules, 1948, were presented to Parliament on May 26.

NATIONAL HEALTH SERVICE

On May 27 Mr. PETER FREEMAN asked whether the Minister of Health would provide for a reduction or abolition of premiums to the National Health Service where no claim had been made after a period of years in order to discourage frivolous applications and encourage personal responsibility for good health.

Mr. BEVAN, in reply, said the National Health Service was free to all and there were no premiums of any kind. The benefits available did not include cash benefits, which were provided under the National Insurance Act.

provided under the National Insurance Act, 1911. Answering Colonel STODDART-SCOTT, Mr. BEVAN said a relatively small part of the cost of the National Health Service was met by a grant from the National Insurance Fund. This grant would not be allocated to any particular part of the Service. As there would be persons eligible for the full benefits of the Health Service, although they made no contributions, the Service obviously was non-contributory. Colonel Stoddart-Scott suggested that as on July 5 Mr. Bevan was not going to provide the service laid down in the Act, he should advise his colleagues to reduce the weekly contributions of 8d. or 10d. which every member was asked to pay toward the Health Service.

Mr. BEVAN told Mr. COLLINS on May 27 that he accepted in principle the recommendations of the Committee on the Remuneration of General Dental Practitioners. Discussions were about to take place with representatives of the dental profession and he hoped to reach a speedy conclusion on the detailed application of these recommendations.

RADIOACTIVE SUBSTANCES BILL

On May 28 Mr. ASKIRIN BEVAN moved the Second Reading of the Radioactive Substances Bill, the purpose of which, he said, was to secure protection for the health of workpeople and of the public against the harmful effects of exposure to and of the public against the harmful effects of exposure to dangerous radiation. He said the safety code of the X-ray and Radium Protection Committee, which was appointed about twenty-five years ago by the Medical Research Council, was not always observed. The need for the Bill was greater because the country was on the verge of a vastly extended use of radioactivity. The power of the apparatus used and the quantity of radioactivity available had increased enormously. There was under construction in this country a cyclotron which would give 300,000,000 volts. In medicine x-ray apparatus had reached 250,000 volts and betatrons might shortly be used giving 30,000,000 volts. Artificial radioactive substances were becoming freely available for therapeutic use. All had different rates of emission and were difficult to define. This difficulty had led to the unusual structure of the Bill. The relatively cheap rates at which many of these products might be available would mean that, unless they were restricted in their use, untrained people might do themselves great damage. The effects of exposure to radioactive substances of high emission rates were often insidious and the consequences known only after a number of years. Therefore experts advised that it was necessary to provide for the protection of the public. Safeguards had been introduced into this Bill which had not been present in the Bill which was introduced a year ago. The present Bill had been discussed in the House of Lords and he believed it could

be treated as an agreed measure. After outlining its provisions Mr. Bevan said the Bill gave the Minister unusual powers, many of which were novel. It was an enabling measure to enable the Minister concerned to lay down Regulations with a particularity which could not be attempted in a Bill. That these powers should not be subject to abuse, a powerful advisory committee was to be appointed. Bodies who would be asked about the appointment of representatives included the Medical Research Council, the three Royal Medical Colleges, and the Royal Medical Corporations of Scotland. He laid emphasis on the protection of the population from the commercial exploitation of radioactive substances put into soap, face-cream, lipsticks, and that sort of thing.

Special Powers

Mr. RICHARD LAW said Mr. Bevan had established the case for the Bill. If these substances were to be controlled and individuals protected from them, the special powers asked by Mr. Bevan were necessary. Nevertheless dangers arose from these great powers. Clause 5 might produce stagnation in scientific research and development. The powers might be used to give an advantage to one section of the medical profession over another. The radiologist or the radiotherapist might be given a corner in this field. Dermatologists had long used methods of radiotherapy and were afraid some monopoly might be set up to their disadvantage. All these dangers would be averted if the Advisory Committee did its work properly. He asked whether the Committee could initiate advice as well as give it when asked.

Mr. BEVAN said he would see the Bill was, if necessary, amended so that advice could be given over the whole field.

Mr. LAW said it was desirable that the Advisory Committee should give the Ministry of Supply advice on the allocation of the costly and scarce tracer materials which were produced at Amersham.

Major VILSON said many radioactive materials had a short half-life. Preparations of them must be kept under control hour by hour until used. The phrasing of the Bill did not fit that process. The customary training of medical practitioners and dispensers did not fit them for this work. It seemed dangerous for the Bill to propose that when a person applied for a licence, that licence should be granted automatically for three months before a scrutiny was made. Disposal of waste was a difficulty. Laboratories had become radioactive to such an extent that they had to be abandoned. The precautions taken at Harwell were excellent, but some other establishments had not been so thorough in the past.

Mr. SOMERVILLE HASTINGS said that forty years ago he had been casualty officer in a teaching hospital when x rays were a new toy and their dangers were not appreciated. The doctor and technician who then worked with him died of x-ray cancer. The effects of exposure might become apparent many years afterwards. Therefore he welcomed the Bill. He asked whether the persons who used x rays daily in boot shops were sufficiently protected. He was afraid that the doctors on the Advisory Committee might be too large an extent be specialists. He asked Mr. Bevan to include in that Committee ordinary physicians and surgeons and perhaps a few dermatologists as well.

Mr. HAROLD DAVIES asked if there was a guarantee that no radioactive effluents could get into the rivers and into the drinking water.

Mr. BEVAN said no case had occurred of anyone being injured at Harwell by radioactive substances. The Bill should have been introduced long ago. In New York six corporations distributed radioactive substances for medicine and industry. He hoped the Government would let the Dominions receive supplies of radioactive isotopes.

Mr. BEVAN said that nothing in the Bill prevented dermatologists being placed on the Committee. When the Bill said that radioactive substances, as defined by Regulations, could only be prescribed by duly qualified doctors and dentists, "duly qualified" meant those persons designated by the Advisory Committee. The normal curriculum of the ordinary doctor was not sufficient to give him the facilities to use these substances. That had been recognized by all the learned bodies concerned. He asked Mr. Davies that there was no danger of contamination of the water.

Mr. BEVAN said a second time without a division.

CIVIL SERVICE ENTRANTS

Lord SIMON OF WYTHENSHAW said Lord Miersy drew attention to the fact that Sir Percival Waterfield, the first to be selected for the Civil Service, was reported to have been a medical student at the time of his selection. He asked whether the Government intended to consider the possibility of selecting medical graduates for the Civil Service.

into the administrative service and 50% of applicants for foreign service scored marks for personality and intelligence which represented complete failure. Among those who failed, 60% had University or College scholarships and 20% had State scholarships. He asked whether the Government suggested any alterations in the present system.

Lord SIMON OF WYTHENSHAW said he had spent forty-eight hours at Stoke d'Abernon and had witnessed the tests of civil service entrants. [These tests are the subject of an article which appears at page 1094 of this issue.] He explained the system of grading candidates and said the science of interviewing was changing rapidly. Large industrial firms were beginning to adopt CISSB methods. Prejudice had been imported into the matter because of the practice of having a professional psychologist as one of the three interviewers. The Civil Service Selection Board was trying to understand the mental characteristics of individuals and estimate how they were likely to develop. That was not a job to be left to amateurs. The only way one could judge was by seeking the help of a psychologist.

Lord LINDSAY OF BIRKER said Sir Percival Waterfield had not spoken about the CISSB. He was talking about the distressingly low standard of qualities shown by candidates who came before the Board. Lord Lindsay said that in his own experience in Oxford at the beginning of the war he saw the whole of the candidates for the University and was struck by the fact that a small number of boys, mostly State scholars, were no good at all. Their health was hopeless, they had no physique, and they made one despair. They were able boys from poor homes and small schools for whom a State scholarship meant everything. Competition for the scholarships had ruined their health and usually ruined their minds.

Lord MORAN, referring to psychological tests in the Services during the war, said it was not so much that psychology was in its infancy as that a few of those practising it were in their dotage. If the failures to which the first Civil Service Commissioner had referred were chiefly in the personality tests, it was necessary to remind the House that these tests of personality had never been validated in peace or war. He thought the majority of candidates seemed convinced that the Stoke d'Abernon week-end was far fairer than the short interview given in the past.

Other Methods of Selection

Lord ELTON believed that the traditional tests for the Civil Service were over narrow in that they confined themselves to selecting persons likely to absorb readily and reproduce lucidly the ideas of other people. In the traditional examinations the successful candidate needed to possess neither common sense nor honesty, neither courage nor adequate physique, nor even an original mind. The selection of Rhodes scholars without any form of written examination was simpler than the CISSB arrangements and had been extremely successful. Statistics in the United States which compared the careers of one hundred Rhodes scholars with a hundred persons possessing the highest intelligence quotient were markedly in favour of the Rhodes scholars. He had been in the United States, Canada, and Rhodesia and had met some hundreds of members of the Selection Committees for Rhodes scholarships. Almost without exception these men greeted the suggestion with horror and apprehension. He himself suspected that psychology was making exaggerated claims.

Lord PIERCY said the tests at Stoke d'Abernon were as complete as possible and in addition every available piece of information about the candidate was carefully scrutinized. The psychologists were fundamental to the whole system. They provided and often devised the techniques. No system at present devised could be 100% perfect, but the selection of officer candidates during the second world war was done with an impressive margin of superiority over all other methods by similar procedures in which selection groups used the psychologist and in the case of the War Office the psychiatrist also. The National Institute of Industrial Psychology, which had specialized for twenty-five years in procedures for vocational selection, had supplied psychologists to the Admiralty and the War Office and to the Manpower Planning Department. The three psychologists at Stoke d'Abernon were all former members of the Institute's staff. A number of big firms, including Unilever, Imperial Chemical Industries, and the Phillips Electrical concern selected their intake of new people by these group procedures.

Lord CHERWELL repudiated the idea that the average mental level of students was lower than before or that the Universities were selecting the wrong people and training them wrongly, or that the old-fashioned methods of entry to the Civil Service by competitive examination should be superseded by the impressions of psychiatrists and professional interviewers.

Lord PAKEMHAM, replying for the Government, said the reconstruction examinations or competitions had been required

V.D. in R.A.F.—Mr. ARTHUR HENDERSON denied, on May 26, that any order had been issued at a conference at H.Q. 85 Wing B.A.F.O., in November last that medical officers who found members of the Forces suffered from V.D. should divulge their names and the nature of their disease to the commanding officer of the unit.

Discussion of Table
by change

In Northern Ireland the notifications of scarlet fever increased by 11 as a result of a general rise in the incidence of this disease.

The figures are given as follows:
 (a) The 120 administrative counties
 (b) London (administrative county)
 (c) The 10 principal towns in Eire.
 (d) The 10 principal towns in Great Britain.
 A dash — denotes no cases; a blank space denotes no return available.

	. 1948	1947 (Corresponding Week)
(a)	(a)	(a), (b), (c), (d), (e)
(b)	(b)	(b)
(c)	(c)	(c)
(d)	(d)	(d)
(e)	(e)	(e)

* Measles and whooping-cough are not notifiable in Scotland, and the
are therefore an approximation only
† Deaths from measles and scarlet fever for England and Wales, London
(administrative county), will no longer be published.
‡ Includes primary form for England and Wales, London (administrative
county), and Northern Ireland.
§ The number of deaths from poliomyelitis and polio-encephalitis for England
and Wales, London (administrative county), are combined.
¶ Includes puerperal fever for England and Wales and Eire.

COMING EVENTS

The Institute of Almoners

An extraordinary general meeting of the Institute of Almoners (Tavistock House (North), Tavistock Square, London, W.C.1), will be held at the Midland Hotel, Manchester, to-day, Saturday, June 5, at 2.30 p.m., when there will be an informal discussion on "July 8 and After" to be opened by Miss M. J. Roxburgh (teaching hospital), Miss J. M. Beaumont (municipal hospital), and a speaker from a public health department. After the business meeting Dr. Mary D. Sheridan will speak on "The Deprived Child."

William Withering Lectures

Prof. John F. Fulton, M.A., M.D., Ph.D., Head of the Department of Physiology, University of Yale, will deliver the William Withering Lectures in the Anatomy Theatre of the Medical School, Birmingham, on Monday, Tuesday, Wednesday, and Thursday, June 7, 8, 9, and 10, at 4 p.m. each day. His subject is "Functional Localization in the Frontal Lobes and Cerebellum, with Particular Reference to the Operation of Frontal Leucotomy." Members of the medical profession and students of medicine are invited to attend the lectures.

Research Defence Society

The annual general meeting of the Research Defence Society will be held at 26, Portland Place, London, W., on Tuesday, June 8 at 3.15 p.m., when the Seventeenth Stephen Paget Memorial Lecture will be delivered by Prof. P. A. Buxton, F.R.S., entitled "Tsetse Flies and the Development of Africa."

Faculty of Radiologists

The annual meeting of the Faculty of Radiologists will be held at Cardiff on Friday and Saturday, June 11 and 12. The programme is as follows: At Cardiff Royal Infirmary, June 11, 9.45 a.m. meeting of Fellows; 10 a.m., annual general meeting and admission of Fellows; 11 a.m., meeting of Diagnosis Section, discussion of "Pneumoconiosis in South Wales," to be opened by Prof. Jethro Gough, Dr. C. M. Fletcher, and Dr. L. G. Blair. A demonstration of apparatus will be given and pathological specimens shown to the Therapy Section; 2.15 p.m., meeting of Therapy Section, discussion on "The Treatment of the Leukaemias," to be opened by Dr. R. Bodley Scott, Dr. H. B. May, and Dr. J. S. Fulton. A demonstration on pneumoconiosis will be given before the Diagnosis Section; 7 for 7.30 p.m., dinner at the Royal Hotel. At the Institute of Engineers, June 12, 10 a.m., joint meeting of Diagnosis and Therapy Sections, discussion on "Cerebral Tumours," to be opened by Dr. M. H. Jupe, Prof. Dorothy Russell, Mr. Brodie Hughes, and Mr. J. Jackson Richmond. Further information may be obtained from the honorary secretary of the Faculty at 45, Lincoln's Inn Fields, London, W.C.2.

West London Medico-Chirurgical Society

Prof. E. N. da C. Andrade, D.Sc., Ph.D., F.R.S., will deliver the Cavendish Lecture before the West London Medico-Chirurgical Society at the Royal Society of Medicine (1, Wimpole Street, London, W.) on Tuesday, June 15, at 8.30 p.m. His subject is: "The Atom and Its Energy."

St. Bartholomew's Hospital

Barts men who practise in Gloucestershire, Herefordshire, and Worcestershire will hold their annual dinner at the Abbey Hotel, Malvern, on Friday, June 18, when Lord Horder will be the guest. Any Barts men in an adjoining county who wish to attend should communicate with Dr. J. S. Cookson, County Health Department, 35, Bridge Street, Hereford.

Royal Medical Benevolent Fund

The 112th annual general meeting of the Royal Medical Benevolent Fund will be held at the Medical Society of London, 11, Chandos Street, Cavendish Square, London, W., on Tuesday, June 29, at 5 p.m., with the President, Sir Alfred Webb-Johnson, Bt., P.R.C.S., in the chair. The statement of accounts for the year ended Dec. 31, 1947, will be presented and officials and committee of management for the ensuing year will be elected.

Congress in Prague

The General Assembly of the International Federation of Sports Medicine will be held in Prague as previously arranged on June 29, 1965, and the Seventh International Medical Congress of Physical Education will be held on July 1-5 in connexion with the Eleventh Sokol Festival. Visits to places of interest will be organized as required. Inquiries should be addressed to: Prof. MUDr. Jirí Král, Praha II, Vladislavova 15, Czechoslovakia.

A new hospital for epileptics has just been opened in the north-western part of the Ashdown Forest. Patients of the hospital are free to leave at 10 o'clock. Inquiries and applications should be sent to the National Association for Mental Health, 10, Bedford Square, London, W.C.1.

Captain H. J. O'M., R.S., M.B. 1890
Rt. Col. commandingarrison to
Mr. Walter Rowley
Howard's Hospital

RECEIVED

SOCIETIES AND LECTURES

Sunday

ONDON JEWISH HOSPITAL MEDICAL SOCIETY.—At Rose Hertz Hall, Woburn House, W.C., June 6, 3 p.m. "Some Clinical Entities Frequently Misdiagnosed," by Mr. Hamilton Bailey.

Monday

DINBURGH UNIVERSITY: PHYSIOLOGY CLASSROOM.—June 7, 5 p.m. "Medicine in Literature," by Dr. Douglas Guthrie.
ESTMINSTER HOSPITAL SCHOOL OF MEDICINE: MEYERSTEIN LECTURE THEATRE, Horseferry Road, London, S.W.—June 7, 5.30 p.m. Clinico-pathological demonstration. Discussion: "Whooping-cough."

Tuesday

BRITISH ASSOCIATION OF PHYSICAL MEDICINE.—At Hospital for Sick Children, Great Ormond Street, London, W.C., June 8, annual meeting, 2.30 p.m. Clinical Demonstration of Physical Medicine in Children, by Dr. F. B. Kiernander. 3.30 p.m. Discussion. At Royal College of Surgeons, Lincoln's Inn Fields, London, W.C., 5.30 p.m. Annual general meeting. 7 for 7.30 p.m. Annual Dinner at the College.
STITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—June 8, 5 p.m. "Occupational Dermatitis," by Dr. F. R. Bettley.

Thursday

STITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—June 10, 5 p.m. "Tuberculous Infections of the Skin," by Dr. L. Forman.
EST LONDON HOSPITAL, Hammersmith, W., June 10, 8.30 p.m. "Haematemesis and Melena: An Investigation of the Place of Surgery in its Treatment": First Alex. Simpson Smith Memorial Lecture by Mr. Norman Tanner.

Friday

ATIONAL HOSPITAL, QUEEN SQUARE, MEDICAL SCHOOL, London, W.C.—June 11, 5 p.m. "The Cerebellum Reconsidered" by Prof. John Fulton (Yale).
JYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS, 58, Queen Anne Street, London, W.—June 11, 2.15 p.m. "Accelerated Painless Labour," by Prof. N. C. Louros (University of Athens).
NIVERSITY COLLEGE LONDON.—At No. 1 Lecture Theatre, University College Hospital Medical School, W.C., June 11, 4.30 p.m. Holme Lecture: "Burns and Fluid Balance" by Prof. Oliver Cope (Harvard Medical School).

Saturday

RREY COUNTY MEDICAL SOCIETY.—At Milford Sanatorium, June 12, 3 p.m. Clinical meeting.

APPOINTMENTS

The Director of Medical Services is included in a list of officials who have been appointed Nominated Official Members of the Legislative Council of the Colony of Kenya.

SPAY, WILLIAM D., M.B., Ch.B. Clinical Tuberculosis Officer, Liverpool.
TWEART, A. B., M.D., D.P.H., Divisional Medical Officer, National Health Service.
SALLACE, W. H. S., M.D., D.P.H., Divisional Medical Officer, National Health Service.
ARWICK, NINA S. S. SEAFORD, M.B., Ch.B., D.O.M.S., Assistant Honorary Pathological Surgeon, Macclesfield General Infirmary.

BIRTHS, MARRIAGES, AND DEATHS

BIRTHS

um.—On May 24, 1948, at Victoria Hospital, Lichfield, to Joyce (née Iran), wife of Dr. A. R. Elsom, Burntwood Lichfield, a daughter—Ruth Margaret.
h.—On May 19, 1948, to Dr. Margaret Lush, wife of Dr. Brandon Lush, daughter.
Jellough.—On May 23, 1948, to Dr. and Mrs. J. K. H. McCullough, daughter—Elizabeth Jane.

MARRIAGES

ey.—Pearson.—On June 5, 1948, at Christ Church, Summerfield, Birmingham, Charles James Constantine Davey, M.B., Ch.B., M.R.C.S., L.R.C.P., son of Mr. and Mrs. W. E. Davey of Dordridge, Warwickshire, to Gwyneth Jane Pearson, M.B., Ch.B., daughter of Dr. and Mrs. A. S. Pearson, Gifford Road, Birmingham.
rison.—Myles.—On May 8, 1948, Dr. Leslie Gordon Morrison, M.C., to Dr. Aletina Myles.

DEATHS

ey.—On May 25, 1948, at Bampton, Oxford Thomas Ronald Davey, M.B., Ch.B., L.R.C.P., aged 62.
d.—On May 24, 1948, at Worthing Oliver Field, M.D. Ed.
—On May 27, 1948, at 22, Gladstone Place, Aberdeen, Frank Austin Gill, D.Aberd.
d.—On May 24, 1948, at Deal, Thomas Lyon, M.D. Ed., aged 66.
d.—On May 24, 1948, at Guy's Hospital, London, S.E., George Edens Efall, M.B., B.S., late R.A.F.V.R.
nair.—On May 26, 1948, at Avondale, Marple, Cheshire, Frank Gordon Macnair, M.D. Ed., aged 46.
—On May 21, 1948, at a private nursing home in Dublin, Louis Augustus Moran, L.R.C.P. & S.I. & L.M.
n.—On May 26, 1948, Sir George Newman, G.B.E., K.C.B., M.D., R.C.P., of Grims Wood, Harrow Weald, Middlesex, late Chief Medical Officer, Ministry of Health, aged 77.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Morphine in Obstetrics

Q.—What is the action of morphine on unstriated muscle generally, and on the uterine muscle in particular? What influence does morphine exert on the uterine muscle in the treatment of the following conditions: (a) threatened abortion; (b) placenta praevia ("expectant" treatment); (c) prolonged labour due to secondary uterine inertia caused by rigid soft parts? Does morphine even in full therapeutic dosage abolish or in any way modify, the contractility of the pregnant uterus?

A.—Morphine does not have a specific action on all plain muscle throughout the body. The organs whose muscle is said to be influenced are the stomach, small and large bowel, and the uterus. Its action on the alimentary tract is still subject to dispute, its well-known constipating effect being said to be due either to diminished peristalsis and to contraction of sphincters or to a generalized increased tone of the intestine associated with diminished contractions. The views of different authorities are contradictory, and it would seem that the effects may not only vary in different parts of the bowel but with the dosage. Whatever its effect, it is not known whether morphine acts directly on the muscle or whether it interferes with the peripheral reflex. In practice, however, it seems highly probable that morphine often influences bowel function indirectly through its action on the central nervous system. This is particularly true in the case of post-operative ileus, where the beneficial effect of morphine may well be due, in part at least, to the relief of anxiety, nervousness, and pain, which can be important aetiological factors.

There are again conflicting opinions on the effect of morphine on the uterus, but the balance of experimental work carried out on the human subject goes to show that morphine has no significant direct effect on expulsive uterine contractions associated with abortion, labour, or the puerperium. It does, however, reduce uterine spasm in labour and is therefore valuable in all forms of incoordinate uterine action. Here, too, its effect is probably explained by its action on the brain: by relieving pain and nervous tension it frees the uterus from the influence of an overactive autonomic system. More efficient action of the uterus and easier dilatation of the cervix, which are commonly observed when morphine is used in cases of inertia or of normal labour, are due to the removal of the inhibitory effects of the central nervous system rather than to any direct action on the muscle. When the obstetric condition is characterized by haemorrhage, as in placenta praevia or abortion, morphine is again valuable, but only because it induces comfort and quiet, which in turn favour haemostasis. If morphine does not inhibit uterine contractions and may, even indirectly, facilitate dilatation of the cervix, it might be argued that it is contraindicated in threatened abortion. This is not necessarily true, for morphine does not initiate dilatation of the cervix, and by ensuring mental and physical rest it helps to remove possible uterine irritants.

Parkinson's Disease

Q.—(a) Is the operation of division of the pyramidal tracts in the spinal cord of value in the treatment of Parkinson's disease? What are the indications and results?

(b) The fact that Parkinsonian tremor disappears when the patient is asleep leads me to ask whether hypnosis has ever been tried as a means of controlling tremor and, if so, with what degree of success?

A.—(a) This operation has been carried out on small groups of people with Parkinson's disease. It is too early yet to give an indication of its value, but there is no doubt that some patients with severe paralysis agitans have benefited. The purpose of the operation is to destroy the upper motor neurone, either in the cerebral cortex or in the pyramidal tract itself,

for the disturbance in paralysis agitans is caused by the pyramidal tract working in the absence of extrapyramidal control. It follows that a reduction in the disability caused by the Parkinsonism is in direct proportion to the degree of pyramidal hemiplegia. Because of this, the operation should be considered only in severe cases and preferably if only one side is affected.

(b) All abnormal movements arising as a result of disturbances of the basal ganglia disappear during sleep, but they return on waking, whatever may have been the nature of the sleep. The disturbances are in no way due to psychological causes and are not benefited at all by hypnosis.

Treatment of Ringworm

Q.—What is the most successful treatment for *tinea pedis* and *tinea cruris*? Is dithranol ointment safe in a 1% strength? Is it advisable to do anything about sterilizing clothes, shoes, etc., as was at one time recommended in the Middle East, and, if so, what method would you advise?

A.—*Tinea cruris* clears rapidly with dithranol, and a 1% strength is quite safe. Response to treatment of ringworm of the toes is more variable and depends upon the chronicity, the presence or absence of infection of the nails, the degree of secondary eczematization, climate, and other circumstances. Various treatments are appropriate to different stages. It is generally wise to use a variety of local measures at night, turn and turn about, among which dithranol ointment is valuable, as is carbol-fuchsin paint or:

Hydrarg. perchlor	..	..	..	..	0.5%
Brilliant green	..	..	..	..	0.5%
Spirit	..	..	..	..	ad 100
Make a paint.					

Various other newer fungicides may be used in the morning. The feet should be washed, thoroughly dried, and well powdered. It is wise to sterilize stockings and shoes with formalin and to avoid infecting bath mats, etc., by using slippers for bathing.

Treatment of Callosities

Q.—What is the best treatment for a callosity on the sole of the foot, opposite the second metatarsal head? The condition may persist for years, and paring, salicylic acid, and rings have little effect.

A. Callosities of the type described are commonly found in association with pes cavus, or with simple flattening of the transverse arch of the foot. There is impairment of the intrinsic muscles with consequent inability of the toes to exercise their important function of sharing the pressure of weight-bearing and walking with the metatarsal heads. Treatment should be directed primarily to the correction of the underlying foot defect. The function of the intrinsic muscles will often be much improved by a suitable course of physiotherapy. This should include intensive foot and toe exercises, and faradic stimulation of the affected muscles. It is important that the exercises be continued at home for an indefinite period.

These measures should in most cases be supplemented by the provision of a suitable support for the transverse arch of the foot. A "sorbo" metatarsal pad on the removable leather insole is satisfactory. The accurate placing of the pad is important: it should be beneath the necks of the central metatarsals 1/2 inch to 3/4 inch (1.25-1.85 cm.) behind the metatarsal heads. Paring of these callosities is unlikely to give more than temporary relief unless it is used in conjunction with corrective measures of the kind.

Mud Treatment of Rheumatism

Q. Has Putnam mud any special virtues in the treatment of rheumatism? Is there any British product of equal value? I should be grateful for any other information.

A. Putnam mud is the mud deposited at the mouth of the Putnam River, a Czechoslovakian spa, and belongs to the "Czech muds" which include muds of all kinds and peat. The mud is readily obtainable at most of the British spas. It is applied in conjunction with hot douching and is certainly beneficial in the treatment of rheumatism, but they are

not much used away from the spas. The fact that before war Putnam mud was readily obtainable on the market widely advertised made it popular. The action of poultices general as applied in the home is the same as that of any of mud, but special claims are made for alleged radioactivity in some forms of mud. There is as yet no scientific proof that such low-grade radioactivity has anything more than a counter-irritant action. Beneficial effects are more likely to be due to the moist heat and the mild pressure exerted by the pack, which aids the absorption of exudates and stimulates the circulation of the affected part. To obtain the full effect of such treatment a course at an appropriate spa is probably desirable.

Angioneurotic Oedema

Q.—A young man aged 19 suffers annually from hay-fever. He is normal in all other respects. For the past two years, after a course of injections for the hay-fever, he has had frequent attacks of angioneurotic oedema. Repeated examinations have not disclosed the cause, but I think it probable that the hay-fever injections have started the attacks. The only treatment that has had any effect is adrenaline injections, but these have been discontinued as the last one precipitated alarming anaphylactic shock. Belladonna, bromides, etc., have failed. Can you suggest any other treatment?

A.—In the absence of a discoverable cause, the best treatment is likely to be symptomatic therapy with one of the antihistaminic drugs, "antistin" or "benadryl." They should be taken as early in the attack as possible, and can be given prophylactically, especially if side-effects are absent or minimal. The first few doses of benadryl should be taken at home owing to the risk of their making the patient drowsy. Paragraph on "antistin" and "anthisan" with some comment in a leading article appeared in the *Journal* of May 8.

Pitressin in Hypertension

Q.—Is pitressin tartrate useful for lowering a high blood pressure, and is the reduction so obtained permanent? What are the rules governing its use? Are there dangers associated with its administration?

A.—The writer has never heard of pitressin tartrate and find no reference to such a substance. Pitressin tannate, a water-soluble compound, has been used, suspended in peanut oil, to control diabetes insipidus (Greene and January, *J. Am. med. Ass.*, 1940, 115, 1183). The effect of pitressin on the blood pressure in man varies considerably. Melville and Stehle (*Pharmacol.*, 1931, 42, 455) showed that the fall in blood pressure produced by pitressin is not due to vascular dilatation but to the constrictor effect on the coronary vessels leading to the inability of the heart to maintain the blood pressure. For this reason it should never be used in an attempt to lower the blood pressure.

NOTES AND COMMENTS

Antrum or Anatomy.—Mr. DESMOND W. CONWAY, Golden Square, W.1, writes: May I draw attention to a possible misprint in the *Journal* of May 29, which concerns the report of Dr. Julius Lempert's lecture (p. 1045)? He is quoted as saying that his second reason for his use of magnifying glasses, while performing a mastoidectomy, is "you will see for the first time how beautiful the antrum is." I think it should read as "... how beautiful the anatomy is" (of mid-ear). Any otologist performing a radical mastoidectomy will delight in the anatomy of the antrum, but not for reason of its beauty.

Correction.—In our obituary notice of the late Captain E. C. Watson, D.S.O., R.N. (May 29, p. 1054) the phrase "at the close of the war" in the fourth paragraph should have read "at the close of the day."

All communications with regard to editorial business should be addressed to the EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: Advertiser Western, London. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal*. Authors desiring REPRINTS should communicate with the Publishing Manager, B.M.A. HOUSE, TAVISTOCK SQUARE, W.C.1, on receipt of proofs. ADVERTISEMENTS should be addressed to the Advertisement Manager, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1 (hours 9 a.m. to 5 p.m.). TELEPHONE: EUSTON 2111. TELEGRAMS: Drilledadad, Western, London. MEMBERS' SUBSCRIPTIONS should be sent to the SECRETARY of the Association, EUSTON 2111. Telegrams: Mediterra, Western, London. B.M.A. SCOTTISH OFFICE: 7, Drumshugh Gardens, Edinburgh.

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY JUNE 5 1948

British Medical Association

SPECIAL REPRESENTATIVE MEETING THE PROFESSION ADVISED TO CO-OPERATE

ANIMATED DEBATES

The Special Representative Meeting, summoned on the requisition of the Council to consider the results of the April plebiscite and the consequent recommendations of the Council as to co-operation in the new Service, was held in the Great Hall of B.M.A. House, London, on Friday, May 28. Dr. J. B. Miller, of Bishopbriggs, presided, supported by Sir Hugh Lett, Bt., President of the Association, Dr. H. Guy Dain, Chairman of Council, Dr. J. W. Bone, Treasurer, Dr. E. A. Gregg, Deputy Chairman, and the chief officials of the Association.

The first hour of the meeting was occupied with discussion on the order of the agenda. Dr. Cove-Smith (Marylebone) proposed that a number of motions critical of the Council, at least one of which called for the Council's resignation, should precede the discussion on the main recommendation of the Council—namely, that on certain understandings there should be co-operation in the new Service. This was opposed by Dr. R. W. Cockshut (Council) on the ground that if this course was agreed to, and the resignation motion were carried, it would immediately take effect, and there would be no Council to present the recommendations to the meeting. To do as Marylebone wanted would be to enter judgment before the evidence was heard. Another member of the Council, Dr. F. Gray, considered that when votes of censure were proposed they should be taken immediately. "I am one of those to be shot at, and I invite you to start shooting straight away." Dr. Dain said it was the crudest suggestion he had ever heard that "you should sack the cook before you have tasted the soup, or at any rate the fish." As Chairman of Council he was prepared to put the case for the Council to the meeting, but if the Council was going to be censured in the first instance it would be impossible to proceed. Dr. Cove-Smith said he did not want to turn the Council out: he wanted to get the information which the profession desired concerning the actions of the Council.

The motion to vary the agenda in the sense desired by Marylebone was lost, 110 voting in favour and 175 against.

Dr. P. C. McKinley (East Yorkshire) moved to request for full information as to how individual members of Council voted on the decision to take the April plebiscite and to advise the profession to co-operate in the Service. It would be wrong, he said, to judge the Council for its precipitate action without first finding out how its members voted. It was only fair to the Representative Body that it should know what led the Council to take this course, and fair also to those members of the Council who would otherwise be wrongly included in the censure.

Dr. Dain said that no record was kept of the voting of individual members, and it would be impossible to give the information desired. What the Representative Meeting wanted to know was what led the Council to make the recommendation which was before the present meeting, that the profession

should be advised on certain undertakings to co-operate in the new Service, and if only representatives would get rid of these preliminary "frills" and get down to business it could be explained to them.

The East Yorkshire motion was lost overwhelmingly.

The April Plebiscite

Dr. H. Guy Dain (Chairman of Council) moved to receive the statement of the results of the April plebiscite.

In doing so he said that it had been the policy of the Representative Body that in matters of the Health Service the responsibility for decision should be placed on the whole of the individual members of the profession. That principle had been maintained throughout the whole course of this very tiresome, prolonged, and awkward negotiation which had been taking place over several years. In order that the responsibility might be placed upon the individual members of the profession for the decision at the moment they must be asked from time to time for a plebiscite. During the last four or five years there had been a constantly changing position, and the Council would be a stupid and unreasonable set of people if they had not been prepared to ascertain the opinion of the profession in the light of the changes which were taking place. In February last the Minister had refused to budge in any way from the Act which had been passed. Most of their time was taken up last year in what proved to be fruitless discussion with the Ministry. Then the February plebiscite was taken and the result was a 10 to 1 majority disapproving of the Service and a 6 to 1 majority against taking part in it. The Minister then began to consider a way out of the deadlock. He made a statement in the House of Commons in which he endeavoured to deal with one of the profession's chief anxieties and promised an Amending Bill which would diminish his own unlimited powers in several directions, the most important being that a whole-time salaried service could not be introduced by Regulation but would require further legislation. The Minister also offered to set up a legal committee to deal with the partnership question, which he had previously refused to consider. He modified his position with regard to the compulsory basic salary, and said that this should now be a matter of option. He also agreed that there should be free publication, not only as to professional matters but as to criticism of the Service. These were very important modifications, and therefore the Council said, "The Minister is moving. Let us see what we can do about it." The Council devised a series of questions which were put to the Minister and his answers were obtained. From these they got further information on the position of specialists, their ability to continue in their appointments, their non-liability to compulsory transfer from one hospital to another, the continuance of private beds, and the fact that there was to be no monopoly in hospitals, the Minister having already excluded 200 of them and not proposing to take over private nursing-homes.

There were important statements to get from the Minister. Another assurance of his was that the medical members of management committees of hospitals would be full members with power to vote. He also agreed that all Regulations to be made under the Service should be submitted to the representatives of the profession in draft before they were put on the table of the House of Commons. The Minister said that the Medical Practice Committee's duties would be limited to discovering which were over-doctored areas, and that in the rest of the country any doctor would be free to start if he wished. This had modified the position with regard to direction very materially. He had agreed that they should be free to choose their partners and assistants and arrange the duties of their practices. He (Dr. Dain) agreed then, as he did now, that the position did not sufficiently safeguard the freedom of the profession, but it was a new situation. The discussion which took place in the Council was not unanimous, and there was a feeling in some quarters that the Minister had made such modifications as would enable acceptance of service to be considered. On the other hand, there were those who thought that the concessions were not sufficient. What were they to do? The Council drew up a Report which stated fairly what the Minister had offered and what he had not offered, and, after putting this before the members of the profession, thought the proper thing to do was to ask for their opinion by another plebiscite. This was coupled with the statement that in the view of the Council these modifications, while they registered progress, did not sufficiently safeguard the profession's freedom.

It had to be discovered what the members of the profession thought of the new situation and of the value which was to be attached to the Minister's offer. The Council did not take the responsibility for the final decision as to entering the Service, and the plebiscite accordingly was taken.

All that he asked the meeting now to do was to receive the results of the April plebiscite. Criticism had been made of the speed with which that plebiscite was taken, but the Council was of opinion that there had been talk over this matter for so long and in such detail that every member of the profession was in a position to answer the simple question without requiring several weeks to think about it. Therefore an immediate answer was requested.

The results of the plebiscite were before the meeting. A long time ago it was decided that the profession would not be asked to refrain from taking part in the Service unless at least 13,000 general practitioners agreed to stay out. The results showed that the division of opinion in the Council was reflected in the plebiscite figures. The previous majority had diminished so that only 9,500 general practitioners voted against joining the Service. This number was significant of the fact that the offers of the Minister at that time did not satisfy a large proportion of the profession but they as a Representative Body had been placed in a very difficult position because, although the majority which they themselves had laid down was not obtained, the guarantee that had been given to the people must be implemented, namely, that they would not be held to their vote if there was not a sufficient number against service. The resolution of the Council had suggested co-operation on conditions, and they thought when they saw the second plebiscite figures that it was desirable to see how far they could get. After the Minister's first statement in April they obtained further modifications, and they went to the Ministry for further talks, the result of which was embodied in the letter from Sir William Douglas which had been circulated.

"Premature Action"

Dr. Mona Mientaghton (Newcastle-upon-Tyne) moved:

That the Council's action in calling for a third plebiscite so quickly after the second one was premature and indicated approval of the previous action which had been offered, and prejudiced the voting. It was therefore proposed that such a step should only have been taken after a Special Representative Meeting.

On the occasion of the February plebiscite the profession were given a fortnight to consider the offer which was presented to them. On the occasion of the April plebiscite, after a very long discussion, resolved to accept the offer. The previous plebiscite had been held by the Representative Body, and the Council in

making such a decision on its own incurred a great responsibility. Within five days the plebiscite papers were in the hands and had to be returned within ten days, which meant very little time was given to arrange meetings or to discuss with other members how much the Minister had conceded, whether what had been given was no more than a "pig in a poke." This hasty decision to take the plebiscite was interpreted as meaning that in the Council's view the Minister had given the profession what it required. The plebiscite forms were sent out and the only lead given was in a single sentence to the effect that in the Council's view the freedom of the profession was still not sufficiently safeguarded. The taking of the plebiscite should have been left to the decision of the Special Representative Meeting.

Dr. H. H. Goodman (Newcastle-upon-Tyne) said that Dr. Dain seemed to imply that the precipitate action of the Council was due to a changed situation which suddenly confronted it. At the previous Representative Meeting his Division tried to bind the hands of the Council more or less; it asked that there should be no retreat on the principle of retaining the right to buy and sell practice, and Dr. Dain had replied that priority should not be given to any single one of the principles and that they stood or fell by all of them. But the Council had broken this undertaking. The April plebiscite was a tactical error of the greatest magnitude and not justified by the meagre concessions which the Minister had made. The plebiscite had thrown the rank-and-file into complete confusion, and the lack of unity in the Council itself was reflected in the vote of the profession. The plebiscite had split the profession far more effectively than Mr. Bevan could have dreamed of doing. The Council threw away every vestige of leadership when it decided to take the plebiscite. It did not even take up a neutral attitude; it embarked upon an active policy of appeasement, as shown in the leading articles in the *British Medical Journal*. What else could the Council expect but the complete liquidation of the majority obtained in February? The action of the Council was precipitate and unnecessary, and he believed it was *ultra vires*.

Dr. J. C. Arthur (Gateshead) said that as a member of the Council he had spoken against the urgency with which the plebiscite was taken. This could only be excused on two grounds: (1) that the profession was fully informed of the position, and (2) that the Council was aware of a great change in professional opinion following the Minister's statement. The profession was not fully informed. Up to January of last year the Minister gave away nothing. Then, when he was threatened with the big stick of a medical boycott, he agreed to discussions on Regulations. Within a week of the starting of these negotiations it was obvious that he had no intention of amending the Act. The February plebiscite gave the big stick again into the hands of the profession, and the Minister promised to amend the Act. The Council's action in calling for the April plebiscite at once gave the impression that some dramatic change had taken place. He agreed that it was necessary to hold the plebiscite, but it was held prematurely. There should have been more time to explain the issues to the profession. They should have held on longer, perhaps not with an expectation that all their demands would be met, but at least to make sure that the Minister did not repeat his performance of last year and go back on his promise.

Dr. I. G. Innes (Hull) said that they seemed to have run away and lost all their gains. In his view the result of the April plebiscite was not a true one at all.

Mr. N. Ross Smith (Bournemouth) said that in his Division the decision to hold the plebiscite was regarded as one of a number of actions which had compromised the profession and had prejudiced the final decision. It was made public even before the Council's representatives met the Minister that another plebiscite would probably be held. The action of the Council in calling for a plebiscite might have been constitutional, but it was a gross blunder and failure of duty. The Council had forgotten its obligation as an executive body of the Association to maintain the Association's principles and policy, and had been willing to allow the profession to be compromised into acceptance of this Act.

Dr. P. J. Gibbons (Council) said that when he was elected to the Council last July he felt it was a position of trust both to the Representative Body and particularly to the doctors of

SPECIAL REPRESENTATIVE MEETING

erpool and Lancashire who had elected him. He had done
 utmost to fulfil his trust. They had all regarded the result
 the first plebiscite as a great victory, and in response to it
 id to public opinion the Minister, an astute politician and a
 an of first-class endowments, made a statement in the House
 Commons which seemed to indicate that a compromise might
 possible. A group of members who had met the Minister
 Health made their report, and, while he himself was not
 satisfied that they had got all they were fighting for, he felt
 that they had caused the Minister to move a considerable dis-
 nce on the road, and he for one had no hesitation in making
 p his mind that the April plebiscite was immediately neces-
 ary. He had been impressed by the relatively small response
 to the Independence Fund. If doctors all over the country
 meant what they said the least they could do was to back up
 their protestations with hard cash. The Council was entitled
 to ascertain what change, if any, had occurred in the feeling
 of the profession following the Minister's statement
 Dr. R. T. G. Craig (Newcastle-upon-Tyne) said that they had
 nce again been out-manœuvred and mismanaged. The majority
 f doctors in his area had signed the bond, but immediately
 he results of the April plebiscite were announced a change of
 feeling took place. In the neighbourhood in which he prac-
 tised there were 11 doctors who had been unanimously against
 acceptance, and now there remained only himself. The
 partners, and three others who were sticking to their bond. The
 making of the plebiscite had prejudiced the vote and the action
 of the doctors.
 Dr. E. A. Gregg (Deputy Chairman) said that only one issue
 was involved in the motion—namely, whether the action of the
 in the plebiscite was wise. He held that it was. A great deal
 had been done. The fact that the

Dr. E. A. Gregg (Deputy Chairman) said that only one issue was involved in the motion—namely whether the action of the Council in taking the plebiscite was wise. He held that it was the only thing that could have been done. A great deal had been said in this connexion had its origin in the fact that the result of the plebiscite was one that some of them did not like. He himself did not like it, but he was glad to know the facts. At the time when the Council made its decision, at every post office in the country there was a mass of literature placed there by the Ministry ready for release. Amongst it was a document to which they took the strongest exception, telling members of the public to go to their doctor and ask him whether he was going into the Service, and, if he was, to request him to put them on his list. It was of the utmost importance for the Association to get in contact with the doctors before that literature descended, and to get a decision from them with regard to their attitude. "Don't treat the profession as capable of children—they were the most intelligent people and a handful of judgments and at the next as if they were a handful of children." There it was staring them in the face that if the vote of 13,000 was secured they would fight. He himself wanted to fight, but he wanted to know who was fighting with him; that he was not marching on a forlorn hope. He trusted that meeting would not be so foolish as to start censuring the Council, first asking them to take responsibility, and then, when they had done everything in good faith and with the greatest possible wisdom in the circumstances of the moment, censure them for what they had done.

Mr. Woodhouse (Harrow) said that the taking of the Plebiscite was a mistake, and that in the opinion of the Council it was a discreditable business. He considered opinion in the February of 1917 was not a very honourable position to stand

Dr. Woodhouse (Harrow) said that the taking of the April plebiscite suggested that in the opinion of the Council the doctors, who had given their considered opinion in the February plebiscite, were not sufficiently men of honour to stand by their word.

The Newcastle
of the Council in ca
by 167 votes to 148

48
RECOMMENDATION A
Acceptance of Ser

RECOMMENDATION
Advice on Acceptance of Service
Council proceeded to move the first of the

That, despite the importance of the safeguards to the profession's freedoms and the necessity of a substantial section of the profession, the Representative Body should be made available to interest a comprehensive health service should be made available to the community, is prepared to advise the profession to co-operate in the new Service on the understanding that the Minister will continue negotiations on outstanding matters, including terms and conditions of service for consultants and specialists, general practitioners, public health officers and others.

Dr. Dain's Statement

Dr. Dain's Statement

Dr. Dain said: This is really the important business of to-day. You are invited to consider co-operating on conditions. The plebiscite figures showed that the majority which you had established as necessary was not attained and therefore you are not in the position to-day of being able to say whether or not you will recommend the profession to enter the Service. You have had that decided in advance. You cannot go back on your undertaking to the people who signed both plebiscites that unless 13,000 general practitioners agreed to stay out of the Service you would not hold them to their vote against coming in. The issue of continued opposition to entrance to the Service cannot be taken up by you to-day in view of the plebiscite you have given. You are thus saved from making a very important decision and I hope this meeting is saved a lot of trouble as to the action to be taken.

Following the plebiscite with its insufficient majority to decide what it was to say to you. It had to say that it did not even attain a majority for co-operation in the Service.

Following the plebiscite with its insufficient majority the Council had to decide what it was to say to you. It had to say that the majority set out had not been attained and we recommend that there should be co-operation. But co-operation must depend on further consideration by the Minister and his officers of the points which have not been dealt with up to now. There is still as shown in the April plebiscite a substantial minority against accepting service. The Council therefore should continue to send a body of its members to the Minister to persuade him that there was so grave dissatisfaction with the position that what would be the final position which must be accepted to-day. The result of those conversations has been circulated in a letter from Sir William Douglas which has been a practical people every member of this body and now we as practical people must turn up the situation.

There is no doubt that whether the action of the Council in taking a plebiscite was premature or not a large number of practitioners are sufficiently satisfied with the action to accept service. In the resolution of the Council the Council stated that the safeguards of our freedom were not sufficient. Speakers to the previous resolution in the Council had said that the Council has given way. We are said to understand that members of the profession could real and responsible for the printed word. I disclaim entirely any responsibility for the Council having influenced people to go into the Service in advance of the decision of the meeting. Whether it is our duty to attempt to sum up the situation and to say that it is our part to take a fundamental position, whether it can be satisfied that the conditions are safeguarded. I myself voted on April 19th.

I want to sum up the situation and to say that it is our duty to consider the fundamental position, whether we take part in the Service under existing conditions or we can be satisfied that our proper professional freedom will be safeguarded. I myself was quite dissatisfied with the position as expressed on April 1 and following the Council meeting I expressed my opinion quite forcibly in a speech at Shrewsbury to the effect that we were not safeguarded. I was taken seriously to task about it—ones of whom were members of the Council who said I was not expressing the Council's policy and I made a further statement in which I said that I was in favour of the Council's policy and that policy as expressed in what went out with the placard form was that we were not fully safeguarded.

Points which have been Gained

Points which have been Gained

Since then we have made progress. We have succeeded in limiting the Minister's powers and in securing a number of professional freedoms. Let us look on the debit and credit side. What we were most afraid of was the Minister's overall power. He has now agreed to an Amending Act which will limit his powers in creating a whole-time salaried service. This can only be done by fresh legislation, not by Regulation. He has agreed that we shall always be consulted about Regulations and be able to put in our protests before such Regulations are made. I may remind you that, with one exception, which was duly apologized for, for 30 years the Ministry of Health has always dealt with us fairly in the matter of National Health Insurance. Suggestions have been made that we should try to get a particular body to "vet" the Regulations. We have considered that, but we think it is safer that they should all be referred to us in the first instance instead of our having to give evidence to an outside body. In that one particular respect we have obtained a great deal to safeguard our freedom of speech and writing. We have got the right to freedom of speech and writing properly safeguarded. This will be in the terms of service so far

We have got the right to freedom of speech and writing properly safeguarded. This will be in the terms of service so far

consultants or specialists are concerned, and as for general practitioners there will be nobody to interfere with their freedom in that respect. We have talked with the officers of the Ministry and the Minister himself since the Council meeting and we have now reached a position in which the basic salary as a principle has disappeared. The Minister has moved from the position of compulsory basic salary to a voluntary one and we have now agreed that the voluntary basic salary shall be subject to such limitations that it does not offend our principle that we should not be paid by salary.

On the subject of direction we cannot persuade the Minister to put off the action of the Medical Practice Committee, but we have an agreement that that Committee will be able to nominate a few areas which are over-doctored—and who wants to practice in an over-doctored area I do not know—and for the rest the practitioner can set up wherever he likes. We have got now to the position that the Medical Practice Committee will have no power to interfere with anybody starting in practice wherever he likes unless it happens to be in one of those few nominated areas. In fact, therefore, we have obtained the right of the practitioner to take part in the Service wherever he wishes.

Then we have succeeded in discovering something about the conditions which help the consultants' position, and I understand that there is now prepared or in preparation a temporary contract which will deal with the conditions of service but will allow for modification as to remuneration when the Spens Report has been considered. The remuneration will then be indicated to July 5.

We have not been able to alter the Minister's intentions in any way on the question of abolition of goodwill in practices. He is perfectly adamant about it, and we have had no support on that point in Parliament or from any political party. Moreover, many of our own people do not seem to see the importance of it. What we have tried therefore to do is to see how far we can get round this point as well. We have said to ourselves, "What is it that we own when we own goodwill?" We own the right to choose our partners and assistants, to arrange our work with one another, to say who shall succeed us, and to arrange the performance of our duties. The Minister has agreed that we may do all this so long as money does not pass which is in the nature of payment for goodwill. I agree that that will not completely protect us when the Ministry are in charge of the Service, but it has gone a long way to provide for the freedom which I think it is essential we should have before we can join the Service.

We have also been able to attain by argument an important modification in the position with regard to the midwifery service. We have now got it established that any practitioner, whether or not a doctor, but or not may attend his State patient who is on the list if he and she both agree that he should do so. The conditions will not be the same for the man who does not go on the list as for the man who does, but we have practically got rid of that provision in the Act which gives the Minister power to nominate the qualifications of the practitioner taking part in the Service.

The Minister has agreed to put it into the Act that the Executive Council shall elect its own chairman. He has also agreed that a compulsory levy shall be available for the expenses of local medical committees. He has set up a legal body which is to clarify the partnership position, and we cannot get the Amending Act into draft form until we have the report of that body. We have also explored the compensation position. The Minister has agreed that if substantially more than 17,900 practitioners join the Service the amount of compensation annually, £66,000,000, will be increased.

We have failed to the remuneration of general practitioners. We have not agreed to the betterment factor. The Minister has said that when the Service starts on July 5 we can immediately go to the Whitley Council which will be set up to consider general practitioners' remuneration this matter of the betterment factor and the implementation of the Spens Report. We have agreed to go to the present conditions as set out in the Spens Report unless we can prove to the Whitley Council that we have a better one.

We have also agreed to the right of appeal to the courts, but on the subject of the betterment factor we have not succeeded either in

getting rid by agreement of the difficulties which confront us or of modifying them in such a way that they will be practically non-existent. What we have to consider to-day is what we have in mind the progress we have made, our freedoms sufficiently protected. My view is and always has been that should not go into the Service if our freedoms are not sufficiently protected, and I was opposed strongly to going into the Service. But in view of the modifications which we have obtained during the last few weeks I believe we are sufficiently protected to be able to say to the profession that we only can we co-operate in the further negotiations but that the safeguards we require have been effectively secured. (Applause.)

That position did not hold on April 7 when we held a Council meeting, but it does hold on May 28. I know that there is a lot of doubt and fear lest the promises made by the Minister or his officers may not be implemented. But however much we may have been upset and disturbed by the attitude or remarks of the Minister in the past, we have to remember that what we have now is a Government guarantee that an Amending Act will be produced. It is not just a statement of the Minister, but an agreement with the Government, and whether we approve the policy of the Government or not, it is a British Government and we can rely upon its good faith. I do not want to see a new Amending Act produced too quickly. I do not want it to be brought forward until we are quite certain that it provides for all the things for which it is intended.

The Position To-day

I wonder what, if we took another plebiscite at this moment the figures would show. I think there might be a further increase of opinion in favour of service. We do know of large numbers of doctors who are signing on in the Service, large numbers are waiting for the result of to-day's meeting before they themselves take action. They are loyally abiding by their obligation. The obligation placed upon members who vote "No" in the plebiscites to stay out of the Service is, of course, abrogated by the figures of the April plebiscite.

We have obtained a great deal by the open battle method and a good deal more by the "guerilla" action since. For myself I was extremely disappointed over the change of attitude which took place after the Minister's statement in Parliament because I thought that statement left the position very incomplete and that our freedoms were not safeguarded. I was never so disappointed in my life as I was when the figures of the April plebiscite came in. I do not know how the change arose or why it arose except that there were among us a large number of people who were prepared to fight until something had been gained and, having once, so to speak, beaten the Minister on a particular point, were not prepared to wait to see whether the whole of their principles could be satisfied. Somebody has remarked this morning that at the last Representative Meeting I said that we were not going to bargain or to put our principles in any order of merit. I would remind you that we have not given up anything; it is the Minister who has given up all the time.

Are the things that have not been given of outstanding importance? Are they such as would prevent us from taking a proper place in the Service? I am old enough to recall the circumstances of 1911-12, and I foresaw when this controversy began that we should be in exactly the same position as the profession were then. In the end we got all our principles established vis-à-vis Mr. Lloyd George and then we divided ourselves on the subject of money. At that time and after that there was a great split in the profession—a split which had not been foreseen. I put it to you to-day that it is for you to foresee it. We have amongst our members all types of practice and all shades of view. There are those who from the beginning have strongly opposed this Act although in favour of a comprehensive Health Service. There are others who have strongly opposed the Act and would not take part in the Service under any conditions. When the position of those who wish a comprehensive service is satisfied or sufficiently satisfied then they are left with a cleavage of opinion, which began to appear at the Council meeting, between those who did not want the Service at all and those who were satisfied that the Service was now such that we can enter it. We have to face that position and we have to bear in mind the interests of those who are not

I hope that this discussion will be free from emotion, that we discuss without passion the merits of the situation. We are a responsible body of business people looking at a particular problem, and when members speak and speak vigorously on either side I want them to have at the back of their minds the weight of the representation behind them. It would not be reasonable for a representative from any Division to come and speak fiercely either for or against the Council's resolution if he has behind him only the opinion of a meeting of 50 people. In his Division numbers 500 members. He must know that if he determined views he is prepared to express have the support of the majority of the people in his Division. Many representatives will have got their instructions from small meetings (and now that meetings have been very much smaller lately) and the chairman of my own Division took the trouble to ask each member of his Division on a reply postcard whether he would approve or not of the Council's resolution which I am now bringing, and I may say that the result was strongly in favour of the resolution. We are not in a position to continue collecting opposition in view of the non-attainment of the required majority in the recent plebiscite and therefore we have to consider what is the statesmanlike attitude to take in view of this. I have tried to set before you a loud applause.

Co-operation only on Conditions
T. W. Morgan (Kingston-on-Thames) moved as an amendment to the Council's recommendation that the Representative Body, anxious as it was to a health service made available to the community, is prepared to advise the Commission to co-operate in the new Service only on the condition that the rights of continued discussion on outstanding matters involving the terms and conditions of service for consultants, specialists, dentists and other professions, public health officers and others are conferred, and acceptable to all sections of the profession and in accordance with suggestions by Council as issued in the British Medical Journal of May 1, 1948.

...and acceptable to all concerned. The suggestion was made by the Council of May 1, 1948.

The position was that they were now about to enter a service in which they knew very little. The night so far had been of matters of principle, they had now heard from the Chairman of Council that so far as principles were concerned they could enter the Service with a comparatively easy conscience. But there were a number of other things the profession desired, and now before it committed itself. Very little was known about the terms and conditions of service for the consultant and specialist. In the February pamphlet they were anxious to know whether the consultant and specialist group would support the general practitioner, which they did. Now the consultant and specialist group were asking for general practitioner support, and it seemed only decent to give them the support they needed at this stage. He begged them to enter the Service until they knew the whole story, as the Service embodied in the Amending Act. Were the support of his day that the Minister was going to have the support of his back benchers for his amending legislation?

Dr J. Kennedy (Hampstead) said: "I do not think that the appointment day" should be postponed until the amending legislation had been agreed and until the terms and conditions of service of consultants and specialists and of other matters which were still the subject of negotiation had been settled to the satisfaction of the Association. No one could be expected to sign a contract until, even in detail, the consultants and specialists, would certainly hesitate before accepting service with the conditions and terms of service in a nebulous state. Mr. Bevan was using the big stick of refusing compensation if members of the profession did not sign by July 5, yet he said they were free to join or remain out of the Service as they wished. "The danger we form a trade union the better we are to get fair

Lord Horder's Criticisms

Lord Horder (Marylebone) said that Marylebone had put forward an amendment similar to the one moved by Kingston-on-Thames, and was quite unanimous about it, and if he might judge from the letters and telegrams he had received during the last few weeks it voiced the views of a large number of members of the profession. This was not surprising because after all, in the last plebiscite 64 voted against acceptance of service. The Council's resolution hardly did justice to this large body of "not-content" by the use of the quaint phrase "a substantial section of the profession." One did not usually employ the phrase "a substantial section" for a number which was greater than half.

This amendment merely repeats the view taken by the profession in the February plenary. We think the time has still not yet arrived. The reasons for the change in the figures of the two plebiscites have been fully discussed, but they remain somewhat of a mystery. On April 18 the Chairman of Council said at Shrewsbury. You have the opportunity of standing fast in the position you took up at the last plenary. But a few days later the *Journal* printed a longer speech. Dr Dain in which he said that his Shrewsbury speech seemed to have caused some misunderstanding in the profession. Actually, of course, the very fact of taking this precipitate plenary suggested to the profession as a whole that in the minds of the Council the so-called concessions of the Minister were of great importance.

What did happen during those few fearful days? When I made the Chairman of Council sit his words: "For the first time this morning I have heard an explanation when Dr. Dain with his customary honesty and frankness told us that he had been greatly influenced by letters sent to the Journal which have never been published. One letter which went to the Journal over my name and 26 others was treated as put stuff."

Journal over my name and so changed his name into Dr Dain; that letter was not purchased. I learned that some letters changed his name. Whatever the reason, the change was made to lead to doubt and confusion and the result of the purchase, of course, showed that the named unit of the profession no longer existed. I am not cheered when Dr Dain says that up to now we are all together. It would not help me or all of us together if we were not. I would rather be alone and swim. A few people are swimming are more useful than a crowd of people who are not. Was it not a waste of time and money to have so much attention paid to the past in the past? Was it not a waste of the general public's time and money to have so much attention paid to the past in the past?

[illegible]

The turning question which surely, as in the minds of them all, as whether the situation could be retrieved. In Maryland, many thought that the men and women who were signing on daily as the Chairman of Council had said, were signing for economic reasons and from motives of fear, especially the fear that they might lose their compensation. They had not been told what will-o'-the-wisp it was they followed when they signed on. The economic benefits to the general practitioner became more and more illusory the nearer they got to the "appointed day," and consultants and specialists had not even begun to envisage their terms of service. If the Council had become defeatist it could not do any work of this kind. The position was really pathetic. Even that old stalwart, Alfred Cox, to whom the Association owed so much in the past, and who had written him encouraging letters, "was suddenly induced to turn round and run with the rest."

"We do feel" (Lord Horder continued) "that the Council has acted, and in this set of resolutions is proposing to act, past its mandate. It had a mandate not to accept service if more than 13,000 said 'No,' but it had no mandate to tell the doctors to accept service if that figure was not reached in the last plebiscite. The resolutions of Council taken together are surely quite illogical. They say that a substantial section of the profession—more than half—is against accepting service: they say it is a rotten service anyway, but 'let's go in.'

"Where do we go from here? This amendment protests against the present situation. It asks that the *status quo ante* should be restored. It calls on the Representative Meeting to arouse itself and resume the fight. Resistance will grow, and, like all resistance movements against defeatism, it will eventually succeed. The Representative Body is the Association. It should be the Representative Body here and now which initiates its own resistance movement. Resignation from the Association is not going to help us. The setting up of new bodies will not help us. At the last Representative Meeting I moved a vote of confidence in the Association—I did not say in the Council—but the Representative Body can let the Association down; it can let the profession down; it can let the public down, and very badly. I plead for the acceptance of this amendment so that none of these things can happen and we may once more present the solid front that we had last February." (Applause.)

The Plebiscite Justified

Mr. R. L. Newell (Council) said that the February plebiscite showed in no uncertain manner the strength and solidarity of the profession. The whole of their forces were mobilized, and the result was unprecedented. The Minister of Health had to seek a vote of confidence on an Act of Parliament while the plebiscite was being taken. During that disgraceful debate the Minister said many hard things against the Association, but after the result was known he made an impeccable and conciliatory statement in the House and offered not inconsiderable concessions. This found favour on all sides of the House and in the responsible Press. After that statement he, Mr. Newell, proposed in Council that an immediate plebiscite be taken. He knew what effect that statement would have. He admired the clinical acumen of Lord Horder, but he feared that his diagnosis had been warped by the acute symptoms developed in the Marylebone Division. How well justified had been that plebiscite! They had had other facts to go upon. Following the Minister's statement the contributions to the Independence Fund dropped, and some Scotsmen even asked for the return of their contributions. Doctors began signing on for the new Service. Instead of the 17,000 general practitioners who voted "No" in February only 9,500 did so in April. If as a Council they had advised continuing the fight without having that information would they not have been fighting a losing battle?

What was the present position? They could not advise continued opposition, and indeed they had promised not to do so if the majority of 13,000 was not reached. Even if they did so advise it would only mean a repetition of 1911-12. It would place those general practitioners who accepted the Association's advice in danger of loss of capital value.

The Council have decided to recommend co-operation in this Service. There are certain alternatives. We can do nothing

which would be disastrous. We can ask you to co-operate under certain conditions, this would really amount to the issue of a direction for which we have no mandate. It is with some reluctance that I have reached the conclusion that continued opposition would not be successful, and we must be satisfied for the present with the concessions we have obtained

and they are not inconsiderable. We must prepare ourselves for the struggles which lie ahead. Let us face these facts with courage. If we are to co-operate in this Service let us do it with good grace, remembering also that the strength of that negative vote can be used most effectively in the many and important negotiations which lie ahead. The maintenance of a strong Association and a united profession, to my mind, transcends all other issues. I should be distressed to see the disruption of this Association. We have learned what we can achieve by these means, even if to some of you those achievements are not enough. We must stand together and strengthen the only representative body of the profession—the British Medical Association. I ask you to be brave and co-operate in this new Service, and let our motto from this day onwards be eternal vigilance." (Applause.)

Mr. A. V. Powell (South Staffordshire) complained of the presentation of the list given by the Council—one short sentence on the paper sent out with the plebiscite forms—and of the fact that the general secretaries. There had been an attempt to mislead them. They had been told of the things they had won, but not of the things they had not won—

retention of goodwill, right of appeal? They must know what they stood before they signed on the dotted line. Let them make sure what the position was going to be before they agreed to come in.

Dr. J. A. Pridham (Council) said he was out of the room when the plebiscite made its decision, but had he been present he would have supported it. How many men had already signed on for the new Service? In his own Division—one the staunchest in the country—25% or more had already signed, and a great number of others were only waiting loyal to hear the result of that day's meeting. If this Representative Body said, "Accept service," the profession would be in a very much stronger position than if they did the other thing. They could control the situation. Could they imagine a Government more powerful than the present? Was it realistic that the B.M.A. was the only organization outside the T.U. which had stood up to the most powerful Government in modern times and had persuaded the Minister to its point of view? They must take the course of action recommended by the Council. Any other way was suicide.

Dr. O. C. Carter (Bournemouth) said he had opposed the recommendation as hard as he could on the Council and that the Council he would oppose it at the Representative Meeting. He looked on the present debate as the El Alamein of British medicine, for what they did to-day would decide the course of medical practice for a hundred or more years to come. He could not believe that they could achieve more concessions from the Minister once they were all in the bag than they could gain as free men to-day. It was of no use pretending that what they did not get now they would get later on. To offer the last chance of fighting back. He supported the amendment in opposition to the recommendation of the Council.

Dr. Janet Aitken (Council) said that the profession by vote made it impossible for the Council to recommend co-operation. The profession had not the power to prevent the Service from starting on July 5; it had the power to prevent it from being an efficient service, and in her opinion that would be a shameful thing to do. ("Hear, hear.") She thought that they should go into the Service with good will. This was not the end of their fight for freedom. She was quite convinced that individually they would have much more power in fight on relatively small matters once they were in the Service and once the bureaucrats knew that they were willing to make the Service a success if they could.

Dr. J. W. Hope-Simpson (Mid-Herts) supported the Kingston-Thames amendment. They did not want to accept service with many of their essential freedoms still unguarded. A postponement until the position was clarified would be in the interests of the public and of themselves.

Right to Change View

Dr. R. W. Cockshut (Council), who was announced as representing Hendon, said that he was speaking as a member of the Council, and not as representing Hendon, because at a meeting in Hendon, a Division which had 400 members, a resolution approving the Council's recommendation was carried by 17 to 16. He did not take a pessimistic view of the situation. He believed that they had won a very great victory in which they rejoiced. It was open to that meeting to decide to co-operate or to resolve on an all-out fight, but by accepting this amendment they would be doing the worst thing possible, decide to co-operate on some further conditions, putting off the decision, and asking the profession to wait a little longer. He did not think it right that a decision on the framework before them should be delayed, and he hoped the Kingston-Thames amendment would be turned down. He did not understand Lord Horder's reference to stragglers and deserters. Having now, in his opinion, reached a position in which he could enter the Service, if he supported approval he did not see why he should be called by those names. He had voted "No" in the February plebiscite, "Yes" in the April. Since when had it been wrong for a member of Council to give his honest opinion? He might be wrong, but he did not see that it had anything to do with desertion or straggling. He deferred signing on until after that meeting, but if he did it was not for economic reasons, it was because he felt he could go safely into the Service. He was as much attached to the principle of retention of goodwill as any man, but

would hesitate to advise the profession to go headlong into a long and difficult fight on that question, throwing away in doing so all that they had gained. For it must not be imagined that they could continue the fight with Mr. Bevan and keep their gains in their pocket. "If you enter into a fight with the Government and lose, you lose everything. Anybody who advised you to continue to fight would be lacking in a sense of responsibility." If three years ago, when the Representative Body met on the very day that the present Government took office, it had been predicted that the profession would achieve what it had now achieved, no one would have credited the prophecy. It must not be forgotten that the profession agreed to a comprehensive service for 100% of the population, and ever since then it had been the duty of the Council to fight for freedom within that field. They could not possibly arrange an Act of Parliament or a set-up of any kind in 1948 to guarantee their freedom in 1950. Freedom meant constant vigilance and defence, and the only way to secure it was by standing together on the victory they had won and the immense prestige they had gained with the public.

Prof. R. S. Aitken (Aberdeen) urged that to the Council's recommendation there should be added the words after "negotiations" "to a satisfactory conclusion." The hard-headed Aberdonians were in favour of judicious co-operation. They knew that there was not sufficient unanimity to make an all-out fight possible. They knew that 30 or 40% of their number had already signed on, and that any attempt to continue such a fight would end in rather sad results reminiscent of Don Quixote—a mixture of ridicule and pathos.

Dr. H. Simpson (Burnley) did not think the plebiscite results would have been anything like they were if proper leadership had been given. The leadership reminded him of the Duke of Plaza-Toro. It was asking a great deal of people to co-operate without knowing the conditions under which they were to come in.

An Appeal to Realism

Dr. S. Wand (Council) said that any conditions applied to acceptance at this stage meant a long and bitter fight. Two things had to be remembered about the men at the periphery: the first was the right of the man in practice to know exactly where he stood, and the second was the promise to everyone who voted in the February plebiscite that there would be no victimization. From some of the speeches which had been made it might be thought that they had encountered an appalling defeat. Yet the Army was so satisfied with the achievements of the generalship that it had started to go home. That was the present position whether they liked it or not. Only on one point had they failed to achieve gains of the first magnitude. Finally, when they went to the Ministry a day or two previously they were presented with the fact that up to that time 4,000 doctors had signed on, and they well knew that very many men were only waiting until after the present meeting. He begged them to consolidate their gains, and to see to it that in future discussions they retained the strength they had at the present moment. Throughout the country the Press and important bodies of professional men had congratulated the B.M.A. on the magnificent fight it had put up for freedom and the victory it had won.

Dr. S. F. L. Dahne (Reading) said that since the recent plebiscite his Division had been split in half. There was a slight majority in favour of an amendment advising co-operation when the negotiations which were in progress with the Minister had been completed satisfactorily. Sir William Douglas's letter did not satisfy most of them—it was, literally, a "scrap of paper." No trade unionist would enter into a contract on such vague assurances.

Dr. J. A. Brown (Council) said that those who criticized the Council for its action in putting forward this recommendation were apt to speak as if they were the only persons to be considered, and to forget the promise made in the previous plebiscite that only if 13,000 general practitioners refused to enter the Service would the B.M.A. continue to advise doctors to that effect. What did they want the Association to do? Having failed to get the 13,000, did they want another plebiscite? Did they want to advise doctors not to join the Service when they had already joined? When this meeting was over, whether the Council's recommendation was accepted or not, large

numbers of men would go in. The British Medical Association had rightly earned the respect of the Press and the public, also a very healthy respect from the Government. "Do not let us lose that respect or throw away what we have gained. Do you want to do away with the B.M.A. as a negotiating body? If the points we have announced as gained now had been gained in December there would have been no need for the last plebiscite. The earlier plebiscite would have shown that there were sufficient numbers to enter the Service. We have gained practically everything except the retention of goodwill in practice, and that was turned down by the Opposition spokesman, representative of the party that supports private enterprise."

Mr. T. Fletcher (Cumberland) thought that there ought to be added to the Council's recommendation some such words as "provided that such terms and conditions are acceptable to the profession." Dr. W. E. Dorman (Sheffield) came from a loyal Division: in the city of Sheffield only three or four of those in well-established practices had signed on. But in Yorkshire they were realists, and at a very large meeting of his Division the representatives were instructed to support the Council's recommendation as the only sensible course to take. Dr. S. Laurie Smith (Blackpool) considered that acceptance of service should be postponed until terms of service had been clearly defined and approved by the profession as a whole. Dr. Catherine Evans (East Kent) declared that her Division had no confidence in the Minister's word. "If we come in we shall do so disillusioned, frustrated, and with sinking of heart."

Dr. A. C. E. Breach (Bromley) spoke of this "tragic meeting." The smell of appeasement was concentrated here. He was appalled to hear member after member of Council get up and tell them that nothing could be done, and in some cases claim that they had had a victory. Dr. Ward had said that their army was "going home." The truth was that the army thought its leaders had gone home. They had been told about the attitude of the Press and the public. By all means public opinion must be carried with them, but the profession were the protagonists in this fight; they were the only people who understood the issues. Dr. Breach likened what had occurred to a football match. "We have seen our leader falter and stumble in front of an open goal. Was he pulled back from behind by one of his own people?" Mr. G. M. Heutsden (Herefordshire) urged that the Service be postponed until Jan. 1 of next year. His Division was concerned about the fate of consultants and specialists who might be asked to come into the Service knowing nothing about terms and conditions.

Numbers Joining the Service

Dr. Dain, in reply, said that with regard to consultants and specialists the arrangements were that they should continue in their hospital appointments, and receive payment on account. The final payment would be decided when the Spens report had been examined. The Spens report was due to be published on June 9. A number of entirely unsubstantiated statements had been made in the course of the debate. Some members were apparently incapable of appreciating change. The statement that they accepted defeat was nonsense. They had gained the greatest victory against the Government, which had been compelled to accept an Amending Act before the main Act came into force. The decision which the Representative Body was asked to make was based not on the word of a Minister but on the undertaking of the Government. He thought that several of the speeches, including Lord Horder's, had been prepared before the speakers came to that meeting. Lord Horder had spoken of a total change of front. If he had listened to his speech that morning he could not have made that statement. It was of no use talking about going in and fighting back. The figures up to last night of practitioners joining the Service were: in England, out of 16,958, 4,456, or 26%; in Wales, out of 1,003, 337, or 37%; in Scotland, out of 2,768, 1,000, or 36%. To these had to be added the people who were properly waiting for the decisions of that meeting.

"As an old and experienced medical politician I have seen the work done by the Insurance Acts Committee (I was chairman of it for many years), and I know that we have been able to modify conditions of service. If we act properly and

unitedly we can go into this new Service and shape it in accordance with our ideals of what such a service ought to be." He begged that the Council be given authority and not tied to the practically impossible conditions which many amendments on the paper demanded.

Dr. Morgan, the proposer of the Kingston-on-Thames amendment, said that the medical profession was practically the last body of individual enterprise left in this country. "If we don't get what we want now, when are we going to get it?"

The Kingston-on-Thames amendment was lost by a large majority.

Dr. Doris Odum (Bournemouth) moved a further amendment to withhold advice to co-operate until the Amending Act had been passed and approved by a majority vote of the profession. It was vital that the Amending Act should be on the statute book by July 5.

Dr. Dain said that Bournemouth was under a misapprehension. The content of the Amending Bill was in Sir William Douglas's letter which had been circulated; it was merely a question of parliamentary draftsmanship. The provisions with regard to partnerships were omitted because the legal committee had not yet reported. The negotiators had done their utmost to obtain postponement of the appointed day, and might have succeeded had it not been that the National Insurance Act also was due to come into force on that date. The Bournemouth amendment would put the Council in an impossible position and would impugn the good faith of the Government.

The Bournemouth amendment was lost by an overwhelming majority.

A further amendment was moved by Dr. H. H. D. Sutherland (Kensington and Hammersmith) which made advice to co-operate dependent upon the incorporation in the Amending Bill of a provision that practitioners continue to own the goodwill of their practices, be free to practise without direction, be accorded right of appeal to High Court, and be paid by capitation fee only except in certain special cases. The amendment was supported by Dr. Helme (Guildford), who said that this was the one chance of rejecting nationalization of medicine. Dr. Dain said that if this amendment were passed their chances of moulding the Service would be wrecked.

The amendment was lost.

On the main recommendation Dr. J. A. Ireland (Council) expressed the view that the words "on the understanding that the Minister will continue negotiations" were just a pious opinion. The Minister could say "No" at any time and there was nothing they could do about it. Dr. Helme (Guildford): "Have you any faith whatsoever in this Government any more than in Mr. Bevan?"

Dr. Dain said that both these speeches indicated that the speakers had no confidence in the Association whatever. According to Dr. Ireland they had gained nothing, they would do nothing, they were just a set of boobs who were not of any use to anybody. He was tired of this defeatist attitude. (Cheers and counter cheers.)

Recommendation A, advising co-operation on the understanding set out in the motion, was carried by a very large majority.

A Rider

Dr. G. H. Sedgwick (Rotherham) moved a rider:

That the medical profession should accept service under the Act on the understanding that in the event of an Amending Act and terms of service being unsatisfactory to the Representative Body, the profession under the Act should then hand in their resignations and such other steps as are considered necessary by the Representative Body.

This was accepted by Dr. Dain on behalf of the Council and was added to the motion.

Criticism of Council Action

Dr. A. A. Dr. B. Helme (Guildford) moved:

That in view of the position of the situation arising as a result of the Amending Act, and in view of the fact that at the meeting of April 7, this meeting no longer has the support of the Council of the British Medical Association.

Dr. Dain said that the Chairman just made this motion and that it was an opportunity to represent

tives to ask questions. "Before this meeting we were in the bag; now we are in the bag with the string tied."

Dr. D. M. Thomson (Dartford) said that at the last meeting they agreed to support the Council in any action it might take. "We gave them our whole-hearted support and told them to get on with the job—and they have done it jolly well" (Applause.)

Dr. J. Ewart Purves (Bromley) said that if representatives were not to go away with the feeling that in some way the central office had let them down they should be informed of certain facts.

Dr. F. M. Rose (Preston) said that to have such a resolution as this on the agenda, on a day when the Association had gained a great victory, was not a thing of which to be very proud. If they had not achieved 100% victory, it was in the nick of time. Truly, as was said in 1912, the B.M.A. did not know when it had won.

Dr. A. C. E. Breach (Bromley) said it was not for them to cast stones from a feeling of frustration. What mattered was the long-term view whereby real unity in the Association would be achieved. Those of them who loved the Association wanted to see it strong and respected. That was why it was better to face up now to the criticisms made in the background.

Dr. E. A. Gregg asked whether those who introduced resolutions of this character had put forward candidates in the recent Council election and what support those candidates had received.

Dr. Dain said that the members of Council were elected by the Divisions, and could be changed. If the resolutions were carried the members of Council would, of course, resign; they would accept the verdict of the Representative Body although not, save for a small section of them, elected by that Body. He submitted that they had won the greatest victory that the profession had won against a Government. A great many of their aims had been attained, and nothing in the Council's action justified this motion by Guildford.

The motion of "No confidence" was then put to the meeting, and only one or two hands were raised in its favour, and there was a forest of hands on the other side. The result was greeted with loud cheers.

Dr. H. Simpson (Burnley) had a motion complaining of the disastrous effect on the plebiscite of the B.M.J. leaders of April 17 and 24 and calling for "the discharge of the Editor." His reference to a "mismanaged plebiscite" was greeted with cries of "Withdraw."

Dr. R. W. Cockshut (Council) said that the leading article in the *Journal* was a noteworthy example of editorial comment at its best. This motion was the result of disappointment at not finding flaming propaganda there.

Dr. Hale-White (Marylebone) said that nothing could have been further removed from the policy of the Representative Body as expressed at its last meeting than the articles now questioned. They expressed a complete reversal of policy without any consultation with this Body.

Dr. D. L. Little (Dudley) said it would be illogical to censure the Editor of the *Journal* for an offence for which the Council had been exculpated. It would be below the dignity of the meeting.

Dr. E. A. Gregg said that some people wanted a scapegoat. They had had a shot at the Council and, not having been successful, looked for a new victim.

Dr. O. C. Carter (chairman of the Journal Committee) suggested that the motion, besides being in bad taste, was out of order. The articles in the *Journal* conformed to Association policy. They had in the Editor a medical journalist of the first order and the highest integrity—an official who for a long period of years had done a great deal to promote the welfare of British medicine and the prestige of the Association.

Fewer than half-a-dozen hands were held up in support of the motion, which was lost by a very large majority.

RECOMMENDATION B

Unity of the Profession

The Chairman of Council moved the second of the Council's recommendations, namely:

That the Representative Body urges the profession to maintain its strength and unity in order to mould the Service in accordance with

public interest and with enlightened professional opinion and consciously to protect the profession's legitimate freedoms and interests.

In doing so he made no speech.

Many amendments on the order paper were withdrawn. One amendment, to omit the word "legitimate" before "freedoms," as to make "freedoms" unqualified, was lost, and the commendation of Council was carried unanimously.

Dr. A. G. Heron (Bristol) moved to instruct the Council to formulate plans and to set up machinery by which immediate effective action might be taken to enable the profession to join in corporate resistance to any Bill or Regulation which reatered the freedom of the profession or failed to carry out the assurances given about the working of the present Acts.

Dr. Dain suggested that this was really a matter for the Annual Representative Meeting.

The mover, however, pressed for earlier action, and his motion was carried by 97 to 69.

RECOMMENDATION C

The Public and the National Health Service

The Chairman of Council moved the third and last of the Council's recommendations.

That the public be informed that, for reasons outside the control of the profession, the inception of the new Service cannot be followed for some time to come by all the improvements promised by the Government in the medical services of the country, because of the shortage of personnel, medical and nursing, and of the difficulty of providing the necessary premises and equipment.

A similar but somewhat extended motion was moved as an amendment by Dr. A. G. Manley (Richmond) as follows:

That the public be adequately informed that, for reasons outside the control of the profession, the inception of the new Service cannot be followed for some time to come by all the improvements promised by the Government in the medical services of the country, because of the shortage of personnel, medical and nursing, and of the difficulty of providing the necessary premises and equipment, and although the medical profession will make every endeavour to work the scheme, it cannot hold itself responsible for the Government's promises.

It was visualized that there would be failures in various respects owing to the speed with which the Service had been rushed by the Minister, and it was possible that the Minister might turn to the public and say, "The medical profession never wanted this and is not trying to make it work."

The substituted wording was agreed to by 65 to 61 and was afterwards carried as a substantive motion.

There still remained about fifty motions on the agenda, including a number relating to maternity medical services, as well as many miscellaneous motions which might appropriately go to the Annual Representative Meeting, but at 6.30 p.m., after the meeting had been in session for nearly eight hours, a representative suggested that a quorum was not present. A quorum is 180, being one-half the total number of representatives, and a count disclosed that only 137 were in attendance. The meeting therefore terminated after according a vote of thanks to its Chairman.

THE "BASIC" PETROL RATION

Practitioners are reminded that as from June 1 all motorists, whether or not they are in receipt of "essential" or "supplementary" petrol coupons, are entitled to the new standard ration, which, based on horsepower, is designed to afford 90 miles of pleasure motoring per month for the 6-monthly period June to November.

It is important to bear in mind, however, that the Minister of Fuel has announced that it is not intended that motorists whose supplementary allocation is larger than the new standard ration shall receive an increased supply, and in such cases an amount equal to the standard ration will automatically be deducted from the supplementary allocation in the next rationing period.

Practitioners should therefore apply to their local post offices for the standard ration in order to maintain their overall petrol allocation at its present level. In addition this will permit them the unrestricted use of their cars to the limit of 90 miles per month (or 540 miles in the 6-monthly period).

LETTER FROM MINISTRY

The following letter was sent on May 26 by Sir William Douglas, of the Ministry of Health, to the Secretary of the British Medical Association and distributed to Representatives before the S.R.M. on May 28.

Dear Dr. Hill,

The Minister has asked me to write to you about the discussions which representatives of your Association are having with him and with his officers. These discussions will, no doubt, be continuing and finding new grounds to cover. But as your Representative Meeting is to be held this Friday, it occurs to the Minister that you might like some review from him of the position as it is to date.

The main subject has been the content of the Amending Bill which the Minister agreed to propose to Parliament and on which he recently invited these discussions. On that, the Minister agrees that it should include the following provisions:

(1) Whatever clarification of the position of partnerships may be found necessary in the light of the report of the legal committee which is now examining that question, so far as is at all practicable, this clarification will be made to operate retrospectively to July 5.

(2) Provision to make clear that a whole-time salaried general medical service cannot be introduced by Regulations—i.e., would need a further Act of Parliament. This would include provision precluding the imposition by Regulation of any universal full-time consultant service.

(3) Provision for Executive Councils to have the right to select their own chairmen, after the term of office of the present chairmen expires in March next.

(4) Provision to enable the professional member of the Tribunal to be one of a panel of available members and not a fixed individual—so that the member may in each case be suitable in experience and otherwise to the particular issue before the Tribunal.

(5) Power to the Executive Councils, where the local practitioners agree, to cover the costs of the Local Medical Committee (by the necessary deduction from the practitioners' remuneration).

There are other matters on which the Minister feels that there is a reasonable case for adaptation of his proposed arrangements, but which do not need statutory amendment. So far these are:

(a) He has proposed a right to all doctors to opt for the £505 basic salary, with smaller capitation fee, if they so desire. He is impressed by the arguments put to him that an unrestricted option of this kind might often mean that one doctor could gain inequitably at the expense of another. He is prepared, therefore, to stipulate that the option should be only on the recommendation of the Executive Council (having ascertained the circumstances and consulted the Local Medical Committee). But he would propose to give Executive Councils general guidance as to the principles on which they should allow or reject an option, and moreover to give the doctor whose option is rejected a right of appeal to the Minister.

(b) With, as he believes, the full concurrence of professional opinion, the Minister has provided for a system of creating local lists of doctors whose experience is regarded by a professional committee as justifying special recognition in midwifery. For all on this list who undertake the care of a maternity case he has, as you know, already provided for a special fee of 27 7s. Anyone who satisfies the committee of his suitability can join that list and it entails no obligation to undertake any case unless the doctor wishes to do so. Thus a doctor, perhaps towards the end of his practice, who has all the suitable experience but who no longer wishes to undertake midwifery save for a few patients whom he may wish to oblige, could go on the list and yet only take those cases which he wanted to undertake. Others will go, no doubt, with a view to regular and frequent midwifery work—and it will, no doubt, be these with whom the local midwifery authorities will wish to make arrangements to be "on call" to midwives under the Midwifery Acts.

All of this means that there will be some doctors whose names are not on the list just mentioned. As the proposals stand, these other doctors are not, of course, in any way debarred from midwifery. It is simply that they are not recognized for special payment for it under the scheme. It has been represented to the Minister that, as they cannot charge fees to their own public patients within the scheme, they may be undertaking midwifery in some cases without either private fee or public remuneration for it. The charging of a private fee to a patient on a doctor's public list for anything within the field of general medical practice would, in the Minister's view, be repugnant to the whole new health scheme. However, on reflection, he feels that the main objective—of encouraging the development within general practice of groups of practitioners

with rather more than normal aptitude for midwifery—could still be relieved if he introduced a public payment of £5 5s. for all doctors and £7 7s. for those on the special list.

As to freedom of publication, Regional Hospital Boards and Management Committees have already been told by the Minister that no prior consent should be required to any publication, as part of the conditions of service of consultants. No express provision could be made for general practitioners, as under the general terms of service it would be impossible for anyone to require consent as there is no power to do so.

These are all matters on which the Minister has already expressed his willingness, in discussion, to adjust details of the scheme to the profession's views. He will welcome continued discussion, both before and after July 5, and it is inevitable that there will be found other matters on which adjustment is needed in a measure of this magnitude—indeed he will be himself finding points for amendment, no doubt, in other parts of the Act as its working reveals them. He would, however, point out that—as a matter of procedure—it will be necessary to limit as far as reasonably possible the Amending Bill already promised, if it is to be passed quickly and so to relieve any anxieties of those in partnership. For further points, of his own and of others, there will be further opportunities. He hopes to have the profession's collaboration throughout these stages.

Yours sincerely,

WM. S. DOUGLAS.

HEARD AT HEADQUARTERS

Private Patients under the N.H.S.

A leaflet giving full particulars of the position of the private patient under the National Health Service has been prepared by the Public Relations Department of the B.M.A. Supplies are being sent to all Divisions of the Association, but any practitioner who would like copies for distribution to patients should communicate with the local officer of the B.M.A. or with the Secretary of the Association.

Costly Cases

One occasionally hears of parsimony on the part of public authorities, but two cases which point well in the other direction are worth putting on record. Last autumn the Middlesex County Council agreed to be responsible for the treatment at a Swiss sanatorium of a case of tuberculosis of the eye. The cost was not to exceed £100. After four months it approved the continuance of treatment for another three months at a cost of £180. The medical superintendent of the Swiss sanatorium now states that although the very obstinate condition is improving the improvement is slow, and a further two months' treatment is suggested, to which the Council has agreed at a further expenditure of £120. Again, a porter employed at one of the Council's general hospitals is suffering from tuberculosis of the kidneys and bladder, and it is considered that he might have a chance of cure if treated with streptomycin. But it is difficult to obtain the drug for any type of treatment, and therefore this patient also is to be sent to a Swiss sanatorium where it is available. A stay of four months is suggested, and the cost of maintenance and treatment amounts to £60 a month, with travelling expenses in addition. The Council is bearing the cost of the Swiss treatment in these two cases without prejudice to its general policy on the treatment of patients in Switzerland.

Milk Certificates

Mr. J. A. S. was said at one time—and hinted in official quarters—that the certification in the matter of extra supplies of milk for children. When it became necessary to limit priority supply of milk to patients who needed a considerable amount of it, the treatment doctors were said to be interpreting the regulations in a very wide manner. It is interesting, therefore, to find in the recently issued report of the Medical Research Council for the years 1939-45 the following tribute to the medical profession in general carried out their duties. In the context of the Food Rationing, Special Regulations, the Council stated its recognition of the fact that the medical profession is which members of the

medical profession must have been exposed, they continued general to exercise scrupulous care in certification. This is shown by the constancy of the milk consumption by invalids during the period of hostilities when food shortage was becoming progressively more severe."

Holiday Exchanges

There have been a number of inquiries from doctors in France, Switzerland, and Denmark for holiday exchanges with doctors in this country. They generally offer hospitality to a doctor and his wife for a holiday period in exchange for hospitality in this country. If any practitioners are interested in such an arrangement the Secretary will, so far as is possible, put them in touch with doctors on the Continent who have made inquiries in this connexion.

Practitioners Called In

The Regulations governing fees for medical practitioners called in by midwives do not cover such a case as was brought to the notice of the Public Health Committee at its last meeting—that of the medical practitioner called in to attend a confinement (not a "booked" case of his) because the midwife was not available. The question in such cases, which cannot be very infrequent, is whether any statutory authority can be found for the local council's paying the fee. The advice given to the member who raised the question—and it was stated that other medical officers of health to be quite correct—was that a practitioner should have a word with the medical officer of health with a view to persuading the local authority to apply to the Ministry for special sanction for payment of the fee. It is believed that the Ministry would favourably consider such an application, provided it was a local-authority service "booking."

Industrial Medical Officers

A committee of the Association about which too little has been heard, but which is doing a large amount of useful work, is the Industrial Medicine Committee. Under the chairmanship of Dr. Vaughan Jones it has considered many topics, including ethical rules for industrial medical officers, terms of service and lists of duties. A list of duties which it has drawn up runs to thirteen headings, the most important being about the examination of applicants for employment, together with advice on placement, the immediate treatment of medical and surgical emergencies, the examination and continued observation of persons returning to work after absence due to illness or accident, and the periodical examination of employees exposed to special hazards. A very wide and indefinite sphere of work has been opened up to the industrial medical officer when it comes to advice to the management. This may relate to the working environment in general, to special risks entailed in industrial processes, to accident prevention, to hygienic requirements, to canteen facilities, and to the health education of employees. The industrial medical officer, whole- or part-time, is an important factor in the nation's recovery, and his interests are attended to at Headquarters.

OPHTHALMIC BENEFIT

From the point of view of ophthalmologists the administration of ophthalmic benefit by approved societies has not worked smoothly or satisfactorily. Only a few societies have accepted without question a doctor's recommendation that a patient should have a medical eye examination. In the majority of cases societies have disregarded the doctor's recommendation and have limited the grant towards a medical eye examination to the amount—a few shillings—which would be payable for a testing of sight by an optician. Too often this limitation has been extended to cases in which even an optician has recommended a medical eye examination and the society concerned has denied its responsibility for the whole of the ophthalmologist's fee. Somewhat belatedly a categorical declaration has been obtained from the Ministry of National Insurance to the effect that under Article 25 (2) of the Additional Benefit Regulations, 1930, an approved society is required to pay the whole cost of an ophthalmic examination made at its request, or at its authority.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Poplar.

Non-County Borough Councils.—Dartford, Radcliffe (limited future appointments), Tottenham, Wallsend.

Urban District Councils.—Denton, Droylsden, Houghton-le-Ring, Huyton-with-Roby, Portslade, Redditch (restricted to few appointments), Tyldesley.

Association Notices

ELECTION OF COUNCIL OF B.M.A.

The following are the results of the election of members of Council by those Groups where there were contests:

Group C (Isle of Man, Lancashire and Cheshire).

D. R. Owen (Chester)	684	Elected
R. Kennon (Liverpool)	575	Elected
F. M. Rose (Preston)	373	
No. of voting papers issued	4,073	
No. returned	878	
Spoiled papers	3	

Group D (Derbyshire, Leicestershire and Rutland, Lincolnshire, Nottinghamshire).

J. Cottrell (Grimsby)	381	Elected
E. C. Dawson (Derby)	279	
No. of voting papers issued	1,526	
No. returned	660	
Spoiled papers	4	

Group E (Bedfordshire, Cambridgeshire and Huntingdonshire, Essex, Hertfordshire, Norfolk, Northamptonshire, Suffolk).

J. C. Pearce (Diss)	417	Elected
J. S. Rens (Welwyn Garden City)	277	
G. Barber (Dunmow)	175	
No. of voting papers issued	2,494	
No. returned	869	
Spoiled papers	1	

Group I (Metropolitan Counties).

Lord Horder (W.1)	1,504	
A. M. A. Moore (W.1)	1,359	Elected
F. Gray (Wandsworth)	1,270	
H. H. D. Sutherland (W.10)	1,204	
J. A. Gorsky (S.W.1)	614	
No. of voting papers issued	6,858	
No. returned	1,704	
Spoiled papers	6	

Group K (Dorset and W. Hants, South Western, Wiltshire).

J. A. Pridham (Weymouth)	419	Elected
G. F. Burnell (Truro)	213	
No. of voting papers issued	1,692	
No. returned	632	
Spoiled papers	4	

Group L (Southern, Surrey)

N. E. Waterfield (Little Bookham)	461	Elected
A. C. de B. Helme (Guildford)	256	
No. of voting papers issued	2,555	
No. returned	717	
Spoiled papers	4	

The following have been elected unopposed:

Group A (North of England) J. C. Arthur, Low Fell, Co. Durham.

Group N (Aberdeen, Dundee, Northern Counties of Scotland, Perth). Mary Esslemont, Aberdeen

Group Q (Border Counties, Glasgow and West of Scotland (Five County Divisions), Stirling). W. Jope, High Blantyre.

CHARLES HILL,
Secretary.

ANNUAL GENERAL MEETING

Notice is hereby given that the Annual General Meeting of the British Medical Association will be held in the Large Examination Hall, Bene't Street, Cambridge, on Tuesday, June 29, 1948, at 12.30 p.m. Business: (1) Minutes of the last meeting, held July 23, 1947; (2) Induction of President, 1948-9; (3) Appointment of auditors.

CHARLES HILL,
Secretary.

EXTRAORDINARY GENERAL MEETING

Notice is hereby given that an Extraordinary General Meeting of the British Medical Association will be held in the Large Examination Hall, Bene't Street, Cambridge, at 12.30 o'clock in the afternoon, or as soon thereafter as the Annual General Meeting of the Association shall be terminated, when the following resolution, with or without amendment, will be proposed as a Special Resolution:

Resolution

That the Articles of Association be altered in the manner following:

(i) By inserting in Article 3 after the words "The Medical Acts" the words and figures "or the Medical Practitioners and Pharmacists Act, 1947."

(ii) by deleting from Article 10(c) in line 6 the words "for India or."

By Order of the Council,

CHARLES HILL,
Secretary.

MIDDLEMORE PRIZE

The Middlemore Prize consists of a cheque for £50 and an illuminated certificate, and was founded in 1890 by the late Richard Middlemore, F.R.C.S., of Birmingham, to be awarded for the best essay or work on any subject which the Council of the British Medical Association may from time to time select in any department of ophthalmic medicine or surgery. The Council is prepared to consider the award of the prize in the year 1949 to the author of the best essay on "The Value of Orthoptics in the Treatment of Squint." Essays submitted in competition must reach the Secretary, British Medical Association, B.M.A. House, Tavistock Square, London, W.C.1, on or before Dec 31, 1948. Each essay must be signed with a motto and accompanied by a sealed envelope marked on the outside with the motto and containing the name and address of the author. In the event of no essay being of sufficient merit the prize will not be awarded in 1949.

SIR CHARLES HASTINGS CLINICAL PRIZE

The Sir Charles Hastings Clinical Prize, which consists of a certificate and a money reward of 50 guineas, is again open for competition. The following are the regulations governing the award:

1. The prize is established by the Council of the British Medical Association for the promotion of systematic observation, research, and record in general practice; it includes a money award of the value of 50 guineas.

2. Any member of the Association who is engaged in general practice is eligible to compete for the prize.

3. The work submitted must include personal observations and experiences collected by the candidate in general practice, and a high order of excellence will be required. If no essay entered is of sufficient merit no award will be made. It is to be noted that candidates in their entries should confine their attention to their own observations in practice rather than to comments on previously published work on the subject, though reference to current literature should not be omitted when it bears directly on their results, their interpretations, and their conclusions.

4. Essays, or whatever form the candidate desires his work to take, must be sent to the British Medical Association House Tavistock Square, London, W.C.1, not later than Dec. 31, 1948. The prize will be awarded at the Annual General Meeting of the Association to be held in 1949.

5. No study or essay that has been published in the medical press or elsewhere will be considered eligible for the prize, and a contribution offered in one year cannot be accepted in an

subsequent year unless it includes evidence of further work. A practitioner in any year is not eligible for a second award of the prize.

6. If any question arises in reference to the eligibility of the candidate or the admissibility of his or her essay the decision of the Council on any such point shall be final.

7. Each essay must be typewritten or printed, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto and enclosing the candidate's name and address.

8. The writer of the essay to whom the prize is awarded may, on the initiative of the Science Committee, be requested to prepare a paper on the subject for publication in the *British Medical Journal* or for presentation to the appropriate Section of the Annual Meeting of the Association.

9. Inquiries relative to the prize should be addressed to the Secretary.

KATHERINE BISHOP HARMAN PRIZE

The Council of the B.M.A. is prepared to consider an award of the Katherine Bishop Harman Prize of the value of £75 in 1949. The purpose of the prize, which was founded in 1926, is to encourage study and research directed to the diminution and avoidance of the risks to health and life that are apt to arise in pregnancy and child-bearing. It will be awarded for the best essay submitted in open competition, competitors being left free to select the work they wish to present, provided this falls within the scope of the prize. Any medical practitioner registered in the British Empire is eligible to compete.

Should the Council of the Association decide that no essay submitted is of sufficient merit, the prize will not be awarded in 1949, but will be offered again in the year next following this decision, and in this event the money value of the prize on the occasion in question will be such proportion of the accumulated income as the Council shall determine.

The decision of the Council will be final.

Each essay must be typewritten or printed in the English language, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto and enclosing the candidate's name and address. Essays must be forwarded so as to reach the Secretary, to whom all inquiries should be addressed, at B.M.A. House, Tavistock Square, London, W.C.1, not later than June 31, 1948.

Diary of Central Meetings

JUNE

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|--------|--|
| 25 Fri | Annual Representative Meeting, Large Examination Hall, Bene't Street, Cambridge, 9.30 a.m. |
| 26 Sat | Annual Representative Meeting, Cambridge, 9.30 a.m. |
| 27 Mon | Council, Small Examination Hall, Bene't Street, Cambridge, 9 a.m. Annual Representative Meeting, Cambridge, 10 a.m. |
| 29 Tue | Annual Representative Meeting, Cambridge, 9.30 a.m. Annual General Meeting, Large Examination Hall, Bene't Street, Cambridge, 12.30 p.m. Adjourned Annual General Meeting and President's Address, Senate House, 8.30 p.m. |
| 3 Wed | Council, Small Examination Hall, Bene't Street, Cambridge, 9 a.m. |

Branch and Division Meetings to be Held

LEICESTERSHIP BRANCH.—At Stamford Hotel, Stamford, Thursday, June 10, 2 p.m. Annual meeting.

Meetings of Branches and Divisions

DERBYSHIRE AND GALLOWAY DIVISION

The Annual General Meeting was held on May 16 at 3 p.m. at the Derbyshire Arms Hotel, Derby, and was attended by about 60 members. Mr. R. L. Beveridge was elected Chairman for 1948-9.

At the business of the meeting reference was made to the death of Mr. J. M. Allen, of Kirkcudbright, who was Scotland's oldest medical practitioner.

There was considerable discussion on the increase of the medical practitioners' mileage fees, and the difficulties of the medical profession about the granting of sufficient

GLoucester Division

The Annual General Meeting was held on May 12 at the Royal Gloucester Hotel, Gloucester, and was attended by about 60 members. Mr. H. J. H. Jones was elected Chairman for 1948-9. The meeting was directed at the Gloucester Arms Hotel, Gloucester, and was attended by a large number of members. The meeting was held at the Gloucester Arms Hotel, Gloucester, and was attended by a large number of members.

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LINCOLN DIVISION

A general meeting of the Division to which all practitioners in the area were invited was held on April 25, with Dr. A. M. Maiden in the chair. Sixty-nine members and non-members were present. The meeting discussed the situation created by the statements made by the Minister of Health in the House of Commons and the Minister's replies to the questions put to him by the B.M.A. representative. In his opening remarks the chairman made the point that if he agreed to serve under the Act as amended medicine became a monopoly, and it would be very easy for the Minister to introduce further amendments leading to full-time State medical service.

At 6 o'clock Dr. Potter arrived and was invited to address the meeting. After reviewing the changed situation he pointed out that the consultants' position had not been altered very much though the Minister had given assurances that part-time practice would be the usual thing. He also pointed out the difficulties which were arising from the proposed £300 salary element for three years. The view of the Council was that the safeguards were not complete without retention of goodwill, and this was the only point on which the Council had given a lead. He concluded by saying that the responsibility for the final decision must lie with those who were concerned with working the Act, and it was essential to find out who was willing to stand out in view of the new propositions, as it was impossible to rely on the previous plebiscite owing to the change of position. Dr. Friskney proposed that "this meeting does not favour acceptance of the N.H.S. Act in its amended form." The proposition was carried by 35-14, with about 10 abstentions.

SHEFFIELD DIVISION

A complimentary dinner was given at the Royal Victoria Hotel, Sheffield, on April 22, by the Sheffield Division of the B.M.A. Dr. Henry Brown, Dr. Brown was Honorary Secretary of the Division for 25 years. Mr. W. J. Lytle was in the chair, and Dr. Mackinnon and Dr. J. Nunan reviewed Dr. Brown's work for the Association in proposing his health. Dr. Brown was presented with a cheque subscribed to by members of the Division, and a harvest was given to Mrs. Brown.

H.M. Forces Appointments

ROYAL NAVY

Acting Surgeon Lieutenant T. A. Daly to be Surgeon Lieutenant.

ROYAL NAVAL VOLUNTEER RESERVE

Surgeon Lieutenant-Commander R. M. Marshall has been placed on the Retired List.

Temporary Surgeon Lieutenant I. F. Barwell-Clarke has been transferred to List 1 of the Permanent R.N.V.R., in the rank of Surgeon Lieutenant.

Temporary Acting Surgeon Lieutenants H. Revill, P. B. McDermott, C. J. H. Paget, I. T. Holloway, A. S. Ireland, J. L. Hadley, and A. R. L. Abel to be Temporary Surgeon Lieutenants.

ARMY

Colonel D. W. Beamish, M.C., late R.A.M.C., having attained the age for retirement is retained on the Active List (superannuation). Lieutenant Colonel C. V. Menemara, from R.A.M.C., to be Colonel.

ROYAL ARMY MEDICAL CORPS

Lieutenant-Colonel F. Holmes, O.B.E., having attained the age for retirement is retained on the Active List (superannuation).

Majors (War Substantive Lieutenant-Colonels) J. C. Reed, O.B.E. and D. T. Swift, O.B.E., to be Lieutenant-Colonels.

Major P. O'Shea to be Lieutenant-Colonel.

Captains (War Substantive Majors) P. B. Longden and N. D. Lance to be Majors.

Captain I. MacPhail to be Major.

Captain L. R. Shore, retired and re-employed, has ceased to be re-employed.

Short Service Commissions.—Captain (Temporary Major) A. P. Laing and Captains C. P. O'Hanlon, I. McC. Carmichael, E. T. O'Dwyer, and M. S. C. Rooney, from Emergency Commissions, to be Captains. Lieutenants P. M. F. McGarry, W. G. L. Allen, G. H. F. Beith, D. Dexter, D. Hamilton, J. S. Inkster, D. M. O. Lowry, R. H. McVean, J. R. Page, N. C. Rees, M. Redfern, A. K. Thomas to be Captains. Lieutenants J. G. P. Power, A. I. Cook, J. K. Anderson, H. T. Jones, I. McAlpine, J. B. O'Donnell, A. D. Roy, H. J. Moss, J. B. Walker, M. H. Pettigrew, and J. I. Kileour, from Emergency Commissions, to be Lieutenants.

SPECIAL LIST (EX-INDIAN ARMY)

BRITISH ARMY

Lieutenant-Colonel W. F. Cooper has retired and has been granted the honorary rank of Colonel.

Major (War Substantive Lieutenant-Colonel) R. I. Reid has retired and has been granted the honorary rank of Colonel.

Major A. H. O'Malley has retired and has been granted the honorary rank of Lieutenant-Colonel.

Captain A. V. Barker, M.B.E., has retired.

Lieutenant S. N. Eate has retired and has been granted the honorary rank of Major. (Substituted for the notification in a Supplement to the *London Gazette* dated Jan. 9.)

BRITISH MEDICAL JOURNAL

LONDON SATURDAY JUNE 12 1948

PULMONARY VALVULOTOMY FOR THE RELIEF OF CONGENITAL PULMONARY STENOSIS

REPORT OF THREE CASES

BY

R. C. BROCK, M.S., F.R.C.S.

Surgeon to Guy's Hospital

The surgery of the heart may be said to have begun in 1896 when Rehn (1897) first successfully sutured a wound of the heart. Until a short time before this a semi-mystical, mediaeval attitude prevailed in relation to the heart, which was generally thought to be untouchable surgically. Thus even as late as 1883 Billroth declared that the surgeon who attempted to suture a wound of the heart would lose the respect of his colleagues. Rehn's epoch-making operation demonstrated conclusively that the heart of man was, in some measure at any rate, tolerant of interference. Surgeons were quick to profit by this lesson, so that within ten years Rehn was able to collect reports from the literature of 124 cases of a wound of the heart treated by suture.

The early promise of the development of direct cardiac surgery engendered by Rehn's success was not fulfilled: development there has been, but most of the progress has been by indirect methods. Operations have been conducted upon the surface of the heart and upon the great vessels near the heart, but very few indeed have been done upon the actual substance or internal structure of the heart except for injury or removal of retained foreign bodies.

The successful ligation of the patent ductus arteriosus by Gross and Hubbard (1939) and resection of aortic coarctation by Crafoord and Nylin (1945) were followed by the brilliant work of Blalock and Taussig (1945) in the treatment of *morbus caeruleus*. By anastomosing a systemic artery to the pulmonary artery Blalock was able to relieve cyanosis in those cases of "blue babies" in which an inadequate supply of blood was going to the lungs—usually those in which a pulmonary stenosis was present. Even this carefully thought out and brilliantly executed operation, which has brought relief to so many hundreds of sufferers otherwise doomed to disability and death, is an indirect operation and not a direct one upon the substance or structure of the heart itself. It is in the nature of a by-passing operation to avoid the stenotic zone.

Earlier Operations for Valvular Stenosis

In 1913 Doyen tried to divide what was thought to be a stenosed valve in a patient aged 20 suffering from pulmonary stenosis. He did this by introducing a small tenotomy knife into the right ventricle: the patient died several hours later, and necropsy showed that a subvalvular rather than a valvular stenosis existed. About the same time Tuffier (1913) dilated a stenosed aortic valve with his finger by invaginating the wall of the aorta, but he did not open the heart or the aorta; the patient was said to be improved. Souttar (1925) used a method of direct digital dilatation of the mitral valve and his patient survived, although it appears from the case report that no true mitral stenosis was present.

The most sustained effort to solve the problem of relief of valvular stenosis by direct attack on the valves was made by Cutler and his associates (Cutler and Beck, 1929); they used a tenotome in their first three cases and a cardio-valvulotome in four others. Their first patient survived four and a half years and was thought to have been improved; six other patients died soon after operation, as also did single cases reported by Allen and Graham (1922) and Pribram (1926).

These early efforts were succeeded by a long period of inaction, and in the minds of many these operations of a quarter of a century ago seem to have proved that direct surgical attack on the diseased valves of the heart is too dangerous to be practicable.

Now, we must remember that these attempts were indeed made nearly a quarter of a century ago. Since that time there have been great advances in surgery and anaesthesia. Enormous developments have been made in the whole field of intrathoracic surgical technique; great strides have been made in pre-operative and in post-operative care, particularly in regard to blood transfusion and oxygen administration, and, more recently still, chemotherapy has heralded a new era. With our present knowledge and experience of intrathoracic operations we can understand the difficulties in the way of these early pioneers. It is no discredit to them that they did not succeed; they deserve only the greatest credit and recognition for their courageous efforts. At the same time it is important to realize that this accumulated experience and development of the last 25 years has entirely altered the prospects of success, and he would be blind who did not realize that the time has now come to try the matter again. When one examines the heart post mortem in patients dying of valvular disease and contemplates the minute size of the orifice through which the whole life-blood of the body has to be forced it is impossible not to feel that this simple mechanical obstruction must be capable of relief by surgery. The relief of such mechanical derangements is one of the oldest functions of surgery, and surgery is wanting in some part until it has been able to relieve cardiac valvular stenosis. It should require no special imagination to grasp this—even a student in training could postulate it.

Objections continue to be raised that even if the stenosed valve is successfully dealt with the secondary alterations in cardiovascular mechanics may prove disabling or fatal. This is no fundamental objection to the operation; it is merely a potential difficulty that has to be assessed or overcome. By timorous meditation we arouse fear and postpone success. Meditation and planning are essential, but in such circumstances as this, faced with a problem beset with so many and obvious hazards, the first step must be to

assess the essentials. The essential fundamental is the stenosed valve which holds up the passage of blood: the relief of this stenosis must be the ideal to be aimed at. Relief by indirect methods has its place and may prove ultimately to be the wisest and best course to adopt, but until proved otherwise, relief by direct attack must be our goal.

The day must surely come when direct operations upon the substance and structure of the heart will be as firmly established and as successfully conducted as operations upon the lungs, brain, and other major systems and viscera that for so long defeated our efforts. There can be little doubt that there will be fundamental changes in technique, such as possibly those associated with temporary discontinuance of the circulation through the heart while it is being operated upon. In the meantime we must attack the problem and begin the development of a technique for intracardiac operations, for unless begun the task can never proceed.

It is with this justification, therefore, that I record three cases in which a direct operation was performed upon the pulmonary valves in an attempt to relieve a pulmonary stenosis: these three patients are alive and their cardiac condition has been improved. It is not suggested that these three cases provide the solution to the problem, but they would appear to be of sufficient importance to deserve description at this time. So far as I know, apart from the earlier attempts mentioned above, they are the only recorded examples of successful direct operations upon the heart to relieve disease within the heart, apart from the repair of injuries and the removal of foreign bodies.

I am indebted to my cardiologist colleague, Dr. Maurice Campbell, for his unstinted enthusiasm, co-operation, and medical and moral support in this most difficult venture; the selection of suitable cases would not have been possible without his knowledge, skill, and partnership.

The Problem of Congenital Pulmonary Stenosis

The postulate of the Blalock-Taussig or "blue-baby" operation is that an inadequate supply of blood is going to the lungs and that by joining a systemic artery to the right or left pulmonary artery an additional amount of blood can be delivered to the lungs for oxygenation. The stenosed area is thus by-passed. The immediate results of this operation can be dramatically successful and can usually be described as excellent. It is so far not possible to assess the late results, since Blalock's first operation was done only recently as November, 1944. Two possible drawbacks to the procedure immediately suggest themselves. First, that the fistulous communication may not grow *in vivo* with the child and thus will prove ineffective in later years. Observations upon growing animals and upon patients during after several years should provide the answer to this. Secondly, an arteriovenous leak or artificial ductus arteriosus is created—a condition for the relief of which, if it occurs as a congenital maldevelopment, an operation has been considered necessary. To this objection Blalock rightly replies that the fear of complications in the future is no justification for allowing a patient to die of asphyxia in the present; he also believes that the existence of the patent interventricular septum, which is present in most of these patients as a part of the tetralogy of Fallot, necessitates the usual drawbacks that a patent ductus arteriosus entails.

The relief of the obstruction itself by direct operation certainly overcomes the second and greatest objection: the direct supply of blood would be provided to the lungs and the disadvantages of an arteriovenous leak and of the artificial ductus arteriosus that this condition

It is usually stated that the stenosis in these cases almost invariably subvalvular or infundibular and is therefore not amenable to relief. In fact this is not so: a proportion of cases of Fallot's tetralogy have a valvular stenosis either with or without a subvalvular stenosis; in addition a further proportion of cases of *mitralis caeruleus* occur in which a pure pulmonary valvular stenosis is present. It is not as yet possible to give with certainty the exact proportion of cases in which valvular or diaphragmatic type of stenosis exists; there can be no doubt, from my observations so far, that the incidence is far higher than has been supposed. Investigators are proceeding to decide this more exactly.

When a valvular stenosis exists it is of a diaphragmatic nature: the fused valves form, as it were, a septum which in time, as the patient gets older, is forced by the blood stream into a nipple-like projection with a tiny hole in its summit. It projects into the pulmonary artery much as the cervix projects into the vagina. Its formation and structure show at a glance that it is eminently suitable for relief by division: moreover, a much larger hole could be made in a very short time, in exactly the right place, if it is possible with the Blalock operation, in which a long tedious dissection is necessary to secure a systemic anastomosis of adequate size.

Before attempting to relieve a valvular stenosis clearly desirable first to diagnose its presence. This diagnosis should consist of a pre-operative assessment by physical and various accessory methods and an actual assessment at operation. This is not the place to enter upon the problem of pre-operative diagnosis, which will be dealt with in a later communication.

A great deal can be learned at operation, although experience is as yet too limited for dogmatism. Time further experience can alone provide greater efficiency; present it must suffice to say that much can be learned from direct cardiac examination.

Direct Cardiac Examination at Operation

One disadvantage of the Blalock operation, especially if it is done from the right-hand side, is that only very little examination of the heart is made. In most cases all that is done is that the great vessels are exposed, dissected and an anastomosis performed. The completeness of pre-operative diagnosis can only be assumed, unless the patient dies and the heart can be inspected.

Clearly the best way to assess the state of the valves is to inspect them under direct vision. This formed the problem that was dealt with. A cardioscope to allow inspection of the interior of the heart was designed and described by Allen and Graham (1922); the principle of contact visualization is used in which the blood is displaced and the instrument rests directly upon the structure to be viewed. Using an operating cardioscope constructed for me by Mr. Schrantz, of the Genito-Urinary Manufacturing Company, with his usual superb skill, I have made a number of direct inspections in living patients.

One problem is the route of cardioscopy. Passing the instrument through the ventricular wall has apparent disadvantages that an alternative was sought. Study of the anatomy suggested the possibility of using the left pulmonary artery, for this structure normally provides a direct line with the main pulmonary trunk and provides a direct route to the valves. Left pneumonectomy provided excellent opportunities to test this, and it has been shown to be a practical procedure. The instrument can be passed without difficulty and the valves inspected although the vision in a normal patient is naturally limited by the constant movement of the cusps.

JUNE 12, 1948

VALVULOTOMY FOR PULMONARY STENOSIS

The first patient with congenital pulmonary stenosis, a young man of 17, was operated upon in May, 1947. The chest was opened through a left postero-lateral incision, as this approach is necessary in order to introduce the straight instrument into the heart. The valves were inspected and were seen to be normal; the stenosis was clearly subvalvular. A Blalock operation was performed by anastomosing the left subclavian artery to the left pulmonary artery, using the hole made for the passage of the cardioscope. The whole procedure meant that the pulmonary artery was occluded for a very much longer time than is usual in the Blalock operation, and this was largely responsible for the patient's death 12 hours later. Necropsy confirmed the presence of a Fallot's tetralogy with a severe infundibular stenosis and normal valves.

The next patient, a girl of 19, sent to me by Dr. East, was diagnosed pre-operatively as having a pure pulmonary valvular stenosis; the heart was very large, chiefly due to hypertrophy of the right ventricle. At operation in November, 1947, the pulmonary artery was found to be very small and, owing to the great size of the right ventricle, which had caused gross dilatation, it arose from the main trunk at a right-angle so that it was not possible to pass the cardioscope. Neither was it possible to perform a Blalock operation. No ill effect followed the operation. The patient died of heart failure several months later and, most unfortunately, no post-mortem examination could be made.

A third patient, a girl aged 20, had severe pulmonary stenosis which was diagnosed clinically as being of a pure valvular type. She had had several attacks of heart failure, had gross albuminuria and oedema, and had a very large heart. She was considered unsuitable for operation, but at the express entreaty of herself, her parents, and her doctor it was agreed to make the attempt. A left postero-lateral thoracotomy was done, the pericardium was opened to permit more direct examination of the heart as in the other cases, and a confident diagnosis of valvular stenosis was made. A short pause was made while the operating cardioscope was assembled, and when one turned again to the heart it was found to have stopped. It was eventually started again by massage and injection of adrenaline, but gradually failed again. It was again revived and again began to fail. It was decided to perform cardioscopy; the instrument was passed and the presence of a diaphragmatic valvular obstruction of characteristic nipple-like shape was easily observed. The heart, however, had again stopped and could not be revived. Necropsy confirmed a pure valvular stenosis with an almost pin-hole orifice of such minute size that it was astonishing that she could have supported life for so many years; very gross hepatic cirrhosis was present from back-pressure; the kidneys showed similar gross changes from chronic passive congestion.

From the experience of these cases, and in particular of the last one, it was felt that the approach through the left pulmonary artery was unsatisfactory, or at any rate was sufficiently unsatisfactory to be discarded for the time being in order to assay the ventricular route. It is clear that in certain of these patients with a valvular stenosis occlusion of the left pulmonary artery for even a short time may not be tolerated; in addition it was felt that the conical shape of the valve made rapid and precise division from above uncertain. These experiences with three patients had shown, however, that it was possible to diagnose pulmonary valvular stenosis with some degree of confidence at operation.

In addition to direct inspection of the valves much other valuable and significant information can be obtained by direct critical external examination of the heart. Even before the pericardium is opened a tentative diagnosis can be made. When a valvular stenosis is present the stem of the pulmonary artery immediately distal to the obstruction is often dilated and forms a thin-walled aneurysm-like bulge; this can be seen through the intact pericardium and a thrill of characteristic nature can be readily felt. If the pericardium is opened a much more useful examination can be made. The sac should be incised longitudinally for

some 5-8 cm. just anterior to the phrenic nerve, and by means of an additional transverse incision at each end a flap is turned forwards: by grasping the corners of this flap with haemostats it is also possible to manipulate the heart. Attention should first be directed to the region of the sinuses of Valsalva: if the sinuses are present and fully formed it is almost certain that the valve cusps are normal. Conversely, when a valvular stenosis is present there is either a continuous collar of dilated artery just above the valve-level, or the artery shows a larger, aneurysm-like dilatation resembling the bulb-like swelling of a young onion. The lesser degree of dilatation is usually associated with a smaller pulmonary artery of lower tension, and I suspect that it implies the existence of a subvalvular stenosis as well, although as yet insufficient observations have been made to confirm this. The greater degree of dilatation suggests a more powerful jet of blood coming through the stenosis. Palpation of the first part of the artery is most suggestive of this: the thrill is quite characteristic, and of a fine high-pitched frequency, very strictly localized at a level just above the origin of the artery, and, most significant of all, can actually be felt to be extremely localized within the central portion of the lumen. Indeed, it feels as if it were caused by a thin but very powerful jet of fluid being forced through a tiny hole, and this is exactly how it is formed. If the thin-walled dilated artery is gently compressed between the fingers the precise, localized nature of the thrill becomes more obvious, and it is even possible to feel the conical valve momentarily between each heart-beat. If the finger is now passed down on to the surface of the right ventricle it will be found that the fine, purring thrill rapidly fades.

When a subvalvular stenosis is present no such characteristic localized thrill is felt in the first part of the pulmonary artery. The thrill is coarser, as if of a lower frequency, and although it can be felt by a finger placed on the artery this is because it is conducted towards it. It is felt more strongly just below the level of the valves, and altogether its localization is less precise. It is felt over a somewhat wider area. The infundibulum may also present as a thin-walled, aneurysm-like dilatation with a coarse thrill palpable at its base and conducted distally along the pulmonary arteries. Further information should be obtainable by means of direct pressure readings at different levels, but so far this has not been done successfully on the unopened heart.

Direct external examination of the heart in this way, coupled with pre-operative assessment, should provide enough information to decide whether a valvular stenosis exists.

The final observation should be direct valvulotomy through the wall of the ventricle, and it is intended to do this. It had been planned in the three cases next to be described, but at the actual operation it was felt to be wiser to omit it, chiefly on account of the uncertainty of how the heart would tolerate the extra manoeuvre. It is, after all, a serious and anxious step to perform a cardiectomy, and until one is more familiar with what these abnormal hearts will tolerate in the way of manipulation and interference it seems wiser to proceed cautiously step by step. With an operation of this sort one makes certain plans beforehand, but in the tension of the most critical phase of the operation it may be found easier not to attempt too much. It is nevertheless definitely desirable to include direct cardioscopy in the operative assessment.

Although the cardioscope is provided with a cutting knife which can be advanced under direct vision it was decided to use a special valvulotome for division of the stenosed valve in these first cases. This enables the stenosis

to be located and divided almost instantaneously, whereas the operating cardioscope might well entail considerable fumbling and uncertainty. The valvulotome used has a gently curved shaft ending in a blade shaped like a spear-head and carrying a short probe-end; the two edges proximal to the probe-end are cutting; the shoulders and the retreating edges are blunt. This instrument was also made for me by Mr. Schrantz. A pair of gently curved dilating forceps with fine blades, rather like a curved sinus forceps, are also used after the valvulotome.

Case 1

Miss D. N., aged 18, had been cyanosed from birth. She walked and talked at a normal age, but always had great disability in getting about, and during the winter could not walk at all outside the house; in the summer, unless it was too hot, she could sometimes walk as much as 200 to 300 yards, although in recent years she could rarely manage more than 50 yards. She squatted as soon as she learnt to walk, and continued the habit when older, although her mother tried to stop it. She found that nothing relieved her discomfort so quickly after walking, and needed to do this in the x-ray room after feeling exhausted when standing up for screening.

Her cyanosis was fairly severe, Grade III, though it did get less with complete rest on a warm day. It would get worse with emotion as well as with exertion, and was changed greatly by a minor effort like undressing. The nails showed Grade III clubbing. She had fairly severe cyanotic attacks as a child after feeding; and at 15 she spent a period of many months in bed, when her colour was exceptionally bad and her doctor thought she was not likely to survive.

The heart was not enlarged; there was a rough systolic murmur down the left side, loudest in the pulmonary area, and a faint systolic thrill; the pulmonary second sound was faint. Screening showed clear lung fields, a left-sided aorta, and no increased pulsation in the lung roots; the heart was not generally enlarged. Electrocardiograms revealed extreme right ventricular preponderance. Blood pressure was 110/85. A blood count showed red cells, 7,400,000; Hb, 127%. The arterial oxygen saturation at rest (Dr. Zak) was 90.9%.

A diagnosis of Fallot's tetralogy was made.

Operation (Feb. 16, 1948)

Intratracheal cyclopropane was given by Dr. E. H. Rink, and an intravenous infusion of plasma (one bottle) was administered. A left inframammary incision was made and the chest was opened through the second left interspace with division of the second costal cartilage; many collateral vessels were met with. As soon as the chest was opened the heart's action became very feeble and slow—less than 50; the general condition was poor and gave considerable anxiety. The left pulmonary artery was small, thin walled, and of low tension, and the anaesthetist felt that the patient would not tolerate its occlusion for a Blalock operation.

Palpation of the pulmonary artery area revealed a thrill suggestive of a valvular stenosis. The pericardium was opened and the pulmonary artery was seen to be slightly dilated in its first part and showed no sinuses of Valsalva. The thrill was of a thrilike character and was situated exactly in the position of the pulmonary valves; moreover, what appeared to be a single valve could be felt through the vessel wall. No thrill could be felt lower down. It was decided to perform valvulotomy.

Three or four of three interlocking mattress sutures of linen were inserted in the wall of the right ventricle, which was then pulled out between them; the pressure within the ventricle was 24 cm. of saline. The wall was 1.25 cm. thick. The mattress sutures were crossed and held by an assistant so as to pull the heart out from the incision. The curved valvulotome was inserted and passed effortlessly into the pulmonary artery, and the valve was then passed and opened fully. The heart was then pushed and opened fully. The heart's four valves were closed by two mattress sutures each, and the pericardium sown to it; the chest was closed and the patient given 10% glucose solution.

The thrill persisted, but its character changed from a fine jet-like nature to a coarser one of lower frequency; the pulse-wave could be clearly seen within the pulmonary artery. The colour was poor at the end of the operation in spite of a good respiratory exchange.

Post-operative Course

The patient's condition was grave after the operation and her colour was bad even with oxygen. She showed little improvement until Feb. 20, when her colour was better and her blood pressure had slowly risen to 120/80. The heart was very large on Feb. 18, suggesting grave dilatation, possibly due to profound alteration in mechanics; it was much smaller by Feb. 21 and her colour had improved further. A systolic murmur could still be heard.

She made steady improvement as regards her heart, but on the evening of Feb. 24 she complained of sudden severe pain in both legs with loss of movement and sensation. Unfortunately the full significance of this was not appreciated, and I was not informed until more than 24 hours later. By this time the right leg had improved, but the left leg was cold, pulseless, pale, painful, and insensitive. It was clear that an arterial occlusion was present, probably embolic, but it was considered to be too late to justify exploration. Further improvement occurred in the legs, and all peripheral pulses could be felt on the right but not on the left. Two or three superficial ulcers appeared around the left ankle; these have since healed. The condition of the legs delayed her getting up, but her colour remained good except for occasional mild cyanosis with emotion and when she first began to get out of bed. She was allowed home on March 18, at which time her red cell count was 6,200,000, Hb 119%, and arterial oxygen saturation 79.6%.

She was seen on April 10 and had made good progress. There was no cyanosis, the finger-nails were pink, and she walked about the room without dyspnoea although there was a slight suggestion of cyanosis. She no longer squats. Her relatives are most emphatic that the relief of cyanosis and of dyspnoea is impressive. They emphasize especially the absence of dyspnoea, which had always been a marked feature even at rest.

Comment.—It is as yet too early to assess the results of operation completely in this case. The condition of the left leg has prevented full test of activity. It would appear that a sharp watch must be kept in these cases for symptoms suggesting arterial embolism and prompt action taken. There has been definite improvement in the cardiac condition, although less than hoped for. The prognosis in these older patients is less certain, and from her behaviour under anaesthesia she might not have tolerated a Blalock's operation. She would appear to be an example of Fallot's tetralogy with a valvular stenosis, although probably some degree of subvalvular stenosis exists as well.

Case 2

Gwenda B., aged 11, the youngest of eight children, had been obviously cyanosed at 6 months, though blue lips had been noted before this. She walked at 1 year and squatted as soon as she walked; she was never able to walk more than 100 yards without distress, although she could sometimes manage as much as half a mile by getting very breathless. Cyanosis was extreme, ranging from Grade III to Grade IV; the fingers showed Grade III clubbing. She was well developed physically and could walk about the ward without getting breathless.

The heart was sabot-shaped, with the apex raised off the diaphragm. The aorta was right-sided. A faint thrill was felt in the pulmonary area on one occasion; a loud systolic murmur was maximum in the pulmonary area and widely conducted. The blood pressure was 95/65; electrocardiograms showed gross right ventricular preponderance. The lung fields were clear and there was no pulsation. Red cells, 8,700,000; Hb, 156%; haematocrit, 77.5%.

A diagnosis of Fallot's tetralogy was made.

VALVULOTOMY FOR PULMONARY STENOSIS

Operation (Feb. 19, 1948)

Intratracheal cyclopropane was given by Dr. Helliwell, and one bottle of plasma was infused intravenously. A left inframammary incision was made and the chest was opened through the second left intercostal space with division of the second costal cartilage. There were numerous collateral vessels; the left pulmonary artery was small. The pericardium was opened and the main pulmonary artery was also found to be small, being about 1.25 cm. in diameter; it was of low tension and there were no sinuses of Valsalva. A fine faint thrill could be felt in the position of the valves but not in the subvalvular position. After some deliberation it was decided to perform valvulotomy.

The right ventricle was opened and the valvulotome passed: it met with definite resistance at the valves, and slight pressure carried it into the pulmonary artery; dilating forceps were passed and opened widely. Free bleeding occurred from the heart, and during manipulations the pulse became poor in quality but soon improved. The cardiectomy incision was closed with four sutures; the pericardium was sewn down over the suture line. The general condition was fair, although the colour was poor: it had been poor at the beginning of the operation. The blood pressure was 85/55, as opposed to 90/60 at the beginning.

Post-operative Course

The patient was very blue, even in the oxygen tent, for the first 24 hours; her colour then began to improve very slowly but steadily, and by Feb. 27 was reasonably good. Her progress was then rapid, and in fact by March 1 she was out of bed and visited the next ward, where she sat at table for a birthday party with other children without any distress. She was very soon able to walk freely about the ward and even down to the x-ray department, and maintained her good pink colour. This was in marked contrast to her constant cyanosis before operation. The arterial oxygen saturation (March 21) was 81%, but she was crying and distressed during the arterial puncture.

She was discharged home on March 25, the blood count at that time being: red cells, 6 millions; Hb. 116%; haematocrit, 56. She had ceased to squat.

She was seen on June 4 when she looked well and was a good colour; her mother said that her exercise tolerance was greatly improved and she was now able to run, a thing she could never do before the operation. The mother particularly remarked upon the normal colour of the nails, which had always been blue. The child walked normally to the x-ray department for screening, but although she showed no dyspnoea a slight tinge of cyanosis could be seen in the cheeks. This is not uncommon on exercise after a successful Blalock operation.

Comment—This would appear to be a case of Fallot's tetralogy with a valvular stenosis; the hypoplasia of the pulmonary artery strongly suggests that a degree of subvalvular stenosis is present as well. Nevertheless, the result of valvulotomy has been most encouraging. The colour and clinical improvement are as good as after a successful Blalock operation.

Case 3

Miss R. C., aged 23, had been cyanosed since birth and did not walk until 3 years old. She was never allowed to go to school and dyspnoea had always been extreme. As a child she was able to play with other children, but had to rest frequently by squatting. She has always squatted, and even sleeps prepped up with her legs curled up. Until the age of 18 she was able to walk perhaps 50 yards without stopping and could go considerably further with frequent rests. About five years ago, however, she became much worse quite suddenly, and found she could do very little without extreme distress. In fact, until October, 1947, she remained almost wholly in bed or on a couch, moving only from bedroom to sitting-room; any effort, even moving in bed, provoked dyspnoea and pain across the chest. In October, 1947, she spent five weeks in the National Heart Hospital, and with encouragement found she was able to do a little more; for instance, she could just about walk the length of the ward and could sit up for meals.

She was poorly covered; finger clubbing was Grade I and cyanosis Grade I (i.e., not cyanosed at rest in bed): there was

extreme dyspnoea with rapidly developing cyanosis on walking; the blood pressure was 115/70. The heart was not enlarged, although the apex was raised a considerable distance from the diaphragm, suggesting right ventricular hypertrophy; a definite rounded shadow in the region of the "census" suggested a minor degree of aneurysmal dilatation of the pulmonary artery. Perhaps a slight thrill could be felt in the pulmonary area; a harsh systolic murmur, loudest in the pulmonary area, was audible all over the praecordium and also at the back of the left chest. On screening, the lung fields were clear and showed no pulsation. Red cells, 6,500,000; Hb. 128%; haematocrit, 56. Circulation time (Dr. Allant): arm to tongue, 10.5 seconds; arm to lung, 8.4 seconds (indicates right to left shunt).

Cardiac catheterization (Drs. Zak and Hollings): pressure in right ventricle, 53 mm. Hg; pressure in pulmonary artery, 12 mm. Hg. Oxygen saturation in superior vena cava, 56%; in right pulmonary artery, 67%; in femoral artery, 77%. This was taken to indicate pulmonary stenosis with a right to left shunt.

A diagnosis of Fallot's tetralogy was made, although the presence of an associated valvular stenosis was considered probable.

Operation (March 23, 1948)

Intratracheal cyclopropane was given by Dr. Helliwell. Two bottles of plasma were infused, followed by one bottle of blood. A left inframammary incision was made and the chest opened through the second interspace, with later division of the second and third costal cartilages; a considerable number of collateral vessels were encountered.

As soon as the heart was exposed the smooth globular dilatation of the pulmonary artery within the pericardium was seen; a fine jetlike thrill could also be felt. The pericardium was opened, the pulmonary artery was now seen to be dilated to a diameter of about 2.5 cm. and was thin-walled, with dark blood easily seen through it. The artery beyond the dilatation was 1.5 cm. in diameter. There were no sinuses of Valsalva. Careful palpation again confirmed the jetlike nature of the thrill, which seemed to arise from the level of the valves; moreover, at times it seemed as if one could actually see the white cone of the valvular stenosis through the thin wall.

In addition to applying swabs wet with procaine solution to the heart 1 ml. was injected into the wall of the ventricle. A double row of mattress sutures was inserted and a small incision made to allow a curved cannula to be introduced. The pressure in the ventricle was only 5 cm. of saline, and was the same in the pulmonary artery; it was felt that this low pressure was the result of manipulation of the heart. A probe 3 mm. in diameter was now passed into the ventricle, and was felt to catch on the valves, suggesting a diaphragmatic stenosis. It was decided not to pass a cardioscope in view of the low blood pressure.

The valvulotome was now inserted, and was felt to catch on the valves and then to pass on into the pulmonary artery. After a pause the valves were further dilated with forceps. A pressure reading was again taken; this showed a mean of 15 cm. of saline in both the ventricle and the pulmonary artery, with obvious fluctuation in systole and diastole. The incision was now closed with three mattress sutures; the pericardium was not sewn to it.

The general condition at the end of the operation was satisfactory; the systolic blood pressure was 70 mm. Hg.

Post-operative Course

Although the patient began to come round at the end of the operation she became very drowsy the same evening, and on the next morning was still drowsy and had a complete left-sided hemiplegia. She was slightly blue even in the oxygen tent. Dr. McArdle, who saw her, thought the hemiplegia might be due to an embolism rather than to thrombosis.

Her general condition steadily improved and her colour became and remained a good pink. The paralysis showed no sign of improvement for over three weeks. By April 22 she was able to move the upper arm, elbow, hip, and knee, but hand and foot movements were still absent. At that time she was up most of the day in a chair with no distress. Red cells,

4,000,000; Hb, 92; haematocrit, 48. On April 27 arterial oxygen saturation was 88.5%.

Comment.—There seems little doubt that there has been considerable improvement in the cardiac condition, and the fall in blood count and haematocrit reading (both of which are now normal) and the rise in the oxygen saturation percentage are most encouraging. Unfortunately the persistence of the hemiplegia makes it impossible to assess the actual functional improvement. It is thought that the paralytic will soon improve enough to allow the patient to move about by herself.

Conclusion

These three cases are by no means precise, but the results are considered to be encouraging enough to be recorded in this preliminary communication. They serve, at any rate, to show that pulmonary valvulotomy is a feasible operation, and all three patients have survived the procedure. The result in the first may be classed as moderately successful so far; in the second the result is good; in the third it would appear to be good, but is as yet indeterminate functionally.

Two of the patients were of an age when the prognosis is ordinarily poor and when any operation carries a grave risk, both were very severely disabled. There can be no doubt that far better results are to be anticipated in younger patients, but it has not yet been possible to extend the operation to the younger age groups, although it is intended to do so.

The vascular complications in the first and third cases are disturbing and disappointing. The first case teaches

that a careful watch must be kept for signs of peripheral arterial embolism after cardiomy so that immediate amputation can be considered. Arterial thrombosis, even to the extent of hemiplegia, occurs with the Blalock operation just as often. Presumably it is most likely to occur when the blood pressure falls to a low figure for some time, especially in the presence of polycythaemia.

Much still remains to be done in the development of this operation in the treatment of "blue children" suffering from pulmonary stenosis, but the results in these three cases are encouraging enough to justify proceeding further with it. It should be made clear that it is not suggested that this operation is meant to supplant the Blalock operation. As it stands at present it is of use in only a small proportion of cases, until a method can be found to relieve the subvalvular stenosis (if indeed this is possible), the Blalock operation must continue to take precedence. However, unless the Blalock operation is considered to have solved the problem of *morbus caeruleus* completely, it is essential to try to develop new and alternative measures.

I am indebted to Dr. Maurice Campbell, under whose care all the patients were, for most of the case histories, which are made available here.

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B.C.G. VACCINATION: IS IT OF ANY VALUE IN CONTROL OF TUBERCULOSIS?

BY

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Several eminent German physicians who are about to introduce B.C.G. vaccination in Germany, thanks to the Scandinavian Red Cross, have called my attention to the article on this subject contributed to the *British Medical Journal* by Dr. G. S. Wilson (1947). From various quarters, including England, I have been requested to answer his criticism of B.C.G. vaccination, which has given rise to a certain hesitation and concern, since Dr. Wilson, as a member of the Medical Research Council, is a critic whose opinion carries considerable weight. As I introduced the most widely practised and, by Wilson, criticized method of B.C.G. vaccination and am largely responsible for its present widespread use in Sweden, and as, furthermore, I am prepared to help in introducing it to combat tuberculosis in the devastated countries of Europe, I feel prompted to test the value of Wilson's criticism.

I have no reason to disbelieve Wilson when he says that he is not prejudiced against B.C.G. vaccination; my faith in his objectivity is, however, put to a severe test by the manner in which he argues against B.C.G. In several points the criticism is undoubtedly justified, although corrected on unessentials; in many respects it is erroneous and unjust, not giving the impression of being sufficiently unbiased; and in all respects it overshoots the mark.

Investigations on Children

Wilson's quotation of my investigation (Wallgren, 1947) is entirely correct; I pointed out in that paper that it was not feasible to establish how large a part B.C.G. immunity had played in the favourable results reported. Other factors were contributory. Although many children were isolated until 3 months of age before being subject to exposure, after this period they nevertheless were exposed to virulent infection without falling ill from primary tuberculosis, save in a single case. This is a result which surely cannot be paralleled when dealing with children of this age if they have not been vaccinated before exposure to infection. Further experience has shown me that cases of clinical tuberculosis occurring after an adequately performed B.C.G. vaccination are extremely uncommon and remarkably benign. While primary pulmonary tuberculosis in a child unvaccinated with B.C.G. does not show any tendency towards radiographically demonstrable regression during the first six months, in a child who has been vaccinated with B.C.G. and who was still tuberculin-positive at the time of infection radiographs reveal that within this period the infection has virtually resolved. It is also remarkable that I have not seen a single adequately vaccinated child die from tuberculosis after having been infected, nor have I observed a single case of tuberculous meningitis among vaccinated children. Is, then, the scientifically calculated and statistically reported degree of immunity of such great importance if the effect of the vaccination is satisfactory?

Rosenthal and his co-workers (1945) have used a different method of vaccination (multiple punctures) from that which I have had experience (intradermal). Wilson is admittedly right in stating that the results of their ex-

diseases. They certainly are not so in our country. The prevention of clinical primary tuberculosis or pleurisy means a very great gain: children do not have to give up school for a period of three to six months or more; and adolescents and adults avoid unemployment because of illness during an equally protracted period, besides being subject to less risk of post-primary tuberculosis. This is perhaps the most demonstrable effect of the immunity conferred by B.C.G. vaccination. Therefore if one claims to give an unbiased and comprehensive evaluation of the effect of B.C.G. vaccination it is not fair to exclude these cases.

The fact that B.C.G. vaccination is particularly effective against the immediate dangers of virulent infection in the tuberculin-negative induced Heimbeck, in his group of pupil nurses, to transfer those who originally belonged to the tuberculin-negative group to the tuberculin-positive group a year after virulent infection. This has been criticized by Wilson, who claims that all the nurses should have remained in the group to which they belonged at the beginning of the study. Heimbeck (1947) publishes a table of his results with B.C.G. vaccination of pupil nurses during their three years' training: every nurse remains in the group in which she started at the beginning of her training period. He adds that these pupil nurses lived under exactly the same conditions, and that all of them were exposed to the same risk of contamination during training. The three groups were from the same period. It seems to me that this comparison thus fulfils Wilson's claim, and still the difference between the B.C.G.-vaccinated (morbidity 24.1, mortality 2.1 per 1,000 observation years) and the unvaccinated tuberculin-negative group (morbidity 141.2, mortality 14.6 per 1,000 observation years) is striking.

Alleged Difficulties and Disadvantages

The difficulties and disadvantages that the use of B.C.G. might entail are enumerated in seven points by Wilson. Let us discuss these alleged disadvantages.

1 *B.C.G. is a live vaccine that demands great care in preparation to avoid contaminants and must be used within one week.*—Is it not also necessary to exercise great care in the preparation of smallpox vaccine and therapeutic sera? B.C.G. has been used with success after the lapse of 10 to 14 days and this does not necessarily have to be used exclusively during the first week after preparation, although this is preferable.

2 *The virulence of B.C.G. is not fixed.*—This is correct and is also true of smallpox vaccine, but the virulence of B.C.G. vaccine from one and the same laboratory varies only slightly and never suddenly, and it is tested continuously. There is no risk of a B.C.G. vaccine becoming so virulent that it induces frank abscesses in all individuals. That this alleged disadvantage is negligible is shown by the fact that the dosage of the B.C.G. vaccine prepared in Sweden (0.05 mg.) is the same now as it was 20 years ago, and that throughout this period it has remained constant. A factor that varies, however, is the individual response to the vaccine. In a subject with a low resistance abscess formation may occur, but with a high resistance the same vaccine may not induce any reaction whatsoever. It is not very likely that B.C.G. resistance in the individual is parallel with his resistance against virulent tubercle bacilli, and therefore, notwithstanding the abscess formation, it must be regarded as beneficial and fortunate for the person with a low resistance that he is vaccinated with B.C.G. The person with a low resistance has perhaps did not acquire any specific immunity, but he has better prospects though lacking

extremely seldom we see any serious ulceration, and still more rare is the occurrence of a swelling of the regional lymph glands. Törnell (1947) found a local reaction of 10 by 10 mm. in only 2.8%. The slight ulceration that very commonly occurs is of no consequence. If the inoculation gave rise to distressing local reactions it is hardly likely that in Sweden tens of thousands of mothers annually would of their own initiative bring their children to the doctors to have them vaccinated with B.C.G. At any rate, they have from personal experience come to consider these local discomforts trivial in comparison with the benefit conferred by inoculation.

4 and 5. *Infants of tuberculous mothers must be separated at birth until B.C.G. vaccination has produced tuberculin sensitivity, or, if taken away after exposure, they must be separated for at least six weeks before inoculation.*—This cannot be a disadvantage exclusively confined to B.C.G. Does any physician of our day permit a tuberculin-negative infant or a child to remain in an infectious home in the presence of a case of open tuberculosis if there is any possibility of segregating it? In our country this would be branded as almost criminal and would undoubtedly lead to an admonition from the Medical Board. The difference between the B.C.G.-vaccinated children and non-vaccinated children is that the former may return to their infectious homes when the vaccination has taken, while the non-vaccinated must stay away while the source of infection remains. This curtailment of the period of isolation we in Sweden consider rather as one of the advantages of vaccination with B.C.G.

6. *Infants separated and kept in residential nurseries may be exposed to serious risk of cross-infection and die.*—May I ask: Is it less dangerous to keep the infant in its home and let it become infected with virulent tubercle bacilli? Are not the infants even now, before the introduction of B.C.G. vaccination in England, separated from their infectious surroundings, and if so, where and in what way are they cared for? Is the risk for an infant separated in order to be vaccinated with B.C.G. greater than for infants separated from their dangerous home without being vaccinated? I should think that the danger is greater in the latter, because the period of separation must certainly be much longer than the few months in the case of a vaccinated child. Out of 117 infants who were vaccinated at birth in 1928-33 and who at the follow-up examination in 1934 were at least 1 year old, only four had died during their first year of life. These infants were segregated in a nursery from birth until they were a few months old. These figures do not indicate that separation for B.C.G. vaccination, when carried out under satisfactory conditions, constitutes any great danger for the child.

7. *It is desirable to revaccinate at intervals in order to ensure the continuance of immunity.*—This is of course a drawback. In Sweden revaccination is not commonly done. The tuberculin-sensitivity has a duration of three, five, or ten years or more, and probably the immunity continues as long, perhaps even longer. At any rate, the protection has lasted during the most susceptible childhood ages, even if revaccination is not carried out at the end of the tuberculin sensitivity.

In this discussion I hope that Wilson's seven points have been judged according to their deserts.

Conclusion

Wilson shoulders a great responsibility when he endeavours to decrease the interest in B.C.G. vaccination and to discourage its introduction into his own country. Although he cautiously enough concludes by recommending experiments with B.C.G. vaccination in specially threatened groups of the population—nurses and physicians—he does not do even this whole-heartedly, seeing that he at the same time tries to depreciate the danger menacing these same groups, thus intimating the superfluity of such an experiment. It seems as though he were in fear of an unbiased trial, while we who uphold B.C.G. vaccination know that to make an adequate trial with B.C.G. is automatically to become an adherent of the method. The erroneous conclusions drawn by Wilson from cited statistical reports with reference to the danger of

tuberculosis in England have already been taken up in an editorial comment in the issue of the *British Medical Journal* in which his article appears. I therefore need not enter upon this subject.

Wilson does not stand alone in criticizing B.C.G. vaccination. I myself, 20 years ago, strongly censured the manner in which B.C.G. vaccination was then carried out, as well as the conclusions drawn (Wallgren, 1927); but later, when it was performed in a satisfactory way, I became a fervent supporter of the method. Levine and Sackett have expressed very strong opinions on the B.C.G. studies of other workers, but Wilson does not accept the work even of these authors, as the vaccinations were carried out without consideration of the fact that protection does not arise until the vaccine has taken. These two B.C.G. opponents had finally to admit that if they comply with that condition the mortality among the non-vaccinated infants is three times greater than that of the vaccinated infants; how many times greater then is the morbidity, of which one does not receive any information? Aronson and Palmer were rather sceptical with regard to B.C.G. when they undertook their investigation, intended to demonstrate whether B.C.G. had any effect. They learned by experience that B.C.G. satisfies even rather large demands as a protective measure. I am confident that Wilson also, if he really is willing to perform adequate investigations with B.C.G. under scientifically unimpeachable conditions, will by degrees come to be a protagonist of this method of vaccination.

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THE EFFICACY OF B.C.G. VACCINATION

BY

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Last year hundreds of thousands of young children and adolescents in war-ravaged Europe were tuberculin-tested and the non-reactors vaccinated against tuberculosis with B.C.G. This extensive campaign, which was initiated and financially sponsored by the Danish Red Cross Society, does not appear to be very well motivated if B.C.G. vaccination does not confer an increased protection against tuberculosis. According to Prof. G. S. Wilson (1947) the value of B.C.G. vaccination is rather problematic and in any case not definitely proved.

Difficulty of Procuring Control Material

The great difficulty in getting fully comparable control material is the reason why there is still debate about the efficacy of a prophylactic measure which has been in use for many years. In his famous novel *Martin Arrowsmith* Sinclair Lewis describes the difficulties met with when a scientific experiment is consistently conducted with living human beings as objects and alternate patients are taken as controls. Where mass investigations are concerned,

which require a certain amount of propaganda to induce the public to take active part, it is soon found to be impossible to treat only every other person. There will be letters to the daily press from agitated members of the community who have been refused permission to share in the new medical discovery. If it be announced that the method is still uncertain and must first be tested, the rumour arises that it is something dangerous. The result will be that only a small proportion of the public will volunteer, and hence, statistically viewed, the material will be to some extent a selected one. Nor is it possible in our modern community to inject sterile saline instead of vaccine into every alternate subject without publicly giving notice of this from the outset. Should such a measure be adopted in secret, the whole investigation would immediately become discredited when the first cases of disease appeared among those who had received only a simulated vaccination.

The difficulties enumerated here have been so great that at all centres in Scandinavia where the Calmette method has been used it has been considered necessary to abandon the statistically most trustworthy method of vaccinating alternate cases.

Primary Infection at Adult Age

How, then, has B.C.G. vaccination become so popular in Scandinavia without definite proof of its reliability? First we are convinced that pulmonary tuberculosis is nowadays very often a direct consequence of primary infection in adults (Heimbeck, 1928, 1929, 1936; Arborelius, 1930; Kristenson, 1932, 1933, 1942; Malmros and Hedvall, 1938, 1940; Törnell, 1939; Lstvedt, 1932; Frostad, 1944; S. Holm, 1947, and others). Consecutive tuberculin-testing has perhaps been used to a greater extent in Scandinavia than elsewhere, and we have been able to observe continually that previously Mantoux-negative adolescents fall ill with tuberculosis. Sometimes the primary infection produces symptoms similar to those of influenza or a "heavy cold." As a rule the radiographs then disclose a primary focus in the lung and enlarged hilar glands. In other cases it may have its onset as pleural effusion. Often, however, it initially runs an entirely symptomless course. In some of these cases, and in many of those that have had an initial fever or pleural effusion, the first radiographic lung changes that can be classed as genuine pulmonary tuberculosis appear some months later. Malmros and Hedvall showed that genuine progressive pulmonary tuberculosis often begins in these cases as small cloudy spots in the supraclavicular part of the lung or in the first intercostal space (subprimary initial foci). According to Heimbeck, Frostad, Hedvall (1946), and S. Holm, pulmonary tuberculosis can develop in some cases direct from the primary focus by progression out into the surrounding lung tissues or by liquefaction of the primary focus. The last-named has shown that no less than 34% of the cases that exhibit x-ray changes at the primary infection will later develop into genuine pulmonary tuberculosis.

Systematic tuberculin tests carried out before the onset of the disease—e.g., on probationer nurses and medical students—proved that those who were formerly tuberculin-negative were more liable to succumb. Some had relatively mild changes, others became seriously ill, and some cases were fatal. Heimbeck showed that a positive tuberculin reaction can be produced by B.C.G. vaccination, and it was a quite natural step to make an attempt to protect these tuberculin-negative adolescents by means of vaccination. Experience of the past few years seems to confirm the assumption that B.C.G. vaccination confers a certain amount of protection. Very few cases of tuberculosis have been observed among the vaccinated.

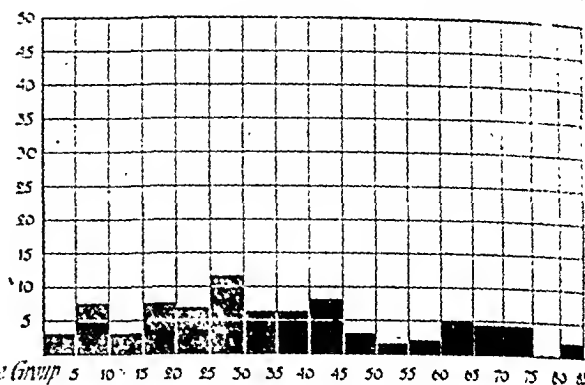
Personal Tests With B.C.G.

Since 1942 B.C.G. vaccination has been used to a great extent in Oerebro. The district covers an administrative area with about 230,000 inhabitants. Practically all the newborn are vaccinated. The whole population is successively and systematically tuberculin-tested and the non-reactors are vaccinated if they give their consent. So far, 22,413 persons have been vaccinated, 8,040 being newborn infants, 7,834 children over 1 year, and 6,537 adults. Within the district there are two tuberculosis sanatoria, one central hospital with medical and paediatric departments, and some smaller hospitals. When a case is admitted to any hospital with the diagnosis of tuberculosis or suspected tuberculosis it is ascertained whether the patient has been vaccinated with B.C.G. By this means it is possible to find out whether any of those vaccinated have developed tuberculosis. During the period 1942-7 only one such case has been discovered. This case is of special interest, and a brief report of it follows.

A probationer nurse aged 22 was B.C.G.-vaccinated before starting her hospital duties in 1943. A test one month later showed that she reacted very slightly to tuberculin (Mantoux 1:100). In 1944 the tuberculin reaction was checked and found to be negative; she was therefore again B.C.G. vaccinated. After this inoculation the tuberculin reaction was distinctly positive. At a control examination at the end of 1945, just before she was to begin service at a tuberculosis sanatorium, a tuberculin test did not give a definitely positive reaction. On account of shortage of staff, however, the physician allowed her to start work there in spite of her negative reaction. X-ray films showed no pulmonary changes. Two months later she was again tuberculin-tested, and was then found to be a strong reactor. Another x-ray film showed normal conditions. Some months later, however, she developed pleurisy with effusion. *Mycobacterium bacilli* could be demonstrated on culture and inoculation of pleural fluid. She is now healthy again, without x-ray changes in the lungs, and at full work. Nevertheless the case must be interpreted as tuberculosis—up to that time the only one known among 22,000 vaccinated persons. It is obvious that in this case vaccination had not given sufficient resistance. This was doubtless due to a deficient power of reaction.

Other Scandinavian Investigations

My material is certainly large, but the observation period is as yet too short to allow of any definite conclusions regarding the efficacy of B.C.G. vaccination. Investigations from other areas in Scandinavia, however, point in the same direction. In the small Danish island of Bornholm, where, according to Olsen (1943), more than 23% of the population have been vaccinated with B.C.G., the whole situation on the tuberculosis front has altered. As is shown in Graphs 1 and 2, the number of recognized new cases of tuberculosis in the age groups between 15 and 35 years has diminished considerably since B.C.G. vaccination was instituted on a



GRAPH 2.—New cases of pulmonary tuberculosis by age groups, in Bornholm, Denmark, 1941-5; 23% of the population are now B.C.G.-vaccinated.

large scale. It is within these ages that most cases of pulmonary tuberculosis are found. If in other countries, too, an appreciable change in the morbidity curve, with the disappearance of the high peak of pulmonary tuberculosis in the years of adolescence, should be obtained in the course of some ten years, this could be interpreted as a rather tangible manifestation of the efficacy of B.C.G. vaccination. This does not, however, amount to absolute proof, since the reduced number of cases might depend on improved hygiene, fewer bacillus-carriers, and other unknown factors.

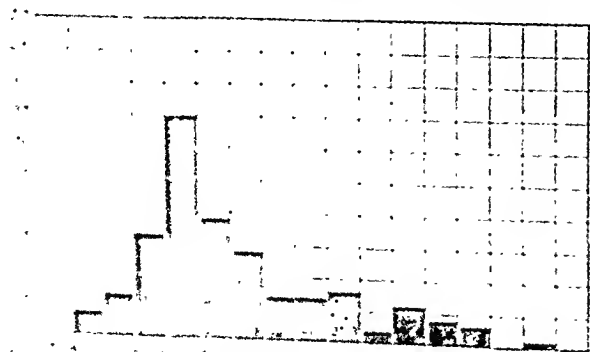
An Epidemic of Tuberculosis

Tage V. Hyge (1947) has published a work that would seem to furnish the best evidence hitherto advanced for the efficacy of B.C.G. vaccination. Although it only records a number of cases of tuberculosis at a school, the whole is as clear and unmistakable as if it had been a question of a well-planned laboratory experiment on hundreds of guinea-pigs. The events were briefly as follows.

At a girls' school in Copenhagen a case of pulmonary tuberculosis was discovered among the pupils in October, 1941. This led to a careful examination of all the pupils and the educational staff. In February, 1942, this examination was repeated, with the disclosure on tuberculin tests of 200 non-reactors among the pupils. Of these, 144 volunteered for B.C.G. vaccination. At a new compulsory examination of the whole school in December, 1942, the finding was 130 spontaneously tuberculin-positive, 133 tuberculin-positive after Calmette inoculation, and 105 tuberculin-negative (mainly newly admitted pupils).

In January-February, 1943, there broke out at the school an influenza-like epidemic which closer examination showed to be due to another tuberculous infection. The infection originated from a female teacher who taught in several forms. It was found that among 94 tuberculin-negative pupils who had been exposed to infection 70 had become tuberculin-positive. Of these, 41 had radiographic lung changes, and 37 had bacilli in the gastric lavage. The disease ran a benign course among all the younger pupils. Among those of 16-18 years, however, progressive pulmonary tuberculosis developed in nine cases, this generally starting as subprimary foci of the type described by Malmros and Hedvall. In only two cases did the pulmonary tuberculosis start from a primary focus (in one of these progression did not begin until two years after the infection). In six cases pneumothorax had to be carried out. One of the patients died of pulmonary tuberculosis.

Among 106 B.C.G.-vaccinated who had been exposed to infection there were two cases of pulmonary tuberculosis, and among 105 originally tuberculin-positive there were four cases (only two of these are considered by Hyge to be connected with the infection at the school). It is accordingly clear that B.C.G. vaccination does not, any more than does a tuberculous infection previously passed through, bring absolute protection. Compared with the tuberculin-negative, however, the two categories are in a substantially better position.



GRAPH 1.—New cases of tuberculosis by age groups, in Bornholm, Denmark, 1941-5.

Hyge's investigations clearly indicate the path we must take if we are to combat tuberculosis effectively—B.C.G. vaccination of all tuberculin-negative persons.

Supposed Difficulties and Disadvantages

In his article Wilson also discussed the difficulties and disadvantages which are thought to be involved in the use of B.C.G. vaccination. I fully agree with him when he maintains that very great care has to be taken in the preparation of the vaccine and in its distribution. All B.C.G. vaccine used in Sweden during the past few years has been prepared in a single laboratory and under Dr. A. Wassén's constant supervision. The strain employed for the preparation of the Swedish B.C.G. vaccine was obtained in 1926 from the Pasteur Institute in Paris and has since been kept "active" continuously. In the course of years vaccine has been prepared for hundreds of thousands of vaccinations. In not a single case has it been possible to demonstrate that the attenuated B.C.G. strain has regained its virulence.

Nowadays we are using only the intracutaneous method of injection, which was first proposed by Wallgren (1928). If the injection is made strictly into the superficial layers of the skin large ulcers are very seldom seen. In our series small ulcerations occurred in 11.6% of adults, in 10.4% of children, but in only 2.3% of infants (see Table I).

TABLE I.—Size of Ulceration in the Various Age Groups

Group	No. Vaccinated	Ulcerations			
		Small		Somewhat Larger*	
		No.	%	No.	%
Newborn	8,040	185	2.3	0	0
Children 1-15 years	7,836	816	10.4	126	1.6
Adults	6,537	756	11.6	47	0.7
Total	22,413	1,757	7.8	173	0.8

* Diameter more than 15 mm

The vaccination may very well be left to nurses, who quickly learn the injection technique when they have some practice with sterile sahne.

I tested Birkhaug's needle-puncture method with vaccine twenty times stronger in a small number of cases, but the result was not satisfactory. For instance, of 282 newborn children vaccinated by Birkhaug's method, only 57% were tuberculin-positive on being tested seven to eight weeks afterwards. On the other hand 8,040 newborn babies vaccinated by Wallgren's intracutaneous method with 0.05 mg. of vaccine reacted positively in 94.3% of the cases on being tested six to seven weeks later. Moreover, Birkhaug's apparatus is difficult to sterilize. If it is used for mass vaccination there may be a risk of, for instance, hepatitis virus being transmitted from one patient to another.

As is evident from Table II, the intracutaneous method gives very satisfactory results in newborn infants and older

TABLE II.—Results of Vaccination by the Intracutaneous Method

Group	No. Vaccinated	Tuberculin-Save 6-7 Weeks after Vaccination
Newborn	8,040	94.3%
Children 1-15 years vaccinated at the Central Hospital	2,051	96.8%
Adults vaccinated at the Central Hospital	2,735	93.7%
Adults and children vaccinated in Örebro City	7,475	99.1%

children, as well as in adults, a positive tuberculin reaction being obtained in over 90% in all the groups. Formerly it was thought, on the basis of theoretical speculations, that the newborn would not react so well. As experience now shows that this is not the case, there is no reason to postpone vaccination until a later period. On the contrary,

vaccination immediately after birth has five great advantages: (1) As most children are nowadays born in the lying-in wards of hospitals, this time is the very best if we want to vaccinate as many as possible. (2) There is no necessity for tuberculin-testing the children before vaccination, as all of them are undoubtedly tuberculin-negative at birth. (3) Abscesses very seldom occur in infants. I have never seen any large abscess develop after vaccination of the newborn. Such do occur, however, now and then in older children and in adults. (4) No difficulty is experienced in getting the mothers to allow their newborn babies to be B.C.G. vaccinated. Close upon 100% consent to the procedure. There does not seem to be any risk of B.C.G. vaccination of the babies causing the mothers to be scared of all kinds of protective inoculation. On the contrary, this vaccination is free from pain and gives such slight complications—if it is properly performed—that, if anything, it is a good advertisement for all preventive medicine. (5) After B.C.G. vaccination at infantile age the subsequent tuberculin-testing can be done without risk by the Mantoux method direct with 1 mg.

That infants of tuberculous mothers must be segregated for six to eight weeks after the vaccination can scarcely be ranked as a disadvantage of the method. Every medical officer conscious of his responsibility surely considers it a self-evident duty always to remove the newborn infant from a tuberculous infectious mother quite independently of whether the child has been vaccinated or not. If the child is not vaccinated, this segregation ought to continue until the mother recovers or dies. If the infant has been vaccinated, however, possibly the mother may be allowed to have charge of her child again when the latter has become definitely tuberculin-positive after the vaccination. It is obviously of the greatest importance that the infectiousness of the mothers should be discovered in time. For this reason all prospective mothers should be controlled by miniature radiography. (This procedure has been employed for many years as routine examination of all patients admitted to the Central Hospital.)

It has been claimed that the antibody-producing mechanism is not sufficiently developed in infants and that it would therefore be better to postpone the vaccination to a later point. As this can hardly be experimentally determined in man, one must content oneself with studying the behaviour of the tuberculin reaction. As stated earlier, a positive tuberculin reaction can be produced in the newborn by vaccination with the same dose of vaccine as is used for adults. The reaction becomes positive as early as six weeks afterwards and therefore does not argue in favour of a deficient reactivity. It has not been shown earlier whether the tuberculin reaction remains positive in cases of vaccination immediately after birth as long as in those in which vaccination has been undertaken at an older age. So far as can be judged from our material, however, no difference seems to exist in this respect. The period of observation is admittedly still short, but it seems that those vaccinated immediately after birth retain their positive reaction for several years. Thus, at an investigation of 284 children five years after they had been vaccinated at birth we found 95.1% still tuberculin-positive. By way of comparison it may be mentioned that of 638 children vaccinated at the age of 4 years, 99.2% were still tuberculin-positive on being tested three years later.

What People Ought to be Vaccinated?

The B.C.G. campaign should not by any means be confined to the newborn. Wherever a non-reactor is encountered he ought to be vaccinated. As indicated in Table III, there are also numerous non-reactors in the middle-age

Table III.—*Tuberculin Tests in the Rural Districts of Örebro County*

Age in Years	Non-reactors	Age in Years	Non-reactors
1-5 ..	9%	30-40 ..	11%
6-10 ..	8%	40-50 ..	6%
11-15 ..	8%	50-60 ..	4%
16-20 ..	3%	60-70 ..	4%
21-25 ..	2%	>70 ..	6%
26-30 ..	16%		

groups, especially in the rural districts. The administrative area of Örebro, where these investigations have been conducted, has many big industries and good communications. It is therefore probable that the high number of non-reactors found there is not an exceptional phenomenon but one applicable to many other districts both in Sweden and in other countries. If the B.C.G. vaccination of all non-reactors should meet with organizing difficulties, it could be initially confined to the newborn and to school-children just before the age of puberty. In addition, of course, all medical students, probationer nurses, and other hospital staff ought to be vaccinated, for it has been established by numerous investigations that these fall victims to tuberculosis to a greater extent than others.

Tuberculin Control and Revaccination.—Every vaccinated person ought to be tuberculin-tested six to seven weeks after the vaccination. Should the reaction not be positive, revaccination ought to be done. Later on control should also be undertaken now and then to see whether the tuberculin reaction is still positive, and in case of need vaccination should be repeated. Children vaccinated at birth may be conveniently controlled in the first and the last term at school. Probationer nurses and other hospital staff should be controlled before they start service at a sanatorium or other hospital ward where the risk of infection is particularly great.

Summary and Conclusions

The harmlessness of B.C.G. is established beyond doubt. If Wallgren's method is used and the vaccine in a dose of 0.05 mg. is injected strictly intracutaneously, large abscesses very seldom appear (0.8%). Small abscesses occur in about 7.8%. They heal, however, relatively soon and without giving any persistent lesions. In newborn infants abscesses occur much more rarely (0.3%) than in older children and in adults. Nor does B.C.G. vaccination involve any other unpleasant effects. Birkhaug's needle-puncture method cannot be recommended.

The newborn become tuberculin-positive after vaccination to the same extent as older children and adults, subsequently remaining positive for several years.

Of the 22,413 B.C.G. vaccinated cases during the period 1942-7 only one developed tuberculosis—a pleuritis in a probationer nurse who was tuberculin-negative in spite of two B.C.G. vaccinations.

In other places where B.C.G. vaccination has been employed to a great extent a definite impression has been made that it gives good protection against tuberculosis, although on account of the absence of controls this cannot be regarded as proved.

In earlier investigations published conjointly with Hedvall I have shown that pulmonary tuberculosis in adolescents often develops in connexion with a recent primary infection. Several of the Scandinavian investigators have arrived at a similar view. The investigation of a tuberculosis epidemic in a school has thus been placed it beyond all doubt that B.C.G. vaccination can prevent a development of progressive pulmonary tuberculosis in the majority of cases.

B.C.G. vaccination of all newborn infants and the vaccination of non-reactors, first proposed by Heimbeck, ought for this reason to be carried out to the greatest possible extent.

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EXPOSURE TO D.D.T.

BY

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AND

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Since 1943 some millions of people must have been exposed to D.D.T. in various forms and for varying periods of time, and it would appear from common experience that poisoning from D.D.T. in its insecticidal forms is most unlikely. Individual cases of poisoning have been recorded, but the effects of any solvent or vehicle used have seldom been completely ruled out. This applies especially to the common mixture of D.D.T. in kerosene.

In July, 1946, D.D.T. residual spraying on a large scale was started in Abadan, South Iran. The solvent used was commercial kerosene, and fairly frequent chemical examinations showed that a concentration of D.D.T. ranging from 3 to 4% was being obtained. Also in use was a 25% solution of D.D.T. in "black oil" (a mixture of 75% gas oil and 25% fuel oil), which meant that there were three broad groups of exposed persons—the sprayers, the "black oilers," and the mixers.

The sprayers were young men of the sweeper class who were trained to apply D.D.T. in kerosene to the walls of quarters and outhouses as a residual spray. The apparatus used was a standard "Four Oaks" knapsack spraying machine with a fine nozzle. The sprayers were organized in gangs, each gang being responsible for the spraying of a given housing area once every two months. The exposure was twofold—by the skin and by inhalation.

The "black oilers" were trained searchers for mosquito larvae. They carried a 1-litre can full of 2.5% solution of D.D.T. in gas-oil-fuel-oil mixture, and when they found mosquito larvae they sprinkled this solution on the breeding-place and reported it on returning to the office at night. The exposure was by the skin only.

The mixers prepared both solutions in a yard. The first step was to prepare a sludge of D.D.T. by crushing the powder in solvent in a 4-gallon (18-litre) tin and transferring the sludge to a 30-gallon (136-litre) drum of solvent. Difficulty in obtaining rapid solution was experienced, especially in the winter, which accounts for the fluctuation in the final concentrations obtained. The exposure in this case was by the skin only.

After nine months of this fairly continuous exposure it was felt that an opportunity presented itself of attempting to assess the occurrence of any deterioration in health. Accordingly, those who had been exposed to D.D.T., numbering 32 in all, were clinically examined and the results recorded on a standard card. A control group of 36 sanitary workers were examined by the same means. The sanitary

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inside on their use under the conditions pertaining in Abadan, where the maximum shade temperature may rise to 123° F. (50.55° C.), and was maintained during the summer of 1947 at a daily average of over 110° F. (43.3° C.) for two months. The only equipment they would consent to use was overalls and goggles, and the latter but rarely. These workers therefore have spent their working days with D.D.T. in solution in contact with the skin of their hands, arms, and shoulders. They also inhaled it in fine droplets or mist as it emanated from the "Four Oaks" sprayer.

So far as this investigation goes there is no reason to believe that the continual use of D.D.T. in kerosene in a concentration of 3.1% gives rise to any toxic effects. We agree with Gordon (1946) that it is unfortunate that kerosene is the commonest, cheapest, and most readily available solvent, and would add our voice to his plea for the use of a less noxious solvent, or for the increased use of emulsions where these are practicable.

Summary

Iranian workers engaged in handling D.D.T. in oily solution were examined clinically and compared with a control group of sanitary workers, especially as regards weight and blood pressure without significant difference being observed. It would seem that intoxication is most unlikely to arise from exposure to D.D.T. in oily solution under the conditions of use described here, where the wearing of protective clothing is impossible.

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TRAUMATIC PSEUDO-CYST OF THE PANCREAS WITH PLEURAL EFFUSION REPORT OF TWO CASES

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The general features of cysts and fluid collections in relation to the pancreas are well known. The two cases here reported were associated with a left-sided pleural effusion and appear to be unusual enough to warrant publication.

Case 1

An R.A.F. sergeant aged 20 was crushed between two motor vehicles on Nov. 28, 1945, and was admitted to an R.A.F. General Hospital on the same day. He was found to have multiple fractures of the most important of which were fractures of the left side of the pelvis and of the lower end of the right rib. There was no apparent fracture of the ribs. He was at first treated on a plaster spica, and the wrist was immobilized in a plaster cast. After reduction of the fracture of the right radius and the left leg was placed in a Thomas's splint. Four days later the patient was moved to the left lower chest and his temperature was 101° F. (38.3° C.). The pyrexia gradually subsided. It was apparent that he had a considerable pleural effusion. This was confirmed by x-ray examination. Pleural fluid

to the amount of 10 ml. was aspirated for diagnostic purposes. It contained many red cells; of the leucocytes present 52% were polymorphonuclears and the remainder lymphocytes. As the fluid continued to increase, 1,090 ml. of blood-stained fluid was aspirated on Dec. 17 and 400 ml. on Jan. 5, 1946.

His temperature subsided after the initial fever, but rose to 100° F. (37.8° C.) on Jan. 7. He had no abdominal symptoms or physical signs until Jan. 8, when a swelling was noted in the left upper abdomen. This swelling rapidly increased in size and on the 9th presented a smooth, well-demarcated semi-circular edge which reached the midline in the epigastric region and extended downwards almost as far as the umbilicus. It appeared to originate beneath the left costal margin, did not move with respiration, and was dull on percussion. A radiograph of the chest showed that a moderate-sized pleural effusion was still present, and a film of the abdomen showed a clear shadow in the left upper abdomen which displaced the stomach to the right and the intestine downwards. The left pleural cavity was aspirated, but only 20 ml. of deeply blood-stained fluid could be withdrawn.

Various possible diagnoses were entertained at this time, but the presence of a rapidly enlarging abdominal swelling could not be readily reconciled with a pleural effusion becoming gradually more deeply blood-stained. It was thought that there might be a delayed rupture of the spleen, with a haematoma in the lesser sac. The abdomen was explored through a large subcostal incision under general anaesthesia on Jan. 9. A large cystic swelling was found to be occupying the left side of the upper part of the abdominal cavity. It was about 8 in. (20 cm.) in diameter and presented between the stomach and the transverse colon, displacing the former to the right and adherent to the thick wall of the cyst. The cyst wall was anchored to the anterior parietal peritoneum and was drained by a large tube brought out through a separate stab incision. The cyst contained about 1,100 ml. of clear yellowish fluid with a slightly green tinge. The diastatic index of the fluid was 10 units, and small amounts of trypsin were present, but no lipase. The patient made an uninterrupted recovery from the operation. By connecting the drainage-tube to a bottle beside the bed excretion of the skin was entirely avoided. By the first post-operative day the fistula had become dry and remained permanently so.

During convalescence the pancreatic function was further investigated. There was normal splitting of the faecal fat, and the glucose-tolerance curve was normal. The haemoglobin progressively diminished after operation. On Jan. 16, 150 ml. of blood-stained fluid was aspirated; eight days later on March 5 the patient was feeling very well. A radiograph of the chest showed that the effusion had completely disappeared. He was discharged on March 25, and when seen again on April 8 he had no abdominal symptoms and his wound remained soundly healed.

Case 2

An airman aged 21 was crushed between a wall and a motor vehicle on Nov. 20, 1945, while serving in Germany. He was admitted to a British general hospital and underwent laparotomy on the same day. A ruptured spleen was removed and an intraperitoneal abscess of the small intestine was reduced. At first he made a good recovery from the operation, but eight days later he developed a cough with blood-streaked sputum. A left-sided pleural effusion was discovered, and 16 days later, on Dec. 14, 850 ml. of orange-coloured fluid was aspirated. He was evacuated by air on Dec. 31, and was admitted to an R.A.F. general hospital in this country.

He complained only of occasional cramp-like pain in the left lower chest and upper abdomen. On examination he was rather thin, but the only definite abnormality was a left pleural effusion, confirmed by x-ray examination. On Jan. 3, 1946, 10 ml. of the fluid was aspirated for diagnostic purposes. It contained fairly numerous leucocytes, of which 92% were lymphocytes. It was sterile on culture. He had few symptoms, but showed little clinical improvement. On Jan. 16, 57 days after the accident, he vomited once, and himself noticed a swelling in the abdomen. None had been present when he was examined few days before, but now there was a large swelling in the left

TRAUMATIC PSEUDO-CYST OF THE PANCREAS

costal region. It felt tense and was somewhat tender. It extended downwards from beneath the left costal margin almost to the umbilicus, and, to the right, 1 in. (2.5 cm.) across the midline. It was dull on percussion, with a band of resonance crossing its lower part. Coming so soon after the fracture was made, its lower part. A midline upper abdominal incision was made and a laparotomy was undertaken under general anaesthesia. A large thick-walled fluid collection was immediately found. It filled the lesser peritoneal sac, and the stomach and transverse colon were spread out over its anterior wall, to which they were intimately adherent and from which they could not be separated without causing troublesome bleeding. It did not appear to be possible to perform an anastomosis between the stomach and the jejunum, and after aspirating 1,700 ml. of slightly blood-stained fluid a drainage-tube was inserted into the cyst between the stomach and the transverse colon. The cyst wall was anchored to the abdominal wall and the tube was brought out through a separate stab incision to the left of the main incision, which was then closed. There was a considerable ooze of blood from the wound on the first post-operative day, and as this was not affected by blood transfusion and by injection of 80 mg. of vitamin K, the wound was reopened under general anaesthesia. Numerous small bleeding-points in the superficial part of the wound were secured, and thenceforward progress was satisfactory.

The fluid drained from the cyst had a diastatic index of 8 units, and contained trypsin in fairly large amount, but lipase was not present. From 200 to 300 ml. of fluid was drained daily at first and was deeply blood-stained for three weeks. The 30th post-operative day the amount of discharge had greatly diminished and the tube was removed. Ten days later the discharge, although small in quantity, had produced an area of digestion around the sinus mouth. The reaction of the fluid was alkaline, and dressing with 1% acetic acid produced rapid improvement, although it was not until the 79th post-operative day that the sinus was finally healed. The pleural effusion rapidly subsided after operation, and a radiograph of the chest on Feb. 1 (15th post-operative day) showed that the fluid had absorbed. During convalescence the pancreatic function was normal, as judged by a glucose-tolerance curve and by splitting of the faecal fat. On March 20 barium meal showed normal appearances in the stomach and duodenum, without any displacement, filling, and emptying. Normal gall-bladder concentration, filling, and emptying. He was sent to a rehabilitation unit on April 16, and when four weeks later he was feeling quite well apart from becoming rather easily fatigued.

Discussion

Much the most common type of cyst of the pancreas is the "pseudo-cyst" due to the escape of pancreatic secretion into the tissues after injury or acute pancreatitis. The frequency of or associated with chronic pancreatitis is variable. Thus trauma in cases reported in the literature is variable. Judd (1921), McWhorter (1925) of 134 cases recorded by Judd (1921), Koucky, Beck, and Todd (1941), Rabinovitch and Pines (1942), Johnson and Judd, Mattson, and Mahorner (1931), Johnson and Todd (1941), Rabinovitch and Pines (1942), 14 (9.6%) appear to have been preceded by significant trauma. On the other hand, almost a quarter of the cases in the large series collected by Koerte (1898) and by Takayasu (1898) had a history of injury.

The two cases now reported are peculiar in that each was accompanied by a large left-sided pleural effusion, an association which does not seem to have been previously noted. The cause of the effusion was the result of injury to the chest wall or lung at the time of the initial accident. In Case 1 there may have been a small haemothorax which in turn excited a reactive effusion. In Case 2 a post-traumatic consolidation of the lung may well have caused a pleural effusion. It is unfortunate that there

was no reason for giving particular attention to the chest in the early stages of the illnesses, but no sign of a fracture of the ribs could be seen in radiographs of the chest taken after the effusion had cleared. Injury to the lung may, of course, occur even in the absence of obvious fracture of the ribs. Other possible causes of effusion would appear to be pulmonary infarction, or a reaction to the diaphragm. But irritating fluid under the left dome of the lung, and it is very rare after infarction of the lung, and it seems certain that a reactive effusion would have been noted in other reported cases of pseudo-pancreatic cyst if this sequence of events was at all common. Furthermore it is not possible to reconcile the deeply blood-stained fluid noted in Case I with the irritation hypothesis.

One other feature of these two cases calls for comment. It is that increase in the size of the swelling in the abdomen took place very rapidly—indeed, in the first case causing some alarm on this account. Koucky, Beck, and Todd (1941) reported six cases in which a pancreatic pseudo-cyst ruptured spontaneously into the general peritoneal cavity. Four of these patients died. It is evident that the rapid enlargement of a swelling suspected of being a pseudo-cyst of the pancreas is an indication for early operative treatment without too much delay on account of uncertainty of diagnosis.

The usual method of treatment of a pancreatic pseudo-cyst in the past has been simple drainage, and this gives results which appear on the whole to be satisfactory. Sometimes secondary pancreatic fistula needs further treatment—e.g. by implantation into the stomach (Gutierrez, 1926) or by radiotherapy (Culler, 1920; Hamilton, 1922). Where it is practicable the most satisfactory operative procedure would seem to be primary anastomosis of the cyst to the stomach (Mahadevan, 1943) or to the jejunum (Chesterman, 1943); it may not always be technically possible on account of the situation of the cyst and the nature of its wall. Treatment by repeated aspiration is both ineffective and dangerous.

Summary

Two cases of pancreatic pseudo-cyst following closed abdomino-thoracic injury are described. Both were associated with a left-sided pleural effusion which is thought to have been due to a concomitant injury to the chest wall or lung.

The aetiology and treatment are briefly discussed. I wish to express my thanks to Group Captain J. C. Scott and Wing Commander Christopher Hardwick, who referred these cases to me. Acknowledgment is also due to the Director General of Medical Services, Royal Air Force, for permission to publish details of these cases.

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The Mental Nurses' Subcommittee has recommended increased salary scales for post-registration student mental nurses. They are endorsed by the Nurses' Salary Committee and accepted by the Minister of Health. The total annual value of salary and emoluments now ranges from £230 to £250 according to qualifications.

BALANCED-PULSE GALVANISM

APPLICATION OF A NEW PRINCIPLE AVOIDING
IONIZATION EFFECTS

BY

C. E. G. WICKHAM, M.B., M.R.C.S.

*Wing Commander in Charge of R.A.F. Medical Supplies
Organization*

Ordinary methods of galvanic stimulation are associated with certain limiting disadvantages, chiefly the ionization effects, burning or pain, inseparable from prolonged unidirectional stimulation. These side-effects often preclude the use of current strong enough to produce adequate contraction in some denervated muscles, and so seriously limit the usefulness of this form of therapy. A number of valve-operated stimulators are on the market, but they normally provide only unidirectional current and require a reversal mechanism whereby the polarity can be reversed for a period sufficient to neutralize ionization effects. The necessity for such current reversal leads to unwanted cathode or anode closing contractions.

This communication describes an apparatus for galvanic stimulation free from such disadvantages. It was evolved at the suggestion of Professor H. J. Seddon, of the Wingfield-Morris Orthopaedic Hospital, Oxford, and Dr. C. B. Heald, at that time Consultant in Physical Medicine to the Royal Air Force, and was developed and produced in the laboratories and workshops of the Royal Air Force Medical Supplies Organization at the hands of Mr. R. Brennan, A.M.I.E.E., and Mr. B. C. Elliott. In view of the principle employed, it has been called a "balanced-pulse generator," and continuous clinical trials in Royal Air Force rehabilitation units over the past two years amply confirm that this principle overcomes the disadvantages of ordinary galvanism.

The principle of balanced-pulse galvanism is that when a slow sinusoidal wave-form is produced wherein a stimulating pulse of relatively high amplitude and short duration is followed by a pulse of opposite polarity, subliminal in amplitude and prolonged in duration, and the relative values of these pulses can be equalized or "balanced," then no ionization effects are produced at the active electrode. Mathematically

$$It=iT \text{ or } It-iT=0$$

where I = intensity of stimulating pulse current, t = duration of stimulating pulse current, i = intensity of opposing pulse current, and T = duration of opposing pulse current. By keeping the opposing pulse subliminal in intensity it produces no contraction, and by ensuring an almost "square" form to these pulse waves true galvanism effects are obtained. It has also been found that by giving a sloping wave-front of some 60 milliseconds' duration to the stimulating pulse the pain effect of stimulation is normally less than with ordinary galvanism. Fig. 1 shows cathode-ray oscil-

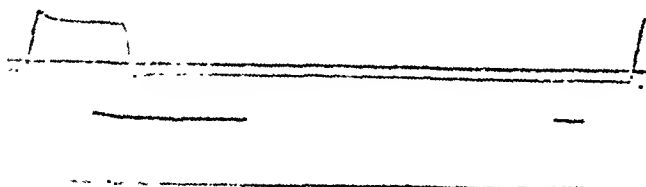


FIG. 1

lograph of the current produced by the balanced-pulse generator and the current produced by comparable intermittent unidirectional stimulation pulse of the balanced-

pulse generator has the following electrical characteristics: maximum peak voltage available, 150; milliamperes peak voltage available, 25; type of current, semi-sinusoidal (with subliminal reversal); pulse frequency, 0.5 cycle/second; pulse duration, 0.3 second; polarity, constant.

The advantages of employing this "balanced-pulse" principle are that, since ionization is eliminated, stimulation is less disturbing to the patient, who can now tolerate current far stronger than would otherwise be bearable; so allow of a more effective muscle contraction being attained. Furthermore, with the absence of any ionic burning or even reaction of erythema, longer treatment can be given at each sitting and there is no tissue damage to prevent the early re-employment of the same motor point for further treatments.

The electrical circuit of the generator employs three valve stages and a full-wave valve rectifier to furnish the necessary D.C. power from the normal A.C. mains supply. The first valve stage produces a sinusoidal output at 0.5 cycle per second. This frequency is a pre-set one, which, however, can be altered if required. The second valve "squares" the character of this sinusoidal wave by means of a pre-set variable bias control and regulates the ratio between the pulse and its quiescent period. This ratio is arbitrarily fixed at 1:5. The third valve stage provides a balancing component, which is capable of variation through a pre-set potentiometer. This balancing component cater with outputs up to a predetermined limit, and for settings are required if higher outputs are used, otherwise ionization will occur. To avoid ionization effects, settings must be so prearranged that the product of "pulse amplitude" and "time," for both pulse and quiescent phase are equal—i.e., the areas covered by the wave forms on either side of the datum line must be equal.

The apparatus has proved to be very simple in operation there being only two panel controls to operate. These are an output-control knob and a meter-resistance switch whereby easily readable deflections of the centrally mounted output milliammeter may be obtained throughout the whole range of output available (see Fig. 2).

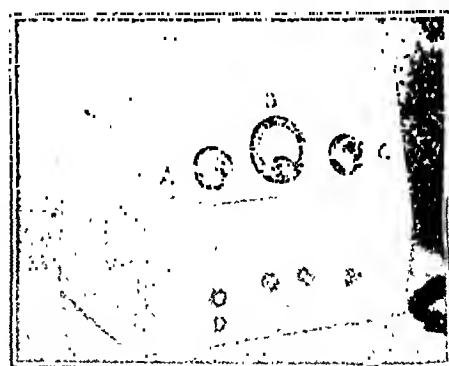


FIG. 2

Work is now proceeding to improve on the present apparatus so that, instead of a single arbitrary type of balanced pulse being produced, a selection of pulses with varying durations and at different frequencies will be available. Among other advantages this apparatus will include an improved balancing network which will be correct for all values of patient load and output-control setting. This it is felt, should provide a greatly improved replacement for the existing types of stimulators which do not utilize the balanced-pulse principle. Such an apparatus would allow accurate calibration of doses and permit currents with the characteristics found best suited to each individual case to be recorded and repeatedly applied as necessary.

Summary

A valve-operated stimulator is described whereby interrupted galvanism, free from ionization side-effects, can be given. The principle employed in the production of the current ensures freedom from ionic burning at the active electrode without the use of any current-reversal mechanism, and treatment from this source of galvanism is less painful and avoids tissue damage at the motor point.

I am indebted to the Director General of the Royal Air Force Medical Services for permission to publish this communication, and Squadron-Leaders E. F. Mason and W. J. W. Sharrard for many technical reports and much helpful advice and criticism.

Medical Memoranda

Coronary Artery Disease, Hypertension, and Hypercholesterolaemic Xanthomatosis

It is our purpose to draw attention to a well-defined clinical syndrome of related cutaneous and cardiac disease, and to illustrate the condition by reference to two cases. Substernal discomfort related to effort, or vague dyspeptic symptoms occurring in patients showing cutaneous xanthomata, should be carefully investigated.

Atheroma of the coronary arteries is undoubtedly the commonest cause of angina pectoris or cardiac infarction, and is occasionally associated with a hypercholesterolaemic cutaneous xanthomatosis. The precise relationship in man of a raised blood lipid and atheroma of the arteries is not yet clear. It may be that primary cutaneous xanthomatosis of the hypercholesterolaemic type with atheroma represents a disturbed intracellular lipid metabolism (Thannhauser, 1940). It is important to recognize this syndrome, as it may appear in relatively young persons and has a grave prognosis (*British Medical Journal*, 1939). The following two case histories are believed to be examples of this condition.

CASE 1

A housewife aged 42 had had scarlet fever at the age of 6, but had no history of any other significant illness. Her father, aged 65, was hypertensive and had experienced two hypertensive cerebral attacks. The patient had made a slow recovery from a pre-eclampsia 17 years before. Following this she began to have atulent dyspepsia and substernal discomfort.

When seen by a consultant physician four years previously she described two distinct thoracic pains: a burning sensation in the substernal region which might come on at any time, and a substernal discomfort which gripped her chest and was brought on by exertion, forcing her to rest. For these symptoms cholecystectomy was performed 12 months later. She had observed the condition to be progressive. During the three months before admission to hospital she had been forced to rest when walking up the slight incline to her house. There were no other significant symptoms.

The positive findings on examination were: xanthoma palpebrarum without other skin lesions; blood pressure of 200/130; minimal retinal arteriosclerosis; and normal cardiovascular outline and excretory pyelogram. Examination of the oesophagus with barium did not show any evidence of cardiospasm. The electrocardiogram was within normal limits. The blood non-protein nitrogen was 27-30 mg. per 100 ml., and the serum cholesterol 420-500 mg. per 100 ml. The urine was entirely normal, as was a modified urea-concentration test (McGeorge, 1945). A Smithwick lumbo-dorsal plasmapheresis was performed.

CASE 2

A housewife aged 48 had suffered from scarlet fever complicated by otitis media at the age of 3, and a hysterectomy for fibroids had been performed at the age of 46. Her mother had died at the age of 69 from coronary artery disease. An interesting family history of xanthomatosis was elicited: two female first cousins (on the paternal side), aged 48 and 50, being affected by xanthomatosis of the skin of a few years' duration. The patient did not smoke or drink.

Three and a half years before admission she began to experience pain in the chest and palpitation for the previous six to nine months the pain had become more severe. It was classically anginal in type, was brought on by slight exercise, excitement, meals, or cold weather, and was relieved by rest or glyceryl trinitrate. She had never had pain at rest or any prolonged thoracic pain. She had, in addition, of pain in the neck and jaws, right shoulder, and arm. She complained of flatulence but not nausea or vomiting. Menopausal symptoms had followed the hysterectomy.

The patient showed bright yellow xanthomata at the inner canthi of both eyes. The heart was normal in shape, size, position, and sounds; the blood pressure was 210/130; there was no albuminuria; the electrocardiogram was normal; the patient's serum cholesterol was 630 mg. per 100 ml. A lumbo-dorsal sympathectomy proved fatal. At necropsy advanced coronary and aortic atheroma was observed.

We wish to acknowledge the guidance of Prof. Henry Cohen and Dr. E. T. Baker-Bates.

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Torsion of the Gall-bladder

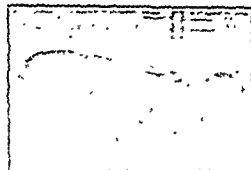
Torsion, or volvulus, of abdominal organs accounts for a fair proportion of acute emergencies. Ovarian cysts and the sigmoid colon are the commonest sites, but few, if any, abdominal organs are immune. The gall-bladder rarely undergoes torsion. When it does, early recognition of the need for operation is vital. Recovery is the rule after operation during the first 48 hours, but a high mortality attends operation delayed beyond this period.

CASE REPORT

A man aged 67 was admitted to Redhill County Hospital, Edgware, on June 15, 1946. He complained of colicky abdominal pain of increasing severity which had started on the previous day. He had vomited once. The bowels had not been opened despite the administration of an enema. He had had no similar symptoms previously and his health had been fairly good, though he had had some indigestion.

On examination the patient was pale and appeared toxic and rather septic. The temperature was 97° F (36.1° C), pulse 100. The tongue was very dirty. The heart was enlarged. There was board-like rigidity of the whole abdominal wall, with pronounced tenderness which was maximal in the right hypochondrium. No mass was felt.

Operation.—In the evening of the day of admission the abdomen was opened by an upper right paramedian incision. The black shiny fundus of the swollen gall-bladder (see accompanying photograph) immediately presented. Further inspection revealed a complete torsion of the neck and patches of gangrene on the body of the gall-bladder. The neck was unswollen and cholecystectomy was performed with great ease. The abdomen was closed without drainage.



Photograph of black, distended gall-bladder showing site of torsion

Post-operative Course.—For the first two or three days evidence of toxæmia persisted. Dirty fluid was aspirated from the stomach through a Ryle's tube, and 1 pint (570 ml.) of plasma and 1 pint of glucose-saline were given intravenously. Subsequently the patient improved rapidly. He was allowed up on the tenth post-operative day and left hospital in good health a week later.

COMMENT

Torsion of the gall-bladder occurred atypically in a male patient. The clinical picture conformed with the usual descriptions, but tenderness and rigidity of the abdominal wall prevented the palpation of a tumour. The gall-bladder had a short attachment by its neck to the liver. There were no gall-stones.

Torsion of the gall-bladder may be diagnosable pre-operatively if a rounded mobile swelling varying in hardness is palpable in the right hypochondrium; otherwise the condition is apt to be mistaken for acute cholecystitis, perforated duodenal ulcer, or acute appendicitis. Should non-operative treatment be contemplated on the basis of one of these diagnoses, the possibility of the existence of a strangulation, or a twisted gall-bladder, *inter alia*, should be carefully considered, for in such conditions delayed operation greatly jeopardizes the life of the patient.

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Reviews

ELECTROCARDIOGRAPHY

Unipolar Lead Electrocardiography. Including Standard Leads, Unipolar Extremity Leads and Multiple Unipolar Precordial Leads. By Emanuel Goldberger, B.S., M.D. (Pp. 182; 88 illustrations, 20s.) London: Henry Kimpton, 1947.

This book is a small classic. Here modern electrocardiographic interpretation is shown to rest on sound scientific criteria and to have outgrown empiricism. The author must be congratulated on presenting valuable data clearly, concisely, and methodically. No word or illustration is wasted. This is a book no cardiologist should be without. Dr. Goldberger maintains that an electrocardiogram should include precordial leads V1-6, unipolar extremity leads, and the three standard leads. Few who have bothered to use these leads will disagree. The author's augmented unipolar extremity leads are naturally preferred to Wilson's leads. He clearly explains the mathematical relationship between all the extremity leads and upholds the Einthoven triangle theory.

The left side of the interventricular septum is believed to be stimulated before any other part of the heart. This, followed by the outward spread of the excitation wave through the walls of the ventricles, is held responsible for the normal QR pattern in leads which face the left ventricular surface, for the QS pattern in leads which face the left ventricular cavity, for the RS pattern in leads which face the right ventricular surface, and for the RS pattern in leads which face the right ventricular cavity. The large Q wave in QR patterns seen in posterior V leads is attributed to the fact that such leads face the cavity as well as the surface of the left ventricle. All QRS configurations can be analysed in terms of these five basic patterns.

The author fully describes the effects of rotation in three planes. Rotation about the antero-posterior axis gives rise to the well-known vertical or horizontal positions. The QS complex seen in V1 with vertical hearts is ascribed to transmission of left ventricular cavity potentials to this lead. VF shows a QR pattern because it faces the surface of the left ventricle. Clockwise rotation about the longitudinal axis results in RS patterns from V1 to V4 or 5. Anti-clockwise rotation brings QR patterns further to the right than usual—i.e., to V3 or 4. Posterior rotation about the transverse axis, or backward tilting of the apex in vertical hearts, may cause both VR and VL to exhibit a QR pattern, reflecting potentials at the back of the heart, and lead VI may show an RS pattern because it faces the surface of the right ventricle.

With regard to maximum voltage he sets the limit at 12 mm in V1 (with horizontal hearts) and at 19 mm. in V1 (with vertical hearts). Higher voltage denotes left ventricular hypertrophy. Low voltage is accepted if the amplitude of QRS is less than 5 mm. in each of the augmented unipolar extremity leads.

The author distinguishes ventricular strain from ventricular hypertrophy and recognizes it by the occurrence of T-wave changes indicating a reversed direction of spread of the regression vector, and of certain parabolic QRS changes—that is, RS-T depression and T-wave inversion in V5 and 6 in left ventricular strain, and in V1-3 in right ventricular strain, QRS remaining normal.

The interpretation of the abnormal electrocardiogram follows the same principles but is everywhere coloured by the important consideration of the position of the heart and recognized by the characteristic changes in the extremity leads. For example, an inverted T wave in V1 and a QR pattern in V1 merely indicate a backward tilting of the apex. A QR pattern in V1 represents potentials at the

RECENT THERAPEUTICS

The 1947 Year Book of General Therapeutics. Edited by Oscar W. Bethica, Ph.M., M.D., F.A.C.P. (Pp. 455; illustrated, 21s.) Chicago: The Year Book Publishers. London: H. K. Lewis and Co. 1947.

Abstracts may be intended to indicate only the scope and contents of articles in a particular field of medical knowledge, serving merely as guides to fuller sources; but if they are made longer it should be to spare the busy general reader from having to seek the original. Editorial comment can help to restore the perspective altered by condensation. Conclusions given without the means of assessing the evidence for them may arouse curiosity, but they cannot uncritically be carried into practice. These principles have not always been followed in the abstracts that make up this book. The abstracts as well as the works from which they are drawn vary in quality, and the editor gives us little help in separating the good from the bad. Some of the most satisfactory abstracts are those in which original tables have been reproduced, and we wish more space could have been given to such original data. As it is many of the claims put forward for treatments old and new must appear dogmatic.

With these reservations this member of the "Year Book" series will help many to learn the recent progress in therapeutics for it provides in a conveniently accessible form the conclusions from some of the most important medical papers that have appeared in 1946 and 1947. The value of old remedies such as gold and salicylates is reassessed. The dangers and limitations of gold salts in rheumatoid arthritis are again stressed; BA may be a useful antidote to toxic reactions. The accounts of sulphonamides and penicillin do not take up so much space as in recent years; their uses are already well defined, but new ways of giving them are being investigated. A mixture of sulphonamides is safer than the equivalent dose of a single compound. Adequate blood levels of penicillin can be achieved with large doses by mouth, and caronamide and sodium benzoate delay excretion. For most of us streptomycin is still an untried antibiotic; we may look forward to using it in infections caused by Gram-negative bacilli and *Haemophilus influenzae*, but results in *Salmonella* and *Brucella* infections are discouraging. There are informative abstracts on BAL, thiouracil derivatives, including the promising propyl compound; the antihistamine drugs; the nitrogen mustards; and radiophosphorus. The pharmacologist provides several new preparations, including the insulin mixtures and curare. There are few results of recent vitamin research that require notice in clinical medicine. A few papers on folic acid have been included, but without warning of the risk of cord degeneration that patients with pernicious anaemia may suffer when treated with this remedy. Pyridoxin is being tried for radiation sickness. Some of the striking results of vitamin-D therapy for lupus vulgaris are summarized.

The effect of the war is still evident, for there are few contributions from the Continent of Europe; on the other hand we owe BAL and the nitrogen mustards to war research, and in the last few years there has been much good work on the treatment of tropical diseases which is now being brought together.

L. P. R. FOURMAN.

TEXTBOOK OF GYNAECOLOGY

Gynecology. With a section on Female Urology. By Lawrence R. Wharton, Ph.B., M.D. Second edition. (Pp. 1,027; 471 illustrations, 50s.) Philadelphia and London: W. B. Saunders Company, 1947.

The first edition of this book appeared in 1943 and was universally acclaimed as one of the great textbooks of gynaecology in the English language. The author has taken very great care in bringing the new edition up to date. He discusses most of the recent gynaecological work and has included many new illustrations. The paper is far better than that of the 1943 edition, and the new illustrations are of high quality. The sections on female urology are outside the province of British gynaecologists, although they may be studied with interest.

The arrangement of the book is open to criticism, for the action on the examination of the patient might more conveniently be placed before the descriptions of dysmenorrhoea and irregular haemorrhage. The book's main fault is the disproportion between the extreme detail of some parts and the superficiality of others. The author discusses carcinoma of the vulva very superficially and should have written much more on leucoplakia and kraurosis of the vulva. The chapter on ovarian tumours is inferior to the rest of the book. The literary style is harsh and often discordant. The sentences are short and to the point—rather like a mass production of Macaulay. The historical allusions are of very great interest and are well chosen, particularly the story of the work of Marion Sims on urinary fistulas and of McDowell's operations for the removal of ovarian tumours. On the other hand, the author does not mention Matthews Duncan's description of metropathia haemorrhagica, nor give priority to Percival Pott for removing both ovaries from a woman in the child-bearing period of life. Perhaps the most admirable feature of the book is the great emphasis the author places on the diagnosis of carcinoma of the cervix in its earliest stages and the very careful discussion of the aetiology of this form of carcinoma. All who teach gynaecology should study the pages after p. 493, on the treatment of carcinoma of the cervix. Throughout the book operative treatment is well described and well illustrated, in particular the Manchester-Fothergill operation, which is beautifully illustrated. The author emphasizes the interposition operation too much. The book is long, and, though not sufficiently comprehensive, should be invaluable to senior students of gynaecology.

WILFRED SHAW

OBSTETRICS FOR STUDENTS

Gynaecological Practice. By Alfred C. Beck, M.D. Fourth edition (Pp. 966; 1,068 illustrations. 38s. 6d.) Baltimore: The Williams and Wilkins Company. London: Baillière, Tindall and Cox 1947.

This book was first published in 1935 and is perhaps not so well known in Britain as other standard textbooks published in the U.S.A. It is intended for undergraduates and young practitioners, but we might expect that the former at least would be deterred by a book of nearly 1,000 pages. However, large clear print with ample spacing and profuse illustrations account for its size. The subject matter, with the possible exceptions of chapters on the physiology of the foetus and placenta and on the maternal metabolic changes during pregnancy (which are otherwise excellent), is not too detailed or advanced and makes for easy reading and learning. The illustrations, which are mainly simple line drawings, are basically the work of the author and constitute the most attractive feature of the book. Having studied these no student should find the slightest difficulty in understanding the various mechanisms of labour, pelvic anatomy, or obstetric manoeuvres.

The order in which the author discusses the subjects departs from tradition and has much to be said in its favour, although it is unfortunate that he describes pelvimetry in association with the management of labour rather than as a feature of antenatal care. The author never fails to refer to the physiological background when describing clinical conditions. The pen portraits of famous obstetricians of the past, which are interspersed throughout, serve to broaden the outlook of the reader and to arouse interest. Indeed, the book has many good points, but the chapter on analgesia and anaesthesia deserves special mention.

In general, however, the author's outlook on management and treatment is so conservative as to run the risk of being termed old-fashioned. This criticism applies especially to the sections on breech delivery and uterine action and its disorders, as well as many others, and to the attitude adopted throughout towards lower-segment caesarean section. For instance is pubiotomy really preferable to this operation in the treatment of mento-posterior position? It is unfortunate that the methods of treatment advocated tend to lag behind our knowledge of physiology and pathology, for the book has otherwise so much to commend it—above all its teaching diagrams.

T. N. A. JEFFCOATE

BOOKS RECEIVED

[Review is not precluded by notice here of book's recent receipt]

The Training of a Doctor. By the Medical Curriculum Committee of the B.M.A. (Pp. 151. 7s. 6d.) London: Butterworths. 1948.

This book was the subject of a leading article in the *Journal* of May 29 (p. 1033).

Mental Testing of Hebridean Children in Gaelic and English By C. A. Smith, M.A., B.Ed., and D. N. Lawrie, M.A., D.Sc. (Pp. 42. 1s.) London: University of London Press. 1948.

A monograph, with statistical analysis, on the testing of 415 children.

The Question of Lay Analysis. By Sigmund Freud (Pp. 91 9s.) London: Imago Publishing Coy. 1947.

An essay on psycho-analysis by laymen, first published in 1926.

Die Beiderseitige Nierensteinkrankheit. By Dr. B. Böhm. (Pp. 169. 60 Austrian shillings.) Vienna: Wilhelm Maudrich. 1948.

A monograph on bilateral renal lithiasis, with emphasis on treatment.

Ärztliche Rheokardiographie. By W. Holzer and K. Polzer. (Pp. 141. 15 Austrian shillings.) Vienna: Wilhelm Maudrich. 1948.

The author describes his method of electrocardiography with a special circuit.

Grundriss der klinischen Diagnostik. By Hans Homrath, M.D., D.Ph. (Pp. 698. Rm. 18.) Berlin: Urban und Schwarzenberg. 1947.

A manual of clinical diagnosis in medicine.

The Practice of Group Therapy. Edited by S. R. Slavson. (Pp. 271. 21s.) London: Pushkin Press. 1947.

Articles by American psychiatrists and psychologists on different aspects of group therapy.

Gynaecological and Obstetrical Anatomy. By C. F. V. Smeut, M.D., M.R.C.S., and F. Jacoby, M.D., Ph.D. 2nd ed. (Pp. 243. 30s.) London: Edward Arnold. 1948.

Intended primarily for undergraduate and postgraduate students.

Modern Mental Treatment. By E. C. Davy, M.B., B.S., B.Sc., D.P.M. (Pp. 83. 4s. 6d.) London: Faber and Faber. 1947.

An account of mental treatment by physical methods; intended for nurses.

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REMUNERATION OF SPECIALISTS

The Report of the Spens Committee on the Remuneration of Consultants and Specialists was published a week ago, and a slightly abridged version is printed elsewhere in this issue. The Committee took evidence from the Evidence Committee on the Remuneration of Consultants and the Specialists set up jointly by the Royal Colleges and the British Medical Association, and also separately from the 23 medical organizations represented on that Committee. Prof. A. Bradford Hill prepared for the Evidence Committee the necessary statistical information, and this was put at the disposal of the Spens Committee. Some of the results of Prof. Hill's inquiry are given in tables which are also reproduced in this *Journal*. The Spens Committee in its recommendations had to consider what were the normal financial expectations of specialist practice in the past, and what effect its proposals might have upon the recruitment of specialists and consultants (specialists for short) in the future. The information before the Committee related to incomes earned in the year 1938-9, and it is important to remember that the recommendations made are in terms of the 1939 value of money. The Report stresses that adjustments should take into account the changed value of money since then, and the increased incomes in the medical and other professions; but the comment might be made that the changes in income have in part at least been determined by the increased cost of living. The Report makes recommendations for the future of the potential specialist, and also for the existing specialist.

The Report makes recommendations for the remuneration of the potential specialist and the established specialist, and for the setting up of a national committee to distribute graded awards to those of outstanding ability. Its first set of recommendations will go far to remove the gravest handicap to the young man able and wanting to practise as a specialist. It is not so many years ago that one of the London teaching hospitals paid its sole medical registrar (non-resident) the salary of £250 a year. The Spens Committee considers that when a registrar post is reached the practitioner should not have to rely upon private means or upon such outside work as coaching to make it possible for him to live. It considers that remuneration for junior hospital posts in the past had little relation to the progressively responsible position of these posts, to the standard of living required of the practitioner, and to the need for freedom from financial worry during this part of his career. The Committee, therefore, proposes that the potential specialist should between the end of his first house job and his appointment to the staff be paid a salary which would be equivalent to a training grant and also corresponds to the status of a trainee in his skill and responsibility. It divides the first stage into three grades: (1) Posts obtained after registration, and (2) Posts obtained after completion of the first year of living. The Committee also holds that the salary should apply working in both teaching and non-teaching hospitals being related to the intention that in the future there should be a more uniform level of remuneration throughout the country, and a better distribution of specialists. But the Committee seems to have had some thoughts when in another part of the Report it suggests that those who combine clinical work with teaching should have a higher total remuneration. It is recommended for all specialists the retiring age should be 65. Coming to its second major problem the Committee recommends that a specialist appointed to a hospital staff should be paid £1,500 a year, provided he has reached the age of 32, which it takes to be the usual age of appointment. At the other end of the scale it considers that specialists of the highest eminence should be able to earn £5,000 a year—this, it should be remembered, is in terms of 1939 value of money. Between these ranges the average specialist on a hospital staff should by the age of 40 be paid £2,500 a year (1939 value). These recommendations, of course, apply to those working whole-time in the hospital service, and to the salaries recommended it is proposed to add expenses incurred in professional work, including matters as attending national and international professional meetings. To provide incentive and to reward outstanding work the Committee recommends that there should be an addition to the basic specialist salary of £2,500 for a fixed percentage of the total number of specialists. In the first instance an additional award of £2,500 a year to 4% of the

alists; in the second, an addition of £1,500 for 10%; in the third, an addition of £500 for 20%. All being whole-time in the public hospital service will be eligible for these awards; and those working part-time, for appropriate portions. The Committee then goes on to the controversial of its recommendations in its suggestion that these awards shall be made by a national committee, professional members of which are to be nominated by the Royal Colleges and the Scottish Royal Corporations, among its members a representative of the University and of the Medical Research Council. Consultants and specialists should scrutinize this recommendation with

We may imagine the embarrassment of such a committee if some of its members were still in Grade 3, or even Grade 2. The procedure contemplated will be open to abuse, even though such abuse might not be evident to the committee in session. We believe it is inadvisable that a committee composed largely of specialists working in this financial control over all specialists working in the National Health Service. Will the committee at its first meeting debar its own members from these awards? Surely there will be in the new hospital service positions of unusual responsibility demanding men of the highest calibre, and to such posts it would appear to be logical to attach the highest salaries recommended. The Report, for example, to the especially long training of the neurosurgeon and the thoracic surgeon. To take this as an example, would not the post of neurosurgeon to one or more regions call for a higher remuneration than the basic specialist salary of £2,500 a year? It is to be hoped that consultants and specialists generally will voice their opinions on this procedure, which is the one outstandingly satisfactory proposal in a Report which is likely to commend itself to those who will work as consultants and specialists in the new Service.

LIQUID PARAFFIN RISKS

Paraffinum liquidum (B.P.) is a refined product which must conform to certain specifications and which is generally believed to be free from substances harmful in themselves. Experimental and clinical observations support this belief. It is not to say that regular consumption of liquid paraffin in substantial quantities and over a long period, for whatever reason, is always desirable; recent evidence, indeed, would indicate that this is not so.

During the late war liquid paraffin (B.P.) for therapeutic use became increasingly scarce, and chemists were often unable to meet doctors' prescriptions. The scarcity was due partly to diminished production, but increased consumption was undoubtedly the main cause, not for medicinal purposes, however, but because liquid paraffin and indeed other mineral oils were being used as substitutes for fat in cooking. The practice began quite early in the war, and it seemed to increase *pari passu* with the decline of fat supplies. Food and drug authorities tried to check the commercial use of liquid paraffin for this purpose, but they could do little to stop its employment in domestic cookery. Indeed, some voluntary organizations were actively fostering the practice. The Ministries of Food and Health took what steps they could to discourage it,

but in the absence of clear evidence showing that harmful paraffin little effective action was possible.

In 1945, at the instigation of the Ministry of Health, workers at the University of Birmingham began to investigate the effects of liquid paraffin, heated and unheated, on nutrition. Liquid paraffin (B.P.) was used, and the heated samples were kept at certain temperatures for varying times, with and without aeration. The heating was of the same intensity and duration as that used for cooking cakes and other foodstuffs. The samples thus obtained contained variable amounts of oxidation and breakdown products. The biological investigations showed that the daily consumption by rats of raw or heated liquid paraffin (B.P.), in doses up to 2 ml. per 200 g. body weight daily, had no demonstrable effect on the growth or reproduction of rats over two generations. Some interference with vitamin A and carotene absorption was observed, especially when supplements of these substances were added to the diet. A large series of experiments showed that raw paraffin had no deleterious effect upon the activity of intestinal enzymes. Heated paraffin reduced lipolytic activity slightly, but this was not thought to have any biological significance. Workers in the U.S.A. have also demonstrated that the absorption of carotene and other fat-soluble vitamins is reduced by liquid paraffin.¹ In a series of experiments carried out in Chicago on human beings it was found that the faecal excretion of vitamin A and carotene was increased when mineral oil was added to the diet. At the same time the level of vitamin A in the plasma fell, though not to an abnormally low level.²

The effect of heating mineral oils and paraffin had previously been studied at the Royal Aircraft Establishment at Farnborough, and it had been noticed that high temperatures produced oxidation products with fluorescent spectra similar to those of carcinogenic substances. Investigations were later undertaken at the University of Oxford to ascertain whether these oxidation products possessed carcinogenic properties. Samples of heated paraffins which had been studied from the standpoint of nutrition at Birmingham were investigated at Oxford for their carcinogenic activity in a series of long-term biological experiments. No evidence of such activity was found, nor were cancerous changes in the alimentary tract observed during the long-term feeding experiments. It is, however, well known that cancer is extremely difficult to produce in the alimentary tract, even if potent carcinogens are given by mouth. It would be unwise, therefore, on the basis of these findings alone to exclude the protracted consumption of heated paraffin as a possible cause of cancer; the onset of this disease is too insidious to warrant such an optimistic attitude.

Frazer and his colleagues in Birmingham have shown that liquid paraffin is absorbed when administered in finely dispersed emulsions of particle size less than 0.5 μ . It is not known whether the oil is as finely dispersed in flour products, such as cakes and pastry, baked with liquid paraffin. Whatever the degree of dispersion, however, the continued ingestion over long periods of substantial

¹ Report of Council on Foods and Nutrition, *J. Amer. med. Ass.*, 1943, 123, 967.
² Mahle, A. E., and Patton, H. M., *Gastroenterology*, 1947, 9, 44.
³ Alvarez, W. C., *ibid.*, 1947, 9, 315.

amounts of paraffin may result in the deposition of paraffin in the intestinal wall, the mesenteric lymph glands, and in the liver.² Deposits in these tissues were found at necropsies on persons dying from various diseases who had consumed liquid paraffin for years. Paraffin is not metabolized, and continued ingestion presumably would lead to accumulations of the oil. Though we do not know the precise fate of such deposits, we cannot be indifferent to their presence in the body.

The above objections apply with greater force to the use of ordinary mineral oils as substitutes for fat. This practice has been increasing even more rapidly than that of using liquid paraffin. Most unrefined mineral oils contain small amounts of undesirable substances, even though the absence of colour, odour, and taste might suggest the contrary. In some of these oils cancer-producing substances have been identified.

On the evidence available, therefore, the use even of refined liquid paraffin (B.P.) in the preparation and cooking of food is to be condemned. It has a definite therapeutic value, and its use should be restricted accordingly. In view of the possible risks of continued consumption, liquid paraffin should be taken only on medical advice, and the doctor prescribing it would do well to bear the risks in mind. The internal use of other (unrefined) mineral oils in any shape or form must always be condemned.

PREVENTION OF INFIRMITY

In 1946 the Nuffield Foundation published the report of a Survey Committee set up, under the chairmanship of Mr. B. Strehorn Rowntree, to inquire into the living conditions of old people. This report aroused considerable interest for it was the first time that a serious attempt had been made to assess the problems of old age, and has served as a useful help and guide for much public activity and recent legislation. This has now been followed up by a detailed medical survey, conducted by Dr. J. H. Sheldon,¹ in one of the areas, Wolverhampton, already covered by the social survey of the Rowntree Committee. Dr. Sheldon's report will prove helpful to those who wish to carry out further researches into the problems of old age, and will also serve as a model for similar inquiries. As Dr. Sheldon points out, his survey covers only Wolverhampton, and it is impossible to be certain that the same conditions apply to other areas, both urban and rural, of the country. With so much legislation of social and medical importance coming into force it is important that other authorities, taking Dr. Sheldon's report as their guide, should arrange this summer for surveys to be carried out in their areas in order to assess the size and nature of their own problem.

The Rowntree Committee drew attention to the fact that in 1939, when it was necessary to continue to employ in the professions of both sexes for many years beyond what was considered the normal time for retiring, it was found that a small number of elderly people were capable of doing work as well as and as satisfactory as their juniors. Dr. Sheldon states that this is not until the age of 70, or even 75, when people begin to become affected by conditions which make it impossible for them to continue in their work.

tions that might be regarded as the result of age; and that time it is the common diseases of adult life that affect the elderly. These two observations have a bearing upon the whole question of compulsory retirement at the age of 60 or 65, and lend weight to the argument put forward by Dr. Trevor Howell that not only are old people able to work until quite an advanced age but that work up to their capacity leads to an improvement in both their physical and mental health. Further, in an era of full employment when the work of all who are able and willing is needed for their country's good, it is satisfactory to discover that an encouragement to work is not only a suitable policy for the times but is in no way detrimental to the welfare of the aged.

The report draws attention to two fields where there is need and scope for voluntary or official effort. Sheldon emphasizes the strength of family or filial ties, as instances, by the large number of people who devote a considerable amount of their time to the care of aged relatives. Though these are not necessarily bedridden—indeed the number of these discovered in the survey was surprisingly small—they require constant attendance, and the strain on both the younger members of the family, usually daughters, and on the old people themselves is considerable and prolonged. The provision of attractive homes, with no stigma about the name, where aged relatives could be accommodated for a short period, say, of one month each year, would enable the younger relative to take a much-needed holiday before resuming a task which they have no wish to give up. The provision of more home nursing or domestic help would not solve the problem, as even with this the relative would not be able to get away because the old person could not be left in the house alone. Some provision for nursing will be needed at homes established for old people, because though few are bedridden many require special attention. One such home has recently been opened by the London branch of the British Red Cross Society at Greenwich and is proving of great value, and one or two similar homes exist in other parts of the country. There is need for many more. Homes should be small and not stereotyped, so that the old people will not feel that they are being banished from their surroundings even for a short time. This type of hostel might well be managed and maintained by voluntary organizations, which probably have more flexibility and imagination in their undertakings than the best intentioned local authorities.

The second problem of old age calling for voluntary or official effort is that of loneliness. This is a particularly onerous feature of the lives of old people who have lost a spouse, and yet who either cannot or do not wish to abandon their own house and have to depend upon occasional, or even regular, visits to or from relatives. There is a great opportunity here for the establishment of Old People's Clubs which the members can visit each day to meet their contemporaries and old friends, or to make new ones. Regular visits from people outside the circle of family and friends are also appreciated. It has been the experience of both of the Nuffield surveyors, of relief officers, and of the officials of the National Insurance Scheme that their visits are welcomed and eagerly awaited.

The great importance of Sheldon's report is in the medical implications. He draws attention to various conditions of which but little is known, but which cause much distress in the old. The tendency to fall or to trip and difficulty in walking in the dark both point to some labyrinthine or inner ear disturbance; while an unexplained dyspnoea is one of the commonest reasons for inability to leave the house. The capacity of the aged to eat well when they have no teeth, either real or artificial, and yet to suffer no more from indigestion than their more fortunate contemporaries, is an important observation that needs further investigation. The number of the aged who appeared to be under-nourished was small. This is at variance with the observation made by other writers that a number of old people are admitted to hospitals suffering, very largely, from under-feeding. It is possible that the reason for this discrepancy is that conditions in other towns are different from those in Wolverhampton, where the old people who usually live a solitary life, alone in a house or room, are few. Sheldon discovered that a large proportion of seemingly solitary people were, in fact, visited daily by relatives or friends who assisted with cooking and with shopping. More can be done to prevent some of the minor disabilities which do so much to curtail the activities of old people. Sheldon found that a large number of old people suffered from crippling deformities of the feet—corns and bunions—which could well have been prevented by intelligent shoe-making and chiropody.

The continued activity and happiness of the old depends upon their retaining a place in the general community. It is important, therefore, that whether they live in hostels or in special houses on new housing estates they should remain in the middle of their families and friends. Old people enjoy living in their own homes, and in this they are helped by the presence and proximity of many small shops. The encouragement of the multiple store, situated near great shopping centres, may make the continued independence of the aged more difficult.

REGENERATION AND CANCER

There have always been those, particularly among biologists, who have themselves engaged in cancer research, who have maintained that the study of normal growth was a necessary preliminary to the understanding of pathological growth. The argument appears to be strengthened by an investigation reported by S. Meryl Rose and Hope M. Wallingford at a recent meeting of the National Academy of Sciences of the United States.¹ The approach of these two workers was based on the de-specialization recognized as accompanying the first stage in limb regeneration, for example in the salamander. Re-specialization follows under a directive mechanism which is not yet fully understood but which may be assumed to be chemical in its nature. The question, therefore, to which an answer was sought was whether cancer cells subject to the drastic stimulus of amputation and regeneration could be induced to make a fresh start and re-specialize as normal healthy cells. Transplants of frog tumour were used, since the nuclei of frog cells are smaller than those of salamander cells, so that the origin of regenerated cells could be cytologically identified. Sufficient time was allowed after transplantation into the forelimb of

a salamander for the tumour to begin growth and to invade the neighbouring tissues. Amputation was then carried out through the cancer. Normal regeneration followed, and patches of frog muscle, cartilage, and connective tissue could be "seen interspersed with the corresponding salamander tissues." On the other hand, the residual portion of the tumour, which had been left on the proximal side of the amputation, remained as before.

A fuller account of these experiments will be awaited with interest. In particular, there is an assumption that the normal frog tissues formed during regeneration originated from cancer cells; in other words, that no normal frog cells accompanied the transplant. It would be expected, however, that these, if present, should have been identified in the residual tumour, while the extent and variety of normal frog tissue in the regenerated limb would seem also to exclude such an explanation. If confirmed, these results should provide a useful stimulus to the further study of the mechanisms of regeneration, which, in relation to the volume of cancer research, may be judged to have received too little attention.

CHANCES OF SURVIVAL IN PULMONARY TUBERCULOSIS

Attempts to estimate the average duration of pulmonary tuberculosis in the general population have been infrequent and our knowledge is derived from a few relatively small and local inquiries in recent times. This paucity of data is due to the difficulties of keeping in touch with all the patients notified in any one area. Considerable labour and time are needed if a large wastage through loss of contact is to be avoided, and even when determined efforts are made not to lose sight of patients the number disappearing amounts, in some inquiries, to almost 10% of the total.

Fraser² has recorded the history of 1,257 sputum-positive cases of pulmonary tuberculosis—843 notified in the City of Aberdeen and 414 in Aberdeenshire—in the ten years, Jan. 1934–Dec. 1943. For all ages and both sexes combined the probability of surviving five years after diagnosis was 0.45. This value is smaller than that generally found from a follow-up of patients who have had sanatorium treatment, but of course such patients form a selected group. On the other hand, a poorer chance of survival has been recorded in investigations similar to that carried out by Fraser. Thompson³ found that the probability of surviving five years was 0.25 in County Durham; Bentley⁴ estimated that for L.C.C. patients the figure was 0.34; Tattersall⁵ found a probability of 0.32 for Reading; Vailow,⁶ in Bradford, gave the figure as 0.41 for males and 0.65 for females; Stocks⁷ calculated that 50% of patients in England and Wales survived five years after diagnosis. It would appear from these comparisons that Aberdeen has enjoyed relatively favourable mortality experience. An examination of the Aberdeen figures by age and sex showed that in the youngest age group (10–19) the males had a considerable advantage over the females, but in the other age groups the males had only a slightly better chance of surviving than the females during the first years after diagnosis.

Fraser also examined the influence of collapse therapy on prognosis. Three hundred and ninety-nine, or 31.7% of the patients, had received this form of treatment. In this group the chance of surviving five years after the diagnosis had been made was 0.68, a value 50% greater than that

¹ *Ends. med. J.*, 1947, 54, 566.

² *Tubercle*, 1942, 23, 139.

³ *Spec. Rep. Ser. med. Res. Comm., Lond.*, 1919, No. 33.

⁴ *Tubercle*, 1947, 28, 85, 107.

⁵ *Spec. Rep. Ser. med. Res. Comm., Lond.*, 1923, No. 76.

⁶ *Practitioner*, 1944, 153, 1.

obtained when all the patients were included. In 921 patients the disease was classified as stage 3, and of these 319, or 34.6%, were treated by collapse therapy. The probability of surviving five years in the case of patients in this stage of the disease was 0.36 for those not receiving collapse treatment and 0.66 for those who did receive it. Patients with less extensive disease—classified as stages 1 and 2—had a probability of surviving five years of 0.72. This value is only slightly higher than that for patients in stage 3 who had received collapse therapy. Eighty of the patients in stages 1 and 2, about one-quarter of the total, had undergone some form of collapse therapy. Since the patients with disease in stage 3 who received collapse treatment had substantially the same chances of survival as the patients with less extensive disease Fraser concludes that collapse therapy prolongs life. Bentley came to the same conclusion, having found in two comparable groups that the probability of surviving five years for patients who had undergone artificial pneumothorax was 0.49 for males and 0.45 for females, while for patients treated by conservative methods the probabilities were 0.28 and 0.32 respectively.

The value of the investigation in Aberdeen would have been enhanced if information had been given concerning the number of persons who were lost sight of during the period

CATHETERIZATION OF THE HEART

Catheterization of the right auricle has been an accepted technique for over fifteen years, and much valuable information has been obtained, especially by Cournand in the United States and by Prof. J. McMichael at the Hamman-Richmond Hospital in this country. Recently Dexter¹ and his colleagues in Boston have made more accurate diagnosis possible in cases of congenital heart disease by further improving the technique. In this condition exact diagnosis of the defect was not so important a few years ago, but now that surgical treatment is sometimes feasible it has become imperative to obtain as much pre-operative information as possible.

The Boston team, whose work is of outstanding practical importance, has shown that much can be learned from a study of the oxygen content of the blood in various parts of the heart and great vessels, supplemented by pressure measurements. The technique used and possible errors are described by Sosman.² By careful manipulation the catheter can be passed from the right auricle into the right ventricle, thence into the main pulmonary artery and its left or right branches, and even into the smaller terminal divisions. As many as ten blood samples may be taken from one patient.

Dexter describes the results of the procedure in cases of auricular septal defect, ventricular septal defect, Fallot's tetralogy, and patent ductus arteriosus. In auricular septal defect, for example, the oxygen content of the blood in the right auricle is higher than that in the superior vena cava, indicating a predominating left to right shunt. If the oxygen content of the blood in the right ventricle is higher than that in the right auricle a ventricular septal defect is suggested, and a much increased pressure in the right ventricle is strong corroboration. A patent ductus arteriosus is associated with a higher oxygen content in the descending aorta than in the right ventricle. It is also possible to estimate the amount of blood passing through these

In some cases the abnormal course of the catheter indicates the presence of an anatomical anomaly. Thus it may pass directly from the right to the left auricle and into a pulmonary vein, from which blood with an oxygen saturation of 98% may be obtained. Or it may pass into the right ventricle through a septal defect into the aorta. The position of the catheter is verified by screening and by radiographs. The papers describing the work of the Boston team are illustrated with most convincing pictures of the various positions of the catheter, and these are correlated with the results of the physiological tests.

These tests, though predominantly physiological, are in part complementary to the more anatomical information given by angiocardiology. Chávez³ and his colleagues have described a method of direct angiocardiology in which a catheter, size 12–14, is introduced into the heart through the external jugular vein. This procedure seems to have certain great advantages over the Robb-Steinberg technique, in which the contrast medium is rapidly injected into an arm vein. The use of the short, wide catheter, moreover, gets over difficulties which cannot be avoided with the usual long, thin cardiac catheter if introduced through an antecubital vein for direct intracardiac angiocardiology. There seem to be no special drawbacks or dangers in the method providing a suitable vein is available. Again, the pictures accompanying the article by Chávez are models of clarity and rich in information.

The rapidity with which these diagnostic procedures have been evolved, so closely following on the development of the surgery of congenital heart disease, is remarkable. Investigation by the Dexter and Chávez methods will provide information which can be obtained in no other way.

DIETHYLACETAMIDE IN SHOCK

During the war the German workers Hecht and Weese¹ working at the I.G. Farben laboratories in Elberfeld introduced as a blood substitute a substance formed by the polymerization of vinyl pyrrolidone. They showed that it could take the place of blood plasma, and it was soon employed clinically.² Various plasma substitutes which appeared to be of a similar kind were studied in N. America, such as gelatin and pectin solutions, and isinglass. All these were believed to act by their osmotic properties alone.

In 1946 Daniel Bovet and his colleagues,³ working at the Institut Pasteur, examined polyvinyl pyrrolidone for its value in traumatic shock. They chose to study this condition because they had previously investigated shock caused by histamine and its prevention by antihistaminic substances such as neoantergan. They produced shock in rats by the method of Noble and Collip, in which rats are placed in a drum which revolves in a vertical plane (the axis of the drum being horizontal), so that the rats fall to the bottom as the drum revolves. When rats are placed in the drum, their fate depends on the number of revolutions. An increasing percentage of rats die as the number of revolutions increases—100% die after 800 revolutions. Bovet found that if the rats received an injection of polyvinyl pyrrolidone beforehand, given either subcutaneously or intraperitoneally in a dosage of 0.5 g. per kg. of body weight, then every rat survived 800 rev-

¹ *Munch. med. Wschr.*, 1943, 90, 11.

² *Arch. Klin. Chir.*, 1943, 205, 230.

³ *C. P. Acad. Sci. Paris*, 1946, 224, 70.

⁴ *ibid.*, 1946, 224, 496.

⁵ *Lancet*, 1943, 245, 147.

tions. The mortality was reduced even if the injection as made as long as 72 hours before the trauma. They tested the protective power of this substance against the toxin of *Cl. oedematiens* and diphtheria toxin and found that whereas 32 control animals all died in two days after receiving *oedematiens* toxin (0.16 ml. per kg.), of 2 animals protected with polyvinyl pyrrolidone (0.35 g. per kg.), 15 survived for 7-8 days.

The most interesting aspect of this investigation, however, came from Bovet's idea that the protective value of polyvinyl pyrrolidone might not lie in its physical properties but rather in its chemical composition. If the substance is split up, molecules of N-N-diethylacetamide are obtained, and strange to relate this very simple compound as found to give some protection. When 0.5 g. per kg. as given by intraperitoneal injection one hour before the rats were placed in the drum, 15 out of 40 animals survived, compared with only 1 out of the 40 controls. The injected animals which died lived for a mean time of 11 hours, while the controls lived for only 3.5 hours. Other related substances were tested—some were active, some were not. Thus N-N-diethylpropionamide is effective but not N-methylacetamide.

It is obvious that this brilliant work opens up a new field of investigation, the discovery of simple chemical substances which counteract the effects of trauma, and, presumably also of toxins, provides a new and more rational conception of the pathological changes which are occurring. Perhaps the machine is not being run on the whole; perhaps, as Green suggests, there is a deficiency of deoxynucleoside triphosphate, which is a precursor of insulin, with an effective dose of insulin in the treatment of diabetes.

THE SPREAD OF Q FEVER

Q fever, or to give it its full name, *Q* (query) fever, was first described by Derrick¹ in 1937, the causal agent being subsequently shown to be a rickettsia (Burnet and Freeman²). Almost at the same time the disease was found to be occurring in Mexico in the U.S.A. Spontaneous infections were most common among those who are concerned with cattle, alive or dead. Thus stockmen and those working in slaughter-houses were most commonly affected. It was discovered that the causal agent, *Rickettsia burnetii*, was carried by various cattle ticks—in Australia by *Haemaphysalis humerosa*, and in the United States by *Dermacentor variator*, *D. occidentalis*, and *Amblyomma americanum*. In Australia the common bandicoot was reported to act as a carrier.

During the latter part of 1944 and in the following years there were outbreaks among American troops in Italy, and, and British troops in Greece and Italy. At first taken to be atypical pneumonia, *Burnet's* complement-fixation tests these outbreaks were then shown to have been due to Q fever. One such outbreak has been recorded in this *Journal* by Cassidy and Dudgeon.³ At the other end of the Mediterranean in Morocco, Blanc *et al.*⁴ have isolated the rickettsia of Q fever from ticks—*Hyalomma marginatum*, *H. excavatum* var. *h. excavatum*, and *H. excavatum* var. *h. excavatum*—and ticks on camels, or in the burrows of the *H. excavatum* rodent, the merion, *Meriones shawi*, and the prevalence of Q fever have been isolated from the spores of apparently healthy merions. In addition goats and camels in the same area carry infected ticks, and camels infected with *R. burnetii* goats, sheep, camels, and cattle are known from a febrile illness

during which rickettsiae circulate in the blood. From the New World there have been further reports of the disease from Texas (Topping, Sheppard, and Irons⁵), and from Central America, where Panama is an endemic zone. A further extension of the range of Q fever has now been reported by Gsell,⁶ who has described four small familial outbreaks in Switzerland. In the epidemics affecting troops in Italy and Greece as well as in these Swiss outbreaks the role of ticks appears uncertain.

In 1940 Findlay⁷ showed that infection could be transmitted intranasally to mice, with the production of characteristic lung lesions. It is probable that the nasal mucosa or the conjunctival sac was the point of entry in the numerous laboratory infections which have since occurred. In the National Institute of Health in the U.S.A. for instance, an outbreak began among laboratory workers in February, 1946, and by the end of May, 1947, there had been 47 cases (Spickard *et al.*⁸).

The incubation period of Q fever is 10-12 days. There are at first vague prodromal symptoms, headache, malaise, and general aching, lasting for 2-3 days, then passing to two distinct phases. These are characterized by severe headache, so characteristic of rickettsial and many virus infections, and a more definite fever of the rash. Fever lasts on an average of 10 days, but may sometimes last for 20 days, and is usually accompanied by high fever, occasionally reaching 104° F. (40° C.). Rigors and sweats are common, and there is a generalized erythema, the rash is more marked at the joints, and there is a sense of tenderness. No definite lymphadenitis, pain, or swelling of the lymphatic system is observed, and a normal fundus of the eyes there is no evidence of conjunctivitis or exanthema. On occasions there is a purpura of the skin. No significant or characteristic changes are found in the blood picture. A small amount of protein is occasionally seen. It is obvious that the signs and symptoms are such as might be present in many other rickettsial infections.

During the acute stage *Rickettsia burnetii* is present in the blood and sputum, and by inoculation into mice or guinea-pigs the rickettsiae can be isolated. They are present in the spleen of experimental animals in considerable numbers. During convalescence the best method of diagnosis is by complement fixation, complement-fixing antibodies being present 10 to 15 days after the onset of illness.

Neither penicillin, sulphonamides, nor the administration of immune serum has any marked action in shortening the disease. Paracetamol (PABA) acid therapy has not been tested, but there is no evidence from the experiments of Huebner *et al.*⁹ that streptomycin has a curative effect, not only when *R. burnetii* is injected into the developing chick embryo, but in guinea-pigs given large intraperitoneal injections of the organisms. When 30 mg. doses of the drug were injected subcutaneously three to six times a day, there was very prompt disappearance of symptoms. Treatment was continued for 12 to 16 days.

In view of its wide distribution in the Old and New Worlds it is not improbable that Q fever may be seen in this country. Sera from a few suspected cases have already been tested, but so far with negative results.

¹ Med. J. Aust., 1937, 2, 231.

² Ibid., 1937, 2, 259.

³ British Medical Journal, 1947, 2, 684.

⁴ C.R. Acad. Sci., Paris, 1947, 224, 1673.

⁵ Ibid., 1947, 225, 607.

⁶ J. Amer. med. Ass., 1947, 131, 813.

⁷ Schell, med. Wkly., 1948, 78, 1.

⁸ Trans. R. Soc. trop. Med. Hyg., 1942, 35, 213.

⁹ Ann. Intern. Med., 1947, 27, 23.

¹⁰ Pub. Hlth Rep. Wash., 1948, 63, 357.

REPORT OF THE INTERDEPARTMENTAL COMMITTEE ON THE REMUNERATION OF CONSULTANTS AND SPECIALISTS

We print below the *Interdepartmental Committee's Report* to the Minister of Health and the Secretary of State for Scotland on the remuneration of consultants and specialists. The members of the Committee were: Sir Will Spens (Chairman), Mr. C. R. Dale, Sir Horace P. Hamilton, Mr. Thomas Lister, Miss Elizabeth Looker, Prof. D. Murray Lyon, Lord Moran, Mr. Leslie E. Peppiatt, Sir Harry Platt, Dr. S. Cochrane Shanks, and Mr. J. R. H. Turton.

We have completed the task for which we were appointed in May, 1947, and have now the honour to submit our report. Our terms of reference were as follows:

"To consider, after obtaining whatever information and evidence we thought fit, what ought to be the range of total professional remuneration of registered medical practitioners engaged in the different branches of consultant or specialist practice in any publicly organized hospital and specialist service; to consider this with due regard to what have been the financial expectations of consultant and specialist practice in the past, to the financial expectations in other branches of medical practice, to the necessary postgraduate training and qualifications required and to the desirability of maintaining the proper social and economic status of specialist practice and its power to attract a suitable type of recruit, having regard to other forms of medical practice; and to make recommendations."

1. *Evidence*.—It was brought to our notice that a special committee called the Evidence Committee on the Remuneration of Consultants and Specialists had been set up by the Royal Colleges and the British Medical Association jointly, with the purpose of preparing evidence on behalf of consultants and specialists generally, and we decided to consider the written and oral evidence which this Committee was prepared to submit. The Evidence Committee consulted 23 medical organizations, including the Royal Colleges and many specialist associations, in the course of its task so as to ensure that the evidence tendered, in so far as it involved expressions of opinion and judgements regarding professional matters, was in accordance with the majority views of specialists and consultants in every branch of medicine. We anticipated that these various organizations might wish to submit separate evidence in substantiation of any points which concerned them individually and which were not in their opinion adequately covered by the statements prepared on their behalf by the Evidence Committee. We accordingly invited written evidence both from those organizations which were directly represented on the Evidence Committee and also from a large number of associations representative of particular branches of specialist practice whether or not these had already been approached by the Evidence Committee. We also issued a general invitation by means of a press notice to anyone disposed to furnish us with any relevant information. [A list of the organizations and individuals from whom written statements have been received, and of the witnesses examined orally, is contained in Appendix I to the Report.]

The ready response we received to our invitation both in the form of written evidence and of offers to tender oral evidence was a great help in our investigation, and we should like to take this opportunity of expressing our indebtedness and cordial thanks to all those who assisted us in this way. In view of the large measure of agreement found in the evidence received from all sections of the profession and the exhaustive character of the information furnished by the Evidence Committee, it was not necessary to request additional oral evidence from the Evidence Committee and the Royal College of Physicians. We completed our task after holding sixteen

sources in judging what effect our recommendations were likely to have upon the recruitment of medical practitioners to the consultant ranks. The necessary statistical information was obtained for us by the Evidence Committee, which, under the guidance of Prof. A. Bradford Hill, conducted an inquiry in the form of a questionnaire to consultants and specialists. A tabular statement prepared by Prof. Bradford Hill containing some of the results of this inquiry forms an Appendix to the Report (Appendix II). We have also had regard to salary scales already in force for salaried members of the medical profession in organized medical services.

2. *1939 Values*.—At an early stage in our deliberations, it appeared to us that social and economic conditions were not yet sufficiently stable to justify the basing of our recommendations on evidence relating to remuneration in the post-war period, and the Evidence Committee was accordingly asked to obtain information of incomes earned in the year 1938-9. With this evidence before us, and realizing that we were not qualified as a Committee to form an opinion on what adjustments of immediately pre-war incomes was necessary to produce corresponding incomes to-day, we decided that the best course for us to pursue was to frame our recommendations in terms of the 1939 value of money. This conclusion has not prevented us from taking into account post-war conditions in so far as they affect the development of Medicine, particularly in regard to developments in the newer specialties and to modifications in the organization of hospital services. We leave to others the problem of the necessary adjustments to present-day values of money, but we desire to emphasize as strongly as possible that such adjustments should have direct regard not only to estimates of the change in the value of money but to the increases which have in fact taken place since 1939 in incomes both in the medical and in other professions. In our judgment it is only if corresponding changes are made in the incomes of consultants and specialists that the recruitment and status of the various branches of specialist practice will be maintained.

3. *Interpretation of Remit: Training Period*.—We were at first disposed to interpret the terms "consultant" and "specialist" in our remit as referring to those medical practitioners who after completion of a series of hospital appointments and attainment of a higher qualification are appointed to membership of the staff of a hospital. After consideration of the evidence submitted to us, however, we concluded that the remuneration appropriate to specialists of staff status was to such an extent dependent upon remuneration and conditions of service during the period of specialist training which must precede appointment to the staff that it was advisable for us to give a clear indication of what in our view would constitute adequate remuneration during this training period. We therefore ultimately decided to interpret the term "specialist" in our remit so as to include the whole group of practitioners who after registration and completion of junior house appointments are appointed to hospital posts in training for a special branch of Medicine.

4. *Past Conditions: Career Picture*.—It may be convenient to include a description of the career of a specialist from the time when he is placed on the *Medical Register*. Until now medical students have normally qualified at the age of 23 or 24 after some five or six years of undergraduate study. Immediately after qualification the practitioner may hold one or more house appointments, and this part of the postgraduate training, which normally occupies a period of one year, is an essential step for those who aspire to consultant status. During this period, or during the tenure shortly afterwards of other junior hospital posts for which he becomes eligible, the intending specialist undertakes intensive academic study with a view to securing a higher qualification in medicine or surgery and also with the aim of obtaining, at approximately four years from registration, appointment to the most senior training posts, for which a higher qualification is normally a requisite. These posts are differently named in different hospitals but are more commonly known as registrar, senior registrar, first assistant, or chief assistant. A practitioner holding one of these posts has no direct charge of patients but is responsible to his medical or surgical chief for the care of patients during the latter's absence. As he gains experience he is given more and more responsibility, so that, for instance, a surgeon in the latter part of

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gistrarship undertakes major operations, and such supervision exists at this stage is really in the nature of assessment of potentialities as a specialist. On completion of his tenure of this post the practitioner is ready for appointment to the staff of a hospital, when he will be recognized as having full specialist status.

Life was particularly impressed by the drastic selection to the early part of their career are subjected through which they are

We were particularly impressed by the drastic selection to which specialists in the early part of their career are subjected both for appointment to the posts through which they are required to pass and for the conferment of academic awards, and distinctions which may considerably affect their career. After graduation there is keen competition for suitable house appointments, many of those who qualify being eliminated at this stage; there is further competition for appointment to each of the training posts subsequently held and finally, from the comparatively small number of registrars, etc., selection is made for appointment to a hospital staff. The distinctions for which intending specialists compete include scholarships attached on entry to medical schools, awards and medals awarded on entry to medical schools, during undergraduate training, postgraduate scholarships and finally the higher qualification normally competed for prior to registrarship and obtained by approximately one-sixth of the profession. In most hospitals the initial staff appointment is that of assistant surgeon, etc. When the term of the appointment expires, the assistant surgeon is usually im-

attached to a hospital, and the training, postgraduate scholarship, and the appointment normally completed for prior to registration. In most hospitals the initial staff appointment is that of assistant physician, assistant surgeon, etc. When the term "assistant" is used it does not necessarily imply that the holder of such an appointment is subordinate to the physician or surgeon. He may have few hospital beds in his charge or none, but he assumes complete responsibility for the patients admitted to his care.

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It was strongly felt that the evidence that the remuneration attached to the junior hospital posts held immediately after completion of house appointments had borne little relation to the progressively increasing responsibilities of these posts to the standard of living required of the practitioner, and to the need for freedom from financial worry during this extremely important part of his career. We were told that many potential specialists are diverted into general practice at an age when marriage is contemplated and the emoluments attached to junior posts are not sufficient to meet new responsibilities. If difficulties are progressively accentuated throughout the training period, and when the registrar posts are reached, the practitioner is normally compelled to rely upon his own resources or to undertake much outside work, or to endeavour to enable him to meet his financial commitments. We were informed that hospital registrars before the war received up to £400 or less, even in non-resident posts.

In the past no substantial income has been derived from a staff appointment in a voluntary hospital, and from a successful private practice but normal remuneration from possession of such an appointment. We were however informed that a fully qualified practitioner has on several years before.

Moreover, on obtaining an appointment, whatever the specialist has had to forego his previous partnerships, and undertakes the responsibilities involved in the efficient running of a private practice. At this stage his earnings from private practice have seldom covered his overhead expenses and he has often been dependent to a considerable extent on private means to work.

6. *Future Conditions.*—In assessing the appropriate remuneration for the budding specialists of the future we have had regard to the view of the profession, endorsed by the Goodenough Committee and the General Medical Council, that the holding of pre-registration house appointments should be compulsory. We have also had regard to the long period of training required in some of the more specialized branches of Medicine. We were informed that a minimum period of five years of specialist status involving a minimum period of five years of training after medical qualification, or eleven years of professional training in all, have been proposed for most of the surgeons, consultants and specialists including general practitioners, obstetricians and gynaecologists, cardiologists, dermatologists, neurologists, paediatricians, psychiatrists and radiologists. In considering what the remuneration should be for these specialists we assumed that there will be a substantial increase in the number of specialists in the future.

In considering what we have assumed that a person's tenure status should be we have assumed that all persons in the armed forces are of tenure comparable to that of a person in the civil service. We have assumed that the conditions of service of the staffs of voluntary hospitals are comparable to those of the staffs of public service hospitals. We have assumed that a person in a public service hospital is of tenure comparable to a person in a public service hospital. We have assumed that a person in a public service hospital is of tenure comparable to a person in a public service hospital.

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We are of opinion that the present system of remuneration is not adequate to attract and retain the best medical talent. The present system is based on a fixed fee for attendance, which is insufficient to cover the cost of the services rendered. We recommend that the remuneration be based on a percentage of the total cost of the services rendered. This would be a more equitable system, and would also be more in line with the practice of other professions. We also recommend that the remuneration be based on the complexity of the case, and on the time and effort expended. This would be a more equitable system, and would also be more in line with the practice of other professions. We also recommend that the remuneration be based on the results of the treatment. This would be a more equitable system, and would also be more in line with the practice of other professions.

8 *Equality of Status between Hospitals.*—We have had regard also to the view of the profession and the intention underlying the National Health Service Act that in the hospital system of the future there should be a more uniform level of hospital efficiency throughout the country, a better distribution of specialists, and permeation throughout the hospital service of each region of the influence of the university centre. These objects can be achieved only by increasing the mobility of specialists throughout the service and facilitating the interchange of staffs between teaching and non-teaching hospitals. The hospital system of the future is being organized in such a

may that there will be in each region both teaching hospitals and area hospital centres. The many small independent hospitals, both general and special, which are at present scattered throughout the country will be linked in these area hospital centres. From the viewpoint of the patients it is desirable that modern advances in Medicine should be made available in areas outside the radius of the present teaching centres. In these circumstances it is obviously important that the status of the area hospital centre should be in no way inferior to that of the teaching hospital, and that both should be able to attract specialists of the highest calibre. We are therefore of opinion that the same range of remuneration for clinical work should apply to specialists in both teaching and non-teaching hospitals:

PROPOSALS

9. *Remuneration of Potential Specialists.*—We now turned to our first major problem: that of determining the proper remuneration for potential specialists after completing one year's house appointments and before obtaining a post on the staff of a hospital.

In framing proposals on this subject we have had prominently in mind the evidence about past conditions during the training period to which we call attention in Section 5 above. We are of opinion that in a public service intending specialists who do not possess private means should not be called upon to pass through a stage of comparative penury and hardship. Nor should they be tempted to spend too much time in supplementing their income from other sources, such as coaching, when they could be more suitably occupied in their professional studies. Having regard to the career picture which we have drawn from the evidence, we consider that the medical practitioner between the completion of his first house appointment and appointment to the staff, should be paid a salary which is not merely in the nature of a training grant but which reflects both the growth in his skill and the increasing responsibility of his work.

We have referred already to the lengthening of the period of training which is likely to be involved in the future organization of medical studies, and, in particular, we considered sympathetically the position of practitioners undergoing specialist training in those branches of Medicine which already demand an exceptionally long period of training, such as neuro-surgery and thoracic surgery. Moreover, whilst realizing the inadvisability of making it easier for individuals to prolong indefinitely their tenure of posts below those of full staff status, we think it necessary to safeguard the position of the fully trained specialist who is compelled to wait a limited time for a vacant staff appointment. At the same time we wish to emphasize that in our opinion all possible steps should be taken by encouraging the interchange of specialists between hospitals to minimize and equalize this unavoidable waiting period.

We are of the opinion that it is necessary for the purpose of our remit to reduce proposed salaries during the training period to the various posts which are successively held prior to appointment to the staff. We realize that the nomenclature of these posts differs widely in various parts of the country, and we have thought it best to define them by reference to the number of years for the duration of which they are normally held. These appointments may thus be divided into three well-defined grades:

1. Category I - persons obtained normally not less than one year of service in the post of a senior official officer, etc.);
2. Category II - persons obtained normally not less than two years of service in the post of a senior registrar, etc.);
3. Category III - persons obtained normally not less than four years after the date of their appointment for three years at the ages of 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839,

... would dilute the nomenclature and are ... of general application; a longer or ... the definitions might be spent ... by indicating a general ... the length of time after registra- ... which at this stage of ...

for the 2 reader are as follows: Grade 1, \$700; Grade 2, \$700; Grade 3, \$700; Grade 4, \$700; Grade 5, \$700; Grade 6, \$700; Grade 7, \$700; Grade 8, \$700; Grade 9, \$700; Grade 10, \$700; Grade 11, \$700; Grade 12, \$700.

rising by two annual increments of £100 to £1,100. Where tenure of a post in Grade I continues beyond three years the salary should rise by a further increment to £1,200 in the fourth year and remain at this figure in any further years. In recommending these salaries we have in mind non-residential posts; where residential emoluments are received, an appropriate sum would require to be deducted from the salary.

10. *Range and Differentiation for Full Consultants.*—The second major problem to which we addressed ourselves was to determine the total range of remuneration for consultants of full staff status, and to secure within this range sufficient differentiation of incomes to provide the necessary incentives, consistent with the two principles referred to above—equality of status between the various branches of specialist practice, and equality of status between teaching and non-teaching hospitals.

11. *The Lower Limit of the Range.*—In discussing this should be the lower limit of the range and remuneration for staff specialists, we took into account the effect which this figure will inevitably have upon recruitment. The adequacy of the remuneration for the first few years will more than any other factor determine the attitude of the practitioner who is considering whether or not to embark upon the arduous path of specialization. As regards starting salary we agreed to recommend that on appointment to the hospital staff a specialist should receive £1,500 per annum, provided he has attained the age of 32, which we think will be a normal age.

In the exceptional case where a specialist is appointed to a hospital staff at the age of 30 or below we recommend that the starting salary should be £1,250, rising by annual increments of £125. It would follow that if a man were appointed at the age of 31 he would receive £1,375 on appointment, and £1,500 at 32. It may often happen that a specialist will not attain a 2nd appointment for some years after the age of 32. In that case we recommend that the hospital authorities should have freedom to vary the initial salary of £1,500 by allowing up to four special increments of £125 each in respect of age, special experience, and qualifications.

12. *The Maximum Figure of Remuneration.*—The statistical tables prepared by Prof. Bradford Hill show that it has been possible for a small proportion of practitioners in the past to obtain incomes of a very high order. Bearing in mind that the salaries we have recommended above would remove the hardships at present experienced during the period of training; that in a public service the specialist ought not at any stage of his career to require to supplement his earnings by private means; that his remuneration will be maintained at a consistent level until the age of retirement is reached; and that throughout his career the specialist will enjoy financial security in marked contrast with the uncertainties of private practice, we conclude that some reduction was justifiable not only in the ceiling figure of the incomes attainable in the past, but also in the proportion of consultants attaining to the highest levels of remuneration. On the other hand, we would emphasize that if the best possible recruits are to be attracted to specialist practice there must remain for a significant minority the opportunity to earn incomes comparable with the highest which can be earned in other professions. There is a further point to which we attach great importance. We are convinced that the remuneration offered to specialists of exceptional ability must be sufficient not only to attract the most able specialists of the country to the public service but to maintain the position of British Medicine in a competitive market which includes the Dominions and the United States of America.

After consideration of these factors we concluded that specialists of the highest eminence should be able, in public service, to aspire to a remuneration of the order of £5,000 for clinical work.

13. *Differentiation within the Range.*—We turn to the question of what should be the spread of incomes within the range of £1,500 to £5,000, and of how such a spread could be realized. We are directly concerned only with what remuneration specialists ought to receive, not with the method of their payment. On the other hand, the problems involved in determining the former cannot be wholly separated from the latter. We are satisfied that there is a far greater diversity of ability and effort among specialists than admits of remuneration by a simple scale applicable to all. If the recruitment and status of specialist practice are to be maintained specialists must be

to feel that more than ordinary ability and effort receive an adequate reward. Moreover, a reward which would be appropriate when these exist would be extravagant when they do not. In consequence we are clear that any satisfactory system of remuneration must involve differentiation dependent on professional distinction.

Acceptance of this principle without qualification would imply that age or length of service should not be a factor which determines the remuneration of a specialist. On consideration, however, we were agreed that after his appointment to the staff of a hospital, the specialist, although his training is complete and he undertakes sole personal responsibility for the patients under his charge, continues for a number of years to gain an increasing variety and width of practical clinical experience which progressively enhances the value of his work. It seems to us, therefore, that, whilst age or length of service should not at any time during his tenure of a staff appointment be the sole factor determining remuneration, there should be, during the earlier years, in addition to some means of recognizing and rewarding exceptional individual merit, a uniform scale of annual increases in remuneration applicable to all specialists alike.

We therefore recommend that the initial salary paid to the specialist on his appointment to the staff should be augmented by an additional £125 after each year of service until a maximum basic salary of £2,500 has been reached. We consider that beyond this point, which if staff status is achieved at the age of 32 would be at the age of 40, an automatic incremental basic scale of remuneration would be inappropriate and remuneration should cease to depend in any way at all upon the length of service of the specialist.

It remained for us to consider in what way a satisfactory spread of incomes could be obtained in the higher age range, and what should be the method of differentiation between specialists to achieve this spread of incomes and to ensure that in the lower age range outstanding ability should be rewarded by remuneration in excess of the basic incremental scale we have already envisaged. Although as we have said we are not directly concerned with methods of payment we are clear that if the profession is to be satisfied and recruitment maintained it is essential that a method of differentiation involving the selection of individuals for exceptional reward in respect of outstanding professional ability must be found and the confidence of the profession. We have thought it right, therefore, to indicate the kind of mechanism for achieving differentiation which appears to us to be required.

We recommend that the selection of specialists whose outstanding distinction merits exceptional reward should be in the hands of a predominantly medical body and that this body should be as detached as possible from individual hospitals and particular localities. It would be all the advisable to select and specialise members to undertake this task and we are satisfied that the provision of such machinery for the purpose would be in the public interest consisting in the main of eminent members of the profession from their own knowledge or other means and be able to reach an authoritative opinion on the comparative merits of candidates. We recommend that the constitution of this committee should be discussed with the Royal College and the Scottish Royal College and that the professional members should be nominated by these Colleges and Committees. We suggest that the committee should also include a representative of the Universities and a representative of the Medical Research Council.

In our opinion this committee could be empowered to recognize special contributions to Medicine in the field of research or otherwise even in auxiliary or non-clinical professional work (other than administrative) by the nomination of selected individuals of distinction in these fields. The first and highest distinction would be conferred with an annual award of £1,500 per annum and the second an award of £800 per annum. Additionally, specialists who are engaged whole-time in the practice of medicine should be eligible for these distinctions and for the monetary awards attaching to them. Specialists who are engaged part-time in that service should not be eligible for these distinctions and for the appropriate part of the corresponding monetary awards.

We consider that in order to preserve a proper distribution of incomes throughout the entire range of remuneration the number of distinction awards conferred should be a fixed percentage of the total number of consultants eligible and we recommend that 4 of all consultants eligible should be selected for conferment of the first distinction and 2 for conferment of the second distinction and 2 for conferment of the third distinction. This would have the effect of approximately equalizing all specialists' incomes on the basis of a salary of £2,500.

It appears to us that this method of selecting specialists would not only maintain a proper proportion of the higher incomes but would have the advantage of encouraging the incentives to stimulate effort and encourage the outstanding opportunities of higher remuneration to specialists in whatever branch of Medicine they may be engaged in. These awards might be regarded as a means of encouraging specialists to maintain equality of standards and to encourage a proper distribution of specialists throughout the country. In our mind we would emphasize that the object in mind was not to enable specialists to earn more than would in our view be merited by their services but to distinguish on the basis of a specified number of appointments, the specialist who has made a greater advance towards a higher teaching hospital service and the specialist who has made a greater advance towards a higher general practice service. The usual claims regard should be paid to the department providing such awards over the country as a whole. The branches of specialists' practice. In our mind the percentages we have had in mind are not intended to be the main basis of making possible a fixed salary scale.

14. *Part-time service*—We did not regard it as our duty to reference to make recommendations in respect of the remuneration of specialists engaged in part-time appointments. We have, however, given consideration to the general question whether the scale of remuneration for part-time specialists should be based on a proportion of the full-time scale. We have already said that we are not directly concerned with methods of payment and we are clear that if the profession is to be satisfied and recruitment maintained it is essential that a method of differentiation involving the selection of individuals for exceptional reward in respect of outstanding professional ability must be found and the confidence of the profession. We have thought it right, therefore, to indicate the kind of mechanism for achieving differentiation which appears to us to be required.

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the basic remuneration of whole-time specialists of like status, plus one-quarter of $\frac{1}{11}$ or one-quarter of $\frac{11-x}{11}$ of that remuneration, whichever be less.*

We envisage also that special circumstances might arise where a rate of remuneration for part-time appointments higher than that recommended above should be applied, on a personal and in some cases temporary basis, to individual specialists. For example, acceptance of a part-time contract might depend upon uncertain prospects of building up or maintaining a private practice in a particular locality. We recommend that hospital authorities should have freedom to offer at least temporarily a higher rate of remuneration for part-time appointments where such special circumstances exist.

16. *Expenses, Superannuation, and Holidays.*—There are three further points to which we wish to refer in order to avoid any possibility of misunderstanding. First, throughout our proceedings we have assumed that specialists engaged either whole-time or part-time in a publicly organized service will be paid any sums which represent expenses necessarily and reasonably incurred in the course of their work, and that these sums will be in addition to the salaries recommended. The Evidence Committee has brought to our notice a number of items of expense which must be met if the specialist is to perform his duties efficiently. These include car expenses; expenses of travel apart from the use of a car; the cost of renewal of instruments and other equipment; the cost of books and journals; professional societies; printing, papers, and subscriptions to professional societies; expenses of stationery, postage, and telephone costs; expenses of attendance at national and international professional meetings; and the expenses of visiting hospitals and clinics at home and abroad, and entertaining visiting colleagues.

The expenses might be refunded after they have been incurred, or alternatively an appropriate allowance for expenses might be attached to the various posts held by specialists and consultants. If the latter course were adopted it would have to be realized that certain expenses would arise which had not been foreseen when the allowance was fixed—e.g., attendance at an international conference, and additional provision would have to be made in such cases.

It is presumed that the Inland Revenue authorities would be prepared to consider favourably as legitimate allowances for income tax purposes any items of expense which had been approved by a public hospital authority.

Secondly, in the above discussions and in the recommendations which we have made, we have assumed that, as in private practice in the past, specialists will have themselves to provide by insurance against death and old age; in so far as this ceases to be the case adjustment would be necessary.

Thirdly, in our discussions and the recommendations we have made we have assumed that in a publicly organized service the specialist would be entitled to certain definite holidays, and would not be financially liable for providing a deputy. We would add that, in our view, apart from normal holidays, extended leave will in the interests of the service be necessary on occasion for study or research.

SUMMARY

17. *Recommendations and Conclusions.*—Our recommendations regarding the remuneration of consultants and specialists in a publicly organized hospital and specialist service are, therefore, as follows:

(a) Medical practitioners in training for the special branches of medicine should receive (a) a fixed salary of £600 per annum for the first year after registration and are normally held for one year only (e.g., senior house officer, registrar, etc.). (b) A salary of £700 rising by £100 to £800 per annum during their training and are normally held for two years (e.g., assistant, junior registrar, etc.). (c) A salary of £1,100 rising by £100 to £1,200 in the fourth year, which are normally obtained after registration and are normally held for three years (e.g., first assistant, chief assistant, senior registrar, etc.). If such a post is held for more than three years the salary should rise by one further increment of £100 to £1,200 in the fourth year, and remain at that figure in any further years. Note.—These recommendations relate to non-resident posts.

(2) (a) A specialist appointed to the staff of a hospital at the age of 32 or below should receive a starting salary of £1,250 per annum. (b) A specialist appointed at the age of 31 should receive a starting salary of £1,375 per annum. (c) In the case of specialists appointed after the age of 32 hospital authorities should have freedom to vary the starting salary of £1,500 by allowing up to four special increments of £125 each in respect of age, special experience and qualifications.

(3) The initial salary of a specialist on the staff of a hospital should be augmented by an additional £125 after each year of service until a salary of £2,500 has been reached.

(4) A national committee should be set up with the task of selecting individual specialists whose outstanding distinction merits a higher reward than that which the above recommendations would provide. The constitution of this committee, which should be predominantly professional, should be discussed with the Royal Colleges and the Scottish Royal Corporations. The professional members should be nominated by these Colleges and Corporations.

(5) This committee should confer distinction awards, in three grades, on selected specialists, in recognition of special contributions to Medicine (other than administrative). (a) Distinction in the first and highest grade should carry with it an award of £2,500 per annum by way of addition to the salary recommended above; distinction in the second grade an award of £1,500 per annum; and distinction in the third grade an award of £500 per annum. All specialists engaged part-time in the service should be eligible for these distinction awards. A specialist engaged should be awarded the appropriate proportion of the corresponding monetary award.

(b) Four per cent. of all specialists eligible should be awarded the first distinction; 10% should be awarded the second distinction; and 20% should be awarded the third distinction. Note.—This would have the effect that approximately one-third of all specialists would receive remuneration in excess of £2,500.

(6) Specialists who undertake domiciliary visits should receive additional remuneration for this work.

(7) (a) Where x represents the number of half-days per week which a part-time specialist is required to work, his basic remuneration should be $\frac{x}{11}$ of the basic remuneration of whole-time specialists of like status, plus one-quarter of $\frac{1}{11}$ or one-quarter of $\frac{11-x}{11}$ of that remuneration, whichever be less.

(b) Hospital authorities should have freedom in special circumstances to offer, at least temporarily, a higher rate of remuneration for part-time appointments than that recommended above.

Note.—We have assumed (i) that a specialist in whole-time service undertakes a working week of 11 half-days; (ii) that a specialist engaged part-time in the service is required to serve a specified number of half-days per week.

(8) All specialists engaged either whole-time or part-time in the service should be paid, in addition to the remuneration recommended above, any sums which represent expenses necessarily and reasonably incurred in the course of their work.

(9) All specialists engaged in the service should be entitled to definite holidays, and to extended leave when necessary for study or research, without being financially liable for providing a deputy.

(10) It is not for us to make recommendations as to the amounts which should be paid for teaching, but we place on record our belief that in order to secure the right men it will be necessary for clinical specialists engaged in teaching, whether undergraduate or postgraduate, to receive increased remuneration.

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TABLE 3.—Net Incomes.

Provinces and Scotland—Men

Specialty	Surgery	Gynaecology	E.N.T.	Ophthalmology	Orthopaedics	Medicine	Psychiatry	Anaesthetics	Radiology	Dermatology	Pathology	Total	Total Percent
Ages 50-59	11	13	10	7	14	19	12	4	4	4	63	44.4	
0-1	1	1	1	1	1	1	1	1	1	1	1	10.6	
2-3	1	1	1	1	1	1	1	1	1	1	1	10.6	
4-5	1	1	1	1	1	1	1	1	1	1	1	10.6	
6-7	1	1	1	1	1	1	1	1	1	1	1	10.6	
8-9	1	1	1	1	1	1	1	1	1	1	1	10.6	
10+	1	1	1	1	1	1	1	1	1	1	1	10.6	
Total	12	21	13	17	23	5	8	6	6	6	142	100.0	
Ages 60 and above	3	7	5	6	15	2	3	2	3	6	49	21.6	
0-1	1	1	1	1	1	1	1	1	1	1	1	10.6	
2-3	1	1	1	1	1	1	1	1	1	1	1	10.6	
4-5	1	1	1	1	1	1	1	1	1	1	1	10.6	
6-7	1	1	1	1	1	1	1	1	1	1	1	10.6	
8-9	1	1	1	1	1	1	1	1	1	1	1	10.6	
10+	1	1	1	1	1	1	1	1	1	1	1	10.6	
Total	26	28	29	8	34	8	11	15	6	10	227	99.9	
All Ages	37	73	37	23	38	23	19	17	12	16	171	100.0	
0-1	1	1	1	1	1	1	1	1	1	1	1	10.6	
2-3	1	1	1	1	1	1	1	1	1	1	1	10.6	
4-5	1	1	1	1	1	1	1	1	1	1	1	10.6	
6-7	1	1	1	1	1	1	1	1	1	1	1	10.6	
8-9	1	1	1	1	1	1	1	1	1	1	1	10.6	
10+	1	1	1	1	1	1	1	1	1	1	1	10.6	
Total	245	92	105	166	46	160	17	30	89	32	45	1027	

TABLE 4.—Net Incomes.

All Areas Combined—Men: Percentage Distribution for Different Specialties

All Areas Combined—Men: Percentage Distribution for Different Specialties														
Total .. 245 92 105 166 46 160 17 30 89 32 45 1027														
Surgery					Medicine					Gynaecology				
Ages					Ages					Ages				
Under 35	35-	40-	45-	50-55-59	Under 35	35-	40-	45-	50-55-59	Under 35	35-	40-45-50-55-59		
22.0	6.3	3.8	1.6	5.0	39.0	13.4	7.5	5.3	2.8	20.0	10.8	4.8	5.3	—
12.2	14.9	1.9	4.7	—	31.7	16.4	17.5	7.9	8.3	20.0	16.2	4.8	5.3	21.4
24.4	15.2	7.7	4.7	6.7	19.5	17.9	25.0	21.4	27.8	25.0	10.8	4.5	15.8	37.7
19.5	19.0	17.1	12.5	11.7	7.3	20.9	10.0	15.8	22.2	10.0	16.2	9.1	5.3	7.1
9.8	10.1	11.5	15.6	11.7	2.4	10.4	15.0	18.4	5.6	15.0	27.0	27.3	15.8	14.3
9.8	18.2	11.5	12.5	13.3	—	11.9	10.0	15.8	2.8	5.0	16.2	9.5	5.3	14.3
—	8.1	5.8	9.4	8.3	—	6.0	10.0	2.6	13.9	—	2.7	9.5	5.3	—
2.4	2.5	4.7	10.0	10.0	—	1.5	2.5	2.6	—	5.0	2.7	14.3	47.4	7.1
—	12.5	32.7	32.8	23.3	—	1.5	2.5	2.6	5.9	—	13.5	36.4	47.4	7.1
100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
£ 41	£ 79	£ 62	£ 64	£ 60	£ 48	£ 41	£ 67	£ 40	£ 38	£ 20	£ 37	£ 21	£ 22	£ 19
1,150	2,185	3,481	2,900	2,916	3,465	773	1,721	2,355	2,275	1,465	2,431	3,045	4,082	2,114
1,150	1,950	2,750	2,900	2,650	2,650	650	1,550	2,000	1,850	1,200	2,150	2,650	3,300	1,850

TABLE 4 (Continued)														
Far Nose and Throat														
Ages														
Under 35	35-	40-	45-	50-55-59	Under 35	35-	40-	45-	50-55-59	Under 35	35-	40-45-50-55-59		
12.5	22.9	2.4	—	5.6	12.2	7.8	4.5	—	3.9	12.2	7.8	4.5	—	3.9
33.3	25.0	14.3	13.3	13.9	29.7	23.3	19.4	19.1	11.7	29.7	23.3	19.4	19.1	11.7
29.2	12.5	21.4	34.5	25.0	17.6	18.9	26.9	22.1	17.6	17.6	18.9	26.9	22.1	17.6
16.7	10.4	11.9	6.7	13.8	5.4	6.7	20.9	16.2	11.8	5.4	6.7	20.9	16.2	11.8
—	14.6	11.9	3.3	6.9	6.8	8.9	6.0	8.8	3.9	6.8	8.9	6.0	8.8	3.9
—	6.2	9.5	3.3	6.9	1.4	3.3	7.5	2.9	7.8	1.4	3.3	7.5	2.9	7.8
—	2.1	2.4	3.3	2.8	—	5.6	1.5	1.5	5.9	—	5.6	1.5	1.5	5.9
—	6.2	4.8	16.7	2.8	—	4.4	3.0	5.9	—	—	4.4	3.0	5.9	—
100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
£ 43	£ 42	£ 30	£ 29	£ 36	£ 74	£ 67	£ 68	£ 51	£ 51	£ 74	£ 67	£ 68	£ 51	£ 51
1,913	2,175	2,401	1,916	1,703	1,242	1,770	1,868	2,154	1,379	1,450	1,750	1,900	2,154	1,379
1,700	1,800	1,600	1,450	1,600	1,050	1,450	1,750	1,650	1,750	1,050	1,450	1,650	1,750	1,050

TABLE 4 (Continued)

Ear, Nose and Throat		TABLE 4 (Continued)										£ 37		£ 21		£ 22		£ 19		£ 14																																														
												£ 2,431		£ 3,045		£ 4,082		£ 3,776		£ 2,114																																														
												£ 2,150		£ 2,650		£ 3,300		£ 3,550		£ 1,850																																														
Ages		Ophthalmology										All Others																																																						
		Ages										Ages																																																						
		Under 35					35-					Under 35					35-					40-					45-					50-					55-59																													
		12.5					22.9					2.4					13.3					20.7					5.6					12.2					7.8					4.5					—					3.9					11.9									
		33.3					25.0					14.3					13.3					34.5					13.9					27.0					21.1					10.4					19.1					23.5					11.7					37.4				
		29.2					12.5					21.4					13.3					6.9					25.0					17.6					23.3					19.4					22.5					17.6					13.1									
		16.7					10.4					14.6					11.9					6.7					13.8					5.4					18.9					26.9					22.1					16.2					11.8					11.9				
		4.2					14.6					11.9					13.3					6.9					8.3					6.7					8.9					6.0					8.8					3.9					2.1									
		—					6.2					9.5					3.3					6.9					5.6					5.4					3.3					7.5					2.9					7.8					2.1									
		—					2.1					2.4					3.3					6.9					2.8					1.4					8.9					1.5					5.9					2.1														
		—					6.2					4.8					16.7					10.3					2.8					—					4.4					3.0					5.9					—														
		100					100					100					100					100					100					100					100					100					100					100					100									
		£ 48					£ 42					£ 30					£ 29					£ 36					£ 74					£ 67					£ 68					£ 51					£ 1																			
		£ 1,913					£ 2,195					£ 2,401					£ 1,916					£ 1,703					£ 1,242					£ 1,770					£ 1,868					£ 1,900					£ 2,154					£ 1,379														
		£ 1,530					£ 1,800					£ 1,560					£ 1,450					£ 1,600					£ 1,020					£ 1,450					£ 1,750					£ 1,650					£ 1,750					£ 1,27														

TABLE 5.—*Net Incomes. All Areas Combined—Men: Surgery, Medicine and Gynaecology combined Percentage Distribution*

Net Income	Ages					
	Under 35	35—	40—	45—	50—	55—59
£						
0—	28.4	7.7	5.3	2.4	4.3	2.1
500—	21.6	14.2	7.1	4.8	7.0	13.5
1,000—	22.5	16.4	13.3	13.7	14.8	11.5
1,500—	12.7	18.0	14.2	15.3	15.7	22.9
2,000—	7.8	13.7	14.2	12.1	9.6	10.4
2,500—	3.9	14.2	14.2	10.5	5.2	14.6
3,000—	1.0	4.9	8.0	10.5	12.2	3.1
3,500—	—	2.2	5.3	4.0	6.1	4.2
4,000+	2.0	8.7	18.6	26.6	25.2	17.7
Total	100	100	100	100	100	100
No. of men	102	183	113	124	115	96
Mean income	1,160	2,065	2,744	3,170	2,858	2,705
Lower quartile	450	1,150	1,450	1,650	1,450	1,450
Median income	1,000	1,750	2,350	2,550	2,450	2,060
Upper quartile	1,650	2,650	3,350	4,050	3,950	3,290

TABLE 6.—*Net Incomes. All Areas and All Specialties Combined—Men Percentage Distribution*

Net Income	Ages										All Ages Combined
	Under 35	35—	40—	45—	50—	55—	60—	65—	70—	75—	
£											
0—	19.8	6.4	4.5	1.6	3.6	5.6	17.0	3.2	7.8	—	7.8
500—	26.9	17.3	9.5	10.3	10.4	17.4	20.4	10.0	15.7	—	15.7
1,000—	25.1	19.6	17.5	16.9	20.4	17.4	16.3	18.2	19.2	—	19.2
1,500—	14.1	17.9	18.3	18.5	14.9	20.8	12.2	17.3	16.6	—	16.6
2,000—	6.2	11.5	16.7	13.2	11.3	11.2	10.9	13.3	11.7	—	11.7
2,500—	4.8	12.3	11.0	10.2	5.9	10.7	8.2	9.3	9.4	—	9.4
3,000—	2.2	5.0	7.1	8.2	10.4	3.4	7.4	8.6	8.6	—	8.6
3,500—	—	3.1	4.2	3.3	5.4	3.4	4.7	4.1	4.4	—	4.4
4,000+	0.9	2.0	1.1	1.3	1.6	10.1	8.1	4.2	10.1	—	10.1
Total	100	100	100	100	100	100	100	100	100	100	100
No. of men	22	358	246	247	221	178	147	71	1,620	—	1,620
Mean income	1,202	1,950	2,365	2,678	2,462	2,160	1,772	2,244	2,090	—	2,090
Lower quartile	550	1,050	1,450	1,450	1,250	1,450	750	1,250	1,450	—	1,450
Median income	1,050	1,750	2,350	2,350	2,050	1,750	1,450	2,050	1,750	—	1,750
Upper quartile	1,650	2,650	3,350	3,350	3,550	2,550	2,550	3,150	2,650	—	2,650

TABLE 7.—*Females—Net Income. All Areas and All Specialties Combined*

Income £000's	Absolute Nos. at Ages					Total
	Under 35	35—39	40—49	50—59	60—	
0—	7	16	22	6	1	52
1—	—	10	10	2	1	23
2—	—	1	2	—	—	3
3—	—	—	1	1	—	2
4—	—	—	—	—	—	—
5—	—	—	—	—	—	—
6—	—	—	—	—	—	—
7—	—	—	—	—	—	—
8—	—	—	—	—	—	—
9—	—	—	—	—	—	—
10+	—	—	—	—	—	—
Total	7	20	35	9	3	74

In conclusion we wish to record our appreciation of the work of our Joint Secretaries, Mr T. B. Williamson of the Ministry of Health, and Dr. D. P. Stevenson of the British Medical Association.

Drygrange Hotel, Melrose, has been bought by the Council for the Provision of Rest-Breaks Houses for Nurses and Midwives and opened as a rest-breaks house for members of the nursing and midwifery professions. Purchase of the hotel is the first major expenditure in Scotland from the £1,000,000 South Africa Gift to Britain Fund. Drygrange Hotel is the second house of its kind to be opened in Britain. The other is Barton House Hotel, Barton-on-Sea, Hampshire, which was opened in April, 1947. These hotels also provide facilities for nurses recuperating from illness who need no nursing care, and both are open to Scottish and English nurses and midwives. Rest-breaks houses for nurses and midwives were started during the war to meet the needs of nurses and midwives suffering from "overstrain." They are run as hotels, with no restrictions, and are administered by the Council for the Provision of Rest-breaks Houses for Nurses and Midwives.

Correspondence

The Training of a Doctor

SIR.—The British Medical Association and Prof. Cohen's Committee are to be congratulated on *The Training of a Doctor*—a valuable preliminary, in a stage of chaos, to medical educational reform. In your leading article (May 29, p. 1053) you refer specifically to the recommendation that general medicine should be taught as "a basic clinical subject" and lend your support to the appeal for a renaissance of the general physician. As one who has advocated these things for many years and has urged a number of young men to make general medicine their field of practice instead of devoting their lives to an organ, a system, a diagnostic technology, or a particular therapy, I am naturally in full sympathy with the relevant sections both of the book and your leader. If anything I would have gone even further in urging that psychiatry and social medicine with medical statistics were not to be regarded as separate and additional subjects calculated to embarrass the curriculum or to create a desire for more diplomas. In fact, they should contribute to the basic structure of general medicine, unlike the technical specialisms they are a part of its bricks and mortar. The general physician who lacks good psychological training or insight, who is not constantly alive to the part played by social influences in the aetiology of disease and in recovery from it, who is uninterested in the distribution, mortality, and morbidity of common diseases, and who cannot appreciate the uses of numerical data or criticize their faulty employment, is not fully equipped for his task. Human pathology is compounded, surely, of individual and social pathology—the latter a hitherto neglected science in the teaching of the schools and one having an importance to-day not less than that of morbid anatomy and physiology. Surrounded by appropriate texts in the ward and out-patient department the general physician can come to play a large part in the teaching of medicine not only in its individual but also in its social aspects. His teaching will often require the collaboration of the almoner as medical social worker. His students should learn how to take a systematic social history. His instruction should be related in various ways and run concurrently with a modernized course replacing the more orthodox public health lectures of the past in social medicine and hygiene and the applications of vital statistics; it should also have reference to current socio-medical research in which general physicians themselves are now beginning to play a prominent part. These subjects have, in fact, a greater relevance to medical practice and philosophy than many of the specialist subjects and technical and laboratory skills which occupy so much of the present clinical period and which should, strictly, be the concern of postgraduate education.

In order among other things, to give the student further insight into the common disorders and diseases (which he rarely sees in hospital), into the methods and problems of family practice under good conditions, and into the personal health service of the mother and child, I have further suggested (*Journal* May 22, p. 1003) the establishment as soon as possible of practitioner-staffed health centres in close functional relationship with all teaching hospitals. The general physician, at the hospital level, should once more make it his purpose to develop the fundamental disciplines of medical science and practice, to occupy his students' minds with the principles of aetiological understanding and with diagnostic, prognostic, and therapeutic method. The general practitioner—given proper selection, training, opportunity, and associations—could provide a brief first introduction to the applications of these principles in situations far different from those of the ward with its highly selected methods and material. These forms of instruction should become the essential preliminary and leave to all the other clinical subjects and should equally inspire the early training of the family doctor and the specialist. As soon as possible it will be necessary for textbooks and examinations, both in the clinical subjects and in public health, to encourage and reflect these teaching reforms.

While bedside pathology, physiology, and pharmacology—Lewis's "clinical science"—have fully established their academic

CORRESPONDENCE

claims and uses, a sound and critical clinical and socio-medical discipline need not, in fact, be any less scientific; it should, furthermore, ensure a more judicial and humanistic approach to professional problems.—I am, etc.,

JOHN A. RYLE.

SIR.—The report of the Medical Curriculum Committee of the B.M.A. entitled *The Training of a Doctor* will surely be a disappointing document to all who are interested in the training of the doctor in midwifery. As my name is included in the list of those obstetricians (four in number) whose "valuable help" is acknowledged in Appendix A, I feel that I must publicly state my disagreement with some of its main recommendations and make it clear that the course of training advised by me as necessary in the memorandum submitted at the Committee's request has not been accepted. This is of course not surprising, as the Curriculum Committee did not include even one obstetrician or gynaecologist, though it did include four surgeons, four physicians, one ophthalmic surgeon, one ear-nose-and-throat surgeon, a paediatrician, and a professor of forensic medicine. In my opinion, and I speak as one who practised midwifery for 12 years in general practice and has been an undergraduate teacher of midwifery in medical schools for more than 20 years, the course in midwifery recommended, namely two months of clinical work including the time spent in deliveries, is quite inadequate to give the student the "thorough basic training in general principles" that the Committee considers necessary to "enable the practitioner to fulfil the requirements of the Medical Acts without taking a special postgraduate diploma" (p. 87 of the Report).

Has the Committee never heard of or seen the Interim and Final Reports of the Departmental Committee on Maternal Mortality and Morbidity of the Ministry of Health (1930 and 1932), the former of which contains a section on "Medical Education in Obstetrics"? If they have, they make no reference to it and do not include it in the "Select Bibliography" in Appendix B. Perhaps they preferred to ignore it because it recommended six months' clinical training in obstetrics and gynaecology, during not less than two of which the student should reside in the maternity hospital or in special quarters adjacent thereto, and that at least two-thirds of this time, i.e., four months, should be allotted to midwifery. The sad part of it all is that the recommendations of the Departmental Committee have had a great influence on the provision for training in these subjects and have been adopted by most of the leading schools and examining bodies. Now we apparently go back to the conditions of 20 years ago, losing all the ground for which enlightened teachers of obstetrics have fought during the last half-century. Better for midwifery if the B.M.A. report had never been published. I am, etc.,

F. J. BROWNE.

SIR.—No one could fail to appreciate the fundamental soundness of the Report of the B.M.A. Medical Curriculum Committee or of your eulogistic leading article (May 29, p. 1033); nor could one deny the wisdom of the "renaissance of the general physician." There is a considerable danger, however, that the pendulum may swing back too far, and that the real need that brought about specialization and specialists be too easily forgotten. Medicine has advanced very rapidly in the last twenty years and it is a most exceptional intellect that can cover the whole field of medicine and do justice to each section. As a general physician I have personally experienced the great benefit of the specialist's help in any intricate and progressive condition. The idea of relegating the specialist to the rarefied atmosphere of a hospital is also, I believe, an error, even though the specialist has been attained, yet I was equally convinced that the general physician should retain the right to make original contributions in the course of his practice. The specialist is a very definite place in the medical team, and his contributions are of one such type as to be completely outside his own field of competence (I am, etc., but I am not doing).

whose undergraduate pupils to-day occupy high places in his particular specialty in England and the Dominions.—I am, etc.,

London, W.1.

BRITISH MEDICAL JOURNAL

S. LEONARD SIMPSON.

SIR.—In the review of the Report of the Medical Curriculum Committee entitled "Medical Education: A New Approach" (May 29, p. 1040) I read that "the least suitable person to teach psychology is the old-fashioned member of the medical staff of a mental hospital, whose experience is confined to abnormal patients." Such a prejudiced view seems hardly worthy of the authors of this stimulating Report. It just is not true that the medical staff of a present-day mental hospital is old-fashioned. I should not have been altogether surprised to find criticism regarding ultra-modern ideas, but to suggest that mental specialists are behind the times is patently false.

The keynote at the present time of the professional outlook in psychiatry is progress, and this is abundantly evident in the reports of work done and in the papers and discussions in specialist circles. Psychiatrists have for long stressed that psychology, in conjunction with anatomy and physiology, should be taught to all medical students. It seems strange that those responsible for this Report should hold the opinion that the experience of those medical men and women who possess the D.P.M. is confined to abnormal psychology—a glance at the syllabus should be sufficient to change this opinion. It is, however, certain that it is not possible to draw any real distinction between normal and abnormal psychology as contrasted in this review.

Finally, surely it is time that the fallacy concerning mental hospital specialists' experience being "confined almost entirely to the treatment of psychotic patients" was abandoned. It can be stated without fear of contradiction that for the past twenty years more cases of psychoneurosis have been seen and treated in the out-patient clinics staffed by mental hospital psychiatrists than under any other conditions, and that under the Mental Treatment Act a high proportion of the cases admitted to mental hospitals are not "psychotic patients." Please let us agree that psychological medicine is a 'branch of general medicine and that psychiatrists are physicians first and mental specialists second.—I am, etc.,

Eisibourne, Sussex.

W. GORDON MASEFIELD

SIR.—Having always taken an interest in medical education, it was with particular zeal that I studied the summary of the B.M.A. Committee's report and recommendations for modification of the medical curriculum, and I am still trying to discover how the proposed medical training differs from my own training which commenced in London 20 years ago.—I am, etc.,

J. C. B. BONE.

National Hearing-aid

SIR.—May a hearing-aid wearer of many years' experience supplement the views expressed in your correspondence columns some weeks ago by commercial purveyors of hearing-aids (March 27, p. 619)? Mr. A. Edwin Stevens appears from his letter to imagine that sympathy with those whose hearing is impaired—or, to use his phrase, "emotional fervour on behalf of the deaf"—will necessarily hinder good service to them. Does he think that callousness on the other hand will lead to excellent service?

Every user of a hearing-aid who reads such an opinion will call to mind painful experiences showing how surprisingly this view has become established in the showrooms of many of the leading makers of commercial hearing-aids. Here are a few:

A wearer whose receiver had become detached from her lead-band as she moved her head while addressing a large meeting came to the maker and reiterated her previous request that headband and receiver should be firmly united. She was assured that if a hearing-aid headband becomes thus detached it is quite easy to refit it without removing the headband. (A woman's headband being worn under her hair, is awkward to remove in public.) She summoned courage to challenge the salesman to attach a receiver to a headband fixed on his own head, and only after he had spent some minutes in ineffectual attempts to perform this "easy" operation did he succeed in persuading him to adopt her device to fit her headband more firmly to the receiver.

Again, a prospective purchaser is usually fitted with a commercial aid in a small room with no objective test (such as the use of a standardized clock) to enable the purchaser to gauge the amount of improvement in hearing secured to him by the aid. After a minute's conversation assisted by an aid, he may slip it off and apologetically explain "Yes, but I am so sorry, I can hear you like this perfectly well without the aid, so I cannot really judge how helpful it is." There is no solution of this situation.

Or the patient may produce his own clock. The writer has many times received back an instrument which, no doubt, the mechanic believed he had repaired, but on testing her hearing with it on her small portable clock, she has found that the clock is no longer audible at the same distance as before. It has happened that an accidental tap to the microphone has then revealed that the fault lay in the one part of the instrument that the mechanic had forgotten to test!

To turn to Mr. Gee's first point—the excellence of the post-war British commercial aids. Unfortunately, the single instrument with the microphone incorporated, now being so widely offered, is utterly unsuitable for female wear, as even the smallest is too heavy to be clipped to soft garments and is only suitable for a coat or waistcoat pocket.

The handbag, for so long pressed on the woman wearer of a hearing-aid, is a device that inevitably leads to disaster to the woman who requires her hands. A little thought has led to a different method by which a woman wearer can forget that she is wearing an aid.

The writer (who is no physicist) has naturally been able with years of experience to devise remedies also for certain other inconveniences in the methods advised for wearing the current commercial instruments. She has taken pains to suggest to many makers (including the firm who supplied her own aid) that her devices should be offered to other clients, and has expressly renounced any wish for profit from them. Yet, though professional women have often exclaimed that these devices are exactly what they have often asked for in vain, never have they been proffered to them by the private makers.

In short, the care and consideration and "personal attention" (to use Mr. Stevens's phrase) normally available in the hearing-aid showrooms are about comparable to those of an optician (if such a person is conceivable) who should say to his client, "I have made you two beautiful lenses, but as for the question of the best way for you to wear them or what sort of frame you should use, you really cannot expect me to give attention to such purely mechanical matters."

It is unnecessary (though it would be easy) to adduce further examples from the experience of the writer and of her many partially deaf friends of the extraordinary lack of consideration of the needs of their clients by commercial makers of aids. It is clear that very great changes are required in the training of those who fit hearing-aids to new wearers and of those responsible for their maintenance. Surely there is good hope for such improvement as a result of the lone thought and experiment given to this matter not by "the Government" but by the persons with highest qualifications as well as "emotional fervour" whom the Government has wisely invoked through the Medical Research Council.—I am, etc.,

HEARING-AID WEARER.

Pain in Childbirth

SIR.—In the correspondence regarding pain in childbirth little reference has apparently been made to the possible biological value of such pain. Eugene Marais, the South African naturalist, has maintained that pain itself is the stimulus of the maternal instinct, just as scent in some animals and colour in others are the trigger stimuli for the operation of the sex instinct. "We find," he says, "that birth pain is the key which unlocks the doors to the mother love in all animals from the termite to the whale. Where pain is negligible mother love and care are feeble. Where pain is absent there is absolutely no mother love. During a period of ten years' observation I found no single exception to this rule." (*The Soul of the White Ant*, p. 111.) He supported this opinion by experimental proof with a herd of 60 half-wild Kaffir buck. In fifteen years he saw no instance of a mother refusing her young in normal circumstances. To six of them he gave an anaesthetic during labour, thereby abolishing the pain, and in all six the mother refused to accept the lamb of her own volition. In four cases he admini-

stered curare, by which consciousness was partly paralysed but not destroyed: the mothers were in doubt for over an hour, and then three accepted and one refused the lamb. To prove that the refusal was not due to the anaesthetic itself he let six mothers deliver their young normally and immediately afterwards anaesthetized them for half an hour. In all cases the mother accepted the lamb immediately she became conscious.

It is obvious from everyday observation that pain itself gives rise to physiological changes such as palpitation, sweating, and may even affect healing processes. There is some evidence to show that if pain is abolished under hypnosis the healing of a wound is accelerated (*Lancet*, 1917, 2, 678). There appears therefore to be no *a priori* reason why pain in childbirth should not act as a stimulus releasing the hormones or whatever it is which is the physical basis of the maternal instinct. If these views are correct they give support to those "misguided" mothers who prefer to have their babies without anaesthetic and to suffer the pain, claiming that it gives them more love for their offspring. This is often regarded as pure masochism, a perverted pleasure in suffering pain, but it may have another explanation, being nothing less than a biological fact. In view of the importance of this subject both for individual and social psychology, the very perpetuation of the maternal feeling depending upon it, further scientific investigation of the matter in human mothers is obviously called for before we launch on a wholesale administration of anaesthetics, to determine whether in fact there is any diminution of maternal devotion resulting from the complete or partial administration of anaesthetics in childbirth.—I am, etc.,

London NW1

J. A. H. FIELD.

Pulmonary Oedema

SIR.—May I correct a statement in the penultimate paragraph of the leading article on pulmonary oedema (May 29, p. 1035)? It reads, "In the latter connexion Daly has found that perfusing a heart-lung preparation of a dog with human blood causes the rapid development of severe lung oedema, though perfusion with horse blood keeps the lungs dry." Your leading article associates this statement with my paper in *Thorax*, 1946, 1, 182. If reference is made to this paper in *Thorax*, it will be found that the experiments were not carried out on the heart-lung preparation but on perfused dogs. These animals were anaesthetized and perfused in some experiments for as long as 8 hours, during which time the respiratory centre remained active. This perfused living animal (P.L.A.) preparation differs in many respects from the heart-lung preparation, for the heart is functionally excluded and is replaced by two blood pumps, the one for perfusion of the whole systemic circulation, the other for perfusion of the pulmonary circulation. By these means the blood flow through each circulation can be separately controlled and the physiological responses of each investigated without complications of changes in cardiac output. A full account of the P.L.A. preparation will be found in a paper by Daly, Elsdon, Hebb, Ludány, and Petrovskaia (*Quart. J. exp. Physiol.*, 1942, 31, 227). In this preparation Dr. Josephine Weatherall and I found that when horse blood is used as the perfusate the lungs remain dry, but when human blood (Group O) is used severe lung oedema occurs within fifteen to ninety minutes. Experiments of this kind, however, give no evidence that similar effects would be produced by horse and human blood on the lungs of heart-lung preparations. Such a result might be expected, but, as far as we are aware, the matter has not yet been put to an experimental test.—I am, etc.,

Cambridge

I. DE BURGH DALY.

Waiting for Tonsillectomy

SIR.—Mr. William Ibbotson (May 22, p. 1002) calls attention to the acute anxiety and distress of parents in regard to children whose tonsils cannot be removed because of the long waiting-lists for this operation at the hospitals. The waiting-lists are so long that "a desperate position has arisen."

I suggest that this intolerable anxiety of the parents (which is out of all proportion to the suffering of the children) can be greatly alleviated by reminding them that tonsillectomy has its dangers—e.g., it was estimated that in the days when the waiting-lists were shorter about 80 children lost their lives each year as a result of the operation.

By the time these possibilities are explained, the parents' anxiety becomes more tolerable and they may even listen to advice about more conservative methods of dealing with tonsil trouble.

Mr. Ibbotson's reference to "the utmost importance that healthy growth should be encouraged and not hindered" raises again the important question, Is there any proof that tonsils and adenoids retard physical growth or mental development any more than similar collections of lymphatic tissue in the sinuses or in the groins or in any other part of the body?—I

breath spontaneously during the course of the treatment, and sometimes, even with good curarization, do not stop breathing entirely.

It can be argued that a test dose of here as in surgery, but in a test dose of stress, anxiety.

It can be argued that a test dose of curare is as necessary as in surgery, but in psychiatric patients, where nervousness, anxiety, and sometimes extreme uncooperativeness are usual, such a routine is hardly practicable. The most difficult type is the heavily built, thick-necked patient in whom a uneventful recovery with a good colour is much more difficult to achieve, even with every device for acquiring a good airway and of careful ventilation. In such, the possibility of bronchospasm must always be borne in mind.—I am, etc.,
London, W.1.

STEPHEN COFFIN

Tolerance Limits to Radiant Heat

Tolerance Limits to Radiant Heat

SIR,—The article on this subject by Drs. D. L. Lloyd-Smith and K. Mendelssohn (May 22, p. 975) is to be commended as another step towards providing proper physical data and measurements for physical medicine in daily use for treatment. But, useful as careful measurement of the radiant flux of various apparatus is, it does not provide any justification for the inference in this article, particularly in the summary, that "under well-defined conditions, considerably higher intensities of radiant heat can be applied clinically than has been customary so far."

It was common knowledge during the established practice of treating by means of radiant heat, that the greater the intensity of the radiation, the more rapid was the effect. The fact that the tolerance limits are not yet known, does not justify the inference that they are higher than has been generally supposed.

Yours faithfully,
"STEPHEN COFFIN."

It was common knowledge during the war that the old established practice of treating shock and other allied conditions by means of radiant heat cradles was often liable to exacerbate the condition rather than ameliorate it. By all means let us know what we are doing physically when we apply radiant heat or infra-red to a patient, but it is clearly of greater importance to ascertain whether there is any real biochemical justification for the widespread application of radiant heat and infra-red, and, if so, in what doses and for what conditions it should be used. Simultaneously, steps should be taken to ascertain whether heat applied by methods of conduction or convection are, or are not, better in their clinical results.—I am, Sir, yours faithfully,
London, W.1.

ALFRED J. MARTIN.

Anti-Rh Serum Nomenclature

ALFRED J. MARTIN.

Anti-Rh Serum Nomenclature

SIR,—The use of two nomenclatures for the varieties of Rh agglutinogens, the corresponding antisera, and the underlying genes by the two groups of scientists who have contributed most to our knowledge of this branch of serology is to be greatly deprecated. The use of both designations simultaneously, as proposed by the National Institute of Health in the United States, has not been accepted by either side, and Wiener has enumerated the reasons why he objects to this compromise (April 24, p. 805). Only a few of these objections are, however, justified. It is certainly a disadvantage that Fisher's system does not make the relationship to the Rh factor clear by appropriate lettering. The "one-to-one correspondence" of genes and partial antigens is definitely hypothetical but not essential for the use of the nomenclature.

As I have pointed out previously, reactions need not be a mixture. Instead of the three

As I have pointed out previously, the types of serological reactions need not be a mirror image of the antigenic structure. Instead of the three linked partial antigens there is a possibility of a single molecule with a common nucleus and three more or less different side chains. The genetic conception of Fisher may, however, gain support by a more detailed knowledge of the frequency of such mutations as could be explained by crossings over (Race). The designations as could be explained by crossings over for variants of partial antigens such as C, Cw, Cu, etc. Thus new discoveries were easily incorporated into the Fisher system, while Wiener found it necessary to change his designations repeatedly. In addition, the use of such designations as Rh⁺ with not an analogous meaning to Rh⁻ and Rh⁺ is misleading. Essentially, however, both systems are identical and a glance at tables in papers by Wiener, Race, Mourant and associates, or in Bessis' monograph, will show that each designation in Fisher's system has a synonymous one in Wiener's, or vice versa. A compromise in the form of a synthesis is therefore possible by replacing the circle and strokes in Wiener's system by Fisher's lettering.

We propose, therefore, that the phenotype be designated by the letters of the sera used in testing added to the statement Rh⁺. The principle is the same as that proposed by Murray.

R. P. GARROW.

Electro-narcosis
May 20

R. P. GARROW.

Electro-narcosis

Sir Your report (May 29, p. 1044) of my lecture at the Royal Society of Medicine on May 11 contains four errors which call for correction.

- The dose of atropine which I recommended was 1/60 gr. (1 mg.) and not 1.6 gr. (11 mg.) as stated.
- The statement "... it was rare to give less than 200 f/A for the first 30 seconds..." was rare to give the first 30 seconds... ..

- 1 The dose of atropine which I recommended was 1/60 gr. (1 mg.) and not 1.6 gr. (11 mg.) as stated.
- 2 The statement "it was rare to give less than 200 f/A for the last 30 seconds"
- 3 The

2 The statement "it was rare to give less than 200 f/A for the last 30 the first 30 seconds"

- 1 The dose of atropine which I recommended was 1/60 gr. (1 mg.) and not 1.6 gr. (11 mg.) as stated.
- 2 The statement "... it was rare to give an application of less than 200 f/A for the last 30 seconds" should read "for the first 30 seconds."
- 3 The sentence "In 8 cases of severe psychoneurosis there were two striking recoveries" gives a wrong impression, for 7 out of the 8 patients recovered or were much improved, two being cited in detail.
- 4 Mr Grey Walter suggested that the term "..." would be more suitable a title than "...", with which I agreed.

4 Mr Grey Walter suggested that the term "Electro-coma" would be more suitable a title than "Electro-narcosis," a view with which I agreed. His reference to electro-delirium was scarcely meant to be taken seriously.—I am, etc.,

A. SPENCER PATERSON.

Sir In the report (May 29, p. 1044) of the discussion on May 11 in the Section of Psychiatry at the Royal Society of Medicine at which Dr. Spencer Paterson showed a film of electro-narcosis, Dr. Gerald Caplan advocated a dose of pentathal 0.3-0.4 g. (with atropine) and of *d*-tubocurarine 12-15 mg. before electro-narcosis.

I have been collaborating with Dr. Spencer Paterson in such cases as an anesthetic for over a year, and I have found that while in E.C.T. pentothal 0.3-0.4 g. with atropine gr. 1/60 (1 mg.) added—rapidly given, can be an adequate dose, 0.5 g. is usually more satisfactory. Particularly in electro-narcosis. One has to remember that having allowed three minutes for the curare to take effect, the electro-narcosis will continue for another seven, and that before the total ten minutes has elapsed some patients may easily be sufficiently light, to remember, if for some reason the current has intentionally been less than usual. I have known this to happen. In ECT I usually give pentothal 0.4-0.5 g. (Seldom 0.3 g.), and in electro-narcosis 0.5-1.0 gm. (0.8 g. and I find that with the greater dose one obtains a better balance between the speeds of recovery of the pentothal and the curare.

As regards curare dose, I have this on 2 mg. of curare (between 1 and 2 mg.) with a reduction of 0.5 mg. for every 10 minutes in duration of the electro-narcosis.

and I find that with the greater dose on the balance between the speeds of recovery of the curarizing and the curare. I base this on 2 mg. of *d*-tubocurarine with a reduction in dose for fat patients. A second treatment can be made at the second treatment with a little shift and often unnecessary. Good curarization by no more movement than slight flexion of the trunk and only very gentle movements of the trunk and arms is possible, but even with good curarization the patient is unable to cause a loss of good colour with the current is switched.

...the current is switched
...of good colour with
...for cardiovascular or other reasons, is
...to curarize to this extent, and no
...has been encountered in estimating the
...of phonation (should it
...but few cases where
...by the end of the treat-
...in a similar venti-
...patients begin to

Presented herein to

(2) But the agenda technique is recognizing something of a danger. It makes all the difference in the world what sort of meat you put

I offer this rough analysis of causes and invite your readers' critical consideration of a problem which concerns us all very nearly. May I now suggest certain remedies?

Overcrowding.—Since the hall cannot be enlarged, it follows that the number of representatives must be limited; and this can only be achieved by reducing the proportion of representation, so that Divisions elect one representative for every 120 members instead of for every 100. This would make proper seating arrangements practicable.

The length of the agenda cannot properly be limited. Therefore the time allowed must be greatly extended. If necessary, the expenses of provincial representatives should be more liberally covered, and since hotel accommodation is so difficult I would strongly commend the suggestion that we in the London area should offer, and obtain in our Divisions, hospitality for provincial members. No representative should have to come straight from a night train to attend an all-day meeting.

The Agenda Committee is a very necessary body. Its constitution should be altered so that it derives at least half its membership from the body of the hall.

The Secretariat.—The profession must look to the Council to see that no undue influence is exerted upon policy by the whole-time officials of the Association.

The Platform.—Many of the difficulties of speakers would disappear if more time and leisure were available and the rush and hecticness of proceedings were reduced.

The Council.—One is filled with admiration for the patient and conscientious way in which members have discharged their exacting and arduous duties. Many of us believe that they have made disastrous mistakes in the last few months, but we are insufficiently informed. Perhaps the most useful general suggestion one can make to them is that they should take the R.B. more fully into their confidence. Nothing can do more harm to the unity of the profession than an apparent attempt to blanket criticism. On the other hand, the R.B. should use more imagination and ask for information instead of putting down ill-informed motions of censure.

The representative himself is a very responsible person. It is obviously very necessary that he should do his best to keep in touch with all the members of his Division, explaining major issues to them and ascertaining their opinions. He is, surely, wrong to come to Representative Meetings with a closed mind, slavishly bound to abide by the decisions reached upon incomplete evidence at his Divisional meeting. He must make it perfectly clear that he will use his discretion in interpreting their views in the light of any new information that may come to him; and if his Division does not accept that concept of his duty, he should resign.

He will probably find that Divisional meetings will be better attended if more care and forethought are given to the preparation of the agenda accompanying the notice of meeting. The choice of day and time is important, and in large and scattered Divisions it may be well worth while to hold group meetings at local focal points within the area instead of trying to assemble the whole Division at one place. Divisions should appoint deputy representatives and these should take part in local organization.

Minorities.—Some way must be found of securing representation for the minority view. I believe the best plan is as follows:

(1) Larger Divisions with two or more representatives should elect one of them with the specific duties of ascertaining the views of substantial minorities and voicing them at the Representative Meeting.

(2) Smaller Divisions should ask their representative to make sure that all views are presented, giving some indication of the size of the groups.

(3) The Representative Body should appoint officially one or more "watch-dogs" whose function is to assist representatives to understand the views which are in opposition to the majority view of the Council. They should be entitled to attend meetings of the Council and to take part in its debates.

(4) The "watch-dogs" should be out of place at Representative Meetings. We are a scientific body, concerned to find the truth. We should not be like the familiar methods of scientific argument, which are to discuss radical politics?—I am,

A. C. F. BRIDCH.

Views of Marylebone Division

SIR.—The remarks made by Mr. R. L. Newell about the Marylebone Division at the recent Representative Meeting did not seem to me of much importance when they were made, but now that they have been elevated to the prominence of a leading article (June 5, p. 1086) I hope you will allow some comment from one who has had the honour to be chairman of that Division for over two years. Mr. Newell speaks of "the acute symptoms developed in the Marylebone Division." To talk thus of a policy which has been absolutely constant for over three years is as ridiculous as it is to suggest that Lord Horder's views could be "warped" by those of anyone else. Mr. Newell evidently wished to give the impression that there had suddenly sprung up in Marylebone a sort of hysterical condition that was at complete variance with the views held in the rest of the country. May I give a few examples to show how incorrect he is?

Over a year ago, when the Representative Body was considering the Council's motion to authorize negotiations with the Minister provided that further legislation was not excluded, only 17 votes were cast against the Council; these 17 included those of the 7 Marylebone Representatives. Dr. Dain has since stated publicly that he is quite certain that the Minister in accepting negotiations had not the slightest intention of amending the Act. More recently, when the Council were hastening their plans for the last plebiscite, our Division felt strongly that there was far too much haste and insufficient time for discussion. Those members of Council who come from Marylebone fought hard for some postponement, but the vote went against them. However, it was confirmed at the recent Representative Meeting that our view was held by a majority throughout the country, for a motion from Newcastle-upon-Tyne that the plebiscite was premature was carried—a fact to which no reference is made in your leading article surveying the meeting.

We hold that "the freedoms of the profession are not sufficiently safeguarded." It seems to have been overlooked that this was also the Council's view. The fact that these most important words came to be tucked away in a long paragraph at the end of the document issued by the Council to every member of the profession can only have been by accident or design. If by accident, then a very serious error was committed; if by design, then something much worse. So far from our policy being one of acute symptoms, I submit that it has been consistently directed to one end—the best possible National Health Service for the public and the profession. It is still the same, and it is not influenced by the fact that others may think we have gained a victory; nor do we consider that because we have forced Parliament to take an exceptional course it is sufficient excuse to "call it a day."

So much for the past. What of the future? The more we may feel we have been weakened by over-hasty and ill-judged action, the more it is imperative that we should stand together. I am afraid it will not be long before the folly of these recent actions is manifest to all. We shall soon run into trouble. How we shall fight it, in our greatly weakened state, I cannot at the moment see; but, if we all stand together—those who agree with what has been done and those who do not—in the ranks of our Association, we shall fight it somehow.—I am, etc.,

R. HALE-WHITE,
Chairman, St. Marylebone Division

* The leading article referred to "the criticisms levelled against the Council and expressed in a motion which was carried deploring the holding of the April plebiscite."—ED., B.M.J.

The Special Representative Meeting

SIR.—As a representative of the Reigate Division I was asked to put before the recent S.R.M. two motions, one advocating the postponement of the appointed day, and the other expressing loss of confidence in the B.M.A. Council. Through no fault of my own, however, I was not allowed to bring forward these motions on behalf of my Division, nor, although I gave my name to the chairman of the meeting and asked to speak, was I given the opportunity to make my points under cover of other motions.

CORRESPONDENCE

JUNE 12, 1948

Had I had the opportunity, I would have drawn attention to the fact that, in the leading article of the B.M.J. of May 1 (p. 839), a statement is made that the Representative Body voted in favour of the 100% issue. The fact is that at the S.R.M. in May, 1945, a resolution was carried to the effect that the Association was willing to negotiate terms and conditions for a 100% service, provided that ample safeguards were introduced to ensure that any member of the community, whatever his income, should be entitled to obtain his medical service, in part or in whole, privately, as, for example, by grant-in-aid provisions. This, the policy of the B.M.A., has never been rescinded: I therefore hold that the B.M.A. is not in favour of an unqualified 100% service and that the leading article is misleading.

Further, my criticism of the Council is that, if the Council had studied the minutes of the S.R.M. of March, 1948, it should have realized that the resolutions carried at that meeting demanded the rejection of Mr. Bevan's "concessions" as quite inadequate. Those resolutions requested: (1) Postponement of the appointed day; (2) introduction of a national health service by stages; (3) no agreement as to terms by consultants or general practitioners until both sections who remain satisfied; (4) no penalization of doctors or patients who remain outside the National Health Service. Is it to be wondered, then, that I should feel that the Council has not carried out the policy of the Representative Body, of which it is the servant, and that as a representative my services are of no further value to my Division? I have therefore informed the secretary of my Division that, although recently re-elected, I feel I cannot attend the next A.R.M.—I am, etc.,

C. E. BEARE.

Dorkins, Surrey.

* The statement in the leading article to which Mr Beare refers was as follows: "We must, too, remind ourselves that the B.M.A. has declared its 'whole-hearted desire' for a comprehensive medical service available to everyone in Britain. The Representative Body voted in favour of the 100% issue." The following recommendation by Council was put to the S.R.M. on March 17 this year, and was carried unanimously (Supplement, March 27, p. 49):

That the Representative Body, reaffirming the whole-hearted desire of the medical profession for a comprehensive health service available to everyone, urges that in the public interest such changes should be made in the National Health Service Acts of 1946 and 1947 as are necessary to maintain the integrity of Medicine and to prevent doctors being turned into State servants, with harmful consequences to patient and doctor alike. The Representative Body therefore expresses the hope that the Government will make it possible for the profession to co-operate by making such changes, and states its view that it is not in the best interests of the public or of Medicine for members of the profession to enter the Service until such changes are made. (Our italics)

The "ample safeguards" referred to in the resolution carried at the S.R.M. in May, 1945, have been granted: medical practitioners within and outside the National Health Service are allowed to conduct private practice. Since the S.R.M. in March this year, to which Mr. Beare also refers, the Minister of Health has made a number of concessions on and after April 7 which the S.R.M. on May 29 considered were sufficient to justify the passing as a motion of recommendation A put before it by the Council (Supplement, June 5, p. 154).—Ed. B.M.J.

Trade Union Status

Sir.—Though it is quite unnecessary to reaffirm the adage at "united we stand, divided we fall," we seem as a profession at this moment to be both divided and falling. Having recently sat through five hours of discussion on the N.H.S. among local practitioners, the only impression I came away with was one of complete and utter confusion. Something is very wrong indeed in a situation if, at this eleventh hour, such confusion exists. Surely we must have an entirely new conception of unity if we are not to be picked off and enmeshed—still talking about freedom—by Mr. Bevan on July 5.

In these days of universal franchise the paradox is that individual freedom simply does not exist. We as a profession must either submit to the authority of the Minister of Health, or we must submit to that of our freely elected representatives. The Representative Body, as it is now constituted, has no real

authority and therefore no real power, and no real status in Mr. Bevan's eyes. The grave political blunder of the latest plebiscite would seem completely to have discredited those in control at Headquarters in the eyes of the rank and file, so that we are left with a headless body.

Surely the most urgent and pressing need of the moment is an election of a fully representative body with complete authority of decision, the confidence of the profession, and full trade union status. Only such a measure can guarantee a satisfactory N.H.S. with acceptable terms of service and remuneration, and only such a body can hope to compete on equal terms with the present or any future Ministry of Health.—I am,

E. P. JOWETT.

Okehampton, Devon.

Terms of Remuneration

Sir.—I should like to reinforce the arguments of Dr. Desmond Longford (May 22, p. 1004) regarding remuneration, though his figures are too favourable. If the ratio of population to general practitioners is 2,000:1, it follows that for each doctor who has a list of 4,000 (£3,332) three other doctors will have to oblige him by limiting their lists to approximately 1,400 (£1,362). These figures assume that everyone will choose his doctor by July 5, but a little thought will show that this is not to be expected. Many people are not doctor-conscious and will do nothing until they are ill and this type of person may easily total 40% at the end of the first year.

The Ministry pamphlet "Remuneration of General Practitioners," April, 1948, states in relation to persons not on a doctor's list that one-third of their money will be included in the pool. This amount obviously should be the whole, as it was in the panel days. The doctor who feels fairly sure of a list of 4,000 must reckon on the competition which will surely come when bronze plates appear around him bearing the names of starving practitioners from the seaside, where in many places the population is less than 1,000 per doctor.

I think that these considerations should be submitted without delay to the economic expert who advised us on panel capitation fees in 1946. Doctors who have signed on the dotted line already would do well to send a letter making clear that their acceptance of the new Health Service assumes the implementation of the Spens Report and disagrees with the Minister's remuneration.—I am, etc.,

ROBERT SLATER.

Preston, Lancs

POINTS FROM LETTERS

Extreme Disappointment

Dr. F. O. TAYLOR (Coldingham, Berwickshire) writes: Owing to the amazing collapse of the Association I have had to accept service under the new Act. But I have done so with reservations, which I have clearly stated on my Form E.C.16. I must record my extreme disappointment at the outcome of all our struggle and worry and expense of all kinds. We shall see within a short time that we are delivered defenceless to whatever system has been devised behind the façade of the National Health Service Act. Let's all sing "The Red Flag."

Standard Notepaper

Dr. J. S. LAURIE (Fitzwilliam, nr. Pontefract) writes: May I again use your columns to appeal to hospitals and private consultants to assist the general practitioner by using a standard size of notepaper which will fit neatly into the N.H.S. record envelope, which is the same size as the old N.H.I. model? It would present no difficulty for hospitals to order their stationery in what is known to printers as large post 6mo, either as folded folio or cut single, which would provide large and small sheets to fit into a tidy file and prevent the ugly, untidy, bulging mass of assorted sizes of notepaper which disfigure many of our record envelopes to-day. . . .

Encouraging Absence from Work

Dr. M. R. SONI (Manchester) writes: Many benevolent employers and corporations are in the habit of making up their employees' wages to the normal amount during a period of illness. It is a nice gesture, but as the practice in my opinion leads to prolonged absenteeism it is time something was done about it. Lots of doctors' time is wasted by issuing sickness notes to these well-to-do malingers, and if the income tax authorities insisted on treating these payments as personal gifts the practice will soon stop.

Obituary

C. S. THOMSON, M.D., D.P.H.

Dr. Charles S. Thomson, who died at his home in Ayr on May 30, was medical superintendent officer of health in Belfast from 1928 to 1945.

Charles Samson Thomson was a native of Ayr, and graduated at Glasgow University in 1906, taking the D.P.H. and the B.Hy. in 1908 and proceeding M.D. in 1912. Before coming to Belfast he held appointments as medical officer of health at Workington, Cumberland; Hyde, Cheshire; and Deptford, London. He was a Fellow of the Royal Institute of Public Health and Hygiene, and a member of the Royal Sanitary Institute. When he received the degree of doctor of hygiene at Durham University in 1938 he became the seventh person to hold that qualification. In 1937 he received the "Smith Award"—a bronze statuette of Hygeia—given triennially by the Royal Institute of Public Health and Hygiene to the medical officer of health who, in the opinion of the council, had in the discharge of his duties been responsible for the most noteworthy work in the department of preventive medicine. Dr. Thomson served with the R.A.M.C. as a bacteriologist in the 1914-18 war, and in appreciation of his services in Salonika during the Balkan campaign the Greek Government awarded him the Order of Military Merit of Greece. Dr. Thomson was a lecturer in public health administration in the Queen's University of Belfast, and contributed several papers on public health subjects which were published in professional journals. He was known in public health circles in all parts of the British Isles, and took an active interest in all branches of public health work. He attended many health conferences, where he frequently took part in the debates and discussions. He was a fluent speaker and had the happy faculty of expressing his remarks in a humorous vein. He was enthusiastic in all his work and did much to improve the various health services for which he was responsible.

Dr. Thomson was a man of genial disposition, kind and considerate, and with an aptitude for making friends. He was held in high esteem by the members of his health authorities and his colleagues. His retirement in 1945 was marked by the presentation of an illuminated address by his staff in the Belfast Public Health Service.

Mrs. Thomson predeceased him in 1944. His son, Dr. Charles S. Thomson, is a graduate of Queen's University and holds an appointment as medical officer of health at Dereham, in Norfolk. His son and other relatives are assured of the deep sympathy of his many friends and colleagues.

A. W. SIKES, M.D., F.R.C.S.

Dr. Alfred Walter Sikes was born at Ballycogley Castle, Co. Wexford, on July 9, 1869, and died at his home at Portscatho, Cornwall, on May 25 at the age of 78. He was educated privately and went to St. Thomas's Hospital with an entrance scholarship. He proved to be one of the most brilliant students of that hospital, winning the Tite and Peacock scholarship, and earning gold medals in both the intermediate and final examinations for the M.B. He also held the Treasurer's gold medal, the Barstow medal, and the medal in medicine. He proceeded M.D. in 1898, taking the F.R.C.S. in the same year, and in 1900 he was medical registrar to St. Thomas's. He had a great reputation among his colleagues and the public. His colleagues remembered him with affectionate awe on account of his stern capacity and mordant wit. After taking the M.B. and F.R.C.S. and the D.P.H. in 1901, Dr. Sikes took appointments of physician at Marburg University, and afterwards of lecturer in physiology at King's College, London. He wrote a number of original articles on this subject, and was active in the professional and technical journals. He proceeded D.Sc. in 1908.

Dr. Sikes was interested in, and helped to promote, the claims of social medicine. He was a member of the late Dr. James Kerr in the London County Council as a member of the original divisional

medical officers. He thus had a great share in the development of social medicine in London. He remained in charge of the North-Western Division of the London School Medical Service until his retirement in 1935.

In the first world war he volunteered for active service, and was surgeon to an ambulance train in France. After his retirement from the school medical service Dr. Sikes lived quietly in Cornwall, where he indulged his great love of gardening. His great mental gifts, combined with his pungent Irish wit, made him a most entertaining, if sometimes disconcerting, companion, while many of his former colleagues remember the ostentatious acts of kindness arising from that warmheartedness which was another characteristic. Sikes married in 1902 Miss Maitland, daughter of Thomas Townshend Somerville, of Copenhagen, and had two sons, one of whom survives him.

Dr. ALEXANDER GIBB GLASS died on April 21 at Grantown-on-Spey, Aberdeenshire, where he had been born seventy years before and where his father had been Provost. He had returned to his native town only two years before his death. Educated in Grantown, he went to Aberdeen University and graduated M.A., and then to Edinburgh University, where he took the M.B., Ch.B. in 1904. He worked in South Wales for two years as an assistant in general practice. He then decided to take up public health work, and so he proceeded M.D. and took the D.P.H. in 1908. His first public health work was in Roxburghshire, and after other appointments he finally became in 1921 M.O.H. of Farnworth and Kearsley, Lancashire. Here there was much to be done, and he tackled it with zest. The 1930 Housing Act gave Dr. Glass the authority he needed, and in spite of much local criticism he condemned property and cleared the town of slums. In 1941 he was a proud man when he was able to record an infant mortality rate of 43 per 1,000, the lowest figure in the town's history and lower than the average for England and Wales. In 1943 he retired after twenty-two years' successful work in the town. Dr. Glass was always efficient, but he had a very kindly manner, though his kindness did not prevent his taking a firm stand for truth at right living. He knew well just how much a good home meant to the moral and physical well-being of the community. Dr. Glass had been a member of the B.M.A. for many years, and he was Chairman of the Bolton Division in 1934-7. He leaves a widow, to whom we offer sympathy in her great loss.—J.M.S.

Dr. WILLIAM ARTHUR BRUCE YOUNG died at Market Drayton on April 24 at the age of 72. A graduate of Manchester University, where he qualified in 1900, proceeding M.D. in 1914, he came to Winchester in 1917 as medical officer of health, school medical officer, and physician in charge of the fever hospital. The chief interest in his life was his work, and he devoted himself to it wholeheartedly. Dr. Young never spared himself even when he was hardly able to perform his duties on account of the asthma from which he was rarely free during the last years of his professional life. Dr. Bruce Young was an extremely conscientious man. In the fever hospital he inspired confidence in all his patients and was held in the highest esteem by the matron and nursing staff. In the same way he was the friend of all the children he looked after in his school work. He was a good organizer and inspired both loyalty and affection in the members of his lay staff. He was a well-read, cultured, and courteous man. His hobby was the collecting of "Baxter Prints." Although professional work claimed so much of his time yet he was able to take an active part in the affairs of the British Medical Association, of which he was a member for thirty-five years. During this period he held the following offices in the Winchester Division: chairman, 1923-4 and 1934-5; honorary secretary, 1924-8; 1929-32; acting honorary secretary, 1933; and representative in the Representative Body, 1939. Dr. Young retired in 1941 to Market Drayton. Just before he died he was planning to visit Winchester again for a short time to see some of his friends. His passing will recall to those older practitioners in Winchester who were privileged to know him many memories of his help and kindness. His marriage was a most happy one and he leaves a widow and a son.—R. H. B. B.

Dr. GEORGE MCCONNELL, of Carnoustie, died on April 11 after a brief illness. A native of Northern Ireland, like many others of his countrymen he studied medicine at Edinburgh University, where he gained the Allan Surgical Prize and graduated M.B., Ch.B. in 1912. He was house-surgeon to Alexander Miles in Edinburgh Royal Infirmary, and thereafter

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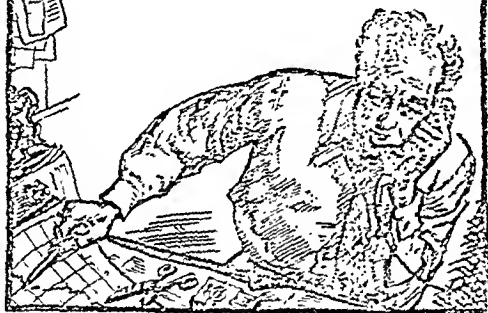
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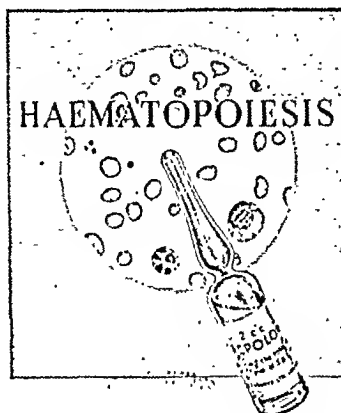
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studied midwifery at the Rotunda Hospital, taking the Dublin L.M. He served with a Highland Division Field Ambulance on the Salonika front in the war of 1914-18, and then settled in Carnoustie, where he had a large practice in the town and surrounding rural area, which occupied his whole day and often a great part of the night. Dr. McConnell was an excellent diagnostician, and his opinion, based on an intimate personal knowledge of the patient, was sound and accurate. His kindness to and consideration for his patients was boundless. During the recent war he never had a holiday. Even his great physique—he was an Irish rugby international forward—gave way under the strain and he carried on till he collapsed at his work. The whole community paid their last tributes in St. Stephen's Church and at the graveside on April 27. He is survived by his widow; by a son, Dr. Desmond McConnell, who served with the R.A.M.C. in the recent war and became a partner in the practice after demobilization a year ago; and by a married daughter, who is also a medical graduate.—R. C. A.

Dr. ARNOLD WHITAKER OXFORD died on May 30 at the age of 93 after an unusual medical career. Dr. Oxford was born at Keynsham in 1854, and after graduating at Oxford University he was ordained in the Church of England. Interesting himself in social problems, after some years he became a medical student at Charing Cross and the London Hospital. He qualified L.S.A. in 1897, going on to take the M.B. of his own university in 1898 and proceeding M.D. a year later. He especially devoted himself to the reclamation of prostitutes, and took consulting-rooms in Bond Street with a view to healing their bodies as well as their souls. At the same time he worked untiringly in the service of the Samaritan Free Hospital for Women, where he was for many years chairman of the board. During the first world war he went back to Charing Cross Hospital as an honorary resident medical officer, acting in that capacity from 1917 to 1924. As an all-round practical philanthropist his record will not easily be beaten.—H. R.

Dr. JOHN MACMYN died at his home in Kirkcudbright on May 13 at the age of 85. A native of Bargrennan, Newton-Stewart, Dr. MacMyn received his early education at the Ewart High School. At Edinburgh University he graduated in 1884, and proceeded M.D. in 1890. He settled in Kirkcudbright immediately after qualifying. At that time there was no telephone, no hospital in the burgh, and no means of visiting patients in Twynholm or Dundrennan except on foot or horseback. He started as an assistant to the late Dr. William Johnstone and had been in general practice continuously for over 64 years. In recognition of his devoted service Dr. MacMyn was made a freeman of the Royal Burgh of Kirkcudbright on his eighty-fifth birthday—less than six months ago. It was said then that he had never taken a holiday except once in 1913 when he was away from his practice for three days. Dr. MacMyn will be greatly missed by his colleagues and his many friends and patients. His only son, Dr. David MacMyn, the former Scottish rugby international, will succeed him in the practice.

Dr. JOHN HERBERT HANNAN died suddenly on April 7 at the age of 50. He joined the R.A.M.C. in 1939, but had to resign his commission on grounds of ill-health after only a few months' service.

Dr. Eric Coplans writes: John Hannan was the son of the late Herbert Hannan, a consulting engineer. From Merchant Taylors' School Hannan went up to Downing College Cambridge. Qualifying from St. Bartholomew's Hospital in 1921, he studied in Vienna and Paris, working at the Pasteur Institute. He graduated in 1926, and proceeded M.D. a year later. From the time of his appointment as registrar at the Sono Hospital for Women he devoted himself in the laboratory, theatre, and in practice to the study of women's diseases. Much of his work is recorded in monographs and in the medical journals. He worked at the physiological laboratory (Middlesex), under the aegis of the B.M.A., on ovarian transplantation. Equally outstanding were his monographs on the flushing of the menopause, epinephrine sensitiveness at the menopause, and adrenaline effects at the menopause. He was the rare combination of research worker, pathologist, and surgeon, and it was only his persistent ill-health that prevented him from attaining the greatest heights in his profession. He was a fine classical scholar, a man of catholic tastes and culture, and of fearless outlook. We who loved him will remember him most of all for his courageous battle against his grievous ill-health, and for his utter unselfishness. He served throughout the London blitz and was wounded in the leg, concealing his injury till he dropped. It was during the Battle of Britain that he met his wife Monica, a trained nurse, who survives him.

Medical Notes in Parliament

RECOMMENDATIONS OF SPENS COMMITTEE

The Minister of Health, Mr. Aneurin Bevan, and the Secretary of State for Scotland, Mr. Arthur Woodburn, on Friday, June 4, presented to Parliament the report of the Interdepartmental Committee on the Remuneration of Consultants and Specialists.

The Government has accepted the recommendations in principle. Announcing this in the House of Commons on June 3, the MINISTER OF HEALTH added: "The task of evolving from it the best scheme of actual remuneration, to suit all cases—and especially the hearing of the recommendations on remuneration for teaching duties—will be difficult and will require the help of the profession in discussion. I propose to begin this quickly, but whatever final scheme emerges will be deemed to operate from July 5, even if discussions carry us past that date. Meanwhile, interim contracts will be offered to specialists."

Appointed in May, 1947, this Committee, under the chairmanship of Sir Will Spens, was asked to recommend what ought to be the range of total professional remuneration of consultants and specialists in any publicly organized hospital and specialist service. The Committee's report is published at p. 1145 of this issue and is the subject of a leading article at p. 1140.

CRIMINAL JUSTICE BILL

After a two-day debate the House of Lords, in Committee on the Criminal Justice Bill, deleted the clause inserted in the Bill by the House of Commons for the suspension of the death penalty for murder. The deletion was carried by 181 to 28. The House also authorized the retention of flogging as a penalty while debarring the use of the cat-of-nine-tails.

NURSERIES AND CHILD-MINDERS

In the House of Commons on May 28 the Nurseries and Child-minders Regulation Bill was read a second time without a division. Mr. JOHN EDWARDS, for the Ministry of Health, explained that the Bill is to provide for the regulation of nurseries where children are looked after, either for the day or for the day and night during the working week, and of persons who for reward and in their own homes looked after children under 5 while their mothers were at work. He explained that registration and supervision would be limited to persons who minded children as a business and not to the relative or friend who looked after one or two children while the mother was at work.

PURCHASE TAX ON DRUGS AND MEDICINES

When the Finance No. 2 Bill was considered in Committee of the whole House on June 2, Mr. OSBERT PEAKE moved an amendment to Clause 19 (New Purchase Tax Rates). He said he did so to raise the whole question of the purchase tax on drugs and medicines and on the proposed discrimination for the first time between branded and proprietary medicines and non-branded and prescribed articles. His amendment proposed, along with subsequent amendments in the same series, that all drugs and medicines of whatever character should be exempted from purchase tax.

Before the introduction of the recent Budget, Mr. Peake said, all drugs and medicines were subject to this tax with the exception of certain costly or essential drugs which were exempted by Treasury Order. Under the Finance Bill some drugs and medicines were subject to 33½% duty, but two other classes of drugs were exempted altogether. The container of an exempted drug or medicine might contain directions as to use, but it must not mention what the medicine was to be used for. To describe it as a cough mixture or a laxative would immediately render the goods liable to purchase tax. The name and address of the maker, seller, supplier, and distributor of the goods could be given if in letters no larger than the letters which gave the chemical formula. He gave examples of substances which would be taxed and of others precisely similar which would not be taxed. If a customer asked the chemist for a bottle of "California syrup of figs," he would have to pay 33½% purchase tax. If on the other hand he asked for "compound syrup of figs B.P.C." he would escape purchase tax. He contended that trade marks, names, and brands protected the public by being a guarantee of quality. The public were not familiar with the scientific names and designations found in the British Pharmacopoeia and were therefore liable to use the wrong remedy because in order to avoid tax the

on research and advertised only to the medical, dental, and veterinary professions.

Mr. GAMMANS said the export trade in proprietary medicines was estimated to be worth, this year, £8,500,000. Surely it could not afford to meddle with a trade which was so successful? These medicines sold abroad because their trade had been established in the home market.

Mr. DOUGLAS JAY, replying for the Government, said the clause did not raise the tax on any of the Government proprietary medicines still paid for by the public. The Government intended to aim at abolishing the tax on all proprietary medicines described in public lists.

Export Trade

Mr. J. Lewis said proprietary medicines sold under brand or trade mark were manufactured not only for the home market but also for export. In 1947 these proprietary medicines were exported to the extent of nearly 425% of the 1938 value, and since then the target had been increased to a further 40% above 1947. People who were accustomed to using branded articles would not go to the trouble of asking for the chemical equivalent. Chemists, however, would, when approached by a customer, say they had an equivalent compound which was not subject to purchase tax.

Mr. Huxon said that his constituents bought their medicine at the local grocer's. The Pharmacy and Medicines Board provided that if a medicine was sold at a value of less than one shilling it could be sold at a value of less than one shilling.

Mr. TURTON said that his constituents bought their medicines at the local grocer's. The Pharmacy and Medicines Acts, 1941, provided that if a medicine was sold without a proprietary designation it could be sold only by a qualified pharmaceutical chemist. The present Bill would ensure that country people who had to go to a grocer would pay 33½% on all their medicine and would not be able to ask for petroleum jelly in place of "Vaseline" because the grocers were used by panel doctors to sell it. Many branded medicines were used by panel doctors, that Dr. BENNET STROSS said Mr. Turton was mistaken in saying there were proper equivalents. A grave view would be taken if a doctor were to prescribe "aspro" instead of aspirin. Mr. TURTON said the dispensing chemist for the district in the past used certain branded products for which the formula under the B.P.C. was taken. Mr. LINSBARD explained that the B.P.C. was a standard quality which he could not alter. He said that the formula under the B.P.C. was a standard quality which he could not alter. He said that the formula under the B.P.C. was a standard quality which he could not alter.

Mr. LINSLEY explained that he was secretary of the Pharmaceutical Society. He pointed out that the Bill did not attempt to amend the Pharmacy and Medicines Act, 1941, which had been an unsatisfactory and long-standing difference between chemists and grocers about the sale of medicines. There was nothing in the 1941 Act or in these proposals which prevented a grocer from selling a branded proprietary article. If a non-branded product contained a recommendation for use the grocer, under the Act of 1941, could not sell it. However the grocer was approached the House came back to the fact that a purchase tax on drugs and machines was taxation on sickness. In his No. 1 Order the Chancellor of the Exchequer had exempted a number of important drugs used in medicine, and in the Eighth Schedule of the present Bill he attempted exemption by class. In the line between taxed and tax-free medicines. In the Bill on the basis of trade mark. A large number of articles which were not advertised normally sold only on the basis of the proprietary name. The Bill would be taken

...basis of taxed and tax-free medicines had been normally sold only on medical prescription would purchase tax. He did not believe it was beyond the wit-
nesses' proposals of the Bill and would have to be mark, designated the whole of the products of a manufac-
turer, designated the whole of the products of a manufac- then those products might be tax-free. Under the old Medicine
Stamp Acts, if a medicine bore a clear indication that it was supplied for dispensing purposes only, that indication rendered the article tax free.

Mr. SWINAKO said some sections of the pharmaceutical pro-
fession suggested that all medicinal proprietaries should be
allowed to advertise in some Continental countries. Under this
system the only medicinal proprietaries on which purchase tax
would be payable would be those advertised exclusively in
the medical and medical journals. The practice of relying
on a trade mark to cure one's ills without reference to a doctor
should be encouraged.

Proprietary Preparations

...and the Proprietary
...the protection
...of the public

Remuneration of General Practitioners

On May 28 Sir ERNEST GRAHAM-LITTLE asked whether Mr. BEVAN knew that general practitioners felt misgiving as to the arrangement made for their remuneration out of a central pool, the amount of which was variable and unpredictable; and whether he would apply to medical practitioners the system of payment in accordance with mutual agreements specifying fixed amounts.

Mr. BEVAN: No misgivings of this kind have come to my notice and the second part of the question is therefore arise.

Proprietary Preparations

Dental Estimates Board

Sir ERNEST GRAHAM-LITTLE also asked Mr. Bevan on May 28 to name the chairman and members of the Dental Estimates Board; and state what remuneration they would receive.

Mr. BEVAN gave the following information: Chairman, W. L. Boness, L.D.S., R.C.S., remuneration: £1,900 a year. Dental members (whole-time), Mr. V. W. Humpherson, L.D.S., £1,650 a year; Mr. T. Leaver, £1,650 a year; Wing Commander A. P. McClare, L.D.S., R.C.S., £1,650 a year; Mr. F. J. Marson, L.D.S., R.C.S., £1,650 a year. Dental members (part-time), Mr. W. Kelsey Fry, C.B.E., M.C., M.R.C.S., £7 7s. a day; Mr. J. Lauer, L.D.S., R.C.S., £7 7s. a day; Lay members (part-time), Mr. T. Allsop, J.P., £7 7s. a day; Mr. E. W. Spackman, £7 7s. a day.

Reciprocity in Social Insurance.—Reciprocal arrangements have been made between the new schemes of National Insurance and Industrial Injuries Insurance in Great Britain and the corresponding schemes in Northern Ireland, France, and the Isle of Man, and there have been preliminary discussions with Canada, Australia, New Zealand, and other Commonwealth countries. Mr. James Griffiths hopes shortly to carry these discussions further and also to approach the Governments of some other countries with which a basis for reciprocity in social insurance may be found.

No. 21

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended May 22.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included), (b) London (Administrative county), (c) Scotland, (d) Eire, (e) Northern Ireland. Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London), (b) London (administrative county), (c) The 16 principal towns in Scotland, (d) The 13 principal towns in Eire, (e) The 10 principal towns in Northern Ireland. A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	48	5	16	1	—	65	5	30	2	2
Deaths	—	1	—	—	—	—	—	—	—	—
Diphtheria	163	24	45	10	1	197	20	61	28	6
Deaths	2	—	—	—	—	5	1	—	—	—
Dysentery	118	32	40	—	1	47	10	13	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica, acute	1	—	—	—	—	—	—	1	1	—
Deaths	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	24	10	4	—	—	33	9	4
Deaths	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years	—	—	—	—	—	—	—	—	—	—
Deaths	39	2	17	4	2	76	12	11	23	1
Measles*	11,677	994	251	149	77	12,830	548	141	82	21
Deaths*	—	—	—	—	—	6	—	—	—	—
Ophthalmia neonatorum	57	5	16	—	—	61	—	13	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever	8	—	2(B)	—	—	6	—	13(B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenza	628	34	5	2	5	557	41	2	4	5
Deaths (from influenza)	—	—	1	—	1	—	—	2	—	—
Pneumonia, primary	—	—	201	46	—	—	—	186	20	—
Deaths	144	19	—	2	12	—	25	—	5	—
Polio-encephalitis, acute	2	—	—	—	—	2	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Poliomyelitis, acute	20	2	2	3	—	11	1	—	6	—
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever	—	—	8	—	—	—	2	11	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid pyrexia	105	8	20	—	—	135	7	12	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	1,354	105	256	37	26	952	89	141	23	33
Deaths*	—	—	—	—	—	8	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhoid fever	6	1	—	1	1	3	—	4	3	1
Deaths	1	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough*	2,650	228	44	101	18	1,879	226	106	5	16
Deaths	7	—	1	1	—	15	2	2	—	—
Deaths (0-1 year)	250	35	67	21	12	416	51	5	25	9
Infant mortality rate (per 1,000 live births)	—	—	—	—	—	—	—	—	—	—
Deaths (excluding stillbirths)	4,057	658	563	165	102	4,402	655	615	170	111
Annual death rate (per 1,000 persons living)	—	—	11	5	10	—	—	12	8	10
Live births	7,955	1318	1088	465	259	10,169	1565	1261	488	295
Annual rate per 1,000 persons living	—	—	22	0	29	—	25	4	30	8
Stillbirths	196	24	27	—	—	261	32	36	—	—
Rate per 1,000 total births (including stillborn)	—	—	24	—	—	—	—	28	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ Deaths from poliomyelitis and poliomyelitis for England and Wales are combined.

|| Deaths from poliomyelitis for Wales and Eire.

EPIDEMIOLOGICAL NOTES

Food-poisoning in Perthshire

An outbreak of staphylococcal food-poisoning occurred on May 22 and 23, in Blairgowrie, Perthshire. In the forenoon of May 22, 90 trifles were made and sold; the first few to be sold were eaten at the midday meal. Symptoms began to appear anything from half an hour to 7 hours (in one case 15 hours) after the trifles had been eaten, the average time for a series of 64 cases investigated being 4½ hours. There was copious vomiting followed closely by uncontrollable diarrhoea and agonizing abdominal pain. In the more severe cases this continued for upwards of two hours, by which time the patients were completely collapsed and prostrated. The symptoms stopped as suddenly as they began, recovery being gradual over the next twenty-four hours. With the assistance of the firm's employees as many as possible of the trifles sold were traced. Several samples were obtained, and in all of them *Staphylococcus aureus*, the only pathogen present, was abundantly demonstrated. The sponge-filling was the vehicle of infection and not the cream, to which suspicion had been attached at an early stage of the investigation.

Discussion of Table

In England and Wales a decrease was recorded in the notifications of whooping-cough 437, scarlet fever 321, and measles 202. There were small rises in the incidence of acute pneumonia 17, diphtheria 15, and cerebrospinal fever 12.

A decrease in the incidence of scarlet fever occurred throughout the country except in the south-western counties, where the incidence was unchanged, and in Durham, where there was an increase of 20; the largest decreases were Yorkshire West Riding 58, Lancashire 44, and Staffordshire 31.

For the third consecutive week an increase has been recorded in the notifications of diphtheria; the largest rise during the week under review was 10 in London. The local trends of measles showed considerable fluctuations. The largest decreases were Warwickshire 184, Surrey 159, Lancashire 127, Suffolk 124, and Middlesex 93. The largest increases were Kent 133, Yorkshire West Riding 109, Staffordshire 73, and Gloucestershire 71. A fall in the incidence of whooping-cough was fairly general throughout the country, the largest decreases were Warwickshire 56 and Middlesex 52.

An outbreak of dysentery affecting 9 persons was notified in Glamorganshire, Swansea C.B. The other large returns of dysentery were Lancashire 33 (Lancaster M.B. 13); London 32 (St. Pancras 15); and Yorkshire West Riding 22 (Sheffield C.B. 17). An outbreak of acute poliomyelitis involving 4 persons was notified in Merionethshire, Deudraeth R.D. The only other counties with more than one case of poliomyelitis were Yorkshire West Riding 3, Lancashire 2, and London 2.

In Scotland a small decrease was recorded in the incidence of infectious diseases; the only exception was a rise of 49 in the notifications of measles. The decreases included scarlet fever 27, dysentery 19, acute primary pneumonia 18, and diphtheria 12. In Glasgow there were 13 fewer cases of dysentery and 21 of scarlet fever than in the preceding week.

In Eire decreases were reported in the incidence of measles 28, whooping-cough 23, and scarlet fever 10, with an increase of 17 in the notifications of primary pneumonia. A further 20 cases of measles were notified from the outbreak in Wexford, Wexford U.D. An outbreak of whooping-cough affecting 16 persons was reported from Waterford, Carrick-on-Suir No. 2 R.D.

In Northern Ireland a decrease of 19 was recorded in the notifications of scarlet fever and an increase of 9 for measles.

Week Ending May 29

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,216, whooping-cough 3,083, diphtheria 151, measles 13,468, acute pneumonia 579, cerebrospinal fever 40, acute poliomyelitis 20, dysentery 122, paratyphoid 5, and typhoid 9.

Dr. Mahmoud Erfan Bey, Professor of Medicine at Foad I University, Cairo, is in Britain under the auspices of the British Council in order to meet British authorities on tropical diseases. Dr. Erfan returns to Egypt on June 18.

SOCIETIES AND LECTURES

Monday

EDINBURGH UNIVERSITY: PHYSIOLOGY CLASSROOM.—June 14, 5 p.m.
"Evolution of Medical Education in Scotland," by Dr. Douglas Guthrie.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square.
London, W.—June 14, 8 p.m. *Clinical meeting.*

Tuesday

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square,
London, W.C.—June 15, 5 p.m. "*Diseases of the Nails*," by
Dr. H. Corsi.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—At Royal Society of Medicine, 1, Wimpole Street, London, W., June 15, 8.30 p.m.
Cavendish Lecture: "*The Atom and its Energy*," by Prof. E. N. da C. Andrade, F.R.S., D.Sc., Ph.D.

Thursday

ROYAL SOCIETY, Burlington House, Piccadilly, London, W., June 17,
2.30 p.m. Discussion: "Analogue of Growth Factors in Relation
to Antibiotics." To be opened by Sir Paul Fildes, M.B.
B.Ch., F.R.S.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE—At 26, Portland Place, London, W., June 17, 7.30 p.m. Annual general meeting. Presentation of the Chalmers Medals for 1941, 1943, and 1945. 8.15 p.m. "Pulmonary Bilharziasis," by Prof. M. Erfan (Cairo):

Saturday

LONDON ASSOCIATION OF THE MEDICAL WOMEN'S FEDERATION.—A
West Middlesex County Hospital, Isleworth, June 19, 3 p.m.
Clinical meeting.

APPOINTMENTS

STOKE-ON-TRENT NORTH STAFFORDSHIRE ROYAL INFIRMARY—Honorary
Consulting Physician, A. Watts, GL MD FRCP Honorary Lecturer
Ophthalmic Surgeon, T. Aubrey, FRCS FRCP DO H—Honorary Lecturer
Gynaecologist, J. L. Jones, FRCS B.S. MD GA FRCPE
Dermatologist, C. H. Catlin, MD MRCP D.A. FRCPE
Dental Physician, C. H. Catlin, MD MRCP D.A. FRCPE
D. C. Thursty, Pelham, MRCP DCH FRCPE FRCR—P. J. M.
Kent, M.R.C.S., L.R.C.P., D.O.M.S.—D. M. J. E. N. D. 723
M.D., M.R.C.P.Ed., D.P.H.

BIRTHS, MARRIAGES, AND DEATHS

Brounthon.—On May 30, 1944, wife of David H. Brounthon.
Hamilton.—On May 27, 1944, to Menna Lee Lloyd, Mt. Sheldon.—On May 27, 1944 (see Stott), wife of Dr. J. Zinovieff.—On May 21, 1944, Zinovieff, a daughter.

Goulden-Macrae.—On Apr. 22, 1903, at the
Gardens, Edinburgh. Caretaker, Fionna Macrae, Q.
Macrae and the late Mrs. Macrae.

Bailey.—On May 27, 1948

Dougal.—On June 4, 1948, at the
Infirmary, Daniel Dougal,
Obstetrics and Gynaecology

Dunlop.—On May 31, 1948, Dunlop was transferred to the M.O.H. for Torquay.

Inness.—On May 30, 1944 at
William James Deacon 1st
West African Medical Stat.

Mooney, M.B., BCh FRCS
Oxford—On May 30 1942

Boyle Hill Scott, M B

Smith.—On May 26, 1925, Walter Sikes, M.D. D.S. 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2

Spencer.—On May 30
Spencer, M.R.C.S., L.R.C.
Thomson.—On May 30

Take.—On May 25, 1941, the Central Fire Department, Alan Leon Smith Take, M.C., D.L. M.B. C.M. F.R.C.P.E. & largest son of the 1

Welsh.—On May 13, 1942. M.D., F.R.C.P.Ed., F.R.C.S. (Ed.).
Whitaker.—On May 13, 1942. F.R.C.S. (Ed.).

Wilson.—On May 20, 1944, taken, Bishop Auckland, Dou-

Edward Wilson, M.D. Aberd

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions which should be typed. We publish here a selection of these questions and answers which seem to be of general interest.

Care of Teeth in Children

Q.—I find that dentists frequently recommend parents to bring their young children aged 3-4 years to them to have the cavities of their temporary teeth filled. I do so, I am told, in order to prevent decay starting in the permanent teeth when these come. Is this advisable, and is there an excellent foundation for doing so?

A.—It is most important that children should have adequate conservative dental treatment to their temporary teeth. This is not for the reason given, but to prevent crowding of the permanent teeth due to early loss of the deciduous molars, which is the commonest cause. The first eruption of the permanent series is erupts the first molars, which erupt behind the deciduous ones. The next permanent teeth are the incisors in front which replace the deciduous incisors. If the temporary molars have been lost owing to decay the permanent teeth move in to fill the gap. There is no room left then for the canines and premolars, which erupt later and tend into proper alignment.

Corrected Sedimentation Rate in Anaemia

Q.—What is the effect on the rate of interest if the rate is raised?
 A.—The rate of interest is raised, and the rate of interest is raised.
 Q.—What is the effect on the rate of interest if the rate is raised?
 A.—The rate of interest is raised, and the rate of interest is raised.
 Q.—What is the effect on the rate of interest if the rate is raised?
 A.—The rate of interest is raised, and the rate of interest is raised.

4. - The relationship between sedimentation rate and erythrocyte concentration is not a linear one, and any simple calculation will be "correct" for anaemia. One who is "correct" in clinical terms, because the "correction" makes certain values normal, is not entirely right. Nevertheless, Winthby's *Clinical Haematology* (2nd ed. p. 322) finds that in practice the corrected figure is "usually" informative. The most convenient formula to use is the one printed in Winthby and Burtin's *Directions in the Blood* (4th edition, p. 606), from which, for a given haematocrit and sedimentation rate one can read off the corrected sedimentation rate and discover whether it is definitely increased, slightly increased, and so on. This introduces the right note of caution into the result and discourages the laying of too much stress on small differences.

Treatment of Paget's Disease of Bone

Q.—Is there any recent treatment?—Purser's disease of bone?
A.—The patient of mine, aged 60 has it in one femur, which
is greatly bowed. The diagnosis has been confirmed
radiologically.

A.—The answer must unfortunately be "No." There is no new treatment of proved value in relieving the symptoms of this disease. Many workers have claimed that Paget's disease is one manifestation of hyperparathyroidism; and Hefelt (*Brit. J. Surg.*, 1939-40 27, 651) has further suggested that the hyperparathyroidism may be secondary to a retention of phosphates in the body. On this assumption he has advised treatment by small doses of aluminium acetate, which inhibits the absorption of phosphates from the intestine by combining with them to form insoluble aluminium phosphate, which is excreted unchanged from the bowel. The theory underlying this form of treatment has not been proved, and, although promising results were claimed in a few patients, much further confirmation is required before the method could become widely accepted. Meanwhile some of the older forms of treatment are still in use, including "guttering" of the bone, deep x-ray therapy, and occasionally osteotomy. There is a tendency, however, to advise against any active treatment, particularly when the symptoms are not severe, in view of the uncertainty of the results, and because of the rare but definite complication

of carcinoma following injury in these cases. See also the answer to a question on calcium metabolism in Paget's disease in our issue of Jan. 24 (p. 183).

Keeping Qualities of Glucose-saline

Q.—What are the keeping properties of 5% and 20% glucose in normal saline? This is made up with pyrogen-free water and kept in a sealed bottle of alkali-free glass after the usual non-sterilizing sterilization.

A.—A solution containing these ingredients made up as described should keep, one might almost say, indefinitely, provided the sterilization has been carried out in the final containers, previously sealed; the closure must be perfect at the end of the process and remain so during storage. There is a requirement in the first Addendum to the *British Pharmacopoeia*, 1932, for sterilized water and physiological solution of sodium chloride, that if the closure is made with non-absorbent cotton-wool wrapped in gauze the contents are to be used within one month after preparation, but if kept in a container which is sealed by fusion of the glass or by some equally effective method they may be stored for "a longer period". The same remarks could equally well be applied to solutions of glucose in normal saline.

Comparison of Mortality Rates

Q.—What are the mortality rates of the following diseases in the United Kingdom for 1925-7 and 1945-7: puerperal sepsis, heart disease, pneumonia, tuberculosis, cancer, Bright's disease, diabetes and pernicious anaemia?

A.—A comparison of the number of deaths from puerperal sepsis over the last twenty years cannot be made because the individual causes included under this heading were revised in 1940, it is not possible to reconstruct the group from the sub-groups. Bright's disease was not tabulated separately but was included under the heading of nephritis.

In 1940 a change was made in the method of tabulating causes of death. Previously a rule of preference had been established when two or more causes of death were mentioned on the death certificate, but from 1940 the physician's preference was noted. This made a considerable difference to the number of deaths assigned to some causes. Factors have been found that make a correction for this change of classification, and we must be able to get any comparison. The following rates are of use.

Crude Death Rates per 1,000,000 in England and Wales

	1925	1926	1927	1945	Ratio for Conversion
Puerperal sepsis	1,647	1,651	1,835	1,354	0.994
Heart disease	951	828	948	521	1.040
Pneumonia	1,039	961	972	615	0.974
Tuberculosis	933	771	791	515	0.969
Cancer	1,098	1,430	1,443	1,990	0.971
Bright's disease	221	326	353	327	1.128
Diabetes	112	115	126	106	0.689
Pernicious anaemia	66	71	68	55	0.757

The ratio for conversion is the value by which the pre-1940 rate must be multiplied to make them comparable with the modern rates.

Male Infertility

Q.—Where a fresh specimen of semen contains apparently normal numbers of spermatozoa, but completely non-motile, can any useful treatment be given?

A.—It is the prognosis and treatment (if any) in a case of male infertility in which examination of semen (condom-squeezed) gave the following results: February, 1947: 24 million spermatozoa per ml.; motility nil; abnormal forms 25%. November, 1947: 12.5 million spermatozoa per ml.; motility nil; abnormal forms 40%. The general health is good, there is no genital abnormality. Is one justified in recommending treatment? It should be told that treatment is

of no value. It is necessary to know how the specimen of semen was obtained. Many cases of non-motility of the spermatozoa are due to the fact that the semen was collected in a container which was not repeatedly washed, are

likely to contain traces of chemicals used in their manufacture. Necrozoospermia is very rare and is almost always associated with other defects in the semen, reduction in numbers, high percentage of abnormal forms, etc. It would be advisable to have another specimen examined and to arrange for a more complete analysis.

(b) Prognosis and treatment are always difficult when one is ignorant of the aetiology of a disease, and as yet we have very little knowledge of the factors responsible for subfertility. The absence of any motility in the sperms may be partly explained by the use of a condom for the collection of the specimen. It is likely, however, that motility and viability were both reduced. In this case, therefore, we are dealing with oligozoospermia, reduced motility and viability, and an increased incidence of abnormal forms, especially in the second specimen. Should the patient's wife conceive she would probably have a miscarriage. It would be a mistake to tell the patient that there is no hope, for fertility fluctuates in such cases and spontaneous improvement frequently occurs. A search should be made for a focus of infection anywhere in the body, and if found this should be treated. He might also be given very large doses of vitamin E and a course of some anterior-pituitary-like hormone. A more accurate prognosis could be given if a testicular biopsy were carried out.

NOTES AND COMMENTS

Tecira Tummy.—Dr. G. BROADBENT LIBBEY (Newcastle-upon-Tyne) writes: Can anybody who was stationed in the Azores during the war give any information on "Tecira tummy"—its clinical course, diagnosis, bacteriological findings, and treatment? A young airman suffered from this in 1944; from his history the condition was not adequately investigated and treated. A few weeks ago he presented himself with a history of continued diarrhoea with loss of weight and energy; the only significant finding clinically being the typical rope-like, slightly tender, pelvic colon of chronic dysentery. Stools on culture have grown *B. dysenteriae* Sonne which persists after 40 g. of sulphaguanidine. It would appear that the two are related.

Legal Ownership of X-ray Films.—Dr. HELEN W. RUSK (Southport) writes: I was interested in your views on the legal ownership of x-ray films ("Any Questions?" May 29, p. 1059). When I was x-rayed in Prof. Schaul's department before departing as a *Janita* into one of Berlin's greatest tuberculosis sanatoria, I was given the film without asking for it. When films are kept by the radiologist, who can stop him from destroying them under the label "lost" or "cannot be found," etc., whenever he is accused of negligence? As long as the films can be produced when required the radiologist will always be able to defend himself, no matter who owns them. Whenever the patient has difficulty in getting his films, there is always a reason for it.

Corrections

The date of the death of Dr. Peter Frankel was by error given as April 16 (*Journal*, June 5, p. 1113). This should have been April 10.

In the legends to the photomicrographs illustrating the paper by Dr. G. Harvey Smith (June 5, p. 1078) the magnifications of the two sections shown were omitted. Fig. 1 was $\times 260$ and Fig. 2 $\times 120$.

Dr. J. COUTTS MILNE (Singapore) writes: Possibly some reader or statistician has already drawn your attention to what appears to me to be an error in the annotation headed "Poliomyelitis" in the *Journal* of March 27 (p. 608) in which Bradley and Gale's survey of poliomyelitis in England is reviewed. The attack rate should, I think, read 18 per 100,000 in place of 3.8 per 100,000. The latter rate is that for 1938, the year of previously highest recorded incidence.

[The figure given by Dr. Coutts Milne is correct, and we are obliged to him for pointing out the error.—Ed., *B.M.J.*]

All communications with regard to editorial business should be addressed to the EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: ALPHACOR WESTLOND, LONDON. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal*. Authors desiring REPRINTS should communicate with the Publishing Manager, B.M.A. House, Tavistock Square, W.C.1, on receipt of proof. ADVERTISEMENTS should be addressed to the Advertisement Manager, B.M.A. House, Tavistock Square, London, W.C.1 (hours 9 a.m. to 5 p.m.). TELEPHONE: EUSTON 2111. TELEGRAMS: BRITMEDAD, WESTLOND, LONDON. MEMBERS' SUBSCRIPTIONS should be sent to the SECRETARY of the Association, EUSTON 2111. Telegrams: Medisecra, Westlond, Lond. B.M.A. SCOTTISH OFFICE: 7, Drumshough Gardens, Edinburgh.

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY JUNE 12 1948

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University of Cambridge; Master of Downing College, Cambridge

PROGRAMME

SCIENTIFIC SECTIONS

The following Sections will meet on Three Days:

MEDICINE

President: L. B. COLE, M.D., F.R.C.P. (Cambridge)
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Official Reporter: Dr. K. M. A. PERRY.

Meeting-place: Zoology Dept., entrance Pembroke Street

Wednesday, June 30—10 a.m. *Discussion*: Thiouracil in the Treatment of Thyrotoxicosis. To be opened by Prof. H. P. HEMS WORTH (London), followed by Mr. C. DONALD (London), Dr. D. VEREL (Aberdeen), Dr. H. COOKSON (Bournemouth), Dr. L. W. HALE (Cambridge), and Dr. RUSSELL FRASER (London). 2.30 p.m., Demonstration of Electro-phonocardiography by Dr. E. D. H. COWEN (Cambridge)

Thursday, July 1 (Combined Meeting with Section of Surgery).—10 a.m., *Discussion*: Surgery in Hypertension. To be opened jointly by Dr. R. H. SMITHWICK (U.S.A.) and Dr. HORACE EVANS (London), followed by Mr. D. W. C. NORTHFIELD (London), Dr. A. R. GILCHRIST (Aberdeen), and Mr. F. F. STOCK (Liverpool). 2.30 p.m. The Value of Sound-films in Medical Teaching; Illustrated by a Film on Peptic Ulceration (by courtesy of Messrs. John Wyeth and Brother Limited)

Friday, July 2—10 a.m. A communication from Prof. GEORGE R. MINOT (Harvard, U.S.A.) on "Permeious Anaemia" will be read by Sir Lionel Whitby before his Opening Paper. *Discussion*: The Modern Management of Macrocytic Anaemias. To be opened by Sir LIONEL WHITBY (Cambridge), followed by Dr. J. F. WILKINSON (Manchester), Dr. C. C. UNGLEY (Newcastle-upon-Tyne), and Dr. R. R. BOMFORD (London).

SURGERY

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Official Reporter: Prof. IAN AIRD

Wednesday, June 30. *Meeting-place*: Botany Dept., entrance Tennis Court Road.—10 a.m. *Discussion*: Tuberculous Adenitis. To be opened by Mr. DENIS BROWNE (London),

followed by Mr. HUGH REID (Liverpool) and Mr. ROWLAND REID (Colchester).

Thursday, July 1. *Meeting-place*: Zoology Dept., entrance Pembroke Street (Combined Meeting with Section of Medicine).—10 a.m., *Discussion*: Surgery in Hypertension. To be opened jointly by Dr. R. H. SMITHWICK (U.S.A.) and Dr. HORACE EVANS (London), followed by Mr. D. W. C. NORTHFIELD (London), Dr. A. R. GILCHRIST (Aberdeen), and Mr. F. F. STOCK (Liverpool). 2.30 p.m., The Value of Sound-films in Medical Teaching; Illustrated by a Film on Peptic Ulceration (by courtesy of Messrs. John Wyeth and Brother Limited).

Friday, July 2. *Meeting-place*: Botany Dept., entrance Tennis Court Road.—10 a.m., *Discussion*: Carcinoma of the Breast. To be opened by Sir CECIL WAKELEY (London), followed by Dr. FRANK ELLIS (London), Mr. J. B. OLDHAM (Liverpool), and Mr. R. L. HOLT (Manchester).

OBSTETRICS AND GYNAECOLOGY

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Official Reporter: Dr. G. G. LENNON.

Meeting-place: Organic Chemistry Dept., entrance Pembroke Street.

Wednesday, June 30—10 a.m., *Discussion*: The Problem of Infertility and its Treatment. To be opened by Dr. BETHEL SOLOMONS (Dublin), followed by Mr. ALBERT SHARMAN (Glasgow), Mr. KENNETH WALKER (London), Mr. PERCY MALPAS (Liverpool), and Mr. CECIL BINNEY (Barrister-at-Law, The Temple).

Thursday, July 1 (Combined Meeting with Section of Anaesthetics).—10 a.m., *Discussion*: Analgesia in Midwifery. To be opened by Prof. W. C. NIXON (London), followed by Dr. P. J. HELLWELL (London) and Dr. A. M. HUTTON (London). 2.30 p.m., (1) Film from Dept. of Anaesthetics at Liverpool on Anaesthesia for Caesarean Section (in Mineralogy Dept., Downing Street); (2) Demonstration of Apparatus.

Friday, July 2—10 a.m., *Discussion*: The Management of the Third Stage of Labour and its Complications. To be opened by Dr. T. FLEW (London), followed by Prof. H. L. SREEHAN (Liverpool) and Dr. P. MOLLISON (London). 2.30 p.m., Films (in Zoology Lecture Theatre, entrance Pembroke Street): (1) Trichomonas Vaginitis; (2) Eclampsia.

The following Sections will meet on Two Days:

ANAESTHETICS

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Official Reporter: Dr. T. C. GRAY.

Wednesday, June 30. Meeting-place: Mineralogy Dept., entrance Downing Street.—10 a.m., *Discussion:* Anaesthesia for Chest Operations. To be opened by Dr. JOAN MILLAR (Newcastle), followed by Dr. E. H. RINK (London). 2.30 p.m., *Occasional Papers:* (1) Abdominal Relaxation, by Dr. C. B. LEVINS (London); (2) The Uses of Caudal Extradural Block, by Dr. G. C. STEEL (London); (3) When to Intubate in Babies and Children, by Dr. ROBERT COPE (London).

Thursday, July 1.—10 a.m. (Combined Meeting with Section of Obstetrics and Gynaecology in the Organic Chemistry Dept., entrance Pembroke Street). *Discussion:* Analgesia in Midwifery. To be opened by Prof. W. C. NIXON (London), followed by Dr. P. J. HELLIWELL (London) and Dr. A. M. HUTTON (London). 2.30 p.m., *Films* (in Mineralogy Dept., Downing Street): (1) Anaesthesia for Caesarean Section (Dept. of Anaesthesia, University of Liverpool); (2) Caudal Analgesia (H. Lilly and Co.); (3) Shock (I.C.I.); (4) Respiratory and Cardiac Arrest (I.C.I.).

CHILD HEALTH

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Official Reporter: Prof. W. S. CRAIG.

Meeting-place: Agriculture Dept., entrance Tennis Court Road or Downing Street.

Thursday, July 1.—10 a.m. *Discussion:* Neonatal Mortality and Morbidity. To be opened by Dr. AGNES R. MACGREGOR (Edinburgh), followed by Prof. L. S. PENROSE (London), Congenital Abnormalities and Genetic Factors Contributing to Neonatal Mortality and Morbidity; Dr. WINIFRED YOUNG (Liverpool) Some Physiological Handicaps of the Premature Infant; Prof. N. B. CAPON (Liverpool), Obstetrical Factors Contributing to Neonatal Mortality; Dr. J. L. HENDERSON (Edinburgh), Infection.

Friday, July 2 (Combined Meeting with Section of Radiology). 10 a.m. *Discussion:* Malignant Disease in Infancy and Childhood. To be opened by Prof. WILFRID GAISFORD (Manchester), followed by Dr. C. G. TALL (Birmingham), The Radiological Diagnosis of Malignant Disease in Children; Prof. J. S. MITCHELL (Cambridge), Radiotherapy of Malignant Disease in Childhood; Dr. A. M. BARRETT (Cambridge), The Pathology of Malignant Disease in Childhood. 2.30 p.m., *Demonstrations:* Work in Progress on the Weights of Normal Newborn in the First Ten Days of Life, by Dr. JANET D. ROSCOR (Cambridge) at County Maternity Unit, Mill Road.

DISEASES OF THE CHEST

President: F. R. LEAR, M.C., M.D., F.R.C.P. (London).

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Official Reporter: Mr. P. C. BRUCE.

Meeting-place: Agriculture Dept., entrance Tennis Court Road or Downing Street.

Thursday, June 30. Meeting-place: (1) Bronchial Disease, by Mr. P. C. BRUCE (London).

followed by Mr. G. A. MASON (Newcastle-upon-Tyne); Mrs. E. L. G. HILTON (London); (2) Surgery of Congenital Heart Disease. To be opened by Dr. J. M. H. CAMPE (London), followed by Mr. T. HOLMES SELLORS (London). Afternoon: Visit to Papworth.

Thursday, July 1.—10 a.m. *Discussions:* (1) The Relationship between Upper Respiratory Infection and Radiological Appearances in the Lungs. To be opened by Dr. W. PATER PHILIP (Cambridge); (2) The Present-day Treatment of Pneumonia. To be opened by Dr. LINDSEY W. BATTEN (London) (under title "Modern Pneumonia"). Afternoon: (1) Demonstration of x-ray films; (2) Cinema films: (a) Surgery in Chest Disease, (b) The Technique of Artificial Pneumothorax (lent by the British Council).

OCCUPATIONAL HEALTH

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Official Reporter: Miss E. A. FAULKNER.

Meeting-place: Physical Chemistry Dept., entrance Fins School Lane.

Thursday, July 1.—10 a.m. *Discussion:* Human Relations in Industry. To be opened by Sir GEORGE SCHUSTER, K.C.S.I., K.C.M.G., C.B.E., M.C. (Chairman, Panel on Human Factors, Cabinet Committee on Industrial Productivity); followed by Dr. ELLIOT JAKES (London), Human Relations and Occupational Health, and Dr. R. F. TREDGOLD (Cambridge) and Mr. JEROME F. SCOTT (Harvard, U.S.A.), Education in Human Relations in Industry. 2.30 p.m., Visits to Papworth Village Settlement and Pye Radio Factory.

Friday, July 2.—10 a.m. *Discussion:* Aviation Medicine. To be opened by Air Marshal Sir HAROLD WHITTINGHAM, K.C.B. (London), Aviation Medicine as Applied to Civil Aviation, followed by Dr. W. K. STEWART, A.F.C. (Farnborough), The Physiology of Stratosphere Flying, and Prof. Sir FREDERICK BARTLETT, F.R.S. (Cambridge), Fatigue in Flying. General discussion to be opened by Air Vice-Marshal P. C. LIVINGSTONE, C.B., C.B.E. (London). 2.30 p.m., Visit to Pye Radio Factory.

OPHTHALMOLOGY

President: O. GAYER MORGAN, M.Ch., F.R.C.S. (London).

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Official Reporters: Prof. ARNOLD SORSBY (July 1); Dr. JOHN HAYTHORNE (July 2).

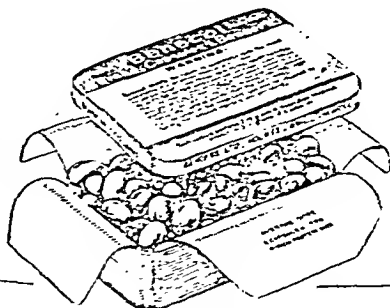
Meeting-place: Geography Dept., entrance Downing Place.

Thursday, July 1.—10 a.m. *Discussion:* Ophthalmic Problems Associated with Gynaecological and Obstetrical Conditions. To be opened by Mr. F. A. JULER (London), followed by Mr. A. B. NUTT (Sheffield). Afternoon, *Occasional Papers:* The Present-day Position of Contact Lenses, by Mr. A. G. CROSS (London); Optical Aids to the Other Man's Job, by Mr. J. G. DRUMMOND CURRIE (Cheltenham); The Heredity of Eye Diseases, by Dr. P. H. BEATTIE (Norwich); Nutritional Eye Diseases, by Dr. H. RYAN (London).

Friday, July 2.—10 a.m. *Discussion:* The Significance and Interpretation of Refraction. To be opened by Mr. E. G. RECORDON (Cambridge), followed by Mr. ARTHUR LISH (London) and Mr. VICTOR PURVIS (London). Afternoon, Clinical Meeting at Addenbrooke's Hospital, Eye Dept. 3 p.m., *Films:* Operations for Detachment by Stallard; Internal and Extracapsular Cataract Extraction; Strabismus and Glaucoma (in Lecture Room, Addenbrooke's).

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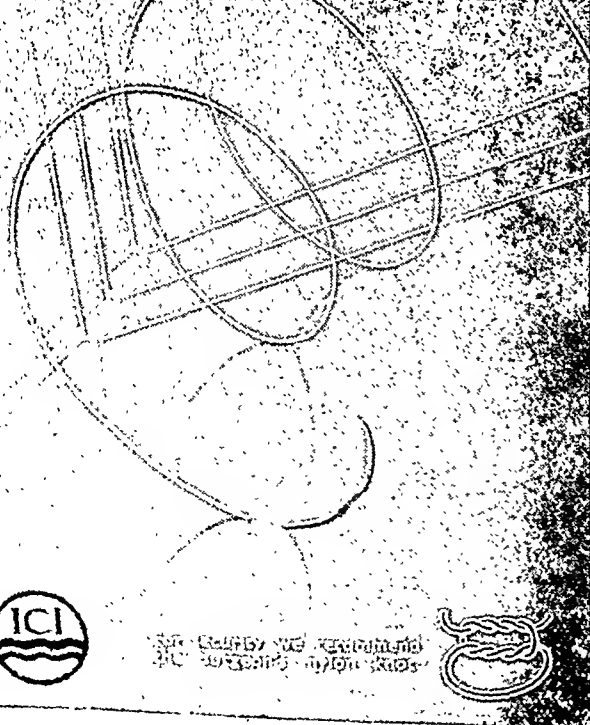
	capsule	1 c.c. amp.	2 c.c. amp.
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riboflavine	1.0 mg.	1 mg.	4 mg.
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References:—Full documentation may be obtained on application to Medical Dept. 3.A.



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Official Reporter: Mr. NORMAN CAPENER.

Meeting-place: Anatomy Dept., entrance Tennis Court Road.

Wednesday, June 30.—10 a.m., Discussion: The Clinical Significance and Treatment of Lesions of the Intervertebral Disk. To be opened jointly by Prof. NORMAN M. DOTT, C.B.E. (Edinburgh), and Mr. NORMAN CAPENER (Exeter), followed by Mr. R. H. YOUNG (London). *Occasional Paper:* The Injection Treatment of Osteoarthritis, by Mr. GRANT WAUGH (Sunderland).

Thursday, July 1.—10 a.m., Discussion: The Operative Treatment of Recent Fractures. To be opened by Mr. BRYAN MCFARLAND (Liverpool), followed by Mr. JAMES PATRICK (Glasgow) and Mr. EYRE-BROOK (Bristol). *Occasional Paper:* The Treatment of Osteomyelitis, by Dr. J. TRUETA (Oxford).

PATHOLOGY AND BACTERIOLOGY

President: Prof. H. R. DEAN, LL.D., M.D., F.R.C.P. (Cambridge).

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Official Reporter: Dr. A. G. SIGN.

Meeting-place: Pathology Dept., entrance Tennis Court Road.

Wednesday, June 30.—10 a.m. to 11.30 a.m. Discussion: Recent Advances in Our Knowledge of the Rhesus Factor. To be opened by Prof. D. F. CAPPELL, M.D. (Glasgow), followed by P. L. MOLLISON, M.D. (London), and R. R. A. COOMBS, Ph.D. (Cambridge). 11.30 a.m. to 1 p.m., *Occasional Papers:* The Thymus in Myasthenia Gravis, by A. B. BRATTON, D.S.O., M.C., M.B. (London). Streptomycin and the Laboratory, by M. H. GLEESON-WHITE, M.B. (Cambridge). Some Chemical Changes Associated with Cellular Damage, by K. C. DIXON, Ph.D. (Cambridge). The Electrophoretic Fractionation of the Serum Proteins and its Relationship to Immunity and Treatment, by N. H. MARTIN, M.B. (London). *Afternoon Demonstrations.*

Thursday, July 1.—10 a.m. to 11.30 a.m., Discussion: Acute and Subacute Hepatitis. To be opened by Prof. H. P. HIMPWORTH, M.D., F.R.C.P. (London). Followed by Prof. J. H. DIBLE, M.B., F.R.C.P. (London). G. W. M. FINDLAY, C.B.E. Sc.D., M.D. (London), and J. A. R. MILES, M.B. (Cambridge). 11.30 a.m. to 1 p.m., *Discussion:* On the Prophylaxis of Viral Infections, with special reference to the Use of Vaccines. To be opened by C. H. ANSTEWEN, M.D., F.R.C.P., F.R.S. (Hampstead), followed by Prof. R. HAFE, M.D. (London). Prof. W. I. B. BEVERIDGE, D.Sc. (Cambridge), and M. G. P. STOKER, M.D. (Cambridge). *Afternoon Demonstrations and visit to Strangeways Laboratory.*

PHYSIOLOGY, INCLUDING BIOCHEMISTRY

President: Prof. A. C. CHIBNALL, F.R.S. (Cambridge).

Vice-Presidents: Sir PERCIVAL HARTLEY, C.B.E., M.C. F.R.S. (London); E. E. POCHIN, M.D., F.R.C.P. (London); Prof. J. N. DAVIDSON, M.D., D.Sc., F.R.S.E. (Glasgow). Prof. E. C. DODDS, M.V.O., F.R.S., F.R.C.P. (London). Prof. HENRY BARCROFT, M.D. (Belfast).

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Official Reporter: Mr. H. COOPER.

Meeting-place: Physiology Dept., entrance Downing Street or Downing Place.

Wednesday, June 30.—10 a.m., Discussion: Recent Work on Proteins and its Medical Applications. To be opened by Prof.

A. C. CHIBNALL, Ph.D., Sc.D., F.R.S., followed by Dr. J. A. V. BUTLER, D.Sc., F.R.I.C., Methods of Isolation and Characterization of Individual Proteins; Dr. L. COLEBROOK, F.R.C.O.G., F.R.S., Plasma and Blood Derivatives in the Treatment of Burns; Prof. E. C. DODDS, M.V.O., D.Sc., M.D., F.R.C.P., F.R.S., Protein Hormones; Prof. G. PICKERING, F.R.C.P., Hypertension; Prof. N. F. MACLAGAN, D.Sc., M.D., M.R.C.P., Diagnostic Tests Based on Changes in the Serum Proteins.

Thursday, July 1.—10 a.m., Discussions: The Physiological Basis of Neuromuscular Disorders. To be opened by Sir HENRY DALE, O.M., G.B.E., F.R.C.P., F.R.S., to be followed by Prof. F. R. MILLER, F.R.S., University of Western Ontario. The Local Action of Acetylcholine on the Hypoglossal Nucleus and Respiratory Centre; Dr. W. S. FELDBERG, F.R.S., Formation of Acetylcholine and Neuromuscular Transmission; Dr. BERNARD KATZ, D.Sc., Excitation at the Myo-neural Junction; Dr. ANDREW WILSON, Ph.D., Myasthenia Gravis and Diisopropyl Fluorophosphate; Dr. C. A. KEELE, M.R.C.P., Tetraethylpyrophosphate in Myasthenia Gravis; Prof. SAMSON WRIGHT, F.R.C.P., Central Effect of Anticholinesterases; and Dr. G. L. BROWN, M.Sc., F.R.S., Recent Work on Myotonia. *Afternoon:* Exhibits and/or films.

PREVENTIVE MEDICINE

President: G. F. BUCHAN, M.D., F.R.C.P., D.P.H. (London).

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Official Reporter: Dr. HAMILTON HOGGEE.

Meeting-place: Geology Dept., entrance Downing Street.

Wednesday, June 30.—10 a.m., Symposium on Preventive Medicine under the National Health Service Act, 1946. To be opened by (1) Dr. H. JOLLES (London), Role of the Hospital; (2) Dr. W. N. PICKLES (Ayr), Role of the General Practitioner; (3) Dr. E. D. IRVINE (Dewsbury), Role of the M.O.H., followed by Mr. H. J. McCURRICH (Hove), Dr. F. GRAY (London), and Prof. R. H. PARRY (Bristol).

Thursday, July 1.—10 a.m., Occasional Papers: (1) Policymelitis, by Dr. W. GUNN (London), with Dr. F. W. BURNING (St. Helens) to start the discussion; (2) Ascertainment and Use of Morbidity Statistics, by Dr. P. A. MCKINLAY (Scottish Health Department), with Dr. J. MADISON (Twickenham) to start the discussion.

RADIOLOGY

President: S. COCHRANE SHANKS, M.D., F.R.C.P., F.F.R. (London).

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Official Reporter: Dr. J. W. D. BULL.

Thursday, July 1. Meeting-place: Addenbrooke's Hospital, entrance Tennis Court Road.—On this day the Section will be divided into two parts: (a) Radiodiagnosis, (b) Radiotherapy. (a) *Diagnosis:* 10 a.m., The Small Intestine in Nutritional Disorders. Opener: Dr. R. A. GREGORY (Liverpool), The Physiology of the Movements of the Small Intestine; Dr. F. R. BERRIDGE (Cambridge), The Radiological Aspects; Dr. WILFRED SHELDON (London), Coeliac Disease; Dr. D. A. K. BLACK (Manchester), Sprue. 2.30 p.m., Dr. KEMP HARPER (London), The Pancreas—Calcification, Calculi, and Cysts; Dr. C. J. C. G. HODSON (London), Uraemic Pneumonia. *Cinema Films:* Movements of the Alimentary Tract in Experimental Animals; Effect of Drugs on Gastro-Intestinal Motility; Gall-bladder Contraction and Evacuation Caused by the Hormone "Cholecystokinin." (b) *Radiotherapy:* 10 a.m., Radioactive Isotopes. To be opened by Prof. O. R. FRISCH (Cambridge), The Physical Aspects; Dr. A. S. MCFARLANE (Hampstead), Radioactive Isotopes as Tracers; Prof. J. S. MITCHELL (Cambridge),

The Radiotherapeutic Aspect of Radioactive Isotopes. 10 a.m. to 1 p.m. and 2.30 p.m. to 5 p.m., *Demonstrations—Radiotherapy*: (1) Radiotherapy Department, Addenbrooke's Hospital; (2) University Department of Radiotherapy, Downing Site.

Friday, July 2 (Joint Meeting of Section of Radiology with Section of Child Health). *Meeting-place*: Large Lecture Theatre, Dept. of Agriculture, entrance Tennis Court Road or Downing Street.—10 a.m., *Discussion*: Malignant Disease in Infancy and Childhood. To be opened by Prof. WILFRID GAISFORD (Manchester), followed by Dr. C. G. TEALL (Birmingham), The Radiological Diagnosis of Malignant Disease in Children; Prof. J. S. MITCHELL (Cambridge), Radiotherapy of Malignant Disease in Childhood; Dr. A. M. BARRETT (Cambridge), The Pathology of Malignant Disease in Childhood.

The following Sections will meet on One Day:

ANATOMY AND ANTHROPOLOGY

President: Prof. H. A. HARRIS, M.D., M.R.C.P. (Cambridge).

Vice-Presidents: Prof. F. WOOD-JONES, F.R.S., F.R.C.S., F.R.A.C.S. (London); W. L. H. DUCKWORTH, M.D. (Cambridge); Prof. W. C. OSMAN HILL, M.D. (Edinburgh).

Hon. Secretaries: D. V. DAVIES, M.B., B.S., 42A, Newnham Road, Cambridge; ALBERT PEACOCK, M.B., B.S., 157, Denmark Hill, S.E.5.

Official Reporter: Prof. H. A. HARRIS.

Meeting-place: Anatomy Dept., entrance Tennis Court Road.

Friday, July 1.—10 a.m., *Discussion*: The Present Position of Primate Anatomy. To be opened by Prof. F. WOOD-JONES (London), followed by Prof. H. A. HARRIS, Radiographic Anatomy of the Primates; Prof. W. C. OSMAN HILL (Edinburgh), The Position of the Prosimians; Prof. S. ZUCKERMAN (Birmingham), The Implication of Quantitative Studies of Primate Osteology; Prof. A. J. E. CAVE (London), The Nasal Fossa in the Primates; Dr. F. M. P. ECKSTEIN (Birmingham), Age Changes in Dentition in the Rhesus Monkey; and Dr. D. V. DAVIES (Cambridge), The Cardiovascular System of the Primates. There will also be demonstrations by the Staff of the Anatomy School.

DERMATOLOGY

President: C. H. WHITTLE, M.D., F.R.C.P. (Cambridge).

Vice-Presidents: A. G. SMITH, M.D., F.R.C.S. (Norwich); R. M. B. MACKENNA, M.D., F.R.C.P. (London); G. B. MITCHELL-HEGGS, O.B.E., M.D., F.R.C.P. (London).

Hon. Secretaries: ALAN LYELL, M.B., B.Ch., 44, Tenison Road, Cambridge; ERIC C. RITTER, M.R.C.P., 34, Queensway, Lincoln.

Official Reporter: Dr. J. T. INGRAM.

Meeting-place: Addenbrooke's Hospital, entrance Tennis Court Road.

Wednesday, June 30.—10 a.m., *Discussion*: Occupational Dermatitis. To be opened by Dr. J. T. INGRAM (Leeds), followed by Dr. W. J. O'DONOVAN (London); Dr. SYBIL HORNER (London); Dr. G. A. HODGSON (Cardiff); Dr. A. THELWALL JONES (Widnes); Dr. ROBERT FORBES (London); Dr. J. WARNOCK (Leeds); Dr. J. C. BELISARIO (U.S.A.); and Dr. R. M. B. MACKENNA (London). Afternoon: Cases.

NEUROLOGY AND PSYCHIATRY

President: Prof. E. D. ADRIAN, O.M., F.R.S., M.D., F.R.C.P. (Cambridge).

Vice-Presidents: Prof. AUBREY LEWIS, M.D., F.R.C.P. (London); REDVERS N. IRONSIDE, M.B., F.R.C.P. (London); F. B. PARSONS, M.D., F.R.C.P. (Cambridge).

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Official Reporter: Dr. F. B. PARSONS.

Meeting-place: Physiology Dept., entrance Downing Street or Downing Place.

Friday, July 2.—10 a.m., *Discussion*: The Investigation and Treatment of Epilepsy of Late Onset. To be opened by Sir CHARLES SYMONDS (London), followed by Mr. D. W. C. NORTH-

FIELD (London) and Dr. JAMES BULL (London). Afternoon: *Discussion*: The Early Recognition and Management of Deterioration. To be opened by Dr. J. H. SHELDON (Wolhampton), followed by Dr. MACDONALD CRITCHLEY (London), Dr. TREVOR H. HOWELL (Purley), and Dr. FELIX (Edinburgh).

NUTRITION

President: Prof. R. A. McCANCE, M.D., F.R.C.P., F. (Cambridge).

Vice-Presidents: L. J. HARRIS, Sc.D., D.Sc., F.R.I.C. (Cambridge); D. P. CUTHBERTSON, D.Sc., M.D. (Aberdeen); H. STANNUS, M.D., F.R.C.P. (London).

Hon. Secretaries: THOMAS MOORE, D.Sc., Ph.D., Dunn Nutritional Research Institute, Milton Road (Field Laboratory, Cambridge); F. PRESCOTT, M.Sc., Ph.D., M.R.C.P., Wellco Research Institution, 183, Euston Road, N.W.1.

Official Reporter: Dr. T. MOORE.

Meeting-place: Pathology Dept., entrance Tennis Court Road.

Friday, July 2.—10 a.m., *Discussion*: The Importance of Proteins in Nutrition. To be opened by Dr. D. P. CUTHBERTSON, D.Sc. (Buckburn), The Importance of Proteins in Nutrition and their Particular Significance in Convalescence, followed by Dr. HARRIETTE CHICK, C.B.E. (Cambridge), Supplementary Nutritive Values of the Proteins of Some Common Foods; Miss E. M. WIDDOWSON, Ph.D. (Cambridge), Investigations in Germany on Wheat Flour of Various Extractions: a Source of Proteins for Growing Children; Dr. L. E. GLAXY (Taplow), Protein Deficiency and Liver Disease. Film: EDWARD MELLANBY, K.C.B., F.R.S., Canine Hysteria Produced by Flour Treated with NaCl . Afternoon, *Demonstrations*: These will include, among others, 'The State of Nutrition of German Children in Selected Subjects Brought on a Visit to this Country. By Prof. R. A. McCANCE (Cambridge) and Miss E. M. WIDDOWSON (Cambridge). Resistance of Mice on Different Diets to Tuberculosis. By S. R. SENGUPTA, M.B., D.Ph. (Aberdeen). Film: Lambing in Relation to the Feeding of the Pregnant Ewe. By the Staff of the Rowett Research Institute (Aberdeen).

OTO-RHINO-LARYNGOLOGY

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Official Reporter: Mr. NORMAN JORY.

Meeting-place: Geography Dept., entrance Downing Place.

Wednesday, June 30.—10 a.m., *Discussion*: Affections of the Sphenoidal Sinus and their Treatment. To be opened by Dr. A. W. PROETZ (St. Louis, Minnesota), followed by Mr. F. C. W. CAPP (London). Afternoon, *Discussion*: Poliomyelitis and Tonsillectomy. To be opened by Dr. A. MCFARLAN (Cambridge), followed by Dr. J. ALISON GLOVER (London) and Mr. GEOFFREY H. BATEMAN (London).

PHARMACOLOGY

President: Prof. E. B. VERNEY, F.R.S., F.R.C.P. (Cambridge).

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Hon. Secretaries: W. J. O'CONNOR, M.D., Pharmacological Laboratory, Cambridge; C. A. KEELE, M.D., M.R.C.P., Department of Pharmacology, Middlessex Hospital Medical School, W.1.

Official Reporter: Prof. J. H. BURN.

Meeting-place: Mineralogy Dept., entrance Downing Street.

Friday, July 2.—*Discussion*: (1) Antihistamine Substances. To be opened by Sir HENRY DALE (London), followed by Prof. J. H. GADDUM (Edinburgh) and Dr. R. B. HUNTER (Edinburgh). (2) Agents Determining and Influencing the Functions of the Pars Nervosa of the Pituitary. To be opened by Prof. E. B. VERNEY (Cambridge), followed by Miss L. M. PICKFORD (Edinburgh) and Prof. J. H. BURN (Oxford).

REGISTRATION

All members should make a point of registering as soon as they arrive in Cambridge at the Reception Office, Large Hall, Guildhall, where they will obtain handbook, badge, membership card, tickets for functions, and all information about the meeting.

All ladies accompanying members should register at the ladies' Club, English Speaking Union, above Matthews' Café, Trinity Street.

TICKETS

Tickets for tours of the colleges, river trips, visits to the University Library, and the visit to Ely Cathedral (on Monday, June 28) are obtainable from Friday, June 25, onwards at the ladies' Club, English Speaking Union, above Matthews' Café, Trinity Street.

Tickets for all functions up to midday, Monday, June 28, are available at the A.R.M. Inquiry Office, Small Examination Hall, Bene't Street. Tickets for all other functions on Monday, June 28, Tuesday, June 29, and Wednesday, June 30, are obtainable from Monday afternoon, June 28, onwards at the Reception Office, Large Hall, Guildhall.

Tickets for all functions on Thursday, July 1, and Friday, July 2, are available from Wednesday morning onwards at the Reception Office, Large Hall, Guildhall.

Tickets for the British Council film show on Wednesday, June 30, are obtainable at the British Council, 1, Portugal Place, Cambridge, as well as at the Reception Office Guildhall.

TIME-TABLE OF MEETING

Key

R—events available for Members of Representative Body and Ladies accompanying them

L—events primarily arranged for Ladies

U—events for all Members and Ladies accompanying them

*—Academic Robes should be worn

Friday, June 25

- 9.00 a.m.—A.R.M. Inquiry Office opens—Small Examination Hall, Bene't Street.
9.30 a.m.—Annual Representative Meeting—Large Examination Hall, Bene't Street.
9.30 a.m.—Ladies' Club opens for registration—English Speaking Union, Trinity Street.
10.30 a.m.—L. River trips. For information apply Ladies' Club.
11.00 a.m.—Civic Welcome to Representative Body.
1.00 p.m.—Lunch to Overseas B.M.A. Representatives—Pitt Club, Jesus Lane.
2.30 p.m.—L. Tours of the Colleges—Magdalene and Jesus.
River trips. For information apply Ladies' Club.
7.30 p.m.—Representatives' Dinner—Dorothy Café, Hills Road (tickets 16s).

Saturday, June 26

- 9.00 a.m.—A.R.M. Inquiry Office opens—Small Examination Hall, Bene't Street.
9.30 a.m.—Annual Representative Meeting—Large Examination Hall, Bene't Street.
9.30 a.m.—Ladies' Club opens—English Speaking Union, Trinity Street.
10.30 a.m.—L. Tours of the Colleges—Christ's and Emmanuel.
River trips. For information apply Ladies' Club.
1.00 p.m.—Photograph of Representative Body.
2.30 p.m.—L. Tours of the Colleges—Trinity and King's.
River trips. For information apply Ladies' Club.
8.30 p.m.—Lantern Lecture on Cambridge by His Worship the Mayor (Councillor G. F. Hickson)—Lecture Theatre, Mill Lane (limited to 250).

Sunday, June 27

- 2.00 p.m.—R. Excursion to Hinchbrook (limited to 200) (Tea in Huntingdon) (tickets 9s).
2.45 p.m.—R. Display of College Plate in Trinity Hall.
8.00 p.m.—R. Concert in Arts Theatre—Piano Recital by Pouishnoff.

Monday, June 28

- 9.00 a.m.—Council Meeting—Small Examination Hall, Bene't Street.
9.30 a.m.—A.R.M. Inquiry Office open—Small Examination Hall, Bene't Street.
9.30 a.m.—Ladies' Club open—English Speaking Union, Trinity Street.

10.00 a.m.—Annual Representative Meeting—Large Examination Hall, Bene't Street.

10.00 a.m.—L. Tours of the Colleges—St. John's and Trinity.
River trips. For information apply Ladies' Club.

2.00 p.m.—Reception Room opens for registration—Platform of Large Hall, Guildhall.

2.00 p.m.—L. Visit to Ely Cathedral (limited to 60).

2.15 p.m.—L. Tours of the Colleges—Trinity and Caius and Round Church.

River trips. For information apply Ladies' Club.

2.30 p.m. }
3.00 p.m. } —L. Visits to University Library (limited to parties of 6).
and
3.30 p.m. }

5.45 p.m. } Cocktail Party given by Empire Medical Advisory
to } Bureau to Overseas Representatives and Delegates
7.00 p.m. } at Downing College.
8.00 p.m. } U. Fellows' Gardens of King's, Christ's, and Pembroke Colleges open.

Tuesday, June 29

9.00 a.m.—Official Opening of Exhibition by President-Elect—Large Hall, Guildhall.

9.00 a.m.—Reception Room open for registration—Large Hall, Guildhall.

9.30 a.m.—Annual Representative Meeting—Large Examination Hall, Bene't Street.

9.30 a.m.—Ladies' Club open—English Speaking Union, Trinity Street.

10.00 a.m.—L. Tours of the Colleges—Trinity and King's.
River trips. For information apply Ladies' Club.

1.00 a.m.—Pathological Museum opens—Department of Pathology, Tennis Court Road.

12.30 p.m.—Annual General Meeting—Large Examination Hall, Bene't Street.

2.15 p.m.—U. Tour of the Colleges—Corpus Christi and Queens'.

2.30 p.m. }
3.00 p.m. } U. Visits to University Library (limited to parties of 6).
and
3.30 p.m. }

2.30 p.m.—Members will robe in Large Examination Hall for Official Religious Service, and procession will be formed.

2.45 p.m.—Procession leaves Large Examination Hall for St. Mary's Church.

3.00 p.m.—L. Official Religious Service, St. Mary's Church. The Service will be preached by the Right Rev. The Lord Bishop of Ely.

3.10 p.m.—U. Vice-Chancellor's Reception—Christ's College (limited to 500).

3.30 p.m.—U. Addressed Annual General Meeting and President's Address—Senate House (limited to 1,000).

4.00 p.m.—U. President's Reception—Old Schools (limited to 700).

4.00 p.m. } U. Fellows' Gardens of Christ's and Pembroke Colleges open.

Wednesday, June 30

9.00 a.m.—Council Meeting—Small Examination Hall, Bene't Street.

9.00 a.m.—Reception Room open for registration—Large Hall, Guildhall.

9.00 a.m.—Exhibition open—Large Hall, Guildhall.

9.30 a.m.—Pathological Museum open—Department of Pathology, Tennis Court Road.

9.30 a.m.—Ladies' Club open—English Speaking Union, Trinity Street.

9.30 a.m.—L. Notts Ladies' Challenge Cup Competition—Gog Magog Golf Club.

10.00 a.m.—Leinster and Childe Cup Competitions—Gog Magog Golf Club.

10.00 a.m.—Scientific Sections.

10.00 a.m.—L. Tours of the Colleges—Trinity and Caius and Round Church.

River trips. For information apply Ladies' Club, English Speaking Union.

2.00 p.m.—U. Visit to Ely Cathedral (limited to 90).

2.15 p.m.—L. Tours of the Colleges—Trinity and King's.
River trips. For information apply Ladies' Club, English Speaking Union.

2.30 p.m.—Overseas Conference—Small Examination Hall, Bene't Street.

2.30 p.m. }
3.00 p.m. } U. Visits to University Library (limited to parties of 6).
and
3.30 p.m. }

2.30 p.m.—Visit to Papworth (primarily for Diseases of Chest Section) (limited to 60).

2.30 p.m.—Scientific Sections.

3.00 p.m.—U. Garden Party at Trinity College (limited to 200).

- 4.00 p.m. } Visits to Cavendish Laboratories (limited to parties
4.30 p.m. } of 10).
5.00 p.m. }
5.30 p.m. }
6.00 p.m.—L. Cocktail Party for members of Medical Women's
Federation (limited to 100) (at home of Mrs. Mitchell,
Thorndyke, Huntingdon Road, Cambridge).
8.00 p.m. } U. Fellows' Gardens of Christ's and Pembroke Col-
onwards } leges open.
8.30 p.m.—U.* Civic Reception—Old Schools (limited to 500).
8.30 p.m.—U. Documentary Film Show, including film of Cam-
bridge, given by British Council (limited to 250) (in
Zoology Lecture Theatre, Pembroke Street).

Thursday, July 1

- 9.00 a.m.—Reception Room open—Large Hall, Guildhall.
9.00 a.m.—Exhibition open—Large Hall, Guildhall.
9.30 a.m.—Pathological Museum open—Department of Pathology,
Tennis Court Road.
9.30 a.m.—Ladies' Club open—English Speaking Union, Trinity St.
10.00 a.m.—L. Tour of Queens' and Corpus Christi Colleges.
River trips. For information apply Ladies' Club.
10.00 a.m.—Scientific Sections.
2.15 p.m.—U. Visit to Fitzwilliam Museum.
2.30 p.m. }
3.00 p.m. } Visits to University Library (limited to parties of 6).
and }
3.30 p.m. }
2.30 p.m.—Visit to Papworth (primarily for Occupational Health
Section) (limited to 60).
2.30 p.m.—U. River trips. For information apply Ladies' Club,
English Speaking Union, or Reception Office,
Guildhall.
2.30 p.m.—Scientific Sections.
3.00 p.m.—U. Garden Party at Longstow Hall (limited to 200).
3.00 p.m.—U.* Benediction in the Roman Catholic Church, Hills
Road. The sermon will be preached by His Eminence
Cardinal Griffin, Archbishop of Westminster. This
service will be followed by a Reception at Houghton
Hall, Hills Road.
4.00 p.m.—U. Visit to "Cambridge Daily News." Assemblé at
University Arms Hotel (limited to 50).
7.30 p.m.—Annual Dinner—Dorothy Café (limited to 420) (tickets
30s., including wines).
8.00 p.m. } U. Fellows' Gardens of Christ's, Emmanuel, and Pem-
onwards } broke Colleges open.
8.30 p.m.—U. Organ Recital—King's College Chapel—by Garth
Benson.

Friday, July 2

- 8.30 a.m.—Annual Breakfast of the Medical Prayer Union—Pitt
Club, Jesus Lane (limited to 150).
9.00 a.m.—Reception Room open—Platform of Large Hall,
Guildhall.
9.00 a.m.—Exhibition open—Large Hall, Guildhall.
9.30 a.m.—Ladies' Club open—English Speaking Union, Trinity St.
9.30 a.m.—Pathological Museum open—Department of Pathology,
Tennis Court Road
10.00 a.m.—Scientific Sections.
10.00 a.m.—Treasurer's Cup Competition—Gog Magog Golf Club.
10.00 a.m.—L. Tours of the Colleges—St. John's, Trinity Hall, and
Clare.
River trips. For information apply Ladies' Club,
English Speaking Union, Trinity Street.
2.30 p.m.—Scientific Sections.
2.30 p.m.—River trips. For information apply Ladies' Club.
2.30 p.m.—U. Visit to Papworth.
4.00 p.m. }
4.30 p.m. } Visits to Cavendish Laboratories (limited to parties
5.00 p.m. } of 10).
5.30 p.m. }
8.00 p.m.—U. Popular Lecture by Sir Henry Dale, O.M., G.B.E.,
F.R.C.P., F.R.S.—Large Examination Hall, Bene't
Street (limited to 800).
9.00 p.m.—U. Annual Dance—Dorothy Café (limited to 600)
(tickets 15s., including buffet).

Bridge and Chess.—Facilities for Bridge and Chess are avail-
able at the Pitt Club, Jesus Lane, by kind permission of the
Committee.

Golf.—All particulars about the Golf Competitions may be
obtained from the Golf Secretary, Reception Office, Large
Hall, Guildhall, on Tuesday, June 29.

Sports.—Facilities for Tennis, Squash, Swimming, and Boat-
ing are also available. For particulars, apply Ladies' Club,
English Speaking Union, Trinity Street.

A.A. RECOMMENDED GARAGES IN C.

	Tel. No.	Sto.
P. N. Allin and Sons, 10-15, Bridge Street	3431	2
Cambridgeshire Motors, Ltd., Hills Road	87212	7
Cox's Motor Co., Quayside Garage, Bridge Street		10
Messrs. King and Harper, Ltd., 6-7, Bridge Street	3201	200
Marshall's (Cambridge), Ltd., Austin House, Jesus Lane	4215	175
Newnham Garage, Newnham Road	4746	12
Queen's Garages (Cambridge), Ltd., Newnham Road	4746	60
Herbert Robinson, Ltd., 2, Regent Street	4461	55
Messrs. Turner and Hore, Ltd., Hyde Park Corner Garage	4486	40

ACCOMMODATION IN CAMBRIDGE

As mentioned in the *Supplement to the British Medical Journal* of Feb. 28 (p. 31), the lodging accommodation avail-
able in Cambridge is very restricted owing to the incidence
of a number of functions round about the period of the
Meeting.

In order that as much accommodation as possible may be
at our disposal, the Cambridge Executive has booked all avail-
able space in advance. The Colleges have most generously
come to our aid and have offered rooms which, with the lodg-
ings already booked in advance, should accommodate about
2,500 persons.

The following is a brief outline of the position and the steps
which should be taken by those wishing to book rooms through
the Cambridge Executive.

It should be noted that, except for odd rooms falling vacant,
no hotel accommodation is now available, and, except for
rooms already booked by the Cambridge Executive, there are
few, if any, reasonable lodgings to be had. But members are
of course at liberty to make their own arrangements for
accommodation.

If visitors wish the Cambridge Executive to book rooms for
them it is very important that the form on p. 165 of this issue
should be completed and returned as soon as possible to the
Executive Officer, Local B.M.A. Office, Guildhall, Cambridge.
When rooms conforming as nearly as possible to requirements
have been booked, applicants will receive a note giving particu-
lars of the accommodation booked and the charges. A cheque
for the amount indicated should be sent to the B.M.A. Office,
Guildhall, Cambridge, on receipt of which the booking will be
considered definite. This procedure is necessary, as it was
only possible to retain the lodging space by firm booking at
the end of last year. Cheques should be made payable to the
British Medical Association and crossed.

Official Headquarters will be in Newnham College, which
will accommodate 100 men or women—either members of the
B.M.A. or their wives or other guests. All rooms are single
bedrooms, and little or no bedroom service can be given. Full
board will be provided and a lounge set aside for the use of
members and their friends.

Other Colleges have offered accommodation as follows:

Caius	100 men
Christ's	80 men
Corpus Christi	50 men
Downing	60 men
Emmanuel	100 men
Girton	150 men or women
King's	50 men, and 20 men or women in Hostel
Jesus	100 men
Magdalene	60 men
Newnham	20 women (for own members in addition to 100 stated above)
Pembroke	50 men
Peterhouse	50 men
Queens'	100 men
Trinity College	200 men
Trinity Hall	50 men
St. Catharine's	100 men
Selwyn	120 men
Sidney Sussex	80 men
St. John's	200 men
Wesley House	17 men and 6 women
Westminster	35 men or women

ACCOMMODATION AT CAMBRIDGE

JUNE 12, 1948

Each College wishes preference to be given to its own members, and, in the case of Wesley House, Methodist doctors will receive first priority.

The charge for all Colleges, including Newnham, is £1 2s. per person per day, with full board. All rooms are single, and no women can be accommodated except in Newnham. In Birton, King's Hostel, Wesley House, and Westminster. In many cases, therefore, wives may have to be put up in lodgings separate from their husbands.

Rooms in lodgings in town are, in general, available for either men or women, and accommodation for approximately 50 has been reserved. Only bed and breakfast can be provided except in a few isolated cases, but arrangements have been made to reserve space in restaurants and elsewhere for lunches and dinners. The uniform charge for lodgings is 9s. per person per night, including breakfast.

Ration books or emergency cards must be brought, and no meals can be provided in lodgings or Colleges without these. If visitors are going to stay in College they must bring ration books, and if in lodgings emergency ration cards are necessary. Visitors are strongly advised to obtain emergency ration cards before leaving home as Cambridge Food Office will be overloaded in June and very great delay might occur in obtaining emergency cards here.

Towels and soap should be brought, as in the majority of cases these cannot be provided.

the Council, while continuing the central grant, has decided that members attending the Annual Meeting (other than members of the Representative Body) should be asked to pay a fee of one guinea towards the expenses of the meeting.

The fee of one guinea will be payable when members register at the Reception Room, Cambridge.

When completed, the following form should be sent to the Executive Officer, Local B.M.A. Office, Guildhall, Cambridge

B.M.A. ANNUAL MEETING

CAMBRIDGE, JUNE 25 to JULY 2, 1948

Form of Application for Accommodation

NAME (Block Letters)

ADDRESS (Block Letters)

I hereby authorize you to book my name for accommodation for the period June 25 to July 2, 1948, at the rate of £1 2s. per person per night, with full board. Towels and soap should be brought.

Single Room (mark) from the night of June 25 to June 29, 1948.

Single Room (mark) from the night of June 30 to July 2, 1948.

Single Room (mark) from the night of July 3 to July 5, 1948.

Single Room (mark) from the night of July 6 to July 8, 1948.

Single Room (mark) from the night of July 9 to July 11, 1948.

Single Room (mark) from the night of July 12 to July 14, 1948.

Single Room (mark) from the night of July 15 to July 17, 1948.

Single Room (mark) from the night of July 18 to July 20, 1948.

Single Room (mark) from the night of July 21 to July 23, 1948.

Single Room (mark) from the night of July 24 to July 26, 1948.

Single Room (mark) from the night of July 27 to July 29, 1948.

Single Room (mark) from the night of July 30 to August 1, 1948.

Single Room (mark) from the night of August 2 to August 4, 1948.

Single Room (mark) from the night of August 5 to August 7, 1948.

Single Room (mark) from the night of August 8 to August 10, 1948.

Single Room (mark) from the night of August 11 to August 13, 1948.

Single Room (mark) from the night of August 14 to August 16, 1948.

Single Room (mark) from the night of August 17 to August 19, 1948.

CAR PARKING ARRANGEMENTS

A private car park has been set aside for the use of B.M.A. members, at Coe Fen, Entrance from Fen Causeway from the main road, June 24 to July 3. Attendance will be on duty during the day and admission is free to Members displaying the B.M.A. parking label or badge.

Visiting Members are asked to mark the car with the B.M.A. parking label and not to use them for other purposes. The parking label should be displayed in the car, and not to use them for other purposes.

The police ask that members should be brought to the Guildhall, and no parking will be allowed in the streets of the town. Members should be brought to the Guildhall, and no parking will be allowed in the streets of the town.

Members should be brought to the Guildhall, and no parking will be allowed in the streets of the town. Members should be brought to the Guildhall, and no parking will be allowed in the streets of the town.

REGULATIONS REGARDING DRESS

Academic Dress—At the Annual Meeting, Cambridge, June 25 to July 2, 1948, the following regulations apply: Robes (scarlet, if available) should be worn by all members of the Council and the President's Reception Committee. The Vice-Chancellor's Reception Committee should wear black robes. Reception, Wednesday, June 24, 1948, at 7.30 p.m. Thursday, July 1, 1948, at 7.30 p.m. Ravenscroft, Ltd., 93, The Quadrant, Cambridge, in advance, if desired.

Evening Dress—Evening dress should be worn at the President's Reception, Wednesday, June 30, 1948, at 7.30 p.m. at the Representatives' Dinner, Friday, July 2, 1948, at 7.30 p.m. Dance, Friday, July 2, 1948, at 7.30 p.m.

BADGES

Officers of the Scientific Section should wear Special badges at the Registration, Guildhall, Cambridge.

REGISTRATION FEE AT ANNUAL MEETINGS

The expenditure arising in connection with the Annual Meeting has in the past been met from a guarantee fund raised by the local profession, supplemented by a grant from the Council of the Association. The Council considers that the time has come when the proportion of the expenses falling upon the local profession should be minimized. With this object in view

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization

Metropolitan Borough Councils—Fulham, Hackney, Poplar, Non-County Borough Councils—Dartford, Radcliffe (limited to future appointments), Tottenham, Walsend, Urban District Councils—Denton, Droylsden, Houghton-le Spring, Huyton-with-Roby, Portlaid, Redditch (restricted to new appointments), Tyldesley.

RETURN TO PRACTICE

The Central Medical War Committee announces that Mr. Philip Reading, M.S., F.R.C.S., has resumed civilian practice at Keats' House, St. Thomas's Street, London, S.E.1 (Hop 0151-0152).

1946
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Surplus Account—
Balance at December
Add Excess of

LIABILITIES

[illegible]

		1950	17	7	1,012	2	5	9,106
		328,387	2	1	500	0	0	1,650
					13,300	9	1	
								315,066 1
								6,053 1

Subsidiary Company—								
508 shares of £10 each fully paid in Scholastic, Clerical,								
and Medical Association, Ltd., at cost								
(a) Representing Reserves								
£58,500 3% Savings Bonds, 1960-70..	59,008	5	0					
£30,000 2½ % Savings Bonds, 1964-67	30,000	0	0					
£47,500 3% Savings Bonds, 1965-75	47,500	0	0					
£1,000 2½ % Defence Bonds (P.O. Issue)	1,900	0	0					
£600 2½ % Defence Bonds (P.O. Issue)	600	0	0					
£10,000 2½ % National War Bonds, 1954-50								
£2,500 Barclays Bank "B" stock ..	10,000	0	0					
£400 Commercial Union Assurance Co. Ltd. stock ..	10,512	10	0					
(b) Representing Loans per contra	5,275	0	0					
£7,100 3% Savings Bonds, 1960-70 ..	7,100	0	0					
(Market value at 31st December, 1947, £170,857)								
(c) Sinking fund insurance policies at premium cost to date	171,893	15	0					
Current Assets—								
Stocks of paper for publications, stationery, etc.	49,899	1	3					221,823 13
Payments in Advance	8,694	13	6					
Debtors, less £2,500 provision for doubtful debts and discounts	1,855	10	8					
Bank Balance and cash in hand	54,124	7	7					
	1,295	4	3					
								65,963 11 1
								£609,012 15 1

Year ended Decem

December 31, 1947											
EXPENDITURE											
Instalment of Sinking Fund for Redemption of Leasehold Premises											
Less proportion chargeable to Journal—											
Abstract H											
Taxation—Corporation Duty											
Income Tax											
Transfer to General Contingency Reserve											
Transfer to Reserve for Development of Regional Offices											
Balance transferred to Balance Sheet											
1947											
£ s. d. £ s. d.											
			3,488			6			8		
			13,300			9			1		
			300			0			0		
			1,143			1			2		
			16,273			9			3		
			17,416			10			5		
			20,000			0			0		
			5,000			0			0		
			7,902			1			2		
			168,736			10			4		
INCOME											
Subscriptions for year											
" previous year											
" former years written off											
Income from Investments (Gross)											
Subsidiary Company											
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Income and Expenditure Account for the Year ended December 31, 1947			
EXPENDITURE		1947	1946
Printing Expenses	Abstract A	£ 14,565	s. d. 8 9 12,403
on General Expenses	" B	13,822	5 6 15,914
on Grants and Direct Expenditure on	" C	23,444	19 8 17,001
Expenses	" D	4,006	12 10 3,300
Stationery and Postages	" E	53,338	12 10 3,300
Tracts and Quarterly Journals	" F		
Written off for			
and All			
Total		£809,012	15 3

EXPENDITURE		1947		1946	
Central Meeting Expenses	..	Abstract A	£ 14,565	s. 8	d. 12,403
Association General Expenses	..	B	13,822	5	6 15,914
Capital Grants and Direct Expenditure on	..	C	23,444	19	8 17,001
Local Organization	..	D	4,008	12	10 3,204
Library Expenses	..	E	53,338	10	6 38,931
Central Staff Expenses	..	F	15,046	7	6 16,286
Premises Expenses	..	G	11,107	2	9 11,455
Printing, Stationery and Postages	..	H	4,967	19	8 3,770
Medical Abstracts and Quarterly Journals	..	I	47	0	0 181
Subscriptions written off for Deaths and Arrears	..		516	11	0 304
Bad Debts and Allowances written off	..		270	9	3
Clerk of Works and Architects' Fees	..				
Charges incurred in purchase of stock	..				
		£	s. d.		
Less Grant towards Cost of Central Medical			141,938 13 11		
War Committee			7,000 0 0		
Balance transferred from Journal Account			31,519 4 3		7,000
—Abstract H					
Provision for Losses on Transfer of Colonial					
Subscriptions					
Provision for Depreciation and Amortization					
Leasehold Premises, Tavistock Sq., W.C.1					
North and South Wing Extensions—					
Furniture and Fittings					
Library					
JOHN W. BONE,					
Treasurer,					

[illegible]

GENERAL MEDICAL COUNCIL

SUMMER SESSION

The summer session of the General Medical Council opened at 44, Hallam Street, London, on Tuesday, May 25, Sir Herbert Lightfoot Eason, C.B., C.M.G., presiding.

Dr. Sydney Smith was elected Chairman of Business for 1948-9.

PRESIDENT'S ADDRESS

The President addressed the Council as follows:

This is the 173rd session of the Council, and I am happy to report again that there has been no change in the membership of the Council since our last session.

The Council will, I am sure, desire me to congratulate Sir Leonard Parsons on its behalf on his election into the Fellowship of the Royal Society, an honour which he has well earned by his distinguished studies on child health and the wasting disorders of children.

The *British Pharmacopoeia, 1948*—the seventh—has now been approved by the Pharmacopoeia Committee of the Council in the discharge of the duty entrusted to it by the Standing Orders to deal with all matters relating to the preparation and publication of the book. The Committee approved arrangements for the circulation and inspection of advance copies of the book which were made available in April, and for its publication with effect from Sept. 1, 1948.

I do not wish to anticipate what has been said in the preface to the new *Pharmacopoeia*, but I cannot let this occasion pass without expressing the gratitude of the Council to the Chairman and the members of the British Pharmacopoeia Commission, who have completed a more complex and laborious task than the preparation of any of the previous *Pharmacopoeias*.

Both before and since the Council met in November the office has been heavily engaged in the extra work arising under the Medical Practitioners and Pharmacists Act which was passed on Dec. 18, 1947. The Council has delegated the administration of the Act to the Executive Committee. It may therefore be of interest to members as a whole to have some details of the amount of work and the kind of problems to which the Act gives rise.

Temporarily Registered Practitioners

Its primary purpose, as everyone here will remember, is to settle the position of practitioners temporarily registered by virtue of Defence Regulation 32B or of the Polish Resettlement Act, 1947. The total number of practitioners registered is 4,561, of whom about 4,200 are required under the Defence Regulation. But Parliament has decided that the Council can give a direction for registration under the new Act only in the case of a person who is resident in the United Kingdom and is so resident otherwise than for a temporary purpose. Very few, therefore, of our colleagues will need our help in our extreme: from the first days of the war, in which unfortunately we have no precedent, registration under the Medical Act, 1886, and from the United States of America, to wish or be able to do so, and the Polish Resettlement Act, fulfilling this condition.

It follows that Section 2 of the Act, which provides for the registration without limit of time of practitioners who are registered temporarily, will in fact apply almost exclusively to practitioners qualified on the continent of Europe, who found refuge in this country, often long before the outbreak of the recent war, and have augmented the strength of the profession by service under the Defence Regulation either with armed Forces or, as is more usual, in hospitals, and as assistants to practitioners registered otherwise than temporarily.

Between 900 and 1,000 of these practitioners have applied for registration under the new Act, those whose qualifications had to be recognized by the Council before they could be registered under the Defence Regulation—namely, those registered in the first instance for service in hospitals, etc., or as assistants—have been required by Parliament to fulfil only one condition beyond that of residence in the United Kingdom. This condition is that they must satisfy the Council that they

have rendered satisfactory service in a medical capacity whilst temporarily registered.

Those whose qualifications did not have to be recognized by the Council before they could be registered under the Defence Regulation—namely, those registered in the first instance for service with armed Forces—must in addition satisfy the Council that they hold qualifications which sufficiently guarantee professional competence.

The Council will not be surprised to hear that the Executive Committee considers registration in the *Medical Register* without limit of time a valuable privilege. The Act, by providing an appeal to the Privy Council against a refusal by the Council to register, secures that this privilege will not be capriciously withheld from an applicant. The requirement that an applicant under Section 2 must fulfil the condition that his previous service has been satisfactory seems to the Committee to show no less plainly that this privilege is not to be conferred after any perfunctory examination of an applicant's record of service, but only after satisfactory answers have been received to references made on behalf of the Committee to the hospitals or other institutions or services, or to the practices, in which he has worked, or to the authorities of any armed Forces in which he has served; to the Central Medical War Committee, as the advisers of the Government on the maintenance of an adequate medical service for civilians during the war; to the Ministry of Health; and to the Home Office as the Department concerned with aliens.

References on this scale make much work and must take time to complete. While some practitioners temporarily registered early in the war have been in some circumstances on one or two posts ever since, it is not uncommon for others to have served in 20 or 30 hospitals, etc., or practices, and at least one applicant has been in as many as 60 posts.

I find that at least 1,500 letters have been sent on behalf of the Council to bodies and persons concerned for evidence of satisfactory service. While nearly all the letters, it is true, are in confirmation form, all of them must it is possible be correctly addressed, and the verification of names and addresses given to applicants has been no light task in itself. Extracts reproduced to confirm process from about 750 applications have been sent to the Central Medical War Committee and the civil department concerned, and reference has been made to the appropriate Service Department in nearly 200 cases in which the practitioner has served in armed Forces.

The Council has received willing and welcome help both from private correspondents and from the public bodies on whose assistance it depends in this matter. But the verification of service mainly given under war conditions is a laborious process for the departments and others concerned with the numbers of applications, and it is obvious that particular applicants may feel that it takes much too long to get registered.

Since the number of applicants under Section 2 so far registered is to-day, more than five months after the passing of the Act, only between 100 and 200, I am not myself disposed to think that the position could not be more satisfactory. But I hope that by explaining for the information of all concerned the precautions which the Executive Committee thinks it is its duty to take before directions for registration under the Section are given I have made it clear that such a direction cannot properly be given in any case until the Committee has evidence of satisfactory service, which has to be obtained by it from other persons and bodies.

Practitioners temporarily registered by virtue of the Polish Resettlement Act, 1947, have also been required by Parliament under Section 2 to fulfil the condition that their professional service whilst so registered has been satisfactory. Since that Act was not passed until March, 1947, the period of service in question is short, and the Executive Committee hopes to be able to deal quite expeditiously with the applications in this category, of which there cannot be more than about 300.

Service Outside the United Kingdom

As the Council is aware, the Act includes, in addition to the provisions affecting practitioners now temporarily registered, provisions in favour of practitioners not so registered.

Section 3 enables the Council to give directions for the registration of practitioners who, after Sept. 1, 1939, have served

professionally outside the United Kingdom in any of His Majesty's Forces (including Dominion, Indian, and Burma Forces). The conditions as to residence in the United Kingdom and evidence of satisfactory professional service of which I have already spoken apply to these practitioners, who are further required to fulfil conditions as to the recognition by the Council of their qualifications and as to evidence of character.

The Section also applies to practitioners who, after Sept. 1, 1939, served professionally outside the United Kingdom in any voluntary organization operating in connexion with any of the Forces, and to practitioners who gave professional care to British subjects or British protected persons in territories under British jurisdiction during war operations, enemy occupation, or the continuance of circumstances arising therefrom.

About 60 applications under the Section have at present been received. I feel it right to say that unless any difficulty arises about the fulfilment in particular cases of any other relevant condition, the Executive Committee recognizes a special obligation to deal with these applications as soon as evidence of satisfactory service is placed in its hands by the competent authorities.

The other provision of the Act for registration in the *Medical Register* without limit of time is Section 4, which applies to practitioners not covered by Sections 2 and 3 who, before Aug. 4, 1947, have been permitted to enter, or to remain in, the United Kingdom in view of circumstances attributable to war, and to certain Polish practitioners who arrived in this country too late to secure registration under the Polish Resettlement Act, 1947, which expired on Dec. 31, 1947.

Parliament has recognized that the quality of recruits to the profession under Section 4 must in the first instance be a matter of speculation, for they are not only required to fulfil the conditions as to residence in the United Kingdom, recognition by the Council of their qualifications, and evidence of character, already enumerated; they must also obtain professional employment in this country which must be in a hospital or other institution approved under the Section, or, if they are Polish practitioners, otherwise under supervision; and if their applications are successful their registration is in the first instance to be provisional, limited in time to a period of not less than six and not more than 18 months, and limited in scope to the purposes of their employment under the Section.

About 40 applications have at present been received from practitioners who purport to be entitled to benefit by the main provisions of the Section. These applications will require careful scrutiny by the Executive Committee. The number of applications by Polish practitioners not temporarily registered under the Polish Resettlement Act, 1947, with which the Committee expects to have to deal is also small.

"Commonwealth Practitioners"

The work of the Executive Committee and of the Council's officers under all the sections of the Act which I have mentioned will not (apart from the provision made by the Act for the admission of late applications) last more than a certain time, since it is concerned with the settlement of the position of practitioners now registered temporarily, and of other practitioners whose service or sufferings under war conditions are thought by Parliament to give them claims to special consideration for establishment in the profession here.

The only provisions of the Act which will, broadly speaking, be permanent in operation are those of Section 9, which enables us at last to discard the obsolete description "Colonial" practitioners and to use the description "Commonwealth" practitioners for persons registered by virtue of qualifications granted in the British Commonwealth of Nations elsewhere than in these islands; and those of Section 8, which brings into being a new kind of temporary registration.

The object of the Section is to enable visiting teachers of medicine and postgraduate students not otherwise registrable in the *Medical Register* who take temporary posts in hospitals in the United Kingdom to enjoy the status of registered medical practitioners for the purposes and for the duration of their appointments.

I need not say more about this, the last of the main provisions of the Act, than that it will relieve a number of practi-

tioners who are welcome guests here, some already eminent and all qualified elsewhere, from the position of being "unregistered persons," which some of them have felt to be intolerable and will at the same time relieve the hospitals, their hosts, from certain anxieties arising out of that position.

I do not think the Council would wish me to omit from my address an expression of our hope that time may be found during the next Session of Parliament for the passage into law of a Bill amending the Medical Acts on the lines of the draft Bill submitted by the Council to the Minister of Health. As I said in my address last November, this short draft Bill included not only important provisions based on recommendations of the Goodenough Committee but also provisions giving practitioners a right of appeal to the courts against penal erasure from the *Medical Register*; giving the Council statutory power which it does not at present possess, to restore the names of practitioners to the Register after penal erasure; enabling the Council to take evidence on oath and to compel the attendance of witnesses by subpoena; and enlarging the direct representation of the profession on the Council. I repeat that the enactment of such provisions as these would, I believe, commend itself alike to the profession and to the public.

In addition to the educational business which will come before the Council, there are 16 medical disciplinary cases which will have to be considered. As usual, after some considerable experience of the proceedings of the Council, I can make no prophecy as to when the session will end.

DISCIPLINARY PROCEEDINGS Alleged Misleading Certificate

The Council on May 26 considered the case of Dr. Cecil Thomas, registered as of Hengoed, Glam., who was summoned on the charge that he had given a certificate for the purpose of excusing a certain Mrs. Oaten from attendance in a court of justice. The certificate, dated Oct. 1, 1947, stated that Mrs. Oaten "is suffering from pregnancy and is due to be confined early in December, and is not able to travel." It was alleged that Dr. Thomas did not see or examine Mrs. Oaten at the time he gave the certificate; the only occasion on which he had seen her—and then he did not examine her—was some four weeks before the certificate date.

Dr. Thomas attended, accompanied by Mr. Oswald Hempson, appearing on behalf of the Medical Defence Union.

Mr. F. P. Winterbotham, solicitor to the Council, said that Mrs. Oaten had been summoned to appear in connexion with some legal proceedings at Devizes, but the certificate was submitted, and the proceedings had to be postponed. The Recorder caused inquiries to be made, and as a result of them made a formal complaint to the Council. It appeared that in August Mrs. Oaten had attended at a child-welfare clinic and was seen by the nurse, who thought she was pregnant, but a more complete examination was arranged a week later, and then the nurse formed the view that she was not pregnant. Mrs. Oaten would not believe it, and went to the surgery of Dr. R. A. Phillips, of Hengoed, whom she had never previously visited, and stated that she was pregnant and required a certificate for additional rations. Dr. Phillips, though he did not make a vaginal examination, was convinced from the woman's appearance and from her history that she was pregnant, but as he had not a form of certificate at hand at the moment he asked her to call again in a day or two. When she did so she saw Dr. Phillips's assistant, Dr. Thomas, who, after questioning her, gave her the certificate. On the basis of her statement that she had had amenorrhoea since March, he placed the expected date of confinement as early in December. On Sept. 15 Mrs. Oaten attended by the officer in charge, Dr. Philomena Garfield Evans, who gave it as her opinion that she was not pregnant, an opinion which she confirmed on a further examination six weeks later. On Oct. 1 Mrs. Oaten's husband came to Dr. Thomas's surgery, said that his wife was called upon to give evidence in a court of law at Devizes, and asked for a certificate that owing to pregnancy she was unfit to travel from Glamorgan to Wiltshire. This certificate was given, and was the subject of the charge.

Miss Margaret Humphrey, a midwife employed by the Glamorgan County Council, testified that she examined Mrs. Oaten, and found that, although she had the appearance of pregnancy, including enlargement of abdomen and breasts and morning nausea, she was not actually pregnant.

A statutory declaration by Dr. Garfield Evans was put in stating that on examining Mrs. Oaten she could find no definite sign of pregnancy. The stomach was fat and flabby, there was some tenderness over the left fornix, and per vaginam there appeared to be some thickening over the left tube.

In a letter to the Council when the charge was brought forward Dr. Thomas stated that Mrs. Oaten came to the surgery, stating that she had consulted his principal a few days previously and he had expressed the view that she was pregnant, but that she was to call again for a food certificate. Dr. Thomas, on the strength of her appearance and her history, gave her the certificate; the conditions in the surgery were not suitable for a vaginal examination four weeks later her husband came for a further certificate, and in view of the fact that she would be then in the seventh month of pregnancy he had no hesitation in saying that she was unfit to make a long journey.

In evidence Dr. Thomas said that he had given the certificate in perfectly good faith. The woman's appearance tallied with her story. She firmly believed herself to be pregnant.

The President: How did you know on Oct. 1, not having seen her since early September, that she was still pregnant? She might have had a miscarriage.

Dr. Thomas: In that event she would not have needed this certificate. She would have been even less fit to travel.

Dr. Ronald Arthur Phillips of Hengoed, said that Dr. Thomas had been with him for two years as an assistant and had been entirely satisfactory; he was conscientious in every way. With regard to the examination of Mrs. Oaten, when he first saw her he had no doubt that she was pregnant. She told him that her last period was in the previous March. The swelling of the abdomen and other signs suggested pregnancy. It was not his custom to carry out examinations on women in his surgery if they came alone. Later, on Oct. 17, he saw the woman again at the request of the police and carried out a complete examination. The swelling of the abdomen then corresponded to a five-months pregnancy but it was soft and gave under pressure. He revised his earlier opinion and now came to the conclusion that it was one of those rare cases of pseudopregnancy. Dr. Phillips added that if he instead of Dr. Thomas had been at the surgery at the time he would have given the certificate as Dr. Thomas had done.

Mr. Hempton said that in many of the cases in which he appeared at the General Medical Council he had to apologize for errors. In this case he offered no apology. It was very hard on his young doctor that he should have to appear on a charge of inferior conduct in a professional respect based on such stuff as this. This woman, who had every appearance of pregnancy, went to Dr. Thomas for a certificate, having already been seen by Dr. Thomas's principal and senior, who had expressed the view that she was pregnant. Everything was compatible with that statement. Mrs. Oaten herself was convinced. There was no evidence of an attempt on her part to deceive the doctors. If the Council condemned Dr. Thomas "none of you are entitled to accept the opinion of a consultant without confirming it yourself. Has it been done more than would have been done by any of you? I am sure it has—the end that the diagnosis of pregnancy had been wrong and that the doctors had been similarly deceived by pseudopregnancy."

The Council, after considering the evidence, found that the certificate was issued in good faith, and that they did not find Dr. Thomas guilty of any offence in a professional respect. The case was accordingly dismissed.

Drug Offences

The Council considered the case of Dr. Raymond Llewellyn Evans, registered as of Swansea Road, Haver, who was convicted as the result of two convictions. The first conviction was for unlawfully failing to enter in a register the particulars set out in the Dangerous Drugs Regulations. The second conviction was with respect to ever quantities of ever drugs or preparations he had obtained and supplied. The third conviction was for applying concerned three offences of unlawfully procuring, supplying and having possession of drugs while not being authorized contrary to the provisions in the Regulations.

Mr. Winterbotham stated that with regard to the first conviction in 1941 Dr. Evans was charged with 11 offences, of them being that he had procured a certain preparation for himself. Seven of these charges were adjudged proved, but three of them he was bound over on condition that he undergo treatment at the Maudsley Hospital or similar institution. The seventh charge was the one now before the Council. The second conviction in 1947 was of a different character. The police had their attention drawn to the fact that although his authorization had been revoked by the Home Secretary he had in fact purchased various amounts of

in the drug register. His explanation was that he was under the impression that the withdrawal of his authorization by the Home Secretary was for twelve months only. The police said that there was no evidence available to show that he had used these drugs for himself or for any improper purpose.

Dr. Evans stated to the Council that in 1941 he was subject to abnormal domestic worries and took certain drugs for himself. When he was before the magistrate he was told that he would be banned from obtaining drugs for the one year during which he was bound over, and when subsequently he received the notice from the Home Secretary withdrawing his authorization he had supposed that this was for one year only. He became a works doctor for some years, in which position he did not need to use dangerous drugs. He had known nothing about the possibility of applying for restoration of the authority, and on entering general practice he had obtained drugs for his patients in the usual way, and had been very careful to make the proper entries in the register. He had entirely given up any taking of drugs during the last eight years.

The Council decided not to direct erasure and dismissed the case against Dr. Evans.

The case next considered was that of Dr. Malcolm Andrew Graham-Yooll, registered as of Pembroke, who was summoned on the charge that he had been convicted at Portsmouth in 1943 of not keeping a register as required under the Dangerous Drugs Regulations, and at Pembroke in 1947 of failing to enter in a register the true particulars of drugs and preparations obtained by him on six dates. Mr. Winterbotham said that on the first of these convictions it was shown that Dr. Graham-Yooll had obtained 284 morphine sulphate tablets from the chemist, and when interviewed he had said that the drugs were obtained for use in emergency, and he had not thought it necessary to keep records.

Dr. Graham-Yooll said that before and during the war he was in the Royal Naval Medical Service with certain periods of leave during which he accepted appointments as a locum tenens. It was stated that during the war a sufficient quantity of drugs was supplied by each Service to medical officers. This was correct, officials being on many occasions supplies were either realized entirely as a result of enemy action or were inadequate. For example, in November 1941 when H.M.S. Adventure was badly damaged by a magnetic mine and its medical department, including dispensary and stores, completely wrecked, with casualties 57 killed and 143 wounded. He had similar experiences elsewhere, and also during the bombing of Plymouth and Devonport. He had endeavoured, therefore, to obtain emergency supplies of drugs to be held in reserve and he had not at the time supposed that it was necessary to register these. As regards the second conviction, since taking over a practice at Pembroke he had been exceedingly busy, and had to attend all kinds of emergencies over a scattered country. He admitted that his entries in the register contained a number of errors, relatively and actually, only a small amount of the drugs in question. He pleaded guilty to carelessness.

The Council postponed judgment on the case until May, 1949, but said that they would require Dr. Graham-Yooll to attend at their session in May, 1949, bringing with him evidence as to his conduct in this matter in the interval.

The next case was that of Dr. Brendan O'Carroll, registered as of Onslow Square, S.W., who appeared on the charge that in October 1947, at Swansea he had been convicted, after pleading guilty, of procuring, otherwise than in accordance with his authority certain amounts of cocaine hydrochloride, cocaine alkaloid, and morphine sulphate, contrary to the Dangerous Drugs Regulations, and had been sentenced to seven days imprisonment. The drugs had been discovered to be missing from the dispensary of a hospital at which Dr. O'Carroll was temporarily employed, and the key of which had been entrusted to him. He had admitted taking the drugs for his own use, as he was dismissed from the hospital, the police-court proceeding following.

Dr. O'Carroll had previously appeared before the Council in 1942, after a conviction of being in charge of a motor-vehicle while under the influence of a drug. The Council on that occasion erased his name from the Register, to which it was restored in 1946.

He now stated to the Council that he had just completed a period of six months' treatment in Shenley Hospital, in view of the fact that his authorization under the Dangerous Drugs Act had been withdrawn so that his one weakness could not be any danger in future, he asked to be put on probation for a year.

The Council found the misdemeanour proved, and directed the Registrar to erase the name of Brendan O'Carroll from the Register.

Other Cases Arising from Convictions

The Council considered the case of Dr. James Kirkness, registered as of Warrender Park Crescent, Edinburgh, who was summoned on the charge that he had been convicted at Edinburgh in December last of breach of the peace and assault and had been fined £5. Dr. Kirkness attended, accompanied by Mr. Alan Fletcher, counsel.

Mr. Winterbotham said that the offence, which was followed by the conviction, arose out of an incident in the night nurses' kitchen and dining-hall in a hospital in Edinburgh when Dr. Kirkness with another man entered, and after some altercation over cigarettes Dr. Kirkness struck one of the nurses on the neck with his glove and put all the nurses into a state of alarm. It was not alleged that Dr. Kirkness or the other man was drunk, though they had had some drink. Dr. Kirkness had been previously before the Council in 1944 on allegations that on two occasions he had been so far under the influence of drink as to be incapable of properly carrying out his duties to waiting patients. Judgment on that occasion was postponed for twelve months, at the end of which time the Council did not see fit to direct erasure.

Mr. Fletcher said that on the occasion in question Dr. Kirkness had been at a family party and was somewhat merry. He went into the nurses's dining-room to get some cigarettes, and one of the nurses, he alleged, was rude to him, and he flicked the girl on the shoulder with his glove. Standing by itself the case would be trivial, though regrettable. He was not in any sense drunk, and had never taken drink to excess since his previous appearance before the Council.

The Council found the conviction proved, but postponed judgment for twelve months.

The next case was that of Dr. James Anderson Edward, registered as of Southsea, who was summoned following two convictions, at Wallsend and at Portsmouth, both in 1946, of driving a motor vehicle whilst under the influence of drink.

Dr. Edward was not present, but Messrs. Le Brasseur and Oakley, on behalf of the Medical Protection Society, represented him. It was stated that he was serving as a ship surgeon. He had written saying that he was on the high seas and that it was extremely difficult for him in that situation to obtain testimonials from his professional colleagues. He thought the Council ought to be satisfied with his discharge book, signed by his captains from time to time. He put in one testimonial to irreproachable conduct.

The President said that there appeared to be no reason why Dr. Edward should not remain at sea and never come before the Council at all.

The Council decided to postpone the case until the May session of next year.

The case of James Alphonsus Heerey, registered as of Virginia, Co. Cavan, in which judgment had been postponed from a previous session, was next taken. Dr. Heerey had been put on probation by the Council following a conviction at Doncaster in 1946 of inflicting grievous bodily harm upon two men and causing damage to property.

Dr. Heerey did not appear, and a letter from the Ministry of Transport stated that he had served as a ship surgeon, but that after an argument with the master and chief officer he had deserted the ship at Brisbane in September last. A letter from Dr. Heerey stated that he intended to remain in Australia and to be registered there if possible. The controversy which led to his leaving the ship arose because the captain was exceedingly unfriendly and interfered with his work. A testimonial was put in from the medical superintendent of the Blue Funnel Line stating that Dr. Heerey's medical work was entirely satisfactory and that he had given the impression of being a very capable doctor.

The Council did not see fit to erase the name from the Register.

Dr. William Belton, registered as of Blakehall Road, Wanstead, in whose case the judgment of the Council had been postponed, following a conviction in 1947 for careless driving and being drunk in charge, and in 1942 the finding by a court-martial that he had been guilty of drunkenness on active service and of unbecoming behaviour, came forward with four testimonials, three of them from professional colleagues in his

neighbourhood, as to his excellent character in the interval and the Council did not see fit to direct the Registrar to erase the name.

Dental Cases

On a report from the Dental Board the Council considered the case of William Grosart, registered as of Moss-side, Manchester, Dentist, 1921, concerning whom the Dental Board had found that he had indirectly advertised and/or canvassed for the purpose of obtaining patients in that he was associated with an unregistered person running a dental repair shop. The Board recommended that his name be erased from the Register. On behalf of Mr. Grosart it was contended that through some misunderstanding his defence was not presented to the Dental Board and he was condemned on the evidence for the complaint alone. The case turned on Dental Board procedure.

The Council, after a long hearing, decided to remit the case to the Dental Board for further inquiry.

On a report from the Dental Board concerning Albert Latham, registered as of Linthorpe Road, Middlesbrough, Dentist, 1921, who had been found, contrary to Article 111 of the Warning Notice of the Dental Board, to have been associated with persons carrying on a dental business who advertised, the Council directed the Registrar to erase the name from the *Dentists' Register*.

Alleged Drunkenness during Professional Attendance

On May 26 and 27 the Council considered the case of Dr. Thomas Elliott, registered as of Morden, Surrey, who was summoned on the charge that while in professional attendance on Mrs. York at Raynes Park he was, on two dates, "so far under the influence of drink as to be incapable of carrying out your professional duties towards her in a proper and seemly manner." The complainant was the husband, Mr. Sydney York, who was represented by Mr. Brundritt, counsel, instructed by Mr. W. Timothy Donovan, solicitor. Dr. Elliott was represented by Mr. Oswald Hempson, appearing on behalf of the Medical Defence Union.

Mr. Brundritt said that Dr. Elliott had been the Yorks' doctor for ten years, during which time no complaint had been made against him. In February last Mrs. York had tonsillitis, developing into a quinsy. On visiting her late at night on Feb. 17, Dr. Elliott, according to Mrs. York and her mother, showed signs of having been drinking. His speech was thick, his breath smelt of alcohol, he dropped a thermometer and a spoon, and his gait was unsteady. He called again on Feb. 19 (the fourth time he had called that day), and on this occasion Mr. York was at home, and, according to Mr. York's story, the doctor was unsure of his footing, his speech was distorted, he threw his case on the bed, and his appearance suggested that he had been drinking. Mr. York told him that in his opinion he was drunk, and that he would "report the matter to the B.M.A." Corroborative evidence was given by a friend of Mr. York who saw the doctor momentarily as he was leaving the house.

Dr. Elliott, in the witness-box, strongly denied the allegations. He remembered the visit on Feb. 19 because of his amazement at Mr. York's accusation. He had finished his evening surgery at about 9 p.m. and motored to Mr. York's flat to give his patient her third penicillin injection on that day. When he left the flat he drove himself home without the slightest difficulty, garaged the car, and after doing some writing went to bed. He had no clear recollection of the earlier visit on which he was said to have been in drink, probably because no complaint was made to him, and he continued without any remonstrance or protest to visit the patient for the next two days. All that he ever took in the evening was a glass of Empire wine.

Evidence was also given by a patient whose child Dr. Elliott had attended late on the same evening on which he had been accused by Mr. York of being drunk. This patient said that Dr. Elliott was perfectly sober and attended to the case with his usual care.

On the second day of the hearing other patients of Dr. Elliott who had been attended by him at the same time as the family who had brought the complaint gave evidence as to his sobriety and attentiveness then as on all occasions, and Mrs. Elliott also bore out her husband's statement as to his sobriety on the evenings in question.

Dr. Elliott was asked by counsel for the complainant whether his partnership with Dr. Orr and Dr. Turnbull had not been terminated owing to that case. Mr. Hempson protested against the question, but it was allowed; and Dr. Elliott replied that

the partnership had been dissolved; but this case was only one of the issues; there had been disagreements over the last two years.

Mr. Hempson in a speech for his client referred to the exceedingly flimsy character of the allegations—that the doctor's speech was thick, that he held on to the banister in going downstairs, that he dropped a thermometer, that he placed his bag on the patient's bed. Small incidents had been exaggerated, and gradually this story had been built up. Dr. Elliott was entitled to ask the Council to say that this complaint had not been established.

Mr. Brundritt, for the complainant, said that this was a simple issue of fact. He agreed that it was important to the respondent, but it was important also to the public that they should not be attended by doctors in a state of intoxication.

After a deliberation *in camera* for no longer than five minutes the Council found the facts alleged against Dr. Elliott not proved to its satisfaction, and dismissed the charge.

Convictions for Misdemeanours

The Council considered the case of Dr. James Scott, registered as of Guilford Street, London, W.C.1, who appeared on the charge that in October, 1947, he had been convicted at Cheltenham of being under the influence of drink while in charge of a motor-car, and there were two earlier convictions against him, at Gloucester in March, 1947, of being found drunk, and in April, 1937 at Leith, of being under the influence of drink while in charge of a motor vehicle. Dr. Scott was defended by Mr. Hempson, appearing on behalf of the Medical Defence Union, who pleaded certain matters in mitigation and put in testimonials. Judgment was postponed for one year.

The case next considered was that of Dr. John Matthew Campbell, registered as of Omagh, Co. Tyrone who appeared on the charge that in 1945 at Crewe and in 1947 at Bury St. Edmunds he had been convicted of driving or of being in charge of a motor-car whilst under the influence of drink. Dr. Campbell apologized to the Council for his lapse which he promised would not occur again. Judgment in this case also was postponed for one year.

The case of Dr. Trevor Owen Williams, registered as of Dudlow Lane, Liverpool, was next considered. He had been convicted on three occasions in Liverpool—in November and December, 1947, and in March 1948—of being found drunk. Dr. Williams expressed his regret and produced testimonials. Judgment was postponed for one year.

The Council considered the case of Dr. Basil Elliott, registered as of St. George, Terrace, Newcastle-upon-Tyne, who appeared in answer to the charge that in 1936 at Jedburgh he had been convicted of certain motor-car offences, one of which was driving or attempting to drive a car whilst under the influence of drink, and in 1948 at Newcastle of driving a motor-car whilst under the influence of drink or of being in such an extent as to be incapable of having proper control of the vehicle. Dr. Elliott was defended by Mr. F. A. V. Porson, solicitor. Mr. Porson on Dr. Elliott's behalf expressed extreme regret for the occurrences. There were very rare transgressions, for, except for such isolated offences, when a doctor is under a disproportionate effect upon him, Dr. Elliott was a technician. He put in a large number of testimonials from medical men in Newcastle testifying to Dr. Elliott's high character, excellent medical work, and popularity with patients. In this case also the Council postponed judgment for one year.

The Council decided to hear in his absence the case of Dr. William Hamilton, registered as of Kilmarnock, Ayrshire, Scotland, on the charge that he was convicted at the Sheriff Court of Ayr in 1946 of failing to keep a register as required under the Dangerous Drugs Regulations. Dr. Hamilton was also charged with having abused the privileges conferred upon him by the Dangerous Drugs Acts and Regulations by giving a number of prescriptions for tincture of opium to a patient who was to his knowledge a drug addict, such prescriptions not being properly required for medical treatment.

The case had been adjourned from two previous sessions in the absence of the practitioner and he did not appear and was not represented on this occasion. Mr. Gerald Howard pre-

sented the facts to the Council. Evidence as to the conviction was given by Inspector James Grant, of the Ayrshire Constabulary.

The Council found that the conviction had been proved and directed the Registrar to erase from the *Medical Register* the name of William Hamilton. It did not pronounce upon the second charge.

Restoration

The Council restored to the *Medical Register* the name of James Samuel Ashe.

The New Pharmacopoeia Commission

Apart from disciplinary business the only matters which came forward in the public sessions were the report of the Examination Committee, which consisted of tables of the annual examination returns for 1947, and the report of the Pharmacopoeia Committee, which was on the publication of the *British Pharmacopoeia 1948*. Dr. Campbell, chairman of the committee, paid a high tribute to the work of the Commission in preparing the book, and spoke particularly of the regret with which the committee parted from its friend and counsellor, Professor Emeritus J. A. Gann, in his capacity as chairman of the Commission. A selection committee had been set up to nominate the chairman and members of the reconstituted Pharmacopoeia Commission with effect from Oct. 1, 1948, and recommended the following: Prof. H. Cohen (clinical medicine), Dr. R. Greene (clinical medicine), Prof. D. M. Dunlop (therapeutics), Prof. A. D. Macdonald (Pharmacology), Dr. A. A. Miles (biological products and assays), Prof. H. Berry (pharmacy), Mr. J. C. Humber (pharmacy), Prof. W. H. Linnell (pharmaceutical chemistry), Dr. R. P. Linstead (general chemistry), Dr. J. R. Nicolls (analytical chemistry). Prof. D. M. Dunlop was recommended as chairman.

The Council approved the recommendations.

WORLD MEDICAL ASSOCIATION

The Council of the World Medical Association held its spring meeting on April 26-29 in the building of the New York Academy of Medicine, where the headquarters of the Association has now been established. Dr. Routley (Canada) presided, and the members present were Prof. E. Marquis (France), Dr. J. Suchlik (Czechoslovakia), Dr. O. Leuch (Switzerland), Dr. D. Knutson (Sweden), Dr. L. H. Bauer (U.S.A.), Dr. J. A. Bustamante (Cuba), Dr. P. Cibrie (France), Dr. A. Hartwich (Austria), Dr. J. A. Pridham (Great Britain), Dr. S. C. Sen (India), Dr. L. G. Tornel (Spain), and Dr. J. Yui (China) deputizing for Dr. King. The Council learned with great regret that the Honorary Secretary, Dr. Charles Hill, had at the last moment been prevented from attending on account of the critical developments in Great Britain in connexion with the National Health Service Act, and it sent to Dr. Hill a message of personal regard and its best wishes for the successful outcome of the British profession's fight for the preservation of its independence.

Any doubts that may have been entertained at the meeting of the General Assembly in Paris last September about the possibility of harmony and co-operation among delegates from countries with widely different points of view in matters of medical service were dispelled by the display at the Council meeting of patience and tolerance in closely argued debates on difficult subjects. The volume of work prepared for the Council's consideration and the instructions for further work given to the secretariat are evidence that the World Medical Association has an important part to play. The Association now has 37 member associations.

The speedy establishment of the Association on a sound financial basis is due in great measure to the generosity of the United States Committee, composed of medical men and industrialists, appointed for the special purpose of supporting and promoting the work of the Association. This committee, which has aroused enthusiasm in all parts of the U.S.A. and has

received financial contributions from many professional organizations, industrial groups, and individual medical practitioners, has guaranteed the Association substantial income for the first five years of its existence, so that its development may not be impeded or delayed by the present financial difficulties of many of its member associations. The first-fruits of this generosity are the acquisition of the premises in the New York Academy of Medicine at 2, East 103rd Street, New York, where the professional atmosphere and spacious meeting-rooms will enhance the dignity of the Association, and the appointment of a paid general secretary with an adequate staff.

The Council, acting on behalf of the General Assembly, has selected for the post of Secretary Dr. Louis H. Bauer, who is a consulting cardiologist, a member of the board of trustees of the American Medical Association, President of the Medical Society of the State of New York, and Editor-in-Chief of the *Journal of Aviation Medicine*. Dr. Bauer will at first devote only part of his time to the post, but if and when the development of the Association's work renders a whole-time appointment desirable he is prepared to consider the acceptance of whole-time duties. The appointment of a general secretary does not disturb the office of honorary secretary, to which Dr. Hill was appointed by the General Assembly. Dr. Hill will continue to hold that office at least until the next meeting of the Assembly, which will be held in Geneva from Sept. 8 to 11, 1948, under the presidency of Dr. J. Stuchlik, of Czechoslovakia. The appointment of Dr. Bauer to the post of General Secretary created a vacancy on the Council, and in accordance with its powers the Council elected Dr. Elmer Henderson (U.S.A.) to fill the vacancy.

War Crimes

The agenda of the meeting covered a wide variety of topics, and only a few can be indicated here; but they will serve to indicate the potential scope of the Association's activities. The Council gave general approval to a memorandum prepared by the Honorary Secretary on war crimes and medicine. This referred to the German betrayal of the traditions of medicine and offered a restatement of the ethical basis of medical practice. The memorandum will be circulated to all national medical associations, together with a factual summary of German war crimes prepared by the United Nations War Crimes Commission. During the meeting the Council learned with horror of an Arab attack on a Jewish medical unit in which doctors, nurses, and patients were massacred, and it immediately issued a declaration condemning such brutality.

Dr. R. L. Coigny, Director of Health of the Preparatory Commission of the International Refugee Organization, attended to describe some of the work his organization was doing in connexion with the resettlement of medical refugees and to seek the assistance of the W.M.A. The Council expressed sympathy with the work of the I.R.O. and requested the General Secretary to obtain information on the extent of the problem, the steps that have already been taken to solve it, and the facilities available in the different countries for the absorption of medical refugees, and to present a factual report for the consideration of the General Assembly.

Another visitor to the meeting was Dr. H. G. Anderson, Medical Adviser of British Medical Missions and representative of the Medical Christian Mission for North America in its overseas activities. He reminded the Council that medical missionaries were pioneers in the international view of medicine, and said that a new emphasis was being given in missionary work to the achievement and preservation of health as distinct from the cure of disease. He asked the W.M.A. to take cognizance of medical missionary work when developing its international activities.

The Association has begun a series of investigations into the conditions of medical practice in the different countries. The report on the first investigation, which concerns the general background of medical practice and the trend of relations between the medical profession and the State, is nearly ready for issue to national associations, and the preparation of the report on an investigation into the standards of medical education has been begun. The subjects of other investigations to be conducted in the near future include specialist and post-

graduate training, the sale and advertisement of patent medicines, and unqualified medical practice.

The Council appointed two small subcommittees, one to study social security in its medical aspects and the other to consider the preparation of an international code of medical ethics. The first is composed of Dr. Cibrie (France), Dr. Leu (Switzerland), and Dr. Pridham (Great Britain), with Dr. General Secretary, Dr. Bauer; and the members of the second subcommittee are Dr. Cibrie and Dr. Pridham, also with Dr. General Secretary.

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BRITISH MEDICAL ASSOCIATION

ANNUAL REPRESENTATIVE MEETING AT CAMBRIDGE, JUNE 25-29

MOTIONS AND AMENDMENTS BY DIVISIONS AND BRANCHES

Elections

Motion by METROPOLITAN COUNTIES: That this Meeting strongly deprecates the use of "block voting" at the Annual Representative Meetings of the Association in connexion with the appointment of the Central Council and standing committees of the Association.

Maternity Medical Services under National Health Service

Motion by WORCESTER AND BROMSGROVE: That this Meeting calls for the abolition of the local obstetric committees.

Motion by WORCESTER AND BROMSGROVE: That this Meeting is of opinion that a woman should have the right under the National Health Service to medical attention at her delivery if she so desires.

Fees for Medical Examination for Life Insurance

Amendment by WORCESTER AND BROMSGROVE: That this Meeting is of the opinion that where a domiciliary examination for life insurance is desired the company or society should pay the practitioner an additional fee of 10s. 6d. as well as the proposed 1s. per mile for mileage.

Motion by SOUTH-EAST ESSEX: That all examinations for life insurance should be paid for at a standard rate of a guinea and a half.

Medical Attendance on Trainees at Government Training Centres

Amendment by WORCESTER AND BROMSGROVE: That the fee paid for attendance on trainees at Government training centres should be exclusive of specially expensive drugs or appliances as applies to fees payable to civilian medical practitioners for attendance on members of the Armed Forces and ex-Service pensioners.

Examination of Recruits for Territorial Forces

Motion by WEST SOMERSET: That the Council should press for the retention or re-establishment of civilian medical boards for the examination of recruits for the Territorial Forces.

Form for Examination of Transport Personnel

Motion by SOUTH-EAST ESSEX: That forms for the examination of transport personnel, bus drivers and conductors, etc., should be uniform, should have the amount of the fee clearly stated, and the company or transport authority should be responsible for the payment.

Mileage for Rural Practitioners

Motion by DUMFRIES AND GALLOWAY: That the British Medical Association press the Minister of Health for an adequate mileage fee for rural practitioners.

Formation of Regional Consultants and Specialists (Including Hospitals) Committees and Establishment of a Central Consultants and Specialists Standing Committee

Amendment by WESTMINSTER AND HOLBORN: That this Meeting views with disquiet the existing alarm among consultants as to the Association's proposals for the constitution of the Central Consultants and Specialists Committee and the Regional Consultants and Specialists (Including Hospitals) Committees (paras. 60-62 of Annual Report of Council).

Amendment by WORCESTER AND BROMSGROVE: That the constitution of the Central Consultants and Specialists Committee should include four extra representatives being members of the Association and engaged partly in consultant and specialist practice and partly in some other branch of medical practice, two to be elected by the Representative Body and two otherwise appointed.

Future Position of the Insurance Acts Committee

Motion by EAST NORFOLK: That the British Medical Association proceed forthwith to form an elected committee to take the place of the Insurance Acts Committee and having full powers of negotiation with the Minister of Health on all matters pertaining to general practitioners in the National Health Service.

Trade Union Organization

Motion by WESTMINSTER AND HOLBORN: That the British Medical Association explore the possibility of setting up a body equivalent to a trade union.

Motion by SHROPSHIRE AND MID-WALES: That a medical trade union be formed to protect the interest of the profession in the future with regard to the forthcoming National Health Service.

Mortuary Accommodation and Pathological Facilities

Amendment by SOUTH STAFFORDSHIRE: That the following Recommendation (iv):

That mortuaries be established at central points in each coroner's jurisdiction, under the control of the local health authority, equipped with refrigeration and a separate viewing-room for relatives, the post-mortem rooms being furnished with good lighting, heating, and an ample supply of running water, and with facilities for pathological examinations and the proper collection of specimens for toxicological examination; that the assistance of trained mortuary attendants be made available; that adequate transport facilities for bringing cadavers to the central post-mortem establishment from outlying mortuaries be provided.

be amended to read as follows:

That adequate transport facilities for bringing cadavers to the central post-mortem establishment from outlying mortuaries be provided.

CONSULTANTS AND SPECIALISTS

Central Consultants and Specialists Standing Committee

Motion by BOURNEMOUTH: That the Central Consultants and Specialists Committee shall be an autonomous body, with full powers to determine policy on consulting and specialist and hospital matters and action through the administrative machinery of the Association. The decisions of the committee shall not be subject to approval of the Council or the Representative Body except in so far as they may affect other forms of practice or other aspects of the policy or activities of the Association.

The Central Consultants and Specialists Committee shall have the power to elect its own chairman, who will be *ipso facto* a member of the Council of the Association.

ORGANIZATION

Proposed new Central Consultants and Specialists Committee

Amendment by BOURNEMOUTH: Under "duties and powers of Central Consultants and Specialists Committee" substitute the words "to decide policy and action on" for the words "to report on" in line 1.

Organization of Association

Motion by BOURNEMOUTH: That the constitution of the Association be reviewed to determine whether the organization in Great Britain should be altered (i) to provide a new basis of representation of members, and (ii) to further such collective negotiation and action by the Association as the institution of the National Health Service may make desirable.

Other Motions by Divisions and Branches

Motion by WESTMINSTER AND HOLBORN: That steps be taken by the Council to set up a standing legal committee.

Motion by KENSINGTON AND HAMMERSMITH: That through the *Journal* or in other ways it should be suggested to members of the Association that they might volunteer to do part of the daily work of representatives during B.M.A. executive and other important meetings.

Motion by NENEATON AND TAMWORTH: That this meeting is not satisfied with the present supervision of production or distribution of foods of animal origin and asks the Council of the Association to approach the National Veterinary Association in order that a joint committee of the two bodies may investigate the matter and report to the proper authorities.

received financial contributions from many professional organizations, industrial groups, and individual medical practitioners, has guaranteed the Association substantial income for the first five years of its existence, so that its development may not be impeded or delayed by the present financial difficulties of many of its member associations. The first-fruits of this generosity are the acquisition of the premises in the New York Academy of Medicine at 2, East 103rd Street, New York, where the professional atmosphere and spacious meeting-rooms will enhance the dignity of the Association, and the appointment of a paid general secretary with an adequate staff.

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Correspondence

North-east Regional Hospital Board Area: Proposed Regional Medical Association

SIR,—Since our letter in the *Supplement* of Feb. 21 (p. 27) the position has materially altered in that the B.M.A. has approached our Essex Association with the request that we initiate the setting up of an interim Regional Consultants and Specialists Committee. We are anxious to assist in any way possible to this end, and a meeting has been arranged at B.M.A. House, Tavistock Square, at 8 p.m. on Friday, June 18, to which all members of the specialist and consultant staffs of hospitals, including tuberculosis dispensaries, in the North-east Metropolitan Regional Hospital Board area are cordially invited.

Agenda.—(1) Election of Chairman. (2) Formation of interim Consultants and Specialists Committee on the lines suggested in the Annual Report of the Council of the B.M.A. (*Supplement*, April 10, para. 60, p. 77). (3) Any other business.

—We are, etc.,

W. L. YELL,
Chairman, Association of Medical Officers
(Essex).

F. N. FOSTER,
Vice-Chairman,
L. S. FRY,
Hon. Secretary.

Chelmsford, Essex.

Christ's College, Cambridge

SIR,—The notes (May 1, p. 111) on the University of Cambridge for the forthcoming meeting contain a list of the colleges with the date of their foundation. From this list there is one notable omission, which filial piety prompts me to supply—i.e., that of Christ's College. Christ's is celebrating at the present time the 500th anniversary of its foundation as God's house, the date of the foundation charter being April 16, 1448. Shortly afterwards, however, Henry VI, needing the site for his great foundation of Kings, made the exchange to the present site of Christ's College, where the north side of the First Court incorporates portions of the buildings of God's house.

When Lady Margaret, deeming herself "heir to all King Henry VI's godly intentions," wished to endow learning, she extended and endowed God's house into her own foundation in 1505, the proctor of that foundation becoming the first Master of Christ's College, whose full title is therefore "Christ's College in the University of Cambridge by Henry the sixth King of England first begun, and after his decease by Margaret, Countess of Richmond, mother of King Henry the seventh, augmented, finished, and stablished."—I am, etc.,

Threlkeld, Cumberland.

G. A. AUDEN.

Mileage Fees for Consultants

SIR,—I hope that the committee concerned with consultant practice under the Act will make sure that the mileage fees are adequate. In a memo recently issued by the Ministry of Health, "agreed following a request from the B.M.A.," 1s. is paid for each mile covered going and coming beyond two miles from one's house. No difference is made for a night call. No provision is made for the time factor, which has a special importance for consultants. Hitherto, when agreeing with the doctor what is a reasonable fee to charge the patient, one has in mind the service rendered, the mileage covered, the time taken, and the time of day.

During the war I was called to Berwick-on-Tweed under the F.M.S. It is 62 miles from my house and the call was after 6 p.m. and I was out of town for 6 hours, mainly at night. I made a diagnosis and did a laparotomy. The fee paid me was purely nominal and I regarded my work as a war service. Under the existing scheme I would have received £6 for motoring 124 miles in the dark and 4 guineas for making a diagnosis and performing a successful laparotomy, a total of £10 4s. for services rendered. I consider working under such conditions as sheer slavery.

In this area we have had for many years an agreement with the leading health authorities concerning maternity work. We are paid 2s. 6d. a mile going and coming from our house (3s. at

night) and receive a more generous, although graded, scale of payments for services rendered. Had my Berwick trip been under our scheme I would have received a mileage fee of £17 1s. and a service charge of 9 guineas, making a total of £26 10s. While I have taken an extreme instance as regarded mileage, the principles apply just the same to the lesser distances and services which consultants are faced with.—I am, etc.,

Newcastle-upon-Tyne.

FARQUHAR MURRAY.

Petrol Rationing

SIR,—It would appear that the position of holders of "E" and "S" coupons in relation to the new "standard ration" requires some clarification. While there may be some justification for withholding the latter from holders of "S" coupons for the time being, there can surely be none whatever in relation to holders of "E" coupons.

I am a doctor and therefore use "E" coupons. During the winter immediately previous to the restoration of basic petrol, and using a 10 h.p. car, I was obliged to ask for, and received, an extra 25 gallons for a four-month period. During the whole period of basic petrol (over two years), and using a 12 h.p. car, I have only had to ask for a total of 30 gallons extra. This means that I have used a considerable proportion of basic petrol for professional purposes during that period. For the six-month period, Oct. 1 to March 31, just expired I was subjected to a cut of 10% (equal to 16 gallons). Before the end of that period (although I had some basic left at the beginning) I was obliged to ask for, and received, a further 25 gallons.

I am now told that I am not entitled to receive any standard ration, but that I am allowed to do up to 90 miles per month of "free" motoring after June 1 on my "E" ration. How can I possibly do this when I am already approximately four gallons a month short of my professional requirements, and when I am told that on no account will any claim for further petrol be entertained? The position is as ridiculous as it is unjust. I am fully aware that you must be getting very many letters of this kind, and that these must of necessity be somewhat personal, but it may be that their very number may lead to some amendment.—I am, etc.,

Abbots Langley, Herts.

F. S. POOLE.

Association Notices

Diary of Central Meetings

JUNE

- 25 Fri. Annual Representative Meeting, Large Examination Hall, Bene't Street, Cambridge, 9.30 a.m.
- 26 Sat. Annual Representative Meeting, Cambridge, 9.30 a.m.
- 28 Mon. Council, Small Examination Hall, Bene't Street, Cambridge, 9 a.m. Annual Representative Meeting, Cambridge, 10 a.m.
- 29 Tues. Annual Representative Meeting, Cambridge, 9.30 a.m. Annual General Meeting, Large Examination Hall, Bene't Street, Cambridge, 12.30 p.m., followed by Extraordinary General Meeting. Adjourned Annual General Meeting and President's Address, Senate House, 8.30 p.m.
- 30 Wed. Council, Small Examination Hall, Bene't Street, Cambridge, 9 a.m.

Branch and Division Meetings to be Held

SURREY BRANCH.—At Richmond Hill Hotel, Richmond, Wednesday, June 16, 2.30 p.m. Annual general meeting. Presidential address by Mr. Ronald M. Savege, O.B.E., M.C.: Medicine in a Planned Economy.

H.M. Forces Appointments

COLONIAL MEDICAL SERVICE

The following appointments have been announced: G. C. Butler M.B., Medical Officer, Nigeria; R. R. Henderson, M.B., Medical Officer, Kenya; D. J. Browne, M.B., Medical Officer, St. Vincent; B. Lasisz, M.B., Medical Officer, British Somaliland; E. J. Sankard, M.D., D.T.M., D.P.H., Director of Medical Services, Trinidad; H. D. Weatherhead, M.R.C.S., D.T.M.&H., Director of Medical Services, North Borneo.

BRITISH MEDICAL JOURNAL

LONDON SATURDAY JUNE 19 1948

THE LYMPHATIC CONNEXIONS OF THE SUBARACHNOID SPACE

AN EXPERIMENTAL STUDY OF THE DISPERSION OF PARTICULATE MATTER IN THE CEREBROSPINAL FLUID, WITH SPECIAL REFERENCE TO THE PATHOGENESIS OF POLIOMYELITIS

BY

E. J. FIELD, M.D., M.S.

AND

J. B. BRIERLEY,* M.B., Ch.B.

(From the Department of Anatomy, University of Bristol)

There have been suggestions current in the literature from time to time that infective agents (and in particular the virus of poliomyelitis) may extend to the central nervous system along certain ill-defined lymphatic pathways. Yoffey and Drinker (1939) introduced the concept of a combined lymphatic and haematogenous spread, depending on lymphatic absorption from the nasopharynx, and dissemination through the blood stream with the lymphocyte as a virus carrier. However, their experiments were not successful in establishing this mode of spread for poliomyelitis, though it appeared to hold good for the virus of vaccinia (Yoffey and Sullivan, 1939). It is, however, with the elucidation of direct anatomical pathways, particularly those between the spinal subarachnoid space and the abdominal lymphatic system, that the present communication is largely concerned. In the course of this investigation the potentialities of dispersion of fine particulate matter introduced into the cerebrospinal fluid have been observed, and would seem to be not without bearing on the problem of the pathogenesis of poliomyelitis. The principal features of the circulation of the cerebrospinal fluid, as elucidated by the labours of Weed and his co-workers from 1914 onwards, are well known and have been widely accepted. Weed's concept of the formation of the fluid by the choroid plexuses has been broadened to include cortical and spinal blood vessels as formative agencies (Schaltenbrand and Putnam, 1927), and there is now evidence also that a not inconsiderable resorption of fluid takes place into the lymphatic system, not only in the cervical region but also in the lumbosacral zone (Brierley and Field, 1948).

A detailed review of the literature of this problem has been given elsewhere, and only the salient features can be considered here. Schwalbe (1869) and Quincke (1872) both reported the deposition of particulate matter (of unspecified size) in the prevertebral lymph nodes following subarachnoid introduction. The former, moreover, noted in his experiments with dead rabbits that Berlin-blue granules could also pass out from the subarachnoid space extension along the sheath of the optic nerve close behind the eyeball, spread in the episcleral (Tenon's) space, and even pass in along the perivascular spaces of the venae vorticosae to reach the perichoroidal space. Schwalbe was able to demonstrate an excellent filling of lymphatic

plexuses in the nasal mucosa from the cranial subarachnoid space, though Quincke (like Weed many years later) was unable to confirm this. These contradictory results were no doubt due to the difference in size of particles employed, for fine particles (0.5μ) certainly pass with ease from the subarachnoid space into the nasal mucosa. Much of the earlier work on the subarachnoid lymphatic connexions is invalid because of the high injection pressures used, often resulting in obvious tissue damage (cf. Spina, 1900, 1901).

Weed (1914), working with a true solution (iron ammonium citrate and potassium ferrocyanide) as indicator, showed that a small proportion of the cerebrospinal fluid passes into the cervical lymphatic system via the nose, though he did not believe that particulate matter could take this course. He suggested that a similar outflow to the lymphatic system might take place from the spinal subarachnoid space. For this latter suggestion, however, he proffered no experimental evidence, and indeed the technique he used precluded investigation of such an outflow in the lumbosacral region—the very region where it will be shown below to be most marked.

The problem of the spinal subarachnoid connexions was investigated once more by Iwanow (1928), who worked both with living and with dead dogs. He showed that indian ink could make its way from the spinal subarachnoid space to the aortic lymph nodes, but was unable to outline the pathways completely.

Experimental Methods and Results

The animal used was the rabbit, and all experiments were carried out in the living. Under "nembatal" anaesthesia sterile indian ink was introduced into the cranial subarachnoid space or lateral ventricle, precautions being taken to prevent backflow to the surface along the track of the needle. In all cases the amount of indian ink introduced was less than the volume of cerebrospinal fluid withdrawn as a preliminary, and the pressure under which the ink was allowed to run in never exceeded 120 mm. of ink. In order to introduce as large a quantity of ink as possible, more than one instillation was carried out in several animals. In this way it was possible to introduce as much as 4.5 ml. into one animal as opposed to the 0.8 to 1.2 ml. at the single sitting. With this technique there could be no question of any sudden increase in intracranial pressure as a result of the introduction, and conditions within the cranium remained relatively undisturbed. The ink used was

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made by rubbing down a stick of solid indian ink in physiological saline and filtering the suspension through a No. 5 Whatman filter paper. The size of the particles in the resulting preparation ranged from 0.4 to 1.5 μ , but 90% were about 0.5 μ . The animals recovered from operation in two to two and a half hours and showed no disturbances whatsoever. They were sacrificed at intervals ranging from one to 96 hours after operation. Details of experimental technique have been described elsewhere (Brierley and Field, 1948).

Laminectomy showed that ink reached the caudal end of the spinal arachnoid sac in some seven to nine hours. Where relatively large amounts had been introduced and the animal was allowed to survive for an adequate period the extreme caudal segment was often jet-black. Around the dorsal-root ganglia of the lumbosacral region there were conspicuous accumulations of ink which produced the appearance of two columns of black beads in relation to the dorsal-root ganglia in the cervical region these cuffs of ink around the dorsal-root ganglia were also present, but were not nearly so well marked. In both places ink was also present in relation to the anterior nerve roots. The epidural pads of fat in the lumbosacral region were grey in colour owing to the presence of free indian-ink particles in their interstices (Fig. 1A g). Microscopical

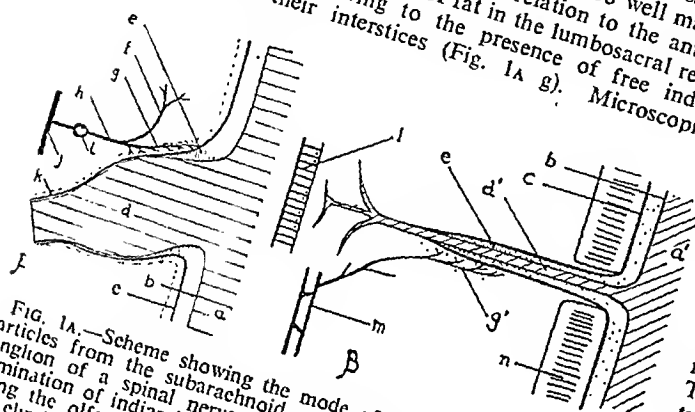


FIG. 1A.—Scheme showing the mode of elimination of indian-ink particles from the subarachnoid cul-de-sac around the dorsal-root ganglion of a spinal nerve. FIG. 1B.—Scheme showing mode of elimination of indian-ink particles from the subarachnoid extensions along the olfactory nerves. Note that in both cases ink particles are eliminated from the subarachnoid space into interstitial tissue and pass secondarily into the lymphatic system. a. Spinal cord, b. Dorsal root ganglion, c. Subarachnoid cul-de-sac, d. Dorsal root, e. Dorsal root ganglion, f. Subarachnoid cul-de-sac, g. Epidural fat, h. Longitudinal abdominal lymphatic, i. Prevertebral lymph node, j. Segmental collecting trunk, k. Epidural lymph node, l. Nasal mucous membrane, m. Submucous lymphatic plexus, n. Cribriform plate.

examination of the dorsal-root-ganglion region showed that here ink particles were passing through the covering membranes and coming to lie freely on the surface or passing into the superjacent epidural fat. Whilst many particles were intracellular, many on the other hand were free.

Examination of the abdomen, particularly those around the aortic bifurcation and in the hollow of the sacrum, were filled with ink in degrees varying from pale grey to jet-black. Tiny scattered lymph nodules behind the aorta and inferior vena cava were also filled with ink, and in some favourable cases it was possible to make out under the binocular microscope fine black lines passing backwards towards the spine. Similar small scattered nodules were also found in a corresponding position in the thorax, though only after good filling of the subarachnoid space. In all cases the cervical lymph nodes, both superficial and deep, contained indian ink. In order to determine more fully the channels by which cervical filling took place, indian ink was introduced continuously into the subarachnoid space through a cannula carefully inserted in the lumbar region after laminectomy in the fresh cadaver. In this way under controlled pressure several millilitres of ink could be introduced. Subsequent dissection showed that the ink-bearing afferent vessels of the cervical nodes originate largely from the mucous membrane of the nose. A certain number, however, were found to emerge from the jugular foramen and enter the upper pole of the highest deep cervical node—a fact

noted already by Schwalbe in 1869. As will appear later such vessels deserve consideration in any discussion of possible modes of invasion of the nervous system by an infective agent.

Nasal Outflow.—Histological examination of the whole calcified nose region showed that ink passed down the sheath of the olfactory nerves to reach the connective tissue strands and lymphatic plexus of the nasal mucosa (Fig. 1B). Ink was also present in the endoneurial space to those of Faber (1938). These findings are quite analogous to those of the eyeball revealed in anticipated accumulation of ink in the subarachnoid sleeve of the optic nerve. In addition, however, a diffuse greyness of retrobulbar fat in the vicinity of the nerve was apparent. In order to obviate difficulties arising from the normal occurrence of pigment in this region a series of experiments were undertaken in pure albino animals. Histological examination showed ink particles making their way through the optic-nerve sheath immediately behind the eyeball, spreading out in the episclear space and extending between the fibres of the retractor bulbi muscle. Details of these findings will be published elsewhere.

Passage into the Brain Substance.—In those cases in which ink was instilled directly into the ventricle subsequent examination revealed particles in the depths of the brain substance. Some ependymal cells were seen to be finely stippled with very small granules, and these were also to be found at some depth from the ventricle. Many of these deeper particles had been ingested by phagocytic elements, especially if the animal became detached and move into the subependymal cells migrate. Such passage of indian ink occurred particularly at the inner "angle" of the lateral ventricle as seen in coronal section. To a smaller extent ink particles were also found to have penetrated the wall of the third ventricle. Unfortunately the literature was not examined, but there is evidence in the literature that this is a site at which penetration of particulate matter from the cerebrospinal fluid may take place with relative ease (Hurst, 1930; Hamperl and Heller, 1934).

Discussion

The interpretation of the microscopical appearance of the nerve-root region presents some difficulty and has been discussed fully elsewhere (Brierley and Field, 1948). Briefly it may be stated that transport by phagocytes cannot account entirely for the passage of ink out of the subarachnoid space, a process which must be, in part at least, a passive one dependent upon an actual outflow of cerebrospinal fluid. The arachnoid culs-de-sac around the nerve roots may thus be looked upon as definite points of ex-prevertebral fluid into the lymphatic system and the spinal subarachnoid space.

The rapidity with which indian ink introduced into the cranial division of the subarachnoid space makes its way down to the lumbosacral region is striking. It would seem that particulate matter introduced into any region of the subarachnoid space accumulates in relation to the lumbosacral root ganglia (and to a lesser extent also the lumbar sacral root ganglia) and in the cervical region of the spinal fluid. The arachnoid culs-de-sac around the nerve roots may thus be looked upon as definite points of ex-prevertebral fluid into the lymphatic system and the spinal subarachnoid space.

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cases, in addition, fixation by the nervous tissues themselves may play a part in clearing the cerebrospinal fluid.

It is of interest to see how far the results outlined above may facilitate the interpretation of the clinical and experimental findings in poliomyelitis. Furthermore, the possibility of retrograde spread from the periphery to the central nervous system along a lymphatic pathway has been shown to rest on a definite anatomical basis. The experimental accomplishment of such spread by indian-ink particles will be described below.

Two aspects of the poliomyelitis problem may be considered: (1) How far are these findings consonant with the belief that the virus is spread by the cerebrospinal fluid? (2) What pathways are available as channels of access to the cerebrospinal fluid in the first place?

Presence of Virus in the Cerebrospinal Fluid

There are many reports in the literature claiming that the cerebrospinal fluid in human poliomyelitis is not infective. However, it is known that in the experimental animal, following intrathecal introduction of virus, the cerebrospinal fluid remains infective forty-eight hours after inoculation but is no longer so at the sixth day—the time of development of symptoms (Clark and Amoss, 1914). Apparently virus may be eliminated from the cerebrospinal fluid rapidly. Assuming that virus did enter the cerebrospinal fluid from outside the nervous system, its detection would be likely only in the first twenty-four hours or so. With these considerations in view the reports on infectivity of the cerebrospinal fluid were scrutinized with particular reference to the times at which the tests were carried out. Many of the human reports deal with the paralytic stage of the disease—when, presumably, any virus which may have been in the cerebrospinal fluid has long since been eliminated or fixed. Abramson (1917) tested the sediment obtained by spinning fluid from forty cases—“many in the pre-paralytic stage”—with negative results. However, in the absence of more precise information as to time after infection—information which it may be very difficult if at all possible to obtain—the significance of this result is equivocal. So far as the human disease is concerned, therefore, no certain evidence is available as to the infectivity of the fluid at the time when it might be expected to be at its height.

Unfortunately the position is little better for experimental poliomyelitis. The scanty reports available are at variance, and adequate testing of cerebrospinal fluid at the crucial times following par-neural inoculation does not appear to have been carried out. Flexner and Amoss (1914) reported the presence of virus in the cerebrospinal fluid before the onset of the disease. However, they were using the intravenous route, for which the minimum infective dose and the incubation period are greatly increased. On the other hand, Fairbrother and Hurst (1930) made examinations of the cerebrospinal fluid at daily intervals following intracerebral inoculation of virus, and failed to find it in the fluid. These authors are of the opinion that axonic transmission far outweighs cerebrospinal fluid dissemination in importance. There are, however, so many factors which may influence the result of cerebrospinal fluid testing (e.g., time, dose of fluid, strain of virus, susceptibility of test monkey), and the point is of such importance that confirmation of their results is needed. Incidentally it should be noted, as the authors themselves point out, that any intracerebral inoculation is in no small measure also a subarachnoid introduction, since leakage along the needle track cannot be prevented. This fact throws the differences between the results of Clark and Amoss (1914) on the one hand and Fairbrother and Hurst (1930) on the other into still sharper relief.

Leiner and v. Wiesner (1910), in a small series of experiments, found that virus introduced intracerebrally could be readily detected in the cervical, prevertebral, and mesenteric lymph nodes but not in the inguinal group. This suggests that elimination takes place from the subarachnoid space along the same channels as serve for the elimination of particles of indian ink. However, Yofsey and Drinker (1939) found that the virus of poliomyelitis did not pass readily into the cervical lymphatic system following introduction into the nose, and concluded that the particular strain of virus used (Toomey “T”) “did not spread by way of lymphatic vessels and nodes.” Nevertheless, vaccinia virus, the particles of which are of the same order of magnitude as the smallest ink particles in our own experiments, readily utilizes lymphatic channels of spread (Yofsey and Sullivan, 1939). This difference is all the more remarkable since the virus of poliomyelitis is so much smaller (0.003–0.012 μ up to 0.058 μ —Elford, Galloway, and Perdrau, 1935; Levaditi, Kling, Paic, and Haber, 1936) than is that of vaccinia (0.125–0.175 μ —Elford and Andrewes, 1942).

Lesions of the Dorsal-root Ganglia

These lesions are a constant feature of poliomyelitis in human beings (Peabody, Draper, and Dochez, 1912), and may account for the severe pain of root type which is often a feature of the pre-paralytic stage (Russell, 1947). Experimental work suggests that whatever the route by which infection of the nervous system is brought about, such lesions are an early—sometimes the earliest—finding (Flexner and Amoss, 1914). This is what one would expect if the virus were in the cerebrospinal fluid and accumulated at the same outflow points round the nerve roots as does indian ink. Moreover, ink particles may be found in the depths of the dorsal-root ganglia, where many are taken up by the satellite cells. Flexner and Amoss (1914), using varmine particles “smaller than many bacteria,” found the pigment to penetrate the ganglia only with difficulty. The fine ink particles employed by us do so readily, however, and no doubt virus may penetrate with even greater facility.

Distribution of Lesions

Hurst (1932) was of the opinion that the distribution of lesions in experimental poliomyelitis did not follow the pattern in which indian ink or trypan-blue was distributed after introduction in the monkey. Nevertheless, many of Fairbrother and Hurst's (1930) results would seem to be best interpreted on the basis of a cerebrospinal fluid spread of virus. Hurst himself envisages the early involvement of the globus pallidus, hypothalamus, and occasionally the thalamus as possibly due to infection along the perivascular spaces of the anterior perforated substance. Further evidence of invasion from the cerebrospinal fluid was met with in the midbrain and pons. Moreover, the distribution of lesions after infection by intrathecal, intraneural, or intracerebral routes “is essentially the same” (Hurst, 1932). The common factor in distribution would seem to be the cerebrospinal fluid, more especially as neither virus nor lesions are to be found in the areas intervening between widely scattered foci. Furthermore, the various levels of the cord become involved almost simultaneously; and Fairbrother and Hurst (1930), having postulated axonic transmission as the chief mechanism of spread, are forced to the conclusion that “there is an initial delay in the infection of fibres at the site of inoculation, after which the virus travels so rapidly as to reach distant regions of the nervous system as quickly as closely adjacent areas” (p. 40). A simpler working hypothesis would be that of cerebrospinal fluid spread, especially as it is entirely consonant with the observed phenomena. Indeed, the weight of evidence is such that Hurst (1930) himself feels impelled

to allow that "infection of the cerebrospinal fluid contributes to the final picture of fully developed poliomyelitis" (p. 1141).

The experimental results obtained with fine indian-ink particles (in rabbits) suggest that such material in the cerebrospinal fluid has widespread access to the nervous substance. Undoubtedly virus could disseminate in a similar manner, and this together with invasion from the superficial subarachnoid space along perivascular channels may account for the early lesions of poliomyelitis in loci accessible to cerebrospinal fluid.

The interesting results of Jungeblut and Spring (1930) require consideration. They found that intracerebral inoculation of virus in a monkey whose cord had been previously transected resulted in an attack of poliomyelitis, and although the distal segment of cord was freely bathed in cerebrospinal fluid neither virus nor lesions could be found in it. Howe and Bodian (1941) repeated and extended the work of Jungeblut and Spring, and found that even after careful section of the spinal cord and obliteration of the subarachnoid space (checked by indian ink and methylene-blue injection at necropsy) virus could pass down to the isolated lumbar cord in one case out of four after intranasal or intracerebral inoculation. (The technique in this one positive case, however, was such as to render the significance of the result equivocal.) On the other hand, inoculation of the sciatic nerve in animals with completely divided cord and subarachnoid space resulted in progression of virus into the upper-cord segment in two out of four cases—"possibly along the paravertebral sympathetic chains." However, further experiments showed that even after bilateral sympathectomy of two or three ganglia at the level of cord section had been carried out, inoculation direct into the lumbar cord resulted in progression of virus to the upper segment of nervous system in every case. The authors suggest that virus passed from the spinal cord to the wall of the gut via sympathetic-nerve fibres and thence to the brain-stem along the vagus nerve. An alternative and simpler interpretation will be considered below after further experimental results of our own have been described.

Channels of Access of Virus to the Cerebrospinal Fluid

The nasopharynx, tonsil, and upper respiratory tract have all been implicated from time to time as portals of entry for virus both in the human and in the experimental animal. Our own results have substantiated the existence of a definite anatomical pathway (in the rabbit) between the cranial subarachnoid space and the deep cervical lymph nodes by means of lymphatics which emerge through the jugular foramen. Since the tonsil, too, is connected with these nodes, the anatomical basis exists for lymphatic extension of virus from tonsil to cranial subarachnoid space. This connexion is in addition to the well-known and more readily demonstrable paths from the nasal mucosa.

In recent years much attention has been given to the gut as a portal of entry, largely from the standpoint of axonic transit of virus. Although there is a wealth of pathological evidence to suggest that the lymphoid tissue of the bowel is the site of early and often severe lesions (Wickman, 1913; Burrows, 1931; and many others), no serious attempt seems to have been made to examine systematically the possibility of a retrograde lymphatic spread of virus to the spinal cord from the bowel. In view of the definite connexions which have been shown to exist between the spinal subarachnoid space and the abdominal lymphatic system the possibility of bringing about experimentally retrograde spread of ink particles from the mesenteric and prevertebral lymph nodes to the cord was explored.

Retrograde Lymphatic Flow to the Cord: Experimental Methods and Results

In order to produce a stasis of the abdominal lymphatic drainage, a condition favourable to the retrograde flow of ink, ligation of the thoracic duct was performed. Because of the multiple lymphatico-venous communications existing within the lumbar region of many lower animals, the stasis resulting from such an operation is incomplete. The ligation was performed in the mid-chest region by a right transpleural approach, respiration being maintained mechanically throughout the experiment. Laparotomy was then performed and indian ink, made up in reconstituted plasma, injected into the aortic and mesenteric lymph node. By repetition of this procedure at two- to three-hour intervals up to 4 or 5 ml. of ink could be introduced. Animals have survived these formidable operative procedures for periods up to twelve hours, during which time the pulse has been good and repeated doses of nembutal have been needed to prevent recovery of consciousness.

By this technique it has been possible to trace fine lymphatic channels backwards from the region of the cisterna chyli, usually through one or more tiny prevertebral nodes, round the side of the vertebral column. To such vessels come tributaries which collect lymph from the dorsal-root-ganglion region, and in particularly successful fillings of these minute vessels ink is to be found right on the dorsal-root ganglion itself and the adjacent cord membranes. Ink may even spread further back in the main lymphatic vessel and pass into the substance of the erector spinae musculature. A detailed account of these anatomical pathways (Field and Brierley, 1948) is not necessary here, but they may be summed up as follows. Lymphatic vessels in the substance of the erector spinae muscle unite to form one or more vessels which accompany the nerve and blood supply of the muscle towards the intervertebral foramen. Here lymph-vessel branches come in from the dorsal-root ganglion and its related epidural fat, and the main vessel then continues ventrally round the side of the spine, to reach the cisterna chyli or one of the many subsidiary longitudinal ducts which empty into it. As a rule a small lymphatic nodule is interposed in the course of the vessel on the anterolateral aspect of the spine (Fig. 2).

It would seem, then, that under certain experimental (and admittedly highly artificial) conditions there is the possibility of a retrograde flow of fine particulate matter from the mesenteric and prevertebral nodes to the spinal cord. Conditions approximating those of the experiments out-

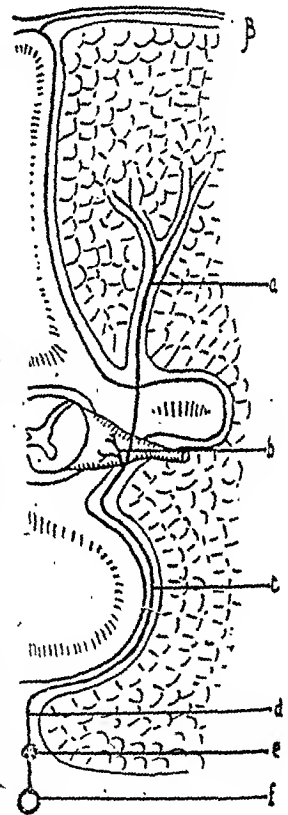


FIG. 2.—Scheme indicating the disposition of the lymphatic drainage of the nerve root: a. Lymphatic arising in the posterior spinal musculature; b. Small lymphatic tributaries from dorsal-root-ganglion region; c. Lymphatic channel passing ventrally round vertebral body under cover of psoas muscle; d. "Segmental" vessel visible from the abdomen; e. Small prevertebral lymph node; f. Longitudinal collecting channel on front of spine.

lined above might come about in man or monkey should a temporary functional occlusion of the thoracic duct leading to lymphatic stasis take place.

Unfortunately, little is known of the responses of the thoracic duct to physio-pathological stimuli, though the presence of plain muscle fibres and nerves in its wall suggests that variations in calibre do take place. Spasm of larger lymphatic channels is a phenomenon well recognized by experimental workers, and often arises, it is said, as the result of drying or unnecessary handling. This problem is receiving further attention.

It is of interest to recall that severe muscular exercise or bowel contraction results in a considerable increase in lymph flow from the parts concerned and a steep rise in pressure in the larger collecting channels (Drinker and Yoffey, 1941). These circumstances, together with a partial obstruction of the thoracic duct—perhaps at the aortic opening in the diaphragm—might succeed in creating a temporary diversion of lymph towards the spinal cord. It should be recalled in this connexion that the small "segmental" vessels which pass ventrally round the sides of the spine are not valved. Such a retrograde lymphatic invasion of the nervous system would also account for the early presence of lesions in the dorsal-root ganglia of the lumbar region. However, it must be realized that virus which gained access to the subarachnoid space by whatever route would also accumulate in this region (see above). Probably the same route of access does not hold for all cases.

The lymphatic vascular system related to the dorsal-root ganglia must be taken into account in evaluating the important results obtained by Howe and Bodian (1941) referred to above. These authors mention the possibility of lymphatic spread of virus but pass it over in favour of axonic dissemination along "some unusual nervous connexions." Our own results would seem to furnish a relatively simple lymphatic anatomical pathway by which virus might spread from an isolated lumbar segment of cord to the rest of the nervous system. Injection into the lumbar cord is virtually a lymphatic injection, assuming that virus may take a path readily available to fine indian-ink particles. The virus which leaves the lumbar sac by lymphatics from the dorsal-root ganglia may then readily pass upwards (the normal direction of flow) and subsequently in a retrograde manner to dorsal-root ganglia above the site of section. To us—unwedded as we are to the concept of axonic transmission—this seems a simpler explanation and one deserving of experimental testing. Furthermore, experiments by one of us (J.B.B.) have shown that injection of indian ink "into" the sciatic nerve will often lead to a beautiful filling of the lymph nodes around the bifurcation of the aorta. From these the injection mass may pass to the paravertebral lymphatic channels. It is not, therefore, surprising that infection of the upper segment of cord should have occurred in Howe and Bodian's elegant experiments following inoculation of the sciatic nerve with virus.

Summary of Conclusions

1. Particulate matter in the cerebrospinal fluid is rapidly removed and tends to accumulate at outflow points round the lumbar and cervical nerve roots.
2. The prevertebral lymph nodes are the "regional" nodes of the spinal subarachnoid space.
3. The presence of virus in the cerebrospinal fluid in both human and experimental poliomyelitis would seem to be uncommon. However, in view of the rapidity with which particulate matter has been shown to be eliminated from the subarachnoid space, it is probable that reports in the literature are concerned with stages when any virus which may have been present earlier has already been eliminated.

4. The distribution of fine particulate matter in the cerebrospinal fluid has been compared with that of the early lesions of poliomyelitis, and certain similarities have been noted suggesting that the fluid may play a more important part in the pathogenesis of the condition than that usually accorded it by the adherents of the theory of neuronic transmission.

5. The anatomical basis for invasion of the nervous system along direct lymphatic communications has been described. Lymphatics emerging through the jugular foramen end in deep cervical lymph nodes which also drain the tonsil and nasopharyngeal region. The lymphatic connexions of the cranial subarachnoid space via the neurovascular foramina are in addition to the well-known connexion via the sheaths of the olfactory nerves and the nasal mucosa.

In relation to the spinal subarachnoid space a system of valveless lymphatic channels has been described. They are summarized in Fig. 2. Lymphatic vessels start in the substance of the post-spinal musculature, and pass ventrally in company with the nerve and blood supply of the muscle towards the neighbourhood of the intervertebral foramen. Here fine tributaries reach the lymphatic from the neighbourhood of the dorsal-root ganglia and arachnoid sac around the nerve roots. Having received these, the lymphatic continues around the side of the vertebral body to end in one of the several valveless longitudinal trunks on the front of the spine.

This lymphatic pathway has been filled experimentally with indian ink in a retrograde manner from the mesenteric and prevertebral lymph nodes, after preliminary ligation of the thoracic duct in the thorax. Whilst great caution must, of course, be exercised in carrying over results obtained in the rabbit to man and monkey, the possibility of a similar retrograde passage of virus to the lumbar region of the cord must be maintained.

6. Certain recent results in experimental poliomyelitis have been discussed in the light of the lymphatic connexions set out in this communication.

It is a pleasure to record our indebtedness to Professor J. M. Yoffey for his never-failing interest and encouragement, and for his expert advice on general problems of technical procedure appertaining to lymphatics.

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EPIDEMIOLOGY OF THE 1947 OUTBREAK OF POLIOMYELITIS IN ECCLES*

BY

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Eccles covers an area of about 3,500 acres; its southern boundary is formed by the Manchester Ship Canal. Irlam Urban District lies to the west; Worsley and Swinton Urban Districts to the north, and Salford County Borough to the east. One-half of the borough consists of reclaimed peat land, unsuitable for building. The other half, in which all but one of the cases occurred, is completely "built up."

This portion of the borough is bisected from north to south by the Bridgewater Canal and is quartered by the intersection of two main arterial roads. The estimated population in June, 1947, was 41,940, living in 12,717 structurally separate dwellings. Practically the whole of the population falls into the Registrar-General's three lower social grades. The infant mortality rate in 1947 was 45.5. The borough is a typical Lancashire working-class urban district.

The method of field study followed broadly the usual pattern of inquiry into cases of infectious disease, being rather more extensive and detailed than usual. A visit was made to the household immediately on notification; and details of dates of onset, list of members of the household, giving ages, occupation, and places of work, and particulars of any recent illnesses, were recorded on a standard form. Any known direct or indirect contact was noted, also visits and visitors. Details and sources of foodstuffs, especially milk, ice-cream, and fruit, were noted, together with usual inquiries about numbers of rooms, sanitary arrangements, and the presence of domestic animals, flies, and vermin. Further information received from outside sources usually necessitated other visits to a household; it was often found that useful additional information could be obtained at these later visits, when people had had an opportunity to think about the questions previously asked.

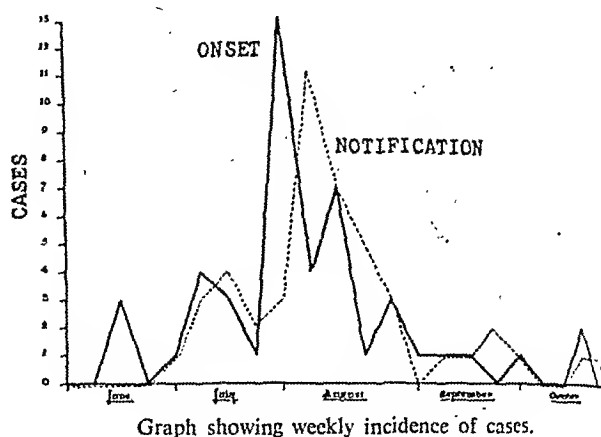
In all, 58 cases and 200 contacts were investigated in this manner: 46 cases and 180 contacts in Eccles and 12 cases and 20 contacts in the neighbouring district of Irlam—these latter in connexion with the origin of the outbreak in Eccles.

General Epidemiological Findings

Between July 4 and Nov. 1, 46 notifications were received. The first case occurred on June 18, the date of onset of the last was Oct. 25. A graph of the weekly incidence of cases shows a slow rise in the third week of June, a more pronounced rise in the middle weeks of July, a peak, explosive in type, in the week of July 27 to Aug. 2, followed by an initial rapid decline and a slower tapering off. At first sight the explosive type of curve suggests a disease of short incubation period and high infectivity in a susceptible population—an impression that is not substantiated on closer examination of the epidemiological findings.

The attack rate and age distribution are shown in Table I. It will be seen that the brunt of the infection fell upon pre-school children (61% of total). There was only one case in a child under 1. The eldest of the series was a man aged 26. The attack rate, 1.09 per 1,000, is very high—the highest to occur in any local government district during this epidemic. There were three fatal cases, giving a case

mortality of 6.5%. The sex incidence was 63% male, 37% female. In considering these figures it must be emphasized that the overall number of cases is small.



Graph showing weekly incidence of cases.

TABLE I.—Attack Rate and Age Distribution

	Age Groups in Years				
	0-4	5-9	10-14	15+	Total
No. of cases	28	11	3	4	46
Percentage	61	25	7	10	100
Attack rate per 1,000	8.07	3.85	1.14	0.12	1.09

Incubation Period

Estimations of the incubation period have varied widely; the figures given in textbooks range from six to twelve days. It was found difficult to estimate an incubation period. To do this accurately it was thought necessary to establish a single exposure of limited duration. In only one instance was there a direct case-to-case contact; again, there was only one instance of two cases in one household, these two cases occurring within two days of each other and both probably infected from a common source. These limitations, combined with the fact that the outbreak occurred in an open populous community, largely accounts for this difficulty. In five of the early cases the criteria of a single exposure of limited duration were satisfied.

Case 1.—It was established that this patient, the first case in Eccles, had been visited by a cousin from Irlam. The visiting child lived in a part of Irlam where a small group of cases had occurred. The visiting child herself developed a sore throat, general malaise, and a temperature for 24 hours, and the following day visited the Eccles child. These two children were on affectionate terms, and kissed each other. Nine days after the visit the Eccles child developed poliomyelitis.

Case 2.—This child, aged 4, lived in an area up to then free from infection, and had only once been away from the immediate neighbourhood of its home for over a month. It was taken to visit a grandmother in an area where three cases had already occurred. During this visit the child was nursed by the sister of a previous case who herself developed an abort attack next day. The child developed poliomyelitis nine days after the visit.

Case 3.—This is the only example of a case-to-case contact. A girl and a boy, aged 11 and 12 respectively, both star collectors, exchanged stamps, during which the usual licking stamp hinges took place. The boy became ill the same evening and the girl 13 days later. For most of these 13 days they had been away in Anglesey on holiday and no other contact could be established.

Case 4.—The patient, an adult male, played cards with father of two children who had previously contracted poliomyelitis within two days of one another. The cards used were and the players licked their fingers. The man became ill exactly a week later. An interesting feature of this case was that the man had a short febrile illness for the 48 hours following card game; this "illness of infection" is known to occur with

*The basis of a paper given to the North Western Branch of the Society of Medical Officers of Health, Manchester, Nov. 14, 1947.

one or two days of exposure (McFarlan, Dick, and Seddon, 1946). He recovered completely, returned to his work as a manual labourer, and became ill again with typical symptoms of onset five days later—that is, seven days after contact.

Case 5.—This patient, a child of 15 months, the second case to occur on the eastern side of the borough, had been away on holiday on a farm in North Wales and returned on July 18. It became ill on July 27 and must have become infected during these nine days. The family consisted of the child and mother only. On the day after the return from holiday, July 19, the child was taken to the western side of the borough to visit relatives living within a few doors of a previous case and contacts of that case, and became ill eight days later.

These five instances give incubation periods of 7 days, 3 days, two of 9 days, and 13 days.

Course of the Outbreak

Notifications in Irlam were maximal during the weeks of June 7 to 21; in Eccles in the week ending Aug. 2; in Salford, immediately to the east, during the week ending

was ill at home the mother did not leave the house and the father was working overtime on the west side of the borough; these circumstances probably account for the lack of an early spread from this focus. The case marked with a hollow cross was a fatal case that was never notified, but one from which it was possible to assess an incubation period (Case 1).

Map 2 shows the distribution of the 14 cases which began during the week of maximum incidence, July 27 to Aug. 2. These are widely scattered throughout the borough.

Map 3 shows the distribution of the 18 cases which occurred between Aug. 3 and Oct. 25, the date of onset of the last case. These cases tend to lie on the eastward side of the borough.

Map 4 is a composite map showing the distribution of all cases throughout the whole period. There is a tendency for cases to lie in close proximity to the main roads. Over one-half lie either on or within 50 yards of a main road, and three-quarters within 100 yards of a main road. There is some suggestion of grouping of cases. A closer examination of dates of onset reveals some centrifugal spread in two or three areas.

The whole of this area, only a mile and a half square, is densely populated. The outbreak was confined to the



MAP 1.—Distribution of Cases with onset June 18 to July 26.
— Main roads. — Canals.



MAP 3.—Cases with onset Aug. 3 to Oct. 25.



MAP 2.—Cases with onset July 27 to Aug. 2.



MAP 4.—Showing distribution of the whole series of cases.

Aug. 9; and in Manchester, further east again, during the week ending Aug. 30. There seems to have been a marked spread from west to east as is shown in Maps 1, 2, and 3.

Map 1 shows the distribution of the 13 cases which started during the six weeks up to July 26. All these, except one, are on the westward side of the Bridgewater Canal. The exception was a case in which it was possible to assess an incubation period (Case 2). The family consisted of one child (the patient) and the mother and father. During the week when the child

western half of the area for nearly six weeks, and it seems that the Bridgewater Canal may have formed a barrier. This may seem to be far-fetched, but on closer examination it can be seen that communication between the two portions of the borough is restricted to three bridges, of which the lower one is rarely used by pedestrians. Each portion of the borough tends to have its own employment and amusement facilities and its own shopping centres.

Mode of Spread (Human)

Contacts

A history of direct or indirect contact with a previous case within a fortnight of onset was obtained in 20% of cases. If one adds visits of the patient or a member of the household from an area previously free from infection to an immediate locality where cases had already occurred the proportion is raised to 33%. The addition of instances where contact had almost certainly occurred, although not admitted, raises this proportion to 46%.

It was very striking how often during the first half of the outbreak indirect contact between cases could be established and, in contrast, how very rarely during the latter half.

During the same periods direct contacts alone had increased from about 50 to over 200; indirect contacts increased by a far bigger proportion, and were very widely scattered throughout the whole borough. Opportunities for indirect contact must have been very numerous during the latter half of the outbreak and correspondingly difficult to establish with certainty. Indeed, with opportunities for contact so great it is difficult to explain the escape of so many children. This proportion of indirect contacts suggests a carrier wave preceding the actual cases of paralysis.

The Abortive (Non-paralytic) Cases

An increasing interest has been taken in these cases in recent years. They are known to excrete the virus from the nasopharynx (Paul and Trask, 1932) and in the stool (Horstmann *et al.*, 1944, 1946). During the Eccles outbreak any short non-specific illness characterized by malaise, sore throat, headache, with or without backache or neck stiffness and not progressing to paralysis, was regarded as an abortive illness. There appeared to be no advantage, in an epidemiological investigation, in adopting the further clinical subdivision of such illnesses into abortive and non-paralytic forms. These symptoms could normally be indicative of many common respiratory infections but for the important fact that they occurred during an epidemic of poliomyelitis and also during a hot dry summer when respiratory infections would be least expected.

The data concerning abortive cases are unsatisfactory since they are largely based on a history of illness in contacts occurring at about the same time as the illness of the frank case. There were, however, 15 such instances of abortive poliomyelitis. This figure is almost certainly too low. Five of these cases were probably responsible for infecting persons who developed frank paralytic attacks of poliomyelitis.

In an attempt to assess more accurately the prevalence of abortive cases a survey of two areas of the borough during the outbreak was made (Table II). In these two

TABLE II.—Prevalence of Abortive Cases in the Immediate Neighbourhood of a Frank Case

Area	No. of Houses	Population		Frank Cases		Abortive Cases	
		0-15	Over 15	0-15	Over 15	0-15	Over 15
A	50	51	110	1	0	15	1
B	50	41	93	0	0	3	2

areas the housing conditions and social status of the inhabitants were comparable. Each area contained a small communal children's playground. In Area "A" a frank case of poliomyelitis had occurred. In Area "B" no cases had been notified. A house-to-house census of 50 houses in each area was undertaken and careful inquiries made of any illnesses during the months of July, August, September, and October. Two visits to each household, one at the

beginning of the outbreak and another at the end, were made. Each householder was asked to keep a careful record of all minor illnesses, and all school absentees living in these two areas were investigated. Area "A," in which the frank case occurred, contained 110 adults and 51 children under 15. In this area one adult and 15 children gave histories of illnesses compatible with a diagnosis of abortive poliomyelitis. These 16 cases occurred in two distinct foci—12 in adjacent households surrounding the house in which the frank case occurred, and four at the other end of this area but also in adjacent houses. Area "B" contained 93 adults and 41 children under 15. In this area two adults and three children gave histories suggestive of abortive illnesses (Table II). These five cases were widely dispersed throughout this area.

The high proportion of abortive to frank cases is borne out by inquiries made of general practitioners in the borough, several of whom estimated that in their private practices they saw between 10 and 20 abortive cases to one frank case.

Carriers

Carriers are known to excrete the virus for the same period as frank cases (Rhodes, 1947). The Eccles outbreak started with four cases practically simultaneously. The first (Case 1) was infected by a cousin from Irlam (an abortive case). The other three were probably infected by healthy carriers, household contacts of these cases being workmates of direct contacts of Irlam cases. Several later cases (including Cases 4 and 5) were also probably infected by healthy carriers.

Mode of Spread (Non-human)

The restriction of infection to the westward side of a canal less than 25 feet wide for 38 days, the geographical distribution of cases, together with other convincing epidemiological evidence, indicated that water, milk, other foods, rodents, domestic animals, flies, and railways played no significant part in the spread of infection.

Discussion

Age Distribution.—The corrected notifications for England and Wales for 1947 show that only 31% of cases occurred in the 0-4 age group (Registrar-General, 1947) compared with 61% in Eccles. Judging by the findings of observers in other countries the factors which probably account for the lower age distribution in Eccles are (1) the early onset of the epidemic (the last case occurred on Oct. 25, at which time cases were still being notified in England and Wales at the rate of over 250 a week); and (2) the high population density. The inhabited portion of the borough has a density of over 30 persons per acre.

Mode of Spread.—Factors which strongly indicated that in Eccles, human contact played the major part in the spread of infection were: (1) evidence of carrier-to-case contact and contact between abortive and frank cases; (2) evidence of numerous abortive cases, especially in close proximity to frank cases; (3) a marked tendency for cases to lie on or in the immediate neighbourhood of main roads; (4) some suggestion of grouping of cases and centrifugal spread; (5) an initial marked restriction of the spread of infection by the Bridgewater Canal, where communications between the two halves of the borough are restricted; (6) a rapid spread once that barrier was crossed; (7) the exclusion of other important means of spread.

Sources of Infection.—The virus has been recovered from the pharynx of patients (Howe *et al.*, 1944) and contact (Flexner *et al.*, 1913), from the faeces of cases (Pearse and Rendtorff, 1945) and contacts (Pearson *et al.*, 1945). Space does not permit a discussion of the

relative importance of these two sources of the virus. In the few instances during this outbreak where there was evidence of the prolonged or intimate personal contact usually associated with faeces-spread diseases, the circumstances strongly suggested a nasopharyngeal spread of infection. Five of such instances are described in connexion with the incubation period.

Preventive Measures

The experience in Eccles was that schools played no significant part in the spread of infection. Two-thirds of the total cases and one-half of the cases among school-children occurred during the time the schools were closed for the summer holidays. No infection could be traced to school contact.

Notification should include abortive or non-paralytic cases. It has already been noted that these cases are many times more prevalent than the frank paralytic cases, are known to be infectious, are rarely recognized as such, and play a major part in the spread of infection—certainly a much more important part than the frank paralytic case in hospital.

It would be an advantage if the present regulation requiring the separate notification of polio-encephalitis and poliomyelitis was superseded by one reverting to the more accurate and comprehensive term of polio-encephalomyelitis, with perhaps a further subdivision into paralytic and non-paralytic or abortive cases. This would encourage more frequent and earlier notification and greatly assist the medical officer of health or those responsible for control and prevention.

As over two-thirds of the cases in England and Wales occurred in persons over the age of 5 the term "infantile paralysis" must now be regarded as a misnomer.

The isolation period usually recommended is three weeks (Memo. to Ministry of Health, 1947). In view of the findings of Horstmann *et al.* (1944, 1946) that 50% of patients are still excreting the virus in the stools between the third and the fourth week, this period is theoretically too short. The collected findings of Brown *et al.* (1948) that 20% of family contacts excrete the virus would indicate that isolation measures should, ideally, include the whole family.

Viewing in retrospect the wide distribution of cases (Map 4) and the high attack rate (Table I) one cannot help feeling critical of the efficacy of the accepted preventive measures. It must be realized, however, that although these measures are not likely to stop an epidemic they will certainly slow down its spread. Since epidemics nearly always abate with the onset of cold weather; this "slowing down" may be expected to result in a large number of susceptible persons remaining untouched who would otherwise become permanent cripples.

Summary

During the 1947 poliomyelitis epidemic the borough of Eccles suffered the highest attack rate of any local authority district. There were 46 cases, giving an attack rate of 1.09 per 1,000 of the population. The case mortality was 6.5%.

The incubation period was 7 to 13 days. Only one family had more than one frank case. There was only one instance of a frank case-to-case contact.

The epidemic was confined for nearly six weeks to the western half of the borough by a canal which restricted communications between the two halves.

The results of field studies indicated that the chief factor in the spread of infection was human contact, in which abortive cases and healthy carriers played the major part. The presence of the virus in the nasopharynx of patients and carriers was of much more importance for the spread of infection than was its presence in faeces.

A survey undertaken revealed the presence of numerous abortive cases, especially in close proximity to frank cases, and suggested that of every 20 persons who showed clinical signs and symptoms of infection less than one developed into a frank paralytic case.

Suggestions to improve the present system of notification are made, particularly the necessity for notifying abortive cases.

I am indebted to Dr. J. E. Spence, M.O.H. to the Borough of Eccles, for his invaluable encouragement and advice, and to members of his staff for assistance in the field work and in the preparation of the charts.

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THE ECOLOGY OF POLIOMYELITIS IN A MILITARY CAMP IN 1947

BY

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The widely held view that cases of overt poliomyelitis are to be regarded as the severer examples of a carrier epidemic makes the recognition of early non-paralytic cases of special importance (Memo. by M.O.s to Ministry of Health, 1947).

This paper is concerned with the search for such a carrier epidemic at Catterick Camp, where paralytic cases occurred during the 1947 epidemic. The population at risk can be broadly classified as follows: 13,500 to 14,500 young soldiers under training living in huts each containing 20 beds, and 3,540 inhabitants of 1,169 Army quarters—1,785 adults, 1,612 children under 15, and 143 children over 15.

Towards the end of June a case of poliomyelitis in the pre-paralytic state was isolated in the Military Hospital, and two other patients who did not develop paralysis were similarly treated because of meningism. After receiving information about another paralytic case in a near-by camp instructions were issued to admit all suspicious cases to hospital. This procedure resulted in the admission of eight paralytic cases, including a fatal one, ten probably abortive cases, and eight suspects. The paralytic cases included five young soldiers and one child from the camp area; four of these became ill between Aug. 2 and 26, one in June, and one in October.

Symptomatology of Paralytic Cases

An acute onset with headache, stiffness and pain in the back, occasional vomiting, and twitching of the muscle groups which later became paralysed was the rule. However, five of the eight paralytic cases had been slightly indisposed for about a week; only one had sought advice, and he had felt well enough to go on leave hitch-hiking the day before he was finally taken ill (Table I).

Objectively the early cases presented with pyrexia ranging from 101 to 102° F. (38.3 to 38.9° C.), slight drowsiness,

TABLE I.—*Paralytic and Fatal Cases of Poliomyelitis*

Case	Age in Years	Service in Months	No. Days Prodromal Illness	Date of Onset of Acute Symptoms	First Date of Observation	No. Days Headache before Observation	No. Days Backache before Observation	No. Days Objective Spinal Rigidity	Maximal Temp. (° F.)	No. Day Fever Observed	Days after (S) C.S.F. Examined	Mg. Protein per 100 ml. in C.S.F.	No. Leucocytes in C.S.F.	Interval in Days between Acute Onset and Paralysis	
P1	18	6	10	2/3	5/3			4		4	4	40	240	0	Gross weakness of right glutei, hamstrings and shin muscles, and right triceps
P2	18	9	10	16/6	16/6	1	2	7-14	102.4	4	1	45	222	2	Transient retention of urine. Paralysis of left shin muscles. Gross weakness of all other muscles of left leg. Weakness of muscles right hip and knee
P3	16	0	14	2/8	3/8	0	1		101	8	2	80	190	4	Gross weakness left abdominal muscles, flexors and abductors right thigh, and right shin muscles
P4	26	19	2	6/8	6/8	2	2	3	100.8	4	Same day	95	26	1½	Weakness right biceps. Gross weakness all muscles moving left hip
P5	12	0	0	27/8	28/8	½	½	3	102	3				4	Slight weakness in flexion and dorsiflexion of left ankle
P6	19	18	0	28/8	12/9	1	1		100						Weakness all movements of right ankle. Slight weakness right hip. Treated in lines; complaining of stiff neck paresis discovered only day of admission to hospital Sept. 12, but probably present on Sept. 6. Treated in C.R.S. Aug. 28 to Sept. 6
P7	21	24	7	5/10	6/10	½	½	28	102.4	4	2	70	260	2	Paralysis of all muscles of left shoulder. Weakness left biceps, triceps, right triceps, serratus. Transient diplopia
D1	18	9	7	?	22/7	6	+	1	101.5	1					Respiratory distress occurred within one hour of observation; died of respiratory failure within 24 hours

and furred tongue. The most characteristic sign was stiffness of the back, especially pronounced in the lumbar and dorsal spine, where the immobility was almost complete, making the body rigid like a plaster cast. Limitation of neck flexion prevented the chin being flexed more than half-way to the chest wall; Kernig's sign was present after flexion of 45 degrees. The combination of these factors made it impossible for the patients to sit up in bed. Elicitation of these signs usually produced pain in the back in either the mid-dorsal or the lumbar region. The skeletal muscles were often tender on palpation, and localized pains occurred in the regions later paralysed. The pyrexia became remittent with maximal temperatures varying between 100.8 and 102° F. (38.2 and 39.1° C.) and lasting three to six days. Only one case developed anything resembling "dromedary" pyrexia observed in certain other epidemics (McFarlan, Dick, and Seddon, 1946). This child (Case P5) had fever of 102° F. (38.9° C.) for three days and meningism, then after two symptom-free days developed a minor palsy of one leg with recrudescence of pyrexia to 99° F. (37.2° C.).

Six of the eight paralytic cases were treated at complete rest in bed within a few hours of developing acute symptoms. The early history of the fatal case (D1) is more obscure, but it is possible that he delayed reporting sick for a week. The palsy in the seven surviving paralytic cases occurred towards the end of the feverish period, between two and four days after the onset of acute symptoms. In only two cases was this palsy mild enough to leave any hope of recovery. This finding is in sad contrast with those of Ritchie Russell (1947) in a much larger series. He divided his cases into those in which palsy was mild enough to allow hope of full recovery and those in which residual impairment of function was to be expected, and observed that 18 of the first group had had rest in bed within 24 hours of the development of acute symptoms and 19 of the second had not had this advantage; the reverse had occurred in only three and two patients respectively. It could be suggested that, as he examined convalescents, many mild cases that did not take to bed had escaped his notice.

The cerebrospinal fluid in the five paralytic cases examined showed a pleocytosis ranging from 26 to 260 cells

per c.mm., the cells being chiefly lymphocytes. The protein content of the fluid varied from 40 to 95 mg. per 100 ml. (Table I).

Differential Diagnosis

It is important to stress that before the development of the palsy poliomyelitis can only be suspected. A further group of 16 patients from the camp so resembled the paralytics in their earlier stages that they were suspected of being cases of poliomyelitis. In eight of these the discovery of other disease, presumably adequate to account for the symptoms and signs, probably refuted the diagnosis of poliomyelitis. Only two of them had abnormal cerebrospinal fluid; both fell ill in the month of June, and the remainder in September and October. It seems probable that, as Warin (1947) postulated for Leeds, the known occurrence of poliomyelitis influenced the diagnosis in later cases.

Presumed Abortive Cases

Ten of the suspected cases never developed sufficient signs or symptoms to warrant an unequivocal diagnosis. Their main interest lies in the fact that six of them occurred in Catterick Camp between July 23 and Aug. 28 and coincided with the paralytic cases. Their illnesses were characterized by backache, headache, stiffness in the neck and fever. In two meningism occurred; three vomited and another two developed doubtful paresis of short duration. In six of these patients subjected to lumbar puncture the cerebrospinal fluid was found to be abnormal (see Table II).

The clinical findings in these 10 patients are similar to those labelled non-paralytic poliomyelitis by Casey, Feinstein, Abrams, and Bundesen (1946) among 14 children who became ill five to 25 days after being in contact with the same febrile case of poliomyelitis. Andelman, Fishbein, Casey, and Bundesen (1946) at the same time examined the cerebrospinal fluid of 19 contacts suspected of suffering from subclinical poliomyelitis and found the protein content to be above 45 mg. per 100 ml. in 79%, as against a similar finding in only 10% of 10 non-contact controls. Children who had suffered a febrile illness not thought to be due to the virus of poliomyelitis.

TABLE II.—Cases of Short Fever resembling Initial Stages of Poliomyelitis

Case	Subcutaneous Antiserum Administered	Age	No. Day Prodromal Illness	Day of Onset of Acute Symptoms	Admitted to Hospital	Headache (Days before Admission)	Backache (Days before Admission)	Stiffness in Neck	Abdominal Pain	Nausea	Vomiting	Sore Throat	Conjunctivitis of Palpebrae	Cough	Guarding of Abdominal Muscles	Reddened Tongue	Objective Rigidity of Spine	Mild Mental Confusion	Maximum Temp. (°F.)	No. Days Fever after Admission	No. Days after (4) C.S.F. Examination	Mk. % Protein in C.S.F.	No. Leucocytes in C.S.F.	
A1	+	17	2	25/6	25/6	2		+	+	+		+		+			+		102	4	2	60	150	Dysphagia for solids for about three weeks after fever
A2		24	1	1/7	1/7				+										100-2	1				
A3		19	1	14/7	14/7	3													104	10	2	35	27	Pain on moving eyes across: first symptoms lasted days
A4		19	3	23/7	23/7	3		+											101-4	3				Doubtful weakness of left paraspinal on eighth day
A5	+	22	2	24/7	24/7	2		+											102-4	2	Same	50		Hyperaesthesia of skin; knee-jerks absent two days
A6		21	0	28/7	28/7														102-4	2	Same	45	1	
A7		19	4	20/8	22/8														103	3	2	45	4	Stiffness and aching limbs
A8		19	3	21/8	22/8														103	3	2	45	4	Knee-jerks absent at one examina- tion only
A9		18	1	24/8	25/8														100 S	1				Vertigo and photophobia
A10		15	9	20/9	21/9	1	9												100	2	1	60	16	

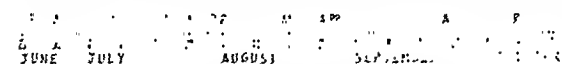
Cases A1 and A10 came from near-by units. Case A2: A married corporal living in quarters in camp. Case A5: Cerebrospinal fluid contained 440 red blood cells per c.mm.

Epidemiology

No evidence of contact between any of the paralytic cases in Catterick was found, and no two cases came from the same unit. In one instance a presumed abortive case (A5) used the same wash-place as a paralytic patient (P4) and sickened 10 days after the latter was removed to hospital; a 13-day interval was also observed between two abortive cases (A2 and A3) belonging to the same regiment who were probably not in contact.

No infection of the nursing personnel attending the cases was observed. Most of these nurses were young male orderlies of the same age group as the patients, and no masks were worn. In view of McAlpine's (1945) report of fatal poliomyelitis in two nursing sisters attending cases in India, more precautions might have been advisable. One member of the hospital staff, a clerk aged 19 (Case A4), became ill with presumed abortive poliomyelitis, but his only contact with a case or suspected case occurred four or five hours before he developed acute symptoms.

Up to the middle of August the paralytic cases and suspected non-paralytic cases occurred singly or in pairs at intervals of approximately nine to 14 days (see Graph):



Graph showing dates of onset of cases. P=Paralytic poliomyelitis. A=Presumed abortive poliomyelitis.

later this pattern was lost. This type of case-spacing is described by Casey, Fishbein, Abrams, and Bundesen (1946), who postulate carrier waves in which only 2% of the cases develop paralysis, the waves being due to an incubation period of six to 14 days as observed by Casey (1942) and Aycock and Kessel (1943).

Search made for such carrier waves by examination of sick reports and admissions suggested that the diagnoses of tonsillitis, pharyngitis, coryza, and short fever were applied to different clinical manifestations of the same infection, as several of these conditions were often recorded simultaneously in the same unit, which would later be free of similar cases for some weeks. During the period June to October the weekly incidence of the aggregate of these diseases in the camp was between 0.07 and 1.1 cases per 1,000, which is not greater than in previous years. Twenty-four of these cases were thought to be serious enough for admission to hospital as opposed to the Camp reception

station, and from the throats of 17 of these β -haemolytic streptococci were cultured.

There were some ten large units of over a thousand men in the camp. One of these, which had furnished a case of paralytic poliomyelitis, produced only two instances of minor fever, and these at an interval of over three months from the case of poliomyelitis. Another similar unit, which had the highest incidence of minor fevers and actually also had the highest weekly record in the camp—namely, 4.5 per 1,000—also had one case of paralytic poliomyelitis. In other units producing paralytic cases the incidence of minor fevers was between these extremes, and two large units with relatively high instances of minor fever had no cases of poliomyelitis and no suspected cases.

Thus it would appear that these minor fevers were not related to the transmission of poliomyelitis. But as five of the paralytic patients were indisposed for a week before finding it necessary to seek medical advice it is possible that similar cases of indisposition were widespread and unrecognized; or, alternatively as postulated by McFarlan, Dick, and Seddon (1946), apparently healthy males can act as carriers of the epidemic.

Only one case (P5) and no suspected case occurred among the 1,612 children in the camp area. Preliminary reports of the English epidemic of 1947 (McAlpine, 1947) suggest that approximately 20% of notifications have been of patients over 15 years of age; even so, the disproportion is probably significant.

Three of the young soldiers developing paralytic poliomyelitis came from professional or middle-class families and two were from superior artisan families. Bernstein, Clark, and Tunbridge (1945), observing the same phenomenon among Service personnel in Malta, postulated that these classes had been more sheltered from the virus of poliomyelitis in their youth and hence were more susceptible. The young soldiers in Catterick were certainly in closer contact as a group and had more outside contacts than the children.

It may be stated that during the period June to October there were extremely few flies or other insects in the camp. The sanitation was good and intestinal diseases, apart from a very small epidemic of mild gastro-enteritis in September and October, were absent.

I wish to thank Col. H. C. Godding, Officer Commanding the Military Hospital, Catterick Camp, for permission to publish; Brigadier G. H. Gilmore, District Army Welfare Officer, Catterick

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ABERRANT ENDOMETRIAL TISSUE AND INTUSSUSCEPTION

BY

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Intussusception of the ileo-colic variety in an adult, with aberrant endometrial tissue at the apex of the entering ileum, is an unusual occurrence. V. B. Green-Armytage (1933) reports that a state of pelvic endometriosis existed in 8.9% of a series of 1,000 abdominal operation cases. Most instances in which aberrant endometrial tissue has been found to involve the peritoneal surface of the intestine are reported in locations about the sigmoid colon and recto-vaginal septum. Thierstein and Allen (1946) report 53 cases of intestinal endometriosis. Their series is subdivided into two groups: (1) 41 cases in which the endometriosis involved the rectum and recto-vaginal septum, and (2) 12 cases in which the lesions were found higher in the intestinal tract. The second group consisted of 6 cases of involvement of the sigmoid colon, 3 of caecal involvement, 1 of endometriosis of the ileum, and 2 of lesions involving the appendix.

Relatively few cases of acute or chronic intestinal obstruction due to endometriosis have been recorded. Glenn and Thornton (1940) report two cases of partial intestinal obstruction of the chronic type due to endometrial tissue. A review of the literature revealed only four cases in which the tissue involved small bowel and produced complete intestinal obstruction. I cannot find a single reported case of intussusception with endometrial tissue as a causal factor.

The justification for recording this case lies, however, not only in its extreme rarity but in the pathological histology, in which there is some evidence in support of the serosal theory of endothelial metaplasia as a factor in the origin of aberrant endometrial tissue.

Case Report

A single woman aged 23 was admitted on July 9, 1947. A year previously, while serving in the W.A.A.F., she had complained of attacks of diarrhoea and vomiting, and a diagnosis of acute food-poisoning had been made. Menstruation had started at the age of 14. The flow was moderate, lasting from

five to six days; the cycle was between 27 and 30 days. There had been severe dysmenorrhoea since the menarche, often sufficient to confine the patient to her bed, and the pain had always been associated with vomiting on the first day of the period. There was no history of pregnancy or abortion.

Three months before admission she had complained of several attacks of sharp colicky pain in the lower abdomen, more pronounced in the right iliac fossa. These attacks recurred at irregular intervals of about three weeks and lasted on each occasion for about half an hour. They had recently become more frequent and prolonged, and seemed to be clearly associated with the menstrual periods. The pain had not been relieved by sedation or antispasmodic drugs. The patient vomited during the attacks, but no nausea or vomiting occurred in the periods of intermission. The appetite was consistently poor. On two occasions there had been some diarrhoea (four or five semi-solid stools a day), but at no time was there any blood-stained discharge in the stools. The first day of the last menstrual period was 11 days before admission.

The patient was thin, lacrimose, and miserable, and was in severe pain, drawing up her legs and constantly retching and vomiting. The pulse was rapid, but regular and of good volume. The temperature was 98.6° F. (37° C.). The abdomen was uniformly tender and there was some guarding of the abdominal musculature. An oval sausage-shaped swelling was seen in the right iliac fossa. The swelling was semi-fluctuant, soft, and mobile. The white blood cells numbered 14,500 (polymorphs 80%, lymphocytes 10%).

The external genitalia were normal. The cervix and uterus were of normal size, shape, and position. A cystic swelling was palpable from the right fornix. This was distinctly felt as separate from the uterus. The mass was tender. Rectal examination confirmed the presence of a pelvic mass. Amongst the possibilities that had to be considered at this stage were appendicular abscess, Crohn's disease, pyosalpinx, extrauterine gestation, rotation of the pedicle of an ovarian tumour, and obstruction from bands or internal hernia.

Operation (July 9).—Under anaesthesia the mass felt like an appendix abscess. A McBurney incision revealed an intussusception of the ileo-colic variety, extending half-way up the ascending colon, which had to be delivered by a separate right paramedian incision. All attempts at reduction failed. A hemi-colectomy was performed and an end-to-end anastomosis of the ileum to the transverse colon was carried out. Both ovaries appeared normal at operation and there was no evidence of pelvic endometriosis.

The patient made an uneventful recovery and was discharged symptom-free on July 29. On Sept. 17 she was found to be well, and the two periods since operation had passed without pain or vomiting.

Pathological Report

The specimen consisted of the resected portion of the terminal ileum, which was intussuscepted into the ascending colon (Fig. 1). The ensheathing and returning tubes had been laid open. For microscopical sections a piece was cut from the ileum at the apex of the intussusception.

Microscopical Description.—Section of the ileum (Fig. 2) showed congestion of the mucosa and submucosa and some necrosis of the mucosa. In the muscularis there were small areas of typical endometrium, composed of glands lined with tall columnar cells in an abundant stroma that was characteristic of endometrial stroma (Fig. 3), but the unusual and interesting feature in this section was that on and underneath the serosa, at the terminal tip of the intussusception and exactly opposite the intramuscular area of endometrium, there was an area showing a most unusual degree of hyperplasia of the peritoneal endothelial cells (Fig. 4). Here the cells were cuboidal, and were arranged to form branching tubules of varying size, giving the appearance of an adenoma. Proliferations of peritoneal endothelial cells, with resulting tubular and cystic peritoneal inclusions, are common in chronic pelvic inflammation, but are very rarely found to the degree shown in this section. The appearance therefore suggested the possibility that this area of peritoneal hyperplasia was an early stage in the metaplasia of peritoneal cells into "endometrial" glandular element. Further, at a point between the endothelial tubules, areas of

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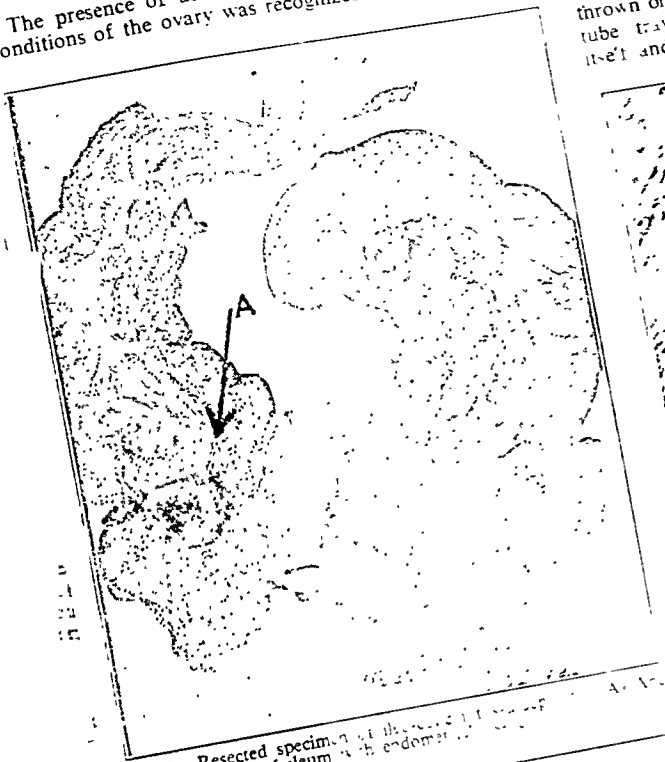
typical endometrial stroma might be seen. The picture produced was thus one of invagination of the serosa with accompanying stromal changes.

Discussion

The presence of aberrant endometrial tissue in certain conditions of the ovary was recognized by Russell in 1899

tubes, and finally settled at the site of the future lesion. Sampson has produced a great deal of evidence in support of this theory, and yet many objections to the general application of his views have been raised.

Emil Novak (1926) mentions the following: (1) Though retrograde menstruation may occur, it is a rarely observed phenomenon compared with the great frequency of endometriosis. (2) It is difficult to believe that endometrial tissue thrown off in the uterus could enter the small intestine or the tube travel outwards, and still be capable of implanting itself and growing upon the pelvic structures. (3) Endo-



1.—Resected specimen of ileum with endometrial tissue.

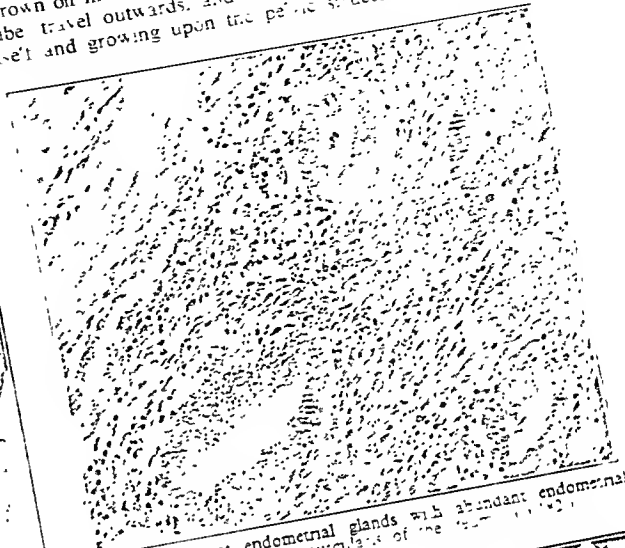


FIG 2.—Aberrant endometrial glands with abundant endometrial stroma within the muscularis of the ileum.

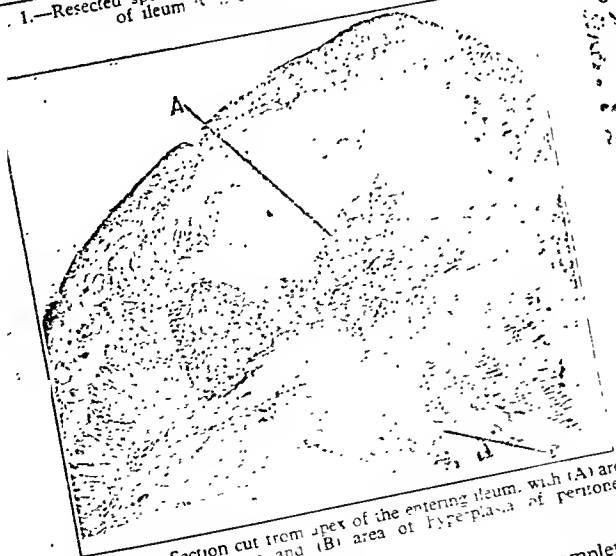


FIG 2.—Section cut from apex of the entering ileum, with (A) area of endometrial tissue and (B) area of hyperplasia of peritoneal endothelial cells. (X5)

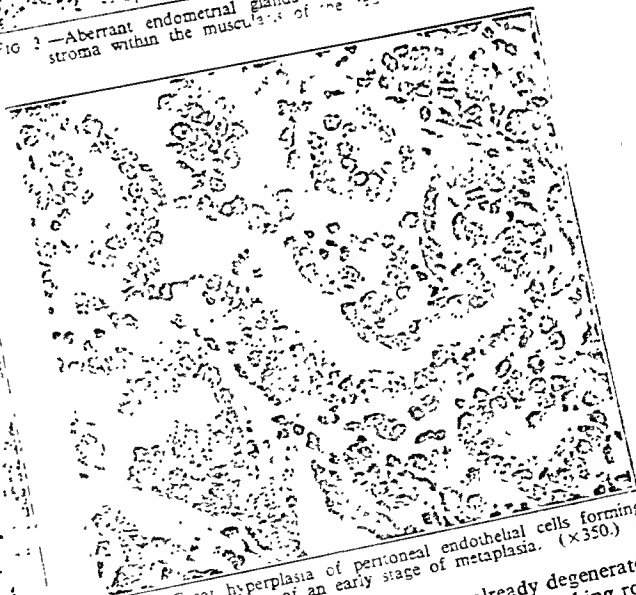


FIG 4.—Great hyperplasia of peritoneal endothelial cells forming tubules, suggestive of an early stage of metaplasia. (X350)

and yet the histogenesis of endometriosis is not completely explained. J. A. Sampson (1921) maintained that these lesions were due to implantations of the living endometrial cells over the surface of the peritoneum of the ovary, etc. These cells were supposed to be cast into the cavity of the uterus during menstruation, passed along the Fallopian

metrium thrown off at menstruation is already degenerated or dead, so that it is not easy to conceive of it taking root in the peritoneum. (4) Experiments such as those of Jacobsen (1922), showing that endometrium can grow in the peritoneum, have dealt with the normal healthy endometrium of animals. (5) Experiments such as those of Heim (1929), in monkeys, in which a utero-abdominal fistula was created, have failed to show any development of endometrium, in spite of the fact that the menstrual blood was emptied freely into the abdomen.

It was suggested by Iwanoff (1898), and supported by Meyer and Kitai (1924), that the origin of the aberrant endometrial tissue was a serosal metaplasia. This was based on the fact that the entire epithelial apparatus of the female genital tract (endometrium, germinal epithelium of the surface of the ovary, etc.) is derived from the primitive coelomic epithelium of the urogenital fold and is a mere modification of the peritoneum. According to this theory, under the influence of ovarian hormonal stimulation the pelvic peritoneum forms tubular invaginations which sink into the subjacent tissue, and the flat endometrium of the involved peritoneum becomes columnar, thus producing an adenomatous condition.

The hypothesis of serosal metaplasia has received influential support, especially for the endometrial cysts of the ovary and endometriosis of the umbilicus, laparotomy scars, uterine ligaments, intestine, and recto-vaginal septum.

An explanation of the stimulus of metaplasia may be found, in the above case, in a study of the behaviour of epithelium in the presence of inflammation. Inflammation beneath a mucous or serous surface produces an infiltrative proliferation in the adjacent epithelium. This epithelial proliferation is at first a protective process, but it can overstep the limit of physiological hyperplasia by producing epithelial tubules which have all the appearances of glandular invasion. Peritoneal endothelium behaves in the same way, and in the present case, in which a chronic intussusception probably gave rise to such a stimulus, the glandular elements are seen to reproduce the exact structure of normal endometrial glands and stimulate a surrounding stroma which is an exact replica of endometrial stroma. Furthermore, these areas of typical endometrial tissue are seen in the sections to lie in immediate apposition to the hyperplastic tubules which are shown to be derived from the peritoneal endothelium.

It would seem that reversions of the epithelium under inflammatory, and perhaps ovarian, stimuli are possible in the adult peritoneum, and that the embryonic cells can reproduce endometrial structure.

Summary

A case of intussusception, with tissue showing all the appearances of endometrium situated at the apex of the entering ileum, is presented.

The microscopical appearances are suggestive of a metaplastic origin of the endometrial tissue and may be held to support the observations of Meyer and Kitai (1924), Novak (1926, 1947), Moench (1929), and others.

I am indebted to Mr. G. C. Dorling, surgical specialist, Archway Group of Hospitals, for help with the clinical notes and for permission to publish the case, and to Miss K. M. Harding, consultant obstetrician and gynaecologist, Archway Group of Hospitals, under whose care the case was admitted. I should like to thank Mr. Moore, of the Central Histological Laboratory, Archway Hospital, and Mr. King, of the Bernhard Baron Pathological Institute, London Hospital, for the photomicrographs.

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NEONATAL BACT. COLI MENINGITIS AFTER PROLONGED LABOUR

BY

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It is well known that *Bacterium coli* meningitis is relatively commoner in the newborn than in childhood or later life (Barron, 1918; Cruickshank, 1930; Craig, 1936; Rauch and Krinsky, 1940; Barrett *et al.*, 1942). The explanation given is that the newborn infant has not developed adequate resistance against the organism, although in later life it carries the same organism about in large numbers in relative safety (Cooke and Bell, 1922).

The route taken by the infecting organism has been the subject of some speculation, and numerous suggestions have been made. It is generally agreed, however, that the meninges are more commonly infected via the blood stream than by direct spread from adjacent areas. To support this contention Fothergill and Sweet (1933) demonstrated a *Bact. coli* bacteraemia at the same time that *Bact. coli* were found in the cerebrospinal fluid.

The original portal of entry is difficult to determine, but the large number of suggestions made, incriminating widely separated sources, indicate that infection may enter at any of many sites. The following portals of entry have been mentioned: middle ear (Scherer, 1894; Barron, 1918; Leathart, 1932; Craig, 1936), gut (Cooke and Bell, 1922; Barrett *et al.*, 1942; Ravid, 1935), lungs (Aschoff, 1897; Goldreich, 1902; Herrman, 1915), genito-urinary tract (Neal, 1926; Koplik, 1916), spina bifida (Forbes, quoted by Rauch and Krinsky, 1940), umbilicus (Hinsdale, 1899), and morbid conditions of skin, scalp, mucosae, and subcutaneous tissues (Craig, 1936). In addition transplacental bacteraemia, possibly arising from maternal pyelitis, has been suggested by Jakkola (1935), Karplus (1927), and Athenstaedt (1933). Aspiration of liquor infected with *Bact. coli*, causing a bronchopneumonia followed by blood stream spread to the meninges, was suggested by Goldreich in his case. Aschoff held similar views. And, it might be noted, F. J. Browne (1921) considers aspiration of infected liquor a cause of bronchopneumonia.

In the following case it would seem that this was also the method and route of infection. The foetal head lay in the maternal pelvis, deeply engaged, for at least four days, and during the latter two days the cervix was between half and full dilatation. Further, both mother and child showed clinical signs of infection three days after delivery—the mother with *Bact. coli* pyelitis and endometritis and the child with fatal *Bact. coli* meningitis and bronchopneumonia.

Some previous cases have been reported in which the same organism was found in the maternal urine and lochia as was found in the child's cerebrospinal fluid (Jakkola 1935; Trillat and Notter, 1939; Davis and Fernando, 1934).

Case History

A primipara aged 25 had labour surgically induced by Drew Smythe catheter when 38 weeks pregnant. The indication was pre-eclamptic toxæmia with a rising blood pressure

Labour started next day, but it was soon clear that primary uterine inertia existed. Four days later she had two eclamptic fits. She was then given 1 4 gr. (16 mg.) of morphine and sent into hospital.

On admission at 6 a.m. on Aug. 28, 1947, treatment based on Stroganoff's principles was immediately started. In the first 24 hours she received 1½ gr. (81 mg.) of morphine and 6 gr. (0.4 g.) of sodium phenobarbitone. She had a fit when being put to bed and another two hours later but the rest of the day she passed in a semicomatose condition. The foetus was small, with its head deeply engaged in the maternal pelvis. There were no uterine contractions at this stage and the foetal heart was easily audible.

The patient slept deeply throughout Aug. 29. Only 1 6 gr. (11 mg.) of morphine was given. A specimen of urine showed specific gravity, 1010; alkaline reaction; albumin 0.6; sugar nil; scanty pus cells; a few granular and hyaline casts. Sterile culture. At 2.30 a.m. on Aug. 30 the cervix was fully dilated and at 4 a.m. the child, a female, was delivered by forceps. It was somewhat narcotized, but breathed and cried satisfactorily after receiving 1.7 ml. of nikitinamide and 10 mg. of vitamin K intramuscularly. Both mother and child were as well as could be expected for the remainder of the day and throughout the following day.

On Sept. 1 the mother's temperature rose to 100.4 F. (38 C.) and clinical examination suggested acute pyelitis and endometritis. A catheter specimen of urine showed specific gravity, 1024; strongly acid reaction; albumin 0.8; sugar nil; pus cells, numerous organisms, granular and fatty casts; crystals, nil; culture, coliform bacilli. A high vaginal swab showed: direct smear—many pus cells, many coliform bacilli; culture, coliform bacilli. Penicillin was started on Sept. 1, was instituted, and after 24 hours the temperature of the remainder of the puerperium was normal.

The Child

At birth the child was given nose-blowing and an enema and was not disturbed except on the morning of the first day. During the first 48 hours of life (on the morning of the third day the child was found to have refused its feed of water. Some stiffness of the neck and limb rigidity were noticed. The temperature rose to 100.6 F. (38.1 C.). Cerebral haemorrhage was suspected and 100 mg. of 10% potassium chloral were given.

The child's condition deteriorated and 1 cc. of 1% solution of atropine was given. The face and limbs became more flaccid and the chest movements became more frequent. The child was given 100 mg. of sodium phenobarbitone and retraction became more marked. The child was given 100 mg. of sodium phenobarbitone and retraction became more marked. The child was given 100 mg. of sodium phenobarbitone and retraction became more marked.

Before death occurred the child was given 100 mg. of sodium phenobarbitone at the bases of the lungs and 100 mg. of penicillin, 100,000 units, was given. But the child became progressively dyspnoeic and cyanosed, and died at 10.20 p.m. on Sept. 1.

Post-mortem Report. External post-mortem lividity is very marked. Head normal and dura mater is normal. There is no evidence of intracranial haemorrhage or venous sinuses, but there is a well-marked acute purulent meningitis over the base of the brain. The meninges are thickened and contain a large excess of clear yellow fluid. The cerebellum shows marked toxic changes; placental sacs and drainage of both lungs and these show bronchopneumonic consolidation. Abdomen—The peritoneal sac is normal, liver, spleen and kidneys show toxic changes; other organs show nothing of note. Cause of death: Acute purulent meningitis, bronchopneumonia. Culture of pus from the base of the brain—typical reaction of coliform bacilli of intestinal origin.

Discussion

When the membranes are ruptured the way is open for the liquor amnii and the uterine cavity to become infected. This we know to be rare in normal labour or where the induction-delivery interval is short. But when there is

delay in the onset of labour or a prolongation from any cause infection of the liquor becomes an important consideration. And the longer labour continues, with or without vaginal examinations, the greater the degree of infection.

Eventually the liquor becomes frankly purulent and may lead to pyrexia and other signs of toxic absorption in the mother. The risks of caesarean section are greatly enhanced by the possibility of peritoneal and wound infection. At the same time the foetus is surrounded by a septic fluid which enters the mouth, the nose, the nasopharynx, and remains there to be inhaled into the lungs at the child's first breath, or to track down the Eustachian tubes to the middle ear.

Davis and Potter (1946) injected thororast into the amniotic fluid before hysterotomy or caesarean section and found it widely distributed throughout the lung fields of the foetuses. Even if this does not prove that intrauterine respiration occurs, it does indicate that amniotic fluid enters the lungs of the foetus, and if the fluid is infected serious disease of the foetus may be set up, e.g. bronchopneumonia.

Bact. coli is one of the commonest of the bacteria which are present in such a situation, and it is not surprising that this organism is responsible for the majority of meningeal infections in the newborn.

Instrumental delivery, with more or less manual manipulation and trauma, is relatively often required to terminate a prolonged labour, and this will nearly always produce minor abrasions and bruises on the child's scalp, which will be immediately subject to infection. Further, the child in such cases is likely to be born with some degree of cerebral oedema and congestion associated with asphyxia, which in turn favours lung infections.

The possibility of serious neonatal infection must therefore be considered in the management of prolonged labour. And where there is evidence of intrauterine infection, either in the shape of a maternal pyrexia without other cause or in the discharge of purulent liquor from the vagina, chemotherapy should be started, and the case assessed with a view to the earliest possible termination of labour. Woltz and Zittel (1945) have demonstrated that penicillin reaches the foetal blood and the liquor in adequate therapeutic quantities, and recommend its use prophylactically in cases of uterine inertia or unduly protracted labour.

Diagnosis and Treatment.—The diagnosis and treatment of *Bact. coli* meningitis is the province of the paediatrician, but it might be stressed that after a prolonged labour the attendant should be on the watch for early signs of infection in the child and chemotherapy should be started. Sulphapyridine, sulphadiazine, and sulphathiazole alone or in combination with penicillin have been recommended, and Alexander (1946) has had success with streptomycin in one case. Diagnosis is difficult, and it is usually necessary to examine the cerebrospinal fluid in order to differentiate between cerebral haemorrhage and meningitis.

Summary

A short review of the literature is made with particular reference to the portals of entry of *Bact. coli* infection which leads to *Bact. coli* meningitis in the newborn.

The history of a fatal case of *Bact. coli* meningitis in an infant 3 days old is given. The mother had intra-partum eclampsia and prolonged labour, and on the third day of the puerperium developed *Bact. coli* pyelitis and endometritis. The dangers of prolonged labour, from the point of view of the child, are stressed.

We wish to express our thanks to Dr. A. F. Wright, Director of the Coventry Joint Laboratory, for assistance and advice, for reporting on the specimens provided, and for carrying out the post-mortem examination.

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CERVICAL SYMPATHETIC PARALYSIS

BY

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The effects of unilateral paralysis of the cervical sympathetic chain, almost invariably referred to in standard textbooks as Horner's syndrome, are generally given as ptosis, enophthalmos, pupillary constriction, and anidrosis of the face on the affected side. This description of the syndrome not only is inaccurate and incomplete but differs from that published in 1869 by Horner himself. Further, accounts of sympathetic paralysis were published by many earlier workers, and it therefore seems justifiable to review the whole status of the eponym.

Historical

Pourfour du Petit (1727) recognized that injury to the sympathetic chain in the neck could cause pupillary changes. In many domestic animals he noted myosis and partial closure of the third eyelid at the inner canthus. His results were confirmed by Mollinelli in 1755 and by many others. Similar effects after section of the trigeminal nerve near the Gasserian ganglion were observed by Fodera (1823), Magendie (1824), and Sir Charles Bell.

Budge and Waller in 1841 demonstrated that the sympathetic supply to the iris has its origin in the anterior and middle columns of the spinal cord from the sixth cervical to the fourth thoracic segment, passing via the spinal nerves to the cervical sympathetic chain and thence to the first division of the trigeminal nerve. Brown-Séquard and Bernard in 1854 noted that section of the sympathetic chain caused pupillary contraction, closure of the eyelids, and increased vascularity and temperature on the affected side, all these changes being reversed by galvanic stimulation of the upper divided end of the nerve.

Despite all these observations, clinical descriptions of such conditions occurring in the course of natural diseases

do not appear in the earlier literature. In 1809 Sir Astley Cooper, in a case of aneurysm of the internal carotid artery, noted ptosis on the affected side together with "a feeling of hot and cold in the ear." He did not record whether or not these signs disappeared after he had eured the aneurysm by ligation of the common carotid artery, nor did he remark on the state of the pupils, an omission which is understandable when it is realized that the pupillary constriction of opium-poisoning was not recognized until Kinnis described it in 1818. Coates, in 1822, recorded a case in which successful ligation of the common carotid artery for an aneurysm was followed by restoration to normal of a pupil which had been markedly constricted. Sir Benjamin Brodie (1828) noted bilateral pupillary constriction in a man with fracture-dislocation of the cervico-dorsal spine. Willebrandt (1854) recorded similar pupillary constriction in a case of cervical tumour, and Gairdner (1855) described an instance of aortic aneurysm accompanied by eye changes which he rightly regarded as similar to those produced experimentally by section of the cervical sympathetic chain.

Notwithstanding the value of these earlier contributions it is probable that much of the credit for the clinical evaluation of the syndrome produced by cervical sympathetic paralysis should be accorded to J. W. Ogle, physician to St. George's Hospital, London. In his carefully reasoned publication (Ogle, 1858) he pointed out some of the fallacies in the application to man of the results of animal experiments, summarized the previous literature, and collected and reviewed a series of 27 cases. In these, unilateral myosis and ptosis were sometimes associated with vascular and temperature changes, and the interference with the cervical sympathetic chain was the result of intrathoracic aneurysms, cervical lymphadenopathy, or spinal injury. He recorded one case in which an acute abscess of the neck was accompanied by dilatation of the pupil, which returned to normal after incision of the abscess. The role of the cervical sympathetic seems to have been well recognized by this time. Weir Mitchell *et al.* (1864) described a patient in whom a gunshot wound of the neck was followed by unilateral pupillary constriction, narrowing of the palpebral fissure, and very pronounced vasodilatation of the corresponding side of the face and neck, ending abruptly at the midline. These changes were confidently ascribed to injury of the cervical sympathetic chain.

The Work of Horner

Horner (1869) based his observations on one case, that of a woman aged 40, who, six weeks after parturition, developed right-sided myosis, ptosis, and diminished ocular tension without evidence of eye disease or of trigeminal paralysis. Although remarking that some slight enophthalmos was present, Horner regarded this as of little importance, concentrating more on the study of the vascular effects. He noted that the affected side of the face was redder and distinctly warmer than the other and that it did not perspire. He measured the temperature on both sides of the face, finding a difference of 5° C. under normal conditions. Bandaging the face resulted in an increase in temperature on the normal side so that the difference was reduced to about 1° C. The vasodilatation of the face when warmer was, he noted, accompanied by a corresponding dilatation of the retinal veins. Atropine enlarged the pupil but slowly, irregularly, and to a lesser extent than on the normal side. Although recognizing that cervical sympathetic paralysis was the cause of the signs he expressed no views as to the fundamental pathology of the condition.

Horner's work appears to have stimulated his associate Nicati (1873), whose observations are remarkable for their anticipation of much of the modern view of the control of the blood vessels of the skin. He distinguished three stages in the development of the paralysis. In the first he considered that the encroachment of the lesion might produce stimulation of sympathetic activity as shown by hyperidrosis of the affected side of the face. Such changes might be found, for example, in cases of cervical abscess, the face returning to normal after this was incised. The second stage, that of early paralysis, he found to be characterized by unilateral myosis, ptosis, enophthalmos, anidrosis, and lowered ocular tension, with flushing and increased warmth of the affected side of the face and neck. Measuring the temperature of the skin of the two sides of the face Nicati found the affected side constantly warmer. In particular, the temperature on the paralysed side did not fall appreciably on exposure to excessive cold and on return to warmer conditions it rose more quickly than on the normal side. In the third and final stage some atrophy and wasting followed. The affected side, formerly highly coloured, was now paler. It was also cooler except when the vessels of the normal side were strongly contracted in response to excessive cold when once again the diseased side became the warmer.

Of Nicati's 25 cases, 20 occurred in women. Although he enumerated the causes of the syndrome fairly completely he was unable to determine any underlying pathological condition in the majority of his own patients, some of whom continued in good health for many years. He fell into the trap of attempting to correlate the syndrome with the ocular changes occurring in exophthalmic goitre, suggesting that excessive sympathetic stimulation might be the *fons et origo* of both the exophthalmos and the thyrotoxicosis, but his arguments are speculative and unconvincing.

From that time onwards the term "Horner's syndrome" appears to have come into common usage to describe the effects of cervical sympathetic paralysis, although the origin of the term is not widely known and the original description little consulted.

Anatomy

The sympathetic nerves of the face and neck are derived from the spinal segments D1 and D2. The fibres supplying the pupil have their connector cells in lateral horn cells of these segments, pass to the anterior or primary rami of the first two thoracic spinal nerves, and thence into the sympathetic chain to reach the superior cervical ganglion. The efferent fibres pass along the coat of the internal carotid artery to the cavernous plexus, whence they may pass to the pupil by one of two routes, either entering the Gasserian ganglion and passing into the first division of the trigeminal nerve, thence into the long ciliary nerves and thus to the pupil, or entering the ciliary ganglion by its sympathetic root, passing through it without synapsing and reaching its pupil by the short ciliary nerves.

The centre for the sympathetic control of the pupil is in the superior corpus quadrigeminum, and the path from here to the spinal cord is believed to be in the tecto-spinal tract. This centre receives fibres from the optic nerve.

The vasomotor fibres of the skin of the face are distributed from the superior cervical ganglion along the branches of the external carotid artery. The vasomotor centre is in the calamus scriptorius in the floor of the fourth ventricle, from which fibres pass to the connector cells of the sympathetic in the lateral horn of grey matter.

The levator palpebrae superioris muscle is supplied by the third cranial nerve through its upper branch. This,

however, supplies only striped muscle, and the ptosis which occurs in cervical sympathetic paralysis is due to interruption of the sympathetic nerve supply to the smooth muscle of the upper and lower eyelids called, respectively, the upper and lower tarsal muscles (of Müller).

A certain amount of misunderstanding has centred upon the subject of Müller's muscle. This term has been applied to the tarsal (or palpebral) muscle described above, and to the orbital muscle of Müller. The latter is a collection of plain muscle arising from the periorbital, bridging the inferior orbital fissure and radiating in a thin layer over the orbital floor. It is variable in size, and is the vestigial remnant of the muscular membrane completing the lateral wall of the orbit in those lower animals in which this does not consist of bone. In certain of these animals it acts as a protruder of the eye (Müller, 1858). In man, stimulation of the sympathetic does not produce protrusion of the eye (Turner, 1862), although this muscle is supplied by the sympathetic. It is difficult to see how this structure can have any notable effect on the position of the eyeball in man.

Pathology

Consideration of these anatomical facts makes it clear that the syndrome may be produced in several ways—namely, (1) by brain-stem lesions, notably thrombosis of the posterior-inferior cerebellar artery; (2) by intramedullary cord lesions at or above the level of D1—if at D1 there will also be wasting of the small muscles of the hand; (3) by extramedullary spinal lesions such as trauma and neoplasm; (4) by lesions involving the peripheral course of sympathetic fibres, such as trauma, aneurysm of the aorta or carotid vessels, or neoplasm in the neck or superior mediastinum; and (5) it also occurs in the rare condition of partial facial hemiatrophy (Parry-Romberg syndrome), the causation of which is as yet imperfectly understood.

The Clinical Syndrome

Whatever the site of the lesion the obvious clinical syndrome is fairly constant. The stage of stimulation described by Nicati is rarely, if ever, seen in present clinical practice, but should be borne in mind as a possible source of confusion in diagnosis.

1. *Myosis*.—This constantly occurs. Although the pupil is small the light reflexes are still present. The pupil does not dilate under cocaine, and the reaction to atropine is slow, irregular, and incomplete. This myosis is greater in lesions involving the superior cervical ganglion than in those arising more centrally.

2. *Narrowing of the Palpebral Fissure due to Descent of the Upper Lid and Raising of the Lower Lid*.—Horner, in his original description, remarked that the degree of enophthalmos was trivial, but in almost every current description enophthalmos is described as a cardinal feature. This is unjustifiable. The apparent enophthalmos is an optical illusion arising from the narrowing of the palpebral fissure. Actual measurements by Pochin (1939) have shown that sympathetic paralysis produces no immediate enophthalmos, such as might be produced by muscular paralysis. Only in long-standing cases is there a very slight degree of recession, of the order of 1 mm. Pochin has also shown the essential difference of the lid retraction produced by sympathetic stimulation and that occurring in Graves's disease. The lower eyelid is lowered in sympathetic stimulation but raised relative to the cornea when the upper lid is retracted by levator palpebrae spasm or Graves's disease. The true exophthalmos occurring in Graves's disease tends to give a false impression of the position of the lower lid. Pochin accordingly rejects the theories of earlier workers that the lid retraction in Graves's disease results from sympathetic overactivity.

3. *Other Eye Changes*.—Hypotonia, depigmentation of the iris, and cataract may occur.

4. *Anidrosis*.—Although the sweat glands are cholinergic they are innervated by the sympathetic, and therefore interference with function will be more or less complete according to the extent of the lesion. This affection is confined to one side of the face, stopping at the midline.

5. *Vascular Changes*.—These are variable, depending to some extent upon the degree of completeness of the paralysis, the rapidity of onset, and the presence of other vascular lesions, especially aneurysm or arteriosclerosis, the latter of which may prevent full dilatation. It is seldom that circulatory changes are as prominent a feature of the syndrome as are the eye changes. Where the lesion is of rapid onset, as in Weir Mitchell's case, loss of sympathetic tone may be followed by vasodilatation persisting even on exposure to cold. The vasodilator fibres, too, are involved, and on exposure to excessive warmth the normal side will show fuller dilatation than the other. But with the passage of time compensatory mechanisms are brought into play, the arteries and arterioles regaining some of their lost tone, so that actual pallor may develop, or the vessels may remain in a permanent state of incomplete relaxation. It is not true to say that the paralysed side is always warmer than the normal, although this is so under the usual environmental conditions of temperate climates. The temperature tends to remain relatively constant, failing to show the normal wide variations that follow those alterations in vasomotor tone which ordinarily result from fluctuations in surrounding temperature.

6. Some degree of facial hemiatrophy may occur in established cases, although this is never so pronounced as in the Parry-Romberg syndrome.

Summary

The inadequacy of many current accounts of the effects of cervical sympathetic paralysis is noted.

The history of the condition is reviewed, with particular reference to Horner's original account.

The anatomy, pathology, and clinical features of the syndrome are discussed.

As a result of this survey it is concluded that retention of the eponym "Horner's syndrome" is fully justified.

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Mr. Clement Shaw, chairman and managing director of T. C. Chemicals Ltd., succeeds Mrs. Jean K. Irvine, M.B.E., as president of the Pharmaceutical Society of Great Britain. Mr. J. F. McNeal, of Aberdeen, has been elected vice-president and Mr. W. Spencer H. of London, re-elected treasurer.

DAY NURSERIES AND THE MAN-POWER PROBLEM

BY

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The writer of a leading article on day nurseries and industry (*British Medical Journal*, 1947, 1, 644), after considering the results of recent research into the well-being of the children concerned, stated that the cost to the latter was such as cannot be justified except on grounds of overriding national economic need. He went on to say that if, as seemed to him probable, day nurseries consume as much or more labour than they free all basis for urging women to take up full-time work and leave their young children in a nursery disappears. This conclusion was partly based upon the Luton investigation made by F. Grundy in 1943.

There are really two questions to be considered: Do the day nurseries economize the use of woman-power?; and Does the economy, or the redistribution of labour involved, result in an increased supply of labour to work of national importance? The results of an investigation made in Birmingham in 1945 are interesting in this connexion.

During the whole of the war the labour shortage in Birmingham was such that a continual stream of men and women were moved from their homes in other parts of the country to work in Birmingham. At least 80,000 are actually recorded as having been brought in, placed, and billeted directly through the transfer and accommodation machinery set up by the Ministries of Labour and Health. Innumerable others drifted in on their own. This was the scale of the man-power problem which led to the setting up of 72 day nurseries and five 24-hour nurseries—the largest number of wartime nurseries set up by any local authority outside the L.C.C. The scheme was definitely intended as one of the alternative solutions to the problem of labour supply in the area.

The nurseries were almost continuously short of staff and from 1942 the number opened lagged well behind the direct evidence of need shown by the long waiting-list but gradually the Child Care Reserve and other schemes for the training or retraining of staff, together with the working of the National Service Orders, did much to clarify and stabilize the position.

The Ministry of Health in a circular letter to local authorities in August, 1940, had suggested that one staff to every five children attending would be necessary, but this was found insufficient in Birmingham, where the nurseries were open from 7 a.m. to 8 p.m., to cover the long hours worked by many mothers, and the wide variety of starting and stopping times. A number of attempts were made to shorten nursery hours, but owing to the large number of small factories concerned—a feature of this area—this proved impossible, and as a result overlapping shifts were worked with a total ratio of one staff to every four children (rather more in the 24-hour nurseries).

In June, 1945, the Public Health Department drew up the following picture of the provision made:

Nurseries and the Children

Capacity	3,695	Under 2	1
Vacancies	223	Over 2	2
Children on register ..	3,472	Mothers on register ..	3

Employment of Mothers

Employment	Full-time	Part-time
Factory	1,448	169
Transport	100	6
Canteen and waitresses ..	277	30
Shop assistants	293	34
Domestic	234	64
Other work	432	56

In Birmingham not more than two children from one family were accepted, and the number of mothers (3,143) was very high as compared with the number of children (3,472). On the Birmingham ratio the staff used for this number was 868, and so there would be a release of about 2,275 mothers, or 3.6 for each member of staff.

But this figure does not give a realistic picture of the nurseries from the man-power aspect. Of the mothers 359 were part-time workers and may be considered as equal to only half their number of full-time people. Again, the actual attendance of children was on an average only about 75% capacity, representing proportionately fewer mothers. Moreover, mothers temporarily off work through sickness were still allowed to send their children to the nursery for a period not exceeding three weeks, and although it is not known what allowance should be made for this factor it is clear that not every child attending had a mother at work at the time.

On the staff side Public Health Department records show that there were about 140 other people directly employed—e.g., cleaners and others, mostly part-time but equal to at least 70 full-time people. Behind the staff directly attached to the nurseries there were the other people, such as the doctors who inspected all nurseries once a fortnight, the extra staff at central kitchens, and all those involved in the erection of huts, adaptations of houses, equipment, alterations, and repairs.

Each of the nurseries when fully staffed used three highly qualified people (nurses or nursery nurses), all in the short-supply category, plus nine to eleven others according to the size of the nursery, and in estimating the man-power contribution this must be considered. The nurseries were not allowed to recruit staff between the ages of 18 and 25, but most of their workers could have done other forms of national work, although of course the 14-year-olds could not have been directed, and even who had children of their own (sometimes accommodated in the nursery) would also have been free from compulsion.

Since the issue of Circular 2388 by the Ministry of Health in May, 1941, it has been possible for *...the mother and a woman who is in employment* to use the nurseries not only the children of women on work certified as essential to the war effort. As women with young children were not affected by the National Service Orders, and were outside the Control of Employment Order, they could offer their services to, and be engaged on, employment without reference to the Ministry of Labour, and there was no control over the kind of work they did. The categories which from this angle might be regarded as doubtful are "shop assistants," "domestic," and "other work." These account for 959 mothers on full-time and 152 on part-time, being one-third of the total of mothers. Although doubtless many of the domestics were in hospital work, and the shop assistants in food shops, there is still a factor which, if fully known, might still further affect the picture.

In relating wartime experience to present needs it must be remembered that these nurseries were set up against a background of labour controls and comparatively high earnings on national work. Married women generally are now free to work or not as they please, but these nursery schemes were aimed particularly at the mothers of young children, and the present sliding scale of charges, with the high maximum, while deterring the better-off mother encourages the poor one. There are long waiting-lists, and it is time that the general public asked themselves whether they are satisfied with a situation in which young mothers of the working classes are driven by economic necessity to work outside the home while their young women generally and all women over 41 are free to work ever shorter hours.

During the war there was a rough check on the use of labour which was outside the controls in that, owing to the "vetting" operations of the District Man Power Offices, their engagement might result in the withdrawal of other employees. These powers have now practically disappeared. On the employees' side the cessation of munitions production has lowered earnings and reduced the financial attractions of national work as compared with other jobs. It is therefore less likely now than before that these mothers will be drawn towards work of high priority.

It is arguable that even during the war most of the mothers who placed their children in nurseries would have been working if the nurseries had never existed, as a great deal of paid minding at higher rates was known to have been going on in this area for years. Nurseries may simply have displaced minding in many cases by their extraordinary cheapness (6s. a week), the extra rations, and the long hours. Which form of child care was better for the children's welfare is quite another question, but since most of the minding was done by elderly relatives, not themselves in the labour market, any such displacement must actually have been detrimental to the labour supply situation.

One final point: since the withdrawal of the 100% grant by the Ministry of Health the charge per child has been raised to 18s. to cover the difference between the general grant aid received by the nurseries as part of the Maternity and Child Welfare provision by the authority and the actual cost, which is in the region of 35s. As the mother's payment is scaled according to her means, in some areas not more than half a dozen children in each nursery are being paid for at anything like the full charge, and the working of the scales is becoming a mounting burden on the rates. This expense may be more than justifiable looked at as a child welfare service, though even from that angle it would seem that allowances to necessitous mothers enabling them to look after their own children would probably serve the purpose more effectively. From the point of view of the national man-power problem, however, the arrangement would at best appear to result in a more than doubtful contribution to national labour needs at local expense.

Medical Memoranda

Benign Ulcers of the Greater Curvature

It is a general rule, subject to few exceptions, that the nearer to the pylorus, and especially to the greater curvature, the greater is the probability of malignancy in an ulcer. Thus the Mayo Clinic found malignancy in 10% of lesser-curvature ulcers, 65% of pre-pyloric ulcers, and 100% of greater-curvature ulcers.

There are many experienced surgeons and radiologists who have never seen a benign greater-curvature ulcer, whereas malignant ulcers involving the greater curvature are by no means a rarity. Up to the time of writing only 17 proved cases of benign greater-curvature ulcers had been recorded. The following is a report of the 18th case.

CASE REPORT

The patient, a woman aged 66, gave a history of "bilious attacks" for five years, worse during the last six months, with increasing anorexia, attacks of vomiting, abdominal distension, and constipation. Abdominal pain was not an important symptom, nor was any mass felt on palpation. A blood count showed: red cells, 2,500,000; haemoglobin, 48%; colour index, 0.9.

At a barium-meal examination I found a large ulcer crater on the greater curvature, at the junction of its middle and lower thirds

(see Fig.). The mucosal pattern above and below the ulcer was normal, but at the base of the ulcer convergent widened rugae were present. Tenderness on pressure was localized to this area and also to the region of the duodenal cap, which showed constant deformity. The greater curvature for 2 in. (5 cm.) below the ulcer was crenated.

The radiographic mucosal appearance of the ulcer suggested innocence, but its position was strong evidence in favour of malignancy. It was decided to operate, and I am indebted to Mr. G. Bohn for the following extract from his operation findings. "There was a large apparently innocent ulcer on the greater curvature of the stomach, with much induration around it. There was also a



large duodenal ulcer which was attached to and penetrating into the pancreas. On opening the stomach before fixation I found two ulcers and the scar of a third ulcer all lying exactly on the greater curvature and joined together by thin white scar tissue. The biggest ulcer, which was the most proximal of the three, contained an artery in its base. I carried out an anterior Polya gastrectomy, the section through the duodenum being just proximal to the ulcer there." The patient made an uninterrupted recovery from this operation.

Histological examination by Dr. J. Mills of the large ulcer (1 in. (2.5 cm.) in diameter and situated 4 in. (10 cm.) from the pylorus) showed "a typical benign peptic ulcer, the floor of which is composed of fibrosed fat, lined on the gastric aspect with inflammatory exudate. Near the gastric surface is a large vessel, which no doubt opens on the surface at some plane other than that of the section."

COMMENT

The operative finding of multiple greater-curvature ulcers is unique. That only the largest crater was demonstrated radiographically is understandable in view of the marked crenation of the greater curvature.

Before 1914 no single proved case had been recorded. There are records of 36 cases without histological examination. Between 1914 and 1928 there were 10 proved cases, mostly suggested by Continental authors. A brief analysis of the last 9 cases has been tabulated with the object of disclosing any factors which they may have in common. The series is of course too short to have any statistical value, but the figures suggest that the condition usually occurs in the more advanced age groups. The average age is 52. The distance of the ulcer from the pylorus varies between 1 and 5 cm., with an average of 3 cm. There is no common factor in the symptomatology, and diagnosis must be based on the radiological and histological findings.

This appears to be the first record of multiple benign ulcers on the greater curvature.

Author	Patient		Symptoms	Ulcer		Remarks
	Sex	Age		Diam.	Distance from Pylorus	
Matthews (1935)	F	57	Epigastric pain 2½ hours p.c. Duration 35 years. Relieved by food. No vomiting or hæmatemesis	1 cm.	12 cm.	Subtotal gastrectomy; well after 5½ years
Matthews (1935)	M	57	Epigastric pain 2 hours a.c. Duration 1 year. No vomiting or hæmatemesis	1.5 cm.	14 cm.	Subtotal gastrectomy; well after 15 mths.
Van Buchem (1938)	M	24	Epigastric pain 2 hours p.c. Duration 6 months. Vomited once. No loss of weight	Large	Middle third gr. curv.	Subtotal gastrectomy; well after 3 years
Williams (1941)	F	74	Severe pain and hæmatemesis. No previous symptoms	1.5 cm.	5 cm.	No operation; death
Williams (1941)	M	58	Hæmatemesis. Semicomatose	4 cm.	6 cm.	No operation; death
Preiss (1944)	M	34	Epigastric pain relieved by food. Duration 15 years. Severe last 4 years, with hæmatemesis 2 years previously	5 cm.	6 cm.	Local resection; no follow-up
Blum (1944)	M	49	Epigastric pain a.c. Duration 10 years. Occasional vomiting and hæmatemesis	5 cm.	6 cm.	Also duodenal ulcer. Subtotal gastrectomy; well after 6 months
Cave (1947)	F	66	Bilious attacks for 5 years. Anorexia, vomiting, abdominal distension, increasing during last six months	2.5 cm.	7 cm.	Multiple greater curvature ulcers, and duodenal ulcer; anterior Polya gastrectomy
Campbell (1948)	M	52	Pain left upper abdomen 1 hour p.c. relieved by vomiting. Duration several years. Recent anorexia and loss of weight		Middle third gr. curv.	Gastrectomy

(Since the above communication was submitted for publication another proved case has been published (Campbell, 1948); this has been included in the Table.)

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Dr. William P. Forrest addressed the International Conference of Social Work at Atlantic City recently on the World Health Organization and social medicine to-day. He said that, though of professor of social medicine had collected 100 different definitions of the term, he himself regarded social medicine as a philosophy rather than a subject. It was part of the belief that medicine should no longer be taught or practised from a negative outlook. He would like to see medical students prohibited from studying anything divorced from its context. Discussing the health visitor, he thought they should give her fewer families to look after and more duty to perform. They would thereby greatly decrease the number of official visitors to each household in favour of one welcome visit. There might be families who enjoyed being visited by a 'stream' of social officials, but he hoped they were in the minority. The health visitor could easily undertake the duties of the school nurse, the tuberculosis nurse, the venereal diseases nurse, the friend of unmarried mothers. She could become a most remarkable and essential agent of all or nearly all the departments concerned with social service.

Reviews

DERMADROMES

DERMADROMES
Skin Manifestations of Internal Disorders (Dermadromes) By Kurt Wiener, M.D. (Pp 690. 386 text illustrations and six colour plates. 63s.) London: Henry Kimpton 1947

This book will be a useful work of reference to both general physicians and dermatologists. Many writers in the past have emphasized the close connexion between internal complaints and external manifestations on the skin but we do not remember anyone's undertaking the formidable task of collecting and classifying them. The magnitude of the work may be gauged from the size of the volume and the number of references, which exceed 3000. The author considers that the works and their authors referred to should not be hidden away out of sight on that page where that work is mentioned instead of being listed at the end of each chapter or relegated to the end of the book, and he has therefore adopted the system of consecutive numbering beneath the main text. He hopes that the reader may be encouraged to look up some of the original sources himself. He has also inserted a "word-dermadrome"—which denotes any phenomenon on the skin that accompanies an internal disease. I must not say too much about this book. Finally, I must say that it is a better word than many of the terms which are used in dermatology.

Although attempting possible the author has constitute entire division skin manifestations of infancy. Many write matters, and although their inclusion would volume. The word sy Among diseases in w and often serious are discusses these and th many of the manifest are seldom seen exce where they effectively an enormous subject to to practise, since the a score of common d with the interest the and we warmly recor clear and well repro

PSYCHO-ANALYSIS IN SELF

Sigmund Freud 4
D.Phil. The Inner-
Reconstruction (Pr
Trench, Trubner and

Dr. Hollitscher has a summary of the basic Freudian psychology for logists, for whom some understanding of it is an account of Freud's formulations are that and adherents. Freud, and again and again extension of his theory other factors, such as kind.

The charge can be made that Freud's spiritual descendants that they have neglected the spiritual structure which has few points of contact with the physical fields. His disciples have

built up and up instead of downwards to the ground. Had they pursued the latter course we might have seen real advances, instead of increasing mysticism and dogmatism and a schism of the churches. To take but one example. Freud's theory of the unconscious was a notable advance for 50 years ago, but in its presentation of anthropomorphized antagonistic "ideas" and the "censor," as if they were things rather than processes it is out of touch with modern medicine. Nevertheless, Freud's "unconscious" is directly translatable into neural concepts. So much cannot be said of some less fundamental concepts to which a central position has been given, such as the castration complex. It is frankly incredible that all modern theories of sex with castration nowadays start from the fact that the infant is in utter ignorance of their sexual functions, that the infant in the process of being born is a state of some kind of upheaval which disturbs the economy of its functions in such a way that subsequent experience of anxiety is related to this birth trauma. However, not all psychoanalysts will embrace these ideas. Before Freud in psychology can do so, it is necessary to have a more general structure of science it will have to be based on the results of the test of critical experiment to which the Freudian has not much inclination.

CORRECT DIAGNOSIS

[illegible]

The book opens with a long chapter on the principles of diagnosis and her application to the integrative approach. Thereafter find it an interesting and instructive review of various theories of the signs and special indications of considerable value. They reiterate the conviction that although it is difficult to state precisely what makes outstanding diagnosticians, a characteristic of such clinicians is that they consider all possible causes of the various symptoms and signs if only to dismiss them. The authors therefore include many lists of diseases which may present with given symptoms or signs. These lists gain in significance through being based on the practical experience of the authors or of other medical authorities. The style is refreshing for the book is enriched with many classical descriptions of disease, enlivened by pointed and amusing anecdotes, and spiced with American colloquialisms. The reviewer believes that physicians will read this book with pleasure and profit.

SIDNEY TRUELOVE.

A CORNISH HOSPITAL
Cornwall Hospital, Penzance

A CORNISH HOSPITAL By Dr.
A History of the West Cornwall Hospital, Penzance. Truro: Oscar Blackford,
E. C. Edwards. (Pp. 47. No price.)

Dr. Edwards is to be congratulated on having recorded the history of the West Cornwall Hospital, especially at this time when the fruits of public charity have been deemed ripe for plucking by the State. We may well be proud of our hospitals and of the men and women on whose enterprise and generosity

they depend. The wave of charity which began in London in the early eighteenth century rolled on in the course of time to the provincial cities and towns, so that before long there were few of any importance which did not boast of an infirmary or a dispensary.

Founded in the year 1809 as the Penzance Public Dispensary and Humane Society, it became sixty years later the West Cornwall Dispensary and Infirmary and later still (in 1929) the West Cornwall Hospital. Credit for the foundation of the hospital goes to Dr. J. B. Borlase and also to two early benefactors, W. H. Hoare, of London, and Sir Richard Acland. When Borlase, "our lamented friend and leader," died in 1813, his place was taken by the "excellent, talented, and zealous" Dr. James Montgomery, whose family service ceased only in 1908 on the death of his grandson, Dr. Hugh Montgomery. The first committee provided facilities for vaccination and also for the resuscitation of the apparently drowned. They equipped themselves with Dr. Fothergill's latest apparatus, to supplement if not to supplant the bleeding that was then the vogue, and went so far as to offer rewards to any who rendered service to shipwrecked mariners. The local tradition for their care has persisted to this day, and to the everlasting credit of this hospital stands their special record of service during the dark days of 1917-18, when the U-boat campaign nearly succeeded in bringing about our downfall.

The committees seem to have been fortunate in their choice of officers and servants, though it is disquieting to read that Jane Eva, who with her mother Anne acted as housekeeper for almost forty years on a modest wage scale of from 2s. to 2s. 6d. per week, was found guilty of "taking in lodgers" and of "allowing disorderly Females to congregate in the passage during the hours of Divine Service on Sunday Evening last." These misdemeanours, which were her undoing, seem to have resulted from her inordinate liking for the merry company at the Turks Head. There are the usual headaches for hospital committeemen, such as accounting for all the leeches purchased and finding sufficient money at the time it was wanted, but on the whole the people of Penzance seem to have given their institution the support it deserved. The committee, too, seem to have been intelligent and broadminded, for we read that in the year 1824 they sent their dispensing apothecary to London for the purpose of improving his professional abilities.

It is to be hoped that Dr. Edwards's apprehensions about the future of voluntary hospitals under State management will not be justified by the course of events. The voluntary hospital, so fundamentally Christian in its tradition, has a deservedly warm place in the hearts of our people, and any interference in its essential nature could not be tolerated.

W. H. McMENEY:

CATALAN SURGERY

Diagnóstico y Terapéutica Quirúrgicos de Urgencia. By Dr. F. Domenech-Alsina. (Pp. 912; 330 figures. No price given). Barcelona-Buenos Aires: Salvat Editores, S.A. 1947.

In 1936 the author of this book published in collaboration with Manuel Corachán *Diagnóstico y Terapéutica Quirúrgicos de Urgencia*, a book that was an outstanding success, and despite its having been reprinted in Buenos Aires it has been long out of print. Following the unfortunate death of Prof. Corachán in 1942 the co-editor has published the book anew. He has changed the title and reviewed the text, so that it now incorporates all the lessons learned in recent years about emergency surgery.

In spite of its being a book mainly based on personal experience, the majority of the views set out in it may be considered to be those of the Catalan school of surgery, and the author expresses in the preface his gratitude to a number of prominent Barcelona surgeons who have contributed by their advice or with their material to the completeness of the work. The book is divided into two main parts: the first on general problems, shock, surgical infections, burns, etc., and the second on the diagnosis and treatment of the acute surgical emergencies. The presentation is excellent and the bibliography is fairly complete. It is a book which will be useful to students, undergraduates, and postgraduates alike.

J. TRUETA.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received]

The Problems of Family Life. By Agatha H. Bowley, Ph.D. 2nd ed. (Pp. 120. 6s.) Edinburgh: E. and S. Livingstone. 1948.
A study of the more difficult problems of bringing up a family.

Hygiene for Nurses. By John Guy, M.D., D.P.H., F.R.F.P.S., F.R.C.P., and G. J. I. Linklater, O.B.E., O.St.J., T.D., M.D., D.P.H., D.T.M.&H., M.R.C.P. 7th ed. (Pp. 242. 6s.) Edinburgh: E. and S. Livingstone. 1948.

Intended for student nurses as well as the qualified

Handbook of Practical Bacteriology. By T. J. Mackie, C.B.E., M.D., D.P.H., and J. E. McCartney, M.D., D.Sc. 8th ed. (Pp. 642. 25s.) Edinburgh: E. and S. Livingstone. 1948.

The text has been completely revised to bring the book up to date.

Psychiatrie et Psychologie. By J. Saldman and others. (Pp. 94. 145 francs.) Paris: Synthèse et Thérapeutique. 1948.

A collection of papers by various authors on psychiatry and psychology.

The Legacy of Swift. Edited by Maurice Craig. (Pp. 70. 5s.) Dublin: Colm O. Lochlainn. 1948.

Notes by various authors on the history of St. Patrick's Hospital, Dublin.

A Pocket Gynaecology. By S. G. Clayton, M.D., M.S., F.R.C.S., M.R.C.O.G. (Pp. 111. 7s. 6d.) London: Churchill. 1948.

A short factual summary.

Textbook for Midwives. By Wilfred Shaw, M.D., F.R.C.S., F.R.C.O.G. (Pp. 689. 12s. 6d.) London: Churchill. 1948.

A textbook for the serious student.

A Catalogue of Insecticides and Fungicides. By Donald E. H. Frear, Ph.D. (Pp. 203. 56.50s.) London: Wm. Dawson and Sons. 1947.

Lists the results of testing about 10,000 substances.

The Organization and Management of Hospital Stores. By J. E. Stone, C.B.E., M.C. (Pp. 105. 15s.) London: Faber. 1948.

A factual account of stores organization, records, and accounts.

Le Traitement de la Syphilis en Clientèle. By H. and L. Gougerot. 5th ed. (Pp. 915. No price.) Paris: Librairie Maloine. 1947.

An illustrated manual for the practitioner.

Everyday Dietetics. By M. Martin-Leake. (Pp. 78. 6s.) London: Pitman. 1948.

A practical account for domestic science students and housewives.

Physiologie du Médecin Praticien. By M. Bariéty and G. Brouet. 2nd ed. (Pp. 400. 650 francs.) Paris: Masson. 1947.

A clinical account of pulmonary tuberculosis.

Anatomie Artistique. By Arnould Morcaux, M.S.A.F. (Pp. 366. 850 francs.) Paris: Librairie Maloine. 1948.

The anatomy of the skeleton and musculature for art students.

Transactions of the American Ophthalmological Society. Vol. XLV. (Pp. 683. No price.) Philadelphia: American Ophthalmological Society. 1947.

Papers on a wide variety of ocular conditions and their investigation and treatment.

Handbook of Venereal Infections. By R. Grenville-Mathers, M.A., M.D., Ph.D., F.R.F.P.S.G., A.R.I.C. (Pp. 116. 12s. 6d.) London: Sylviro Publications. 1948.

A summarized account of diagnosis and treatment.

Juvenile Delinquency in an English Middletown. By Hermann Mannheim. (Pp. 131. 12s. 6d.) London: Kegan Paul, Trench, Trubner. 1948.

A study of juvenile delinquency at Cambridge.

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AUTONOMY IN ORGANIZATION FOR SPECIALISTS

With the approach of the appointed day consultants and specialists are taking a lively interest in the organized representation of their interests in the National Health Service. The B.M.A.'s proposals for consultants and specialists organization were set out in the annual report of Council, and the part of the report dealing with this was reprinted in the *Supplement* of May 22. The whole matter will be discussed at the Annual Representative Meeting in Cambridge, when there will be the opportunity to debate the method of election, the kind of representation, and the functions of the central and peripheral committees. There will, for example, be the motion by Bournemouth asking that the Central Consultants and Specialists Committee "shall be an autonomous body with full powers to determine policy on consulting and specialist hospital matters and action thereon subject to the final sanction of the Association." It is probable that the decisions of the Committee will be subject to the final approval of Council. But even if the B.M.A. goes as far as, they may at present be inclined to do, in the aspects of the policy of the Association.

There is clearly a need to take account of the wishes and needs of the insured in the first time they come to the insurance service, and new methods of working in this situation. The Association is flexible to allow for the wishes of the insured and specialists will be able to make a motion, wish to have their terms of reference, and a model of the Insurance Company controlled by its general policyholders. Consultants and specialists will be able to have a general conference and a general policy laid down by the general policyholders. The Association will act on its own responsibility and will not be subject to the veto of the Council of the B.M.A. or the Representative Body. If the Association is the wish of the consultants and specialists generally to remove that no obstacle would be put in their way. The B.M.A. is a voluntary organization, and if an important section of its members wish to order their affairs in a certain fashion the elasticity of the voluntary principle will make it possible for them to do so. At the same time the Consultants and Specialists Committee may find it useful in certain matters to secure the backing of the B.M.A. Council and would not, we believe, wish to exclude this possibility.

Criticism has been a traditional method of representation in the regional and national committees. It is claimed

that the teaching hospitals should have a larger and even perhaps dominant voice in matters which concern the terms and conditions of consultants and specialists in the new service. No one is likely to underestimate the importance of the teaching hospitals, but their predominant influence, as is that of the Royal Colleges, is in the academic field. The Spens Report, it should be remembered, advocates equality of status among the hospitals in the National Health Service. Though this is an ideal to be aimed at, it is unlikely that the teaching hospitals will ever lose their supremacy. But the margin of difference between teaching hospitals and non-teaching hospitals is to be hoped, progressively narrow. This being so, it may be questioned whether a minority of hospitals should have a disproportionate representation either on the peripheral or in the central committees. All of these matters are open to reasonable settlement in a way most acceptable to the majority of consultants and specialists.

It would be regrettable if personal antagonisms or institutional rivalries were allowed to fog a fairly simple issue. To divide and so weaken the profession by setting up a new organization with a new and inexperienced secretariat as has been suggested, would be a step that we believe, to commend itself to the whole body of Generalists and Specialists. The Royal Colleges have sometimes been criticized, and often unfairly, for inaction. Their historical development has certainly favoured autocracy and working of the highest administration as they are, they are not instruments fitted for the medico-political work necessary for securing satisfactory terms and conditions of service for consultants and specialists after July 5.

THE PROFIT SLAVE

In the last hundred years the death rate from tuberculosis has been falling steadily. At present it is only about one-tenth of what it was in 1851. The greatest diminution has been in the early years of life. Up to the first decade of the present century the mean annual death rate was highest in infancy and early childhood, but since then a change has occurred. The infantile death rate has continued to fall, whereas that in young adults, especially young adult females, has remained more or less stationary, with the result that the highest death rate now is in females aged 20 to 25 years. What is the reason for this? Numerous explanations have been put forward, but none of them is supported by sufficient evidence to be convincing. The continued high death rate from pulmonary tuberculosis in young women is still an unsolved problem and presents a challenge to all those who are interested in overcoming what is the major infectious disease of Western civilization.

In an attempt to throw some light on this problem the Royal College of Physicians decided to conduct a survey of the incidence of tuberculosis in selected groups of young adults, with the special objects of following the natural history of the infection from its earliest stages and of determining which persons or groups of persons are most likely to develop clinical disease.¹ The project was made

¹ *Tuberculosis in Young Adults: Report on the Prophit Tuberculosis Survey 1935-44*. Royal College of Physicians. 1948. H. K. Lewis, London. 30s.

possible by a bequest of the late Mr. J. M. G. Prophit, and was guided by a widely representative committee under the chairmanship of the President. Observations were made over a ten-year period from 1935 to 1944. Ten thousand presumably healthy young adults came under observation; they belonged to five groups—contacts, nurses, medical students, naval entrants, and controls—and were examined at yearly or sometimes six-monthly intervals by chest radiography and by the graded Mantoux intradermal tuberculin test. The subjects were followed up for varying lengths of time to see what proportion developed tuberculosis. Owing to difficulties caused by the war observations on some of the groups had to be curtailed, and attention became focused mainly on nurses. The work was carried out by three Prophit scholars—Dr. Ridehalgh, Dr. Daniels, and Dr. Springett—to whose high purpose and unflagging zeal under most trying conditions the success of the investigation must be mainly attributed.

The high incidence of tuberculous infection was revealed by the initial tuberculin test; the proportion of subjects reacting to 1.0 mg. or less of old tuberculin ranged from 64% among the naval entrants to 93% among the contacts. Omitting the naval entrants, who were not followed long enough, the rate at which infection occurred was greatest in the nurses and least among the controls. Thus nearly all the nurses who were tuberculin-negative originally, three-quarters of the medical students, and rather over half of the controls become tuberculin-positive within three years of entering the survey. At the time of Mantoux-conversion about 30% of the subjects suffered from transient symptoms presumably related to their infection, and in 8% lesions of the lung were discovered soon afterwards on radiographical examination. Subsequent observation showed that just under half of those with radiographic changes soon after conversion developed tuberculous disease, as opposed to one-twentieth of those in whom no such lesions were detectable. This finding is of considerable importance, since it emphasizes the need for supervising young adults after Mantoux-conversion.

A further aid in estimating the risk of breaking down was provided by the degree of reaction to the tuberculin test; the higher this was shortly after Mantoux-conversion the more likely was tuberculous disease to develop. Moreover, in general terms, the greater the degree of exposure to infection, whether in initially tuberculin-positive or in initially tuberculin-negative subjects becoming positive, the higher was the tuberculosis morbidity rate. As other workers have found, the disease occurred more often in those who were tuberculin-negative originally and became positive while under observation than among those who reacted to tuberculin on entry. A further difference between these two groups was that when infection did progress in those who had recently become Mantoux-positive, clinical symptoms generally appeared within a year of conversion, whereas in the initially Mantoux-positive reactors the incidence of tuberculous disease was low in the first year, but tended to increase with each year of nursing experience. Among nurses genetic immunity clearly played a part; the disease was commoner in girls from Wales and Ireland than in English girls, though there was no evidence that it ran a more fatal course.

The report has something of value to say on the prognosis of the minimal lesion. Of 68 cases diagnosed on entry to the survey and followed up for the sake of interest, 51% proved to be progressive and 49% retrogressive or stationary. Of 97 cases arising after entry to the survey and observed for an average period of two and a half years, 45% became clinically active, 28% showed radiological evidence of local spread or of fresh foci elsewhere without developing symptoms, and 27% were non-progressive. On the whole, these observations confirm those of other workers and show, as pathologists know quite well, that a considerable proportion of pulmonary lesions large enough to be detectable by x-ray examination undergo natural healing without special treatment. What we want to be able to do now is to pick out from among the group of persons showing minimal lesions those that are most likely to prove progressive. It is encouraging to learn that this subject is under study in a fresh survey of the Prophit committee.

There is a mass of data in the report which will interest students of tuberculosis. We have, however, already mentioned sufficient of the main findings to indicate some of the lines of action that are called for. It is evident that, if tuberculosis in the young adult is to be diagnosed at an early stage when treatment is most effective, all persons of 18 years of age or over should not only be kept under general medical surveillance but should be tuberculin-tested periodically and, when necessary, x-rayed. Those reacting negatively to tuberculin are known to be free from infection and therefore need not be x-rayed but should be tuberculin-tested at intervals. Those reacting positively should be x-rayed, and all those with a pulmonary lesion should be kept under close supervision. The chances of their developing clinical tuberculosis are greater if they have a high degree of sensitivity to tuberculin than if they are only weakly sensitive, and more attention should therefore be paid to the strong reactors. Tuberculin-negative reactors who become positive should be x-rayed at once. Those with pulmonary lesions who have at the same time a high degree of tuberculin sensitivity should be taken off work completely or prescribed a light régime of duty. In the experience of the Prophit survey about half of the persons in this category developed tuberculosis; they deserve, therefore, special attention. Over 90%, however, of those undergoing Mantoux-conversion have no signs of pulmonary disease on x-ray examination, and their chances of developing tuberculosis are only one-twentieth of those with radiological lesions. If tuberculosis does develop in these persons it tends to develop soon, and probably all that is required is to keep them under general supervision, and repeat their x-ray examination every three to six months for a year or two. If these measures were taken and if at the same time attention was paid to improving the nutritional state and correcting faults in environment and mode of life it should be possible to effect a material reduction in the amount of tuberculous disease in the young adult population, and probably an even greater reduction in the number of fatal cases.

In the final passages of his introduction to the report the President wisely raises an issue of even greater importance than the problems investigated by the Prophit

scholars. It concerns the whole of our attitude towards tuberculosis. Are we to restrict ourselves, as we have in the past, to the treatment of the individual patient, or are we to direct our efforts against the prevention of the disease itself? There is good reason to believe that if tuberculosis could be regarded like other infectious diseases, and if measures could be taken to prevent infectious persons from transferring their tubercle bacilli to other members of the community, greater progress would be made in a few years towards control of the disease than is ever likely to be achieved by our present methods. The problem is an epidemiological and social one, and under the new National Health Service its solution might well form the main task of medical officers of health, who, freed from routine hospital duties, should be able to concentrate attention on their most important duty—the prevention of unnecessary disease.

MENTAL HEALTH ADMINISTRATION

The National Health Service brings changes in the field of mental health administration as in every other branch of medicine. The Board of Control, now re-established in London after seven years' exile at St. Anne's on Sea, welcomes the integration, central and local, of the mental health services with the National Health Service. The annual report¹ for 1946 describes how centrally the administrative functions of the Board will be transferred to the Minister of Health. Its members and officers will in future act as the Minister's officers, though the Board will retain its quasi-judicial functions in relation to the admission and detention of patients where questions of the liberty of the subject arise. As local health authorities the county councils and county borough councils will be responsible for the initial care of patients under the Lunacy and Mental Treatment Acts, and in certain circumstances for after-care. They will also be responsible for the ascertainment, supervision, guardianship, and community training of mental defectives. It is believed that in the integrated service there will be opportunities for expanding the scope and increasing the efficiency of mental health provision. A closer association between psychiatry and general medicine is expected and a further breaking down of that isolation by which in the past the treatment of mental illness has so often been handicapped.

More than half the admissions to mental hospitals in England and Wales in 1946 were voluntary. This is more than twice the number obtaining in 1938 and is an encouraging indication of a greater public awareness of the importance of early treatment. The 25,326 discharges during 1946 represented 71.2% of the direct admissions, compared with an average for the preceding five years of 67.1%. This discharge rate, the highest ever recorded, is again largely due to the number of voluntary patients who seek early treatment. Many of them are quickly restored to health and leave after a short time. The number of voluntary patients admitted during the year was 18,059, and of 16,183 discharged 6,154 were recovered, and 7,603 relieved, the remainder being put down as "not

improved." Only 351 voluntary patients out of a total of 17,208 such patients in mental hospitals were transferred to certified status; on the other hand, 823 certified cases were regraded as voluntary patients.

Some form of physical treatment is now used in every mental hospital to supplement other methods of approach. The Board has watched the development of prefrontal leucotomy, and considers that for certain types of cases this operation offers "a probability of relief and the possibility of recovery." Occupational therapy for recent cases and for patients in the early stages of illness is now given an important place in most hospitals; the Board wishes that its use for chronic patients was more clearly recognized.

In recent years there has been a steady rise in the number of admissions to mental hospitals, and in spite of the present high discharge rate the mental hospital population of England and Wales is increasing. In 1946 there were 35,585 admissions, 6,009 more than in 1945 and 8,148 more than in 1938. The total mental hospital population at the end of 1946—namely, 134,920—was higher by 1,113 than at the beginning of that year. The proportion of women residents was 57.2% and of men 42.8%.

The death rate expressed as a percentage of the daily average number resident was 7.55, compared with 6.81, which was the average for the pre-war quinquennium 1934-8. Owing to the late receipt of the general mortality statistics, the causes of death cannot be given completely for 1946. In 1945 by far the most frequent cause was disease of the coronary arteries, with pneumonia next in order, followed at a great distance by senility, pulmonary tuberculosis, intracranial lesions of vascular origin, and cancer. The death rate from tuberculosis in 1946 was lower than in any year since 1939, and the number of fresh cases lower than in any year since 1940. Dysentery showed an incidence rate of 9.0 per 1,000, the lowest figure since 1940, and a death rate of 0.1 per 1,000, the lowest for the last decade.

The effect of the Education Act, 1944, is clearly seen in the increased number of children notified by local education authorities as mentally defective. The number of such children in 1946 was 4,209, or nearly 1,000 more than in 1945 or 1944. The number of mentally defective persons in institutions or under statutory care in the community is close on 102,000. In the institutions for mental defectives the proportion of deaths during the year to the average number resident was 13.4 per 1,000. The chief causes of mortality were pneumonia, heart disease, tuberculosis, and epilepsy, in that order.

Shortage of accommodation is still a serious problem. At the beginning of this year there was overcrowding in mental deficiency institutions to the extent of more than 4,000 beds, while nearly the same number of mental defectives were awaiting admission. Mental hospitals show an aggregate overcrowding of 13.1% on the basis of recognized bed-space, and it is provisionally estimated that during the next ten years an additional 1,500 beds a year may be required to meet the increased numbers for whom accommodation must be provided. The Board points out that shortage of labour and materials and the priority necessarily accorded to housing have prevented almost entirely the provision of new accommodation for mental

¹Thirty-third Annual Report of the Board of Control for the Year 1946. Part I. London: H.M.S.O. 9d. net.

patients for several years past, and, with regard to mental defectives particularly, a partial breakdown in institutional provision is already causing difficulties. Equally serious is the shortage of nurses and particularly of female nurses, though in the view of the Board there has recently been some improvement in the general conditions of service in mental hospitals and in the accommodation provided for nurses.

MEDICAL BIRTHDAY HONOURS

The outstanding feature of the medical Birthday Honours, of which a full list appears in another column, is the barony conferred on Sir Alfred Webb-Johnson, Bt., surgeon to Queen Mary and President of the Royal College of Surgeons since 1941. Before his election as President of the College, Sir Alfred Webb-Johnson was known to combine the skill of a general surgeon with a remarkable capacity for administration. He was for some years the Dean of the Medical School of the Middlesex Hospital, and it was largely through his untiring efforts that funds were raised for the rebuilding of the hospital, which was opened in June, 1935, by the Duke of York. Although more than half the term of his presidency was during the dark days of war, Sir Alfred Webb-Johnson has probably done more for the Royal College of Surgeons than any of his predecessors. Under his guidance it has become a live and progressive institution for research and postgraduate teaching. Departments have been established and professorships endowed for anatomy and pathology; a research chair in ophthalmology has been instituted; practical teaching has been started in the College laboratories for postgraduate students seeking higher qualifications; under the new Charter, Faculties in dental surgery and anaesthetics have been established in the College; the R.C.S. now publishes its own *Annals*, the first birthday of which was celebrated last week. Sir Alfred's social gifts have found expression in the monthly dinners for Members and Fellows. Sir Alfred is the third practising surgeon to be elevated to the House of Lords, and future debates there should benefit much from his shrewd wisdom.

The youngest of the Royal Colleges is honoured in the knighthood conferred on Mr. William Gilliatt; and knight-hoods are conferred on Mr. John Newman Morris, Chairman of the National Council of the Australian Red Cross, and on Dr. David T. Rocyn-Jones for public services in South Wales. Air Vice-Marshal A. F. Rook, recently Consultant in Medicine to the Royal Air Force and now Director of Student Health Services at Cambridge, receives the K.B.E. The C.B. has been conferred on Surgeon Rear-Admiral O. D. Brownfield, Major-General J. J. Magner, and Dr. C. E. Good, and the C.M.G. on Dr. J. C. R. Buchanan, Director of Medical Services, Fiji, and on Dr. Percy Stocks, Chief Medical Statistician of the General Register Office. In congratulating these medical men on the honours bestowed on them the medical profession will also note with satisfaction the conferment of knighthood on the distinguished scientist, Charles Robert Harington, who is director of the National Institute for Medical Research at Mount Vernon, Hampstead.

SURGERY OF CONGENITAL HEART DISEASE

The last decade has seen some noteworthy advances in the technique of thoracic surgery. Since the report of the Committee of which Christie¹ was the chairman shows that subacute bacterial endocarditis could be cured by penicillin, more and more attention has been paid to the surgery of the heart and in particular to congenital heart disease. While there are innumerable variants of this condition, those compatible with life fall into four groups: patent ductus arteriosus, coarctation of the aorta, pulmonary stenosis, and septal defects. It was the frequency of the association of subacute bacterial endocarditis which stimulated surgeons to tackle the first of these groups. The success achieved provided further stimulus and led them to attempt operations which would have been considered quite impossible even before the last war.

The first successful ligation of the patent ductus was described by Gross and Hubbard,² and the first account of the operation in England were by Tubbs,³ who reported the recovery of 6 out of 9 cases of patients with subacute bacterial endocarditis. Tubbs told the International Conference of Physicians last year that he had operated on 3 cases and though some deaths had occurred they were mostly before penicillin was freely available. At the same meeting Crafoord stated that his mortality for the operation was 2%, and stressed that if recanalization was to be avoided it was necessary to discriminate carefully between those cases in which ligation would suffice and those in which division with its greater risks was necessary. Crafoord and Nylin⁴ described in 1945 their operation for the resection of aortic coarctation. In the course of experimental work on patent ductus arteriosus in dogs Crafoord noted the circulatory conditions which resulted after clamping the aorta at different levels and came to the conclusion that the surgical risks would not be too great. On the strength of these observations he took the risk in certain patients with a patent ductus of placing a clamp on the aorta above and below the point of entry of the duct in the aorta; the clamps were kept in position while he divided the duct and sutured the aorta; and in one patient it took 27 minutes. No significant disturbances were subsequently observed in the patients' internal organs or lower limbs.

Crafoord then decided to operate on a patient with coarctation and resect the stenosis; he performed the first of these operations⁵ on Oct. 19, 1944. Blalock⁶ had been considering the problem at about the same time and he performed an anastomosing operation in animals to improve the circulation peripheral to the stricture. This line of thought was continued by Blalock and Taussig⁷ in considering the third type of congenital heart disease—pulmonary stenosis. They thought that though the structure of the heart was grossly abnormal it might be possible in many instances to alter the course of the circulation in such a manner as to lessen the cyanosis and the resultant disability. To this end they tried several operations and eventually decided that the most satisfactory was that which effected an anastomosis between the subclavian branch of the innominate artery and the superior aspect of the pulmonary artery. The results of this operation have been dramatic, especially in children between the ages of 3 and

¹ *British Medical Journal*, 1945, 2, 132.

² *J. Amer. med. Ass.*, 1939, 112, 729.

³ *Brit. J. Surg.*, 1944, 32, 1.

⁴ *J. thorac. Surg.*, 1945, 14, 347.

⁵ *Thorax*, 1947, 2, 121.

⁶ *Ann. Surg.*, 1944, 119, 445.

⁷ *J. Amer. med. Ass.*, 1945, 128, 189.

⁸ *British Medical Journal*, 1925, 2, 603.

SURGERY OF CONGENITAL HEART DISEASE

9. In a series of 474 operations excellent results have been claimed in three-quarters and the mortality has not been high.

These results stimulated Brock to consider the problem further, and we published in the opening pages of last week's *Journal* an account of his brilliant work. He argued that the correct way to solve the problem of relief of valvular stenosis was by a direct attack on the valves. He pointed out that while in many cases of Fallot's tetralogy it was true that the stenosis was subvalvular, it was equally true that in many the stenosis was valvular. When a valvular stenosis was present it was diaphragmatic in nature and the fused valves were forced by the blood stream into a nipple-like projection with a tiny hole in its summit. The force of the blood pushed through this jet also caused dilatation of the pulmonary artery. Brock thought that the formation and structure of this stenosis showed that the condition was eminently suitable for relief by division and that a much larger opening could be made in a shorter time, in exactly the right place, than is possible with the Blalock operation, in which a long and tedious dissection is necessary to secure a systemic artery of adequate size. He therefore attempted the division of the valves at first under direct vision through a cardioscope passed straight down the left pulmonary artery. This gave him a good view of the valves, but the pulmonary artery being narrow the procedure placed too great a strain in the circulation and had to be abandoned. The experience gained, however, proved that it was possible to diagnose the presence of a valvular stenosis. The experience gained in the making an incision in the valve, and the relief of the stenosis, has been so far as the relief of the stenosis is concerned, the results in three cases are excellent. The operation will be performed in a further three cases. The post-operative course has been uneventful. Unfortunately this danger is known or perhaps prevented by dicoumarol.

What will be the surgery of the heart disease, and it is as 1925, attempted valve in a patient disease of the heart death in the patient possible that if the removed from that years longer.

restrain infection only by such organisms as staphylococci and not *Bact. coli*.

Serious infections may arise in various other possible ways when the infant has first to adapt itself to a world heavily populated with bacteria. It is uncertain which is the most probable when meningitis appears a week after birth with no obvious explanation such as meningococci. *Bact. coli* is much the commonest cause of meningitis during the first few weeks of life. The onset is usually within the first week, and prematurity has been disposed to it. The literature of the subject has been reviewed by K. J. Randall, who also describes six of his own cases, all fatal. In this series prematurity seems to have been a factor in two and prolonged labour in one. On the other hand, pneumonia, changes in addition to meningitis were seen only in two of the cases. One was normal. The onset in one of these was immediate and in the other about the sixth day. In one of these was between the fourth and seventh day. In one of these infants septicæmia was first detected by a leucocyte packed with ingested bacteria during the performance of a differential blood count. The condition of this child is illustrated, is quite unmistakable. In some of these infants the condition was apparently unrecognized during life, and its signs, which do not always include either fever or obvious coughing of the infant, can be misleading. *Bact. coli* is a Gram-negative bacillus, but effect in one case. Other life-endangering infections are streptomycin, other life-endangering infections for treatment with streptomycin, and we may hope that the next series will include information on the results of treatment.

THE SPREAD OF POLIOMYELITIS VIRUS

The mode of spread of an infectious disease is usually most readily revealed by investigation of cases during the early stages of an epidemic. This is particularly true of a disease such as poliomyelitis, in which cases of which are uncomplicated. In times when the disease is endemic the sources of infection are often not discovered. When an epidemic is at its height the infective agent is widely distributed and there are so many temporary carriers that the connexion between the cases may not be detected. In the early stages of an epidemic, when infection results in more overt cases than when the disease is endemic, and when the foci of infection are still localized, careful field work can sometimes reveal the lines of spread. An instance of this is afforded by Sweetnam's article on page 1172 of this issue. He describes the rather explosive epidemic of poliomyelitis in Eccles during the summer of 1947. Early in the outbreak it was possible to demonstrate direct or indirect contact between many of the cases. Later cases did not appear to be connected so directly. Infection spread across the town from west to east, a movement that corresponded with the west-to-east sequence of epidemic peaks of incidence in the contiguous urban areas of Irlam, Eccles, Salford, and Manchester. This type of spread has been noted in other epidemics where children with minor illnesses have been shown to play an important part in transmitting the disease. Sweetnam's investigations showed that about 20 such cases occurred for every case of paralysis and that they were more numerous in the neighbourhood of frank cases. These findings support his conception of a carrier epidemic preceding the appearance of paralytic cases.

MENINGITIS IN THE NEWBORN

On another page H. R. D. and J. T. B. are describing a case of *Bact. coli* meningitis in the newborn, which is of particular interest because of the origin of the condition is unusual. A clear, well-prolonged labour after rupture of the membranes, the onset of maternal pyelitis shortly after labour, the immediate onset of meningitis in the infant, and the finding of bronchopneumonia post mortem all point to an intrauterine infection via the amniotic fluid as the portal of infection being the lungs. This is an obvious route in such circumstances, and the danger must be borne in mind. As these authors suggest it may be an indication for chemotherapy, though the concentration of penicillin attainable in the foetal circulation would be sufficient to

¹ *Amer. J. Hyg.*, 1947, 45, 248.
² *British Medical Journal*, 1947, 2, 303.

A different pattern is seen in the epidemic among young soldiers in Catterick Camp studied by Dixon and reported in this issue at page 1175. There was no case-to-case contact and no two cases were in the same unit. Minor febrile illnesses in soldiers were not more numerous than during corresponding months in previous years and did not appear to be related to the spread of poliomyelitis. Dixon suggests that the infection may have been transmitted by soldiers with symptomless infections or whose illnesses were so mild that they did not seek medical advice. The healthy adult carrier has been thought able to spread infection from the time of Wiekman's studies onwards, and such carriers may have maintained the virus in the camp or introduced it from outside on return from leave. The explanations suggested for the Eccles epidemic and the cases at Catterick Camp are in accord, as explanations of the spread of poliomyelitis must be, with numerous demonstrations that frequency of cases is proportional to closeness of contact with a frank case of the disease. The recognition that patients may be infectious during the incubation period makes it possible to envisage contact as the main means of transmission. Zintek¹ has suggested, however, that the cases with nearly simultaneous onset in families are more probably due to exposure to an extra-human source of infection. In groups of cases with simultaneous onset it is necessary to consider the possibility of infection from some aliment contaminated with virus by flies or human carriers, but such a mode of spread would appear to be usually incidental to contact spread, just as streptococcal infections are sometimes transmitted by milk, although case-to-case spread is far more common. Precautions against the possible spread of the disease are touched on in a film, "Polio—Diagnosis and Management," produced for the Ministry of Health by the Crown Film Unit. It is the successor to the short one made last year² and was shown to a small audience last week. The film, which without tedium goes on for one hour, combines a first-class clinical demonstration with useful instruction on after-care and occupational therapy, and should prove of great value to general practitioners.

In another article in this issue (p. 1167) Field and Brierley refer to the spread of poliomyelitis virus within the body. The generally accepted view is that the virus spreads along nerve axons, but they suggest that some features of the disease are more readily explained by assuming that it spreads in the cerebrospinal fluid and that it may reach the central nervous system by lymphatic channels which they have demonstrated in the rabbit. In the body as in the community there may be several routes by which the virus spreads.

ADVERTISING OF PROPRIETARY MEDICINES

Successive statutes have forbidden the publication of advertisements offering treatments for certain diseases. The earliest was the Venereal Diseases Act, 1917, which made it an offence to advertise any preparation as a medicine for the prevention or cure or relief of such diseases. The Cancer Act, 1939, made it an offence to advertise any offer to prescribe remedies for the treatment of cancer. The Pharmacy and Medicines Act, 1941, similarly banned advertisements which implied that certain preparations might be used for the treatment of a number of diseases, including Bright's disease, diabetes, epilepsy, locomotor ataxia, and certain eye conditions. The same Act forbade publication of advertisements suggesting that any article might be used in a way calculated to produce misarrriage. In addition to these statutory injunctions a "British Code" has now been prepared with the approval

and support of the principal newspaper and advertising organizations, as well as of the Proprietary Association of Great Britain.

This code brings under a voluntary ban the advertising of remedies for a further fifty or so diseases. The diseases range from alopecia to varicose veins, from amenorrhoea to gastric or duodenal ulcer, from gallstones to obesity. They include structural or organic defects of eyes or ears and many skin diseases. Some of the categories are vague—"diseased ankles," "artery troubles," "cardiac symptoms"—but have been much used in lay press advertisements.

The movement towards a code of this kind first took shape twelve years ago when the Proprietary Association brought out, in agreement with the Newspaper Proprietors Association, a number of self-imposed restrictions, and a few years later, with the Newspaper Society joining in, further restrictions were added to the list in order to raise the general standard to the level of the highest adopted by any individual newspaper. The restrictions, of course, were obligatory only upon the members of the organization concerned.

In 1945 the Advertising Association took a hand; a committee was set up for the preparation of a common code, and the eventual result is the present document, which is supported by all the organizations above named, together with the Incorporated Society of British Advertisers, the Institute of Incorporated Practitioners in Advertising, and the Periodical Trade Press and Weekly Newspaper Proprietors Association. Thus the code has a triple backing—those owners of the proprietary preparations who belong to their trade association, the owners of newspapers, daily and weekly, and those who handle advertising matter. In addition to the ban on the offering of remedies for certain diseases guidance is given in other directions. Misleading and exaggerated claims must not be made. Appeals to fear are discountenanced. Such terms as "miraculous" or "magical" are out of court. Diagnosis or treatment by correspondence is banned. There must be no "money back" offers or prize competitions. Claims that a product will promote sexual virility are to be avoided. No reference must be made to a college, institute, clinic, or laboratory unless in fact such an establishment exists, and there must be no reference to doctors or hospitals unless such a reference can be substantiated by independent evidence and is properly used. The name "Dr." must not be attached to a product unless the product was so named before 1944.

Certainly the way of the patent medicine advertiser is made harder, for claims like those with which the British public has long been bemused will not appear in reputable newspapers or be handled by reputable advertising firms if the members of their respective associations follow the guidance given by this new code. Recognition should be made of the self-denial which these ordinances impose. It may be recalled that in 1912 a Select Committee was appointed to consider the question of the sale of patent and proprietary medicines, and that one of its recommendations was an amendment of the Indecent Advertisements Act, on lines suggested by the British Medical Association to include the total prohibition of the advertisement and sale (except the sale by doctor's order) of medicines purporting to cure a number of diseases, some of which were listed in the Pharmacy and Medicines Act twenty-seven years later, while others appear in this new code. Nothing further happened at that time, but since then, largely as a result of the action of the advertising profession and the public-spirited policy of enlightened newspapers, there has been a great improvement, which the new code will help to establish and carry further.

WEIGHT AND BLOOD PRESSURE

BY

R. A. MURRAY SCOTT, M.B.

Though information about the state of health of any section of the community is of particular value at the moment, few surveys of the nutrition of adults have been recorded. Some statistical records of haemoglobin levels are available, but little is known of the comparison, both in weight and in blood pressure, between age groups of people before the war and to-day.

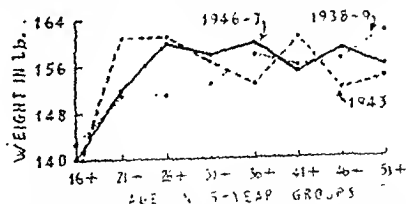
A review has been made of the weights and blood pressures of the male members of an office staff spread over the North of England. The table shows the age distribution of the men examined in 1938-9, 1943, and 1946-7.

Age Distribution

Age Group	1938-9	1943	1946-7	
			Ex-Service	Non-Service
16-20	38	29		104
21-25	152	8	35	24
26-30	332	11	32	28
31-35	291	2	70	7
36-40	192	12	38	55
41-45	129	60	10	81
46-50	76	69		52
51-55	46	28		42
Totals	1,236	475	185	393

The weights were taken fully clothed, but as the examinations were evenly distributed through the years seasonal variation in the weight of clothes has been ignored. The measurements of blood pressure before the war were taken by one doctor, while those taken in 1943 and 1947 were measured on the same instrument by two doctors, one of whom examined over three-quarters of the men. The measurements made by these two doctors have been several times compared and found to be similar. In the 1938-9 group the average weight was 155 lb. (70.3 kg.). The average weight in 1943 fell to 151 lb. (68.5 kg.), and in 1946-7 it rose to 156 lb. (70.8 kg.). These averages do not in themselves give a true picture of what took place, as the proportion of men in the several age groups varied in each period—e.g., the larger number of examinations in 1938-9 were in the 26-40-year groups, while in 1946-7 the largest group is 16-20 years.

A more detailed exposition of weights by age groups is shown in Graph 1. The average weight in pounds is plotted against

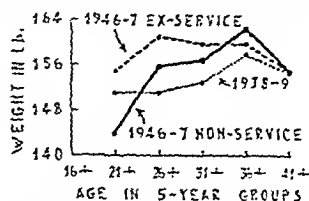


GRAPH 1.—Average weight according to age groups

five-year age groups. The number of men in each group can be seen from the above table. From the age of 21 to 40 the average weight in each 1946-7 group exceeds that in each comparable 1938-9 group, showing a most marked divergence of about 8½ lb. (3.8 kg.) at 26-30 years. The 16-20 age group is static in each period; so is the 41-50 group. In 1946-7, the 51-55 group is 5½ lb. (2.5 kg.) less than the 1938-9 counterpart.

Graph 2 shows the effect of splitting the 1946-7 series into ex-Service and non-Service components and leaving the 1938-9 series for comparison. This shows that from 21-35 years the ex-Service men give a higher average weight than the non-Service men, while the 36-40 group of non-Service men is higher than the ex-Service group. The number of men in each group is now too small to be completely significant, but the steady trend of ex-Service men in three consecutive age groups to be heavier than the non-Service men is suggestive. It is

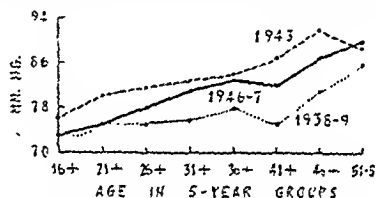
interesting to note that of 52 men aged 46-50 years examined in 1943, the average chest measurement was 37 in. (92.5 cm.) and the waist 32½ in. (81.25 cm.), while of 52 men of this age group examined in 1947 the average chest measurement was the



GRAPH 2.—Average weight of ex-Service and non-Service men of the 1946-7 group compared with that of the 1938-9 group.

same, but the waist measurement was 1½ in. (3.75 cm.) greater. This can be compared with an increase in average weight of 7 lb. (3.2 kg.) of the 1947 group over that of 1943.

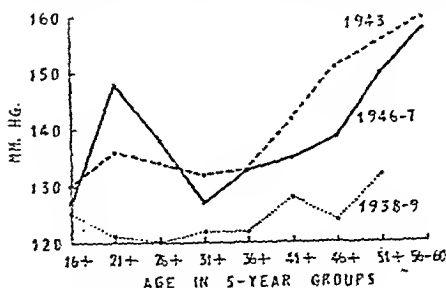
Graph 3 shows the rising lines of diastolic pressure of the increasing age groups of the three series of examinations. Through the whole of its length the 1938-9 line lies below those of 1943 and 1946-7. The 1943 line similarly lies above the other two. This grouping at once suggests that the war



GRAPH 3.—Average diastolic blood pressure.

strain of 1943, due to extra work and additional employment in A.R.P., fire-watching, and so on, coupled with the worries of bombing and the fear for relatives in the fighting line, caused a comparative rise of diastolic blood pressure at all ages. This increase has now fallen to a level roughly half-way between the wartime and pre-war levels. There is an interesting but unexplained dip in the 1938-9 and the 1946-7 lines at the 41-45-year group. Of more practical importance is the fact that the 46-55 groups of 1946-7 have a diastolic pressure averaging about 88 mm. Hg., which is some 5 mm. higher than that of the 1938-9 group.

Graph 4 records the average systolic pressures of the age groups. It shows positively the great average increase in pressure in those over 40 years in the wartime and post-war groups compared with pre-war. The post-war heights show



GRAPH 4.—Average systolic blood pressure.

little decrease on the 1943 range. The rise of average systolic pressure in the 21-25 group in 1946-7 compared with the 1938-9 group is thought to illustrate the nervousness of men at their first examination, as no rise occurs in the diastolic pressure.

Conclusions

Up to the age of 40 years the men examined in 1946-7 are on the average heavier than men of the same age in 1938-9. From 41 to 55 years there is little difference between the two periods.

The men between 21 and 35 years who have been in the Forces are on the average heavier than those who have not.

The average diastolic pressures of all 1946-7 age groups are above those of 1938-9, the maximum difference being 12 mm. Hg at 41-45 years.

The average systolic pressures of all 1946-7 age groups are above those of 1938-9, the maximum difference being 27 mm. Hg at 46-50 years.

The rise in blood pressure can be correlated with a recent increase in neurocirculatory disorders in the male staff over 50 years of age.

This sample survey of a section of the community is interesting and provides nutritional implications. Additional information of this type from other sections of the community would help to paint more clearly the picture of the health of the people of this country to-day. Perhaps it is available, but not published.

ROYAL SANITARY INSTITUTE CONGRESS INDUSTRIAL HEALTH DISCUSSIONS

A Health Congress was organized by the Royal Sanitary Institute at Harrogate from May 24 to 28. Delegates were present from several hundred municipal authorities and voluntary bodies, as well as from Government Departments, home and overseas. Dr. James Fenton and Dr. J. A. Ireland represented the British Medical Association. The Congress, over which Lord Inman presided, met in eight sections and at four special conferences. The president of the Conference of Medical Officers of Health was Dr. F. Hall, County Medical Officer, Lancashire. Dr. G. S. Wilson presided over the Section of Preventive Medicine and devoted his address to a description of the Public Health Laboratory Service, now established on a permanent footing under the National Health Service Act; on this subject he was followed by Dr. J. Greenwood Wilson and Dr. A. Leslie Banks. Dr. Andrew Topping presided over the Conference of Health Visitors, and urged, though with an awareness of the nursing shortage, that the health visitor should be a State-registered nurse.

Pneumoconiosis among Miners

One of the best sustained discussions in the Section of Hygiene in Industry, presided over by Prof. R. E. Lane, of the University of Manchester, was on the health of the coal-miner. Dr. J. B. Atkins, regional mines medical officer, Ministry of Fuel and Power, dealt with the problem of pneumoconiosis. In South Wales during the last two years there had been a steady improvement in incidence. In that area the problem had been so great as to strip the industry within three or four years of the best of its young man-power. By the end of 1945, 12,000 men, mainly skilled coal-face workers, out of a labour force of some 120,000, had been forced to leave the mines on account of this disease, thereby not only depleting the industry but seriously handicapping recruitment.

The general view was that the exceptionally high dust concentrations met with in South Wales, particularly in the mechanized mines before dust-suppression measures were taken, accounted for the wave of cases during recent years. Some concentrations were described by those who worked in them as being so thick that a man's lamp could not be seen at a distance of a few feet, and the choking effect was such that men frequently vomited their breakfast on starting work. The most effective attack on the problem had been made by ventilation, water infusion of the seam before mining, and the modification of mechanical mining to reduce the dust carried, for example, by wet boring and cutting and the incorporation of water sprays with pneumatic picks. Another line of investigation was by the finer analysis of jobs from the point of view of dust hazard. Regular x-ray examination of all men exposed would enable precautions to be taken when radiological signs of nodulation had developed, though Dr. Atkins pointed out that a single x-ray examination might be misleading if other clinical findings were not considered, because the appearance of x-ray changes due to dust might be masked by the development of focal emphysema. The first of a number of special light industry factories for the employment of men suffering from pneumoconiosis had recently been opened.

National Coal Board Medical Service

Dr. C. L. Cope, of the Scientific Department of the National Coal Board, described how research on pneumoconiosis was being actively pursued by the Medical Research Council unit at Cardiff, the team numbering nearly sixty. In this connexion reference should be made to the Goulstonian Lectures published in our last two issues by Dr. C. M. Fletcher, Director of the Pneumoconiosis Research Unit of the M.R.C.

Until the National Coal Board established an x-ray plant of its own, Dr. Cope continued, the contribution of the Scientific Department could only be the collection and co-ordination of information obtained from surveys and from records of dust concentrations. An advisory committee on nystagmus among miners which was formed originally by the British Colliery Owners Research Association was being actively maintained. Negotiations were proceeding for the appointment of a medical officer in the area of the small Kent coal-field to investigate miners' dermatitis. For some reason the incidence of dermatitis among miners in Kent was much higher than in any other part of the country.

A more difficult problem to tackle was the group of diseases not peculiar to miners. It was uncertain how miners' morbidity compared with that of the rest of the community. Chronic rheumatism was a good example of the type of condition on which more morbidity statistics were needed. It was held by some to be more common among miners.

Finally Dr. E. H. Capel, principal medical officer of the Board, discussed present and future arrangements. Under private ownership a few mines provided good medical services, but in general the industry lagged behind modern industries in this respect. Coal-mining was well known to be a dangerous occupation. During 1945 more than one miner out of every four sustained an accident or contracted an occupational disease necessitating more than three days' loss of work, a rate about seven times higher than that for industrial workers generally. During the past ten years the incidence of fatal accidents had fallen by about 30%, serious accidents had fallen slightly, but less serious accidents had risen by nearly 40%. Although the incidence of pneumoconiosis had fallen in South Wales since 1945, it had risen in other areas. Of other diseases, between 1,000 and 2,000 cases of nystagmus were certified annually; the incidence of occupational dermatitis was rising steadily, and chronic infections of the knee and elbow—the so-called "beat" diseases—remained at a high figure.

The medical service of the mines, as Dr. Capel saw it, would devote itself to selecting workers and assisting in their placement, controlling environmental conditions from the health point of view, and providing first treatment in accident and illness arising at work. One difficulty in organizing a medical service was that mines were small units. Of 956 mines, only 532 employed more than 500 men; 80 employed fewer than 100. If as a result of health measures absenteeism could be reduced from its figure of 12.5% last year to 11.5% it would mean an annual increase of about two million tons of coal.

Purity of Food

Several papers bearing on food inspection were read to the Congress. Mr. E. Dodsworth, chief sanitary inspector, Harrogate, discussed the adulteration of milk. He said that the Ministry of Health had suggested that out of every three samples of food and drink tested one should be of milk, milk being the ideal substance for the practice of adulteration. The familiar plea of defendants in milk cases that the appearance of the milk was due to the insufficient quantity and quality of the food given to the cows was contrary to the opinion of research workers hitherto, though worth re-examining. Mr. Dodsworth urged sharper penalties for offenders. The figures for adulteration remain obstinately high.

Ice-cream was also debated, and Mr. Morley Parry, chief sanitary inspector for Northampton, declared that owing mainly to the 1947 regulation which stated that all apparatus for the manufacture of ice-cream should be installed, maintained, and operated to the satisfaction of the local authority, the days of back-scullery manufacture of ice-cream were over. Mr. Parry was of opinion that there was no satisfactory equipment capable of complying with the regulations for heat treatment in their full form for those who manufactured less than

four gallons a day. Really adequate plant would raise the cost of ice-cream produced on such a small scale by 100 or 150%.

Epidemiology of Yellow Fever

In the Section of Tropical Hygiene, presided over by Dr. C. J. Hackitt, director of the Wellcome Museum of Medical Science, the epidemiology of yellow fever was the main subject for discussion. Dr. A. F. Mahaffy, director of medical research at the Colonial Office, said that such a study fell into two epochs, each of them initiated and made possible by an important discovery. The first was the demonstration that yellow fever was an insect-borne disease, transmitted by the mosquito *A. aegypti*, and the second the transmission of the disease to rhesus monkeys.

In Africa, Dr. Mahaffy said, there was a wide field of immunity to yellow fever, extending from the west coast through Central Africa into Uganda and the Anglo-Egyptian Sudan—a much wider distribution of immunity than could have been predicted from the history of the disease. He mentioned in particular the work done in Bwamba, in the extreme west of Uganda. Here evidence had been found of a man-to-man yellow fever cycle with *A. simpsoni* as the vector and a monkey-to-monkey cycle transmitted by various forest-dwelling mosquitoes, of which *A. africanus* was the most important. The evidence indicated that the disease was endemic in the monkeys of the forest and that it was able to maintain itself indefinitely in these animals. There was every reason to believe that in Bwamba yellow fever was essentially a disease of monkeys in no way dependent on the presence of human infection but introduced from time to time into the areas inhabited by man.

Thus, Dr. Mahaffy pointed out, it seemed that there were two distinct kinds of yellow fever epidemic occurring in two entirely different types of environment—one in urban centres, a disease of man transmitted by the domestic mosquito *A. aegypti*, the other associated with jungle or forest, a disease of the lower animals, transmitted by forest-dwelling mosquitoes. He emphasized that the difference between these types was wholly epidemiological, in every other respect the urban disease was identical with that which originated in the forest. He now believed that the forest disease was the original epidemiological type and that it was from this source that urban centres were invaded from time to time.

So far as the control of the urban disease was concerned, he method of choice was the extermination of the vector, *A. aegypti*. The control of forest vectors was a much more difficult, perhaps an impossible, task. The extermination of the reservoir of virus in the animals of the forest was impracticable and this source of infection remained a constant threat to any urban centre with which it was in continuous contact and in which the urban vector had not been eradicated, or at least brought under effective control. Vaccination against forest infection, however, was available, and was being indicated in the case of crews and passengers of air and steamship traffic operating between endemic and non-endemic regions.

Air-route Sanitation

Mr. C. B. Symes, entomologist to the Colonial Insecticides Committee, brought forward in the same Section a suggestion for Commonwealth air-route sanitation, namely, the creation of a high-level air-sanitation authority, a committee and executive with wide experience of health problems in the Tropics and elsewhere, whose duty it would be to inspect important airports and advise the local authority on the application of sanitary measures. It would concern itself also with the siting of new airports, the planning of medical-inspection rooms and quarantine buildings, and the sources and supplies of food for passengers and crews. Sanitary zones would be demarcated, based not on territorial boundaries but on the distribution of the main infections, and an adequate standard of sanitation for all main route airports would be established.

Investigations had shown that large numbers of insects of many groups, including those incriminated in spreading malaria, yellow fever, plague, and trypanosomiasis, were conveyed for long distances by aircraft and apparently suffered no ill-effects from changes of altitude and temperature. Of 200 species of

insects found in aircraft in Africa, the commonest were mosquitoes, including the vectors of malaria, and the two vectors and seven possible vectors of yellow fever. If insects could be adequately dealt with on and around airports and in aircraft the problem of insect-borne infections in relation to air travel would be reduced enormously.

Airport health control was also discussed by Dr. W. P. Cargill, deputy M.O.H., Southampton. His general conclusion was that the present quarantine procedure applied to aircraft coming to this country was a compromise between maximum protection for our own people and minimum interference with travel, and seemed to be satisfactory, provided full use was made of the protection afforded to travellers by artificial inoculation. Experience had shown that although the danger to this country from the introduction of exotic infectious disease by air travel was perhaps less than had been expected, the introduction of smallpox from the East was always possible. The other "convention" diseases were less to be feared as regards introduction, but passengers incubating smallpox had arrived in this country by air during each of the last three years. True, they were Service men, but as civilian air traffic expanded so would the risk increase.

HOSPITAL PLANNING AND METHOD

ROYAL COLLEGE OF NURSING CONFERENCE

A conference largely attended by matrons and nursing administrators was held at the Royal College of Nursing on May 31 and June 1 and 2. The plan was followed of having a number of opening addresses and then dividing into discussion groups. The main theme was modern planning, equipment, and method designed to improve the service to the patients.

Modern American Hospitals

Capt. J. E. Stone, consultant to King Edward's Hospital Fund, who has lately returned from a visit to American hospitals, gave some impressions he had gathered. One thing which struck him in the modern American hospital was the reception department—a large and pleasing entrance hall, a desk labelled "Information," a courteous white-gowned hostess who knew everything about the hospital, a lounge in which visitors could wait, and a gift or hospitality shop. Another feature was a beauty parlour for the nurses; in America a well-turned-out nurse is considered to have a therapeutic value for the patient. In general discussion the lack of a proper reception department in British hospitals was deplored. One suggestion was that every patient and visitor should receive a leaflet about the hospital, written in an intimate way—not a series of "do" and "don't's."

A point of controversy is whether nurses should serve meals. In American hospitals the dietitian is in charge of meals until they actually reach the bedside. An electrically heated trolley comes to the bed and also offers the patient some choice of dishes. The over-bed table is largely done away with, and a locker is provided which on pressing a button extends a table, and on pressing another button furnishes the patient with a reading-desk. Bedsteads are largely made of aluminium. The old institutional mattress is giving place to an interior spring or rubber mattress. Some discussion took place on the best distribution of beds in the ward. The parallel-to-the-wall system, largely adopted on the Continent, found a good deal of favour in the conference, as opposed to the usual system of alignment of beds with their heads to the wall.

Noise in Hospitals

Capt. Stone said that in large American hospitals the visual system for calls is being used in preference to the auditory system; in this country the visual system has been installed in the new Charing Cross Hospital. In one hospital of 800 beds with the auditory call system it was estimated that 47 calls through the loud speaker in every ward and corridor were made during an average day. In some hospitals in America and in at least two in this country a microphone system has been put in whereby the patient who wants the nurse can speak to her at a distance, and a promised development of this system is an intercommunicating telephone whereby the nurse can also

answer at a distance. Headphones for wireless are being discarded in American hospitals in favour of a "husher-phone"—a disk about 10 cm. in diameter—which is placed under the pillow so that the patient can lie and hear the programme and even the occupant of the next bed cannot hear a sound. Hospital doors can be a great source of noise; this can be abated by a wide single door, with a good check return and without a catch—a plan followed in Westminster Hospital. The elimination of metal gates for lifts in favour of automatic doors would do away with another source of noise; and a noise which can be very irritating to patients, the hanging of cups on metal hooks in the ward kitchen, can be overcome by the use of leather-covered or plastic hooks.

The lighting of wards was also discussed, and what was called strip lighting—apparently fluorescent lighting—found some favour, though it had some critics, one nursing sister remarking that with this lighting "you cannot make up your mind what colour the patient is." Fluorescent lighting was stated by Capt. Stone to be very popular in American hospitals, but some device for toning it down is used in the wards. In the discussion speakers preferred for lighting at night a low-level light which can be switched on by the bed, also an independent light on the locker or near by which can be used for clinical purposes as well.

Mr. Bevan on Postponement

The final session of the conference was addressed by the Minister of Health. Mr. Aneurin Bevan said that there had been suggestions that the new Health Service ought not to start on July 5 because of shortage of beds, of equipment, of health centres, of doctors, and of nurses. But it was "stupid nonsense" to talk of postponing the Act until they had got all they needed. Expectation would always exceed capacity. In any case if there was a shortage it was all the more reason for making a well-balanced use of the resources available. "If there is a shortage of doctors on July 5, when the cash relationship between doctor and patient will disappear, it is very much more important that the doctors who are in short supply should spend their time looking after patients who really need to be looked after than that they should be looking after a lot of hypochondriacs who can afford to pay."

So far as nurses were concerned Mr. Bevan considered that the National Health Service itself ought to be the best recruiting agency. The conditions of nurses had been improved during the last year or so, and they would be improved even more. For example, the superannuation scheme would follow them wherever they went, from hospital to hospital, a thing which did not obtain at present. As for health centres, of course we were going to have health centres, but not all at once. Housing was the most important of all health services; if he had to choose between building houses and building health centres his choice was for houses. If a mother could have her baby in a good modern house it was better for her than to be in a maternity home.

From the beginning he had been most anxious that the people who actually ran the Service should have a bigger and bigger share in the policies which governed it. Democracy was not in the putting of a cross opposite somebody's name once in five years, but in the dynamic participation of the citizen in the affairs of his own profession or service. With this in mind it had been arranged to put a nurse on each Regional Board, but the Regional Board was not the main administrative hospital unit; this was the Management Committee, and it was desired that the staff groups in every hospital should be so organized as to have direct access to that committee. Participation of the nurse at hospital, regional, and national level was provided for in this scheme. There would be a Nurses' Advisory Committee at the top under the Central Health Services Council which advised the Minister. These advisory councils were very important bodies with power to make recommendations. Mr. Bevan stressed the freedom of the nurse in the Service to work where she wished; there was no power of direction, though there might be a request to a nurse to go to a hospital where there was shortage of staff. The Regional Board could not dismiss a nurse over the Management Committee's head because she was unwilling to go to another hospital.

In conclusion Mr. Bevan said that much attention had been drawn to what we had not got, but sometimes it was a good thing to call attention to what we had got, and we had some-

thing in this country which was of priceless value—namely, the genius for combining State and voluntary activity. Here we had a great centralized health scheme organized by the Government and paid for by the State—it was extraordinarily difficult to convince people that there was no contributory basis, but that the Service was provided for everybody from the national exchequer—but the voluntary system would be still at work. The voluntary system would be found on the Regional Boards and the Management and House Committees. It was this compromise between State and voluntary activity which showed the peculiar genius of the British people, and thanks largely to this he predicted that in some years' time—not too far ahead—people would be coming from all parts of the world to this country to study a magnificent health system.

SCOTTISH HEALTH SERVICES COUNCIL

The Scottish Health Services Council has been set up under the National Health Service (Scotland) Act to advise the Secretary of State for Scotland on the Service. It has elected Sir Humphrey Broun Lindsay chairman and Prof. Sydney Smith vice-chairman. Dr. E. R. C. Walker, Scottish Secretary of the B.M.A., has been appointed joint secretary with Mr. T. D. Haddow, of the Department of Health for Scotland. The first meeting, which Mr. Woodburn attended, was held in Edinburgh on June 11. The following are the members of the Council:

Appointed until Dec. 31, 1949.—Lieut.-Col. J. C. Dundas, chairman, British Hospitals Association (Scottish branch); Prof. G. B. Fleming, visiting physician, Glasgow Sick Children's Hospital; Mr. J. M. Graham, consulting surgeon, Royal Infirmary, Edinburgh; Prof. Sir David Henderson, Professor of Psychiatry, Edinburgh University; Mr. James F. Henderson, dental practitioner; Miss C. M'N. Keachie; Dr. David M'Call, assistant resident secretary of the Pharmaceutical Society in Scotland; Dr. George MacFeat, chairman of Scottish Committee of B.M.A.; Prof. J. W. M'Nee, Regius Professor of Practice of Medicine, Glasgow; Mr. John Mann, Convener of Lanarkshire; Dr. W. D. D. Small, President of the Royal College of Physicians, Edinburgh.

Appointed until Dec. 31, 1950.—Dr. A. D. Briggs, medical superintendent, Stobhill Hospital, Glasgow; Sir Humphrey Broun Lindsay, Convener of East Lothian; Prof. D. F. Cappell, Professor of Pathology, Glasgow University; Dr. R. C. Scott Dow, examiner in dental surgery for Royal College of Surgeons, Edinburgh; Miss J. P. Ferlie, matron, Simpson Memorial Maternity Pavilion, Royal Infirmary, Edinburgh; Dr. G. Matthew Fyfe, Medical Officer of Health, Fife; Dr. J. R. Langmuir, chairman of Glasgow Local Medical Committee; Prof. J. R. Learmonth, Regius Professor of Surgery, Edinburgh University; Dr. I. H. Maciver, member of Northern Regional Hospital Board; Mr. William O'Neill; Capt. Joseph Steel, director of Crichton Royal Institution, Dumfries; Capt. J. P. Younger, Director of Stirling Royal Infirmary.

Appointed until Dec. 31, 1951.—Prof. Dugald Baird, Regius Professor of Midwifery, Aberdeen; Dr. W. G. Clark, Medical Officer of Health, Edinburgh; Mr. Alexander Cunningham, member of Stirling County Council; Mr. C. G. Drummond, pharmacist; Dr. Mary Esslemont, general practitioner in Aberdeen; Mr. W. F. Ferguson, secretary and treasurer of Royal Infirmary, Edinburgh; Miss E. G. Manners, matron, Glasgow Royal Infirmary; Dr. A. F. Wilkie Millar, general practitioner in Edinburgh; Mr. Thomas Rankin, consulting dental specialist to plastic and jaw injury units at Bangour and Ballochmyle; Dr. Ferguson Rodger, Medical Commissioner, General Board of Control for Scotland; Prof. Sydney Smith, Regius Professor of Forensic Medicine and Dean of Faculty of Medicine, Edinburgh University; Mr. James Young, Provost of Kirkcaldy.

BOARDS OF GOVERNORS OF TEACHING HOSPITALS

The Minister of Health has appointed the following chairmen and members of Boards of Governors of Teaching Hospitals:

United Newcastle-upon-Tyne Hospitals.—Mr. Norman Dakeyne Newall, O.B.E., J.P. (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: Dr. Robert Vivian Bradlaw; Alderman John Chapman; Mr. Edward Colgan; Mr. Edward Foyle Collingwood; Mr. Henry Harvey Evers, F.R.C.S.; Mr. Fred Burnand Fenwick; Prof. Ronald Bramble Green; Prof. Frederick John Nattrass; Mr. John Walmsley; Mr. Thomas Alexander Wright.

Appointed for the period ending March 31, 1951: Mr. William Allan; Viscount Allendale, C.B.E., M.C.; Alderman Peter Stron-

Hancock, O.B.E.; Mr. W. Stanley Mitcalfe, M.C.; Mr. Robert Muckle; Rt. Hon. Lord Eustace Percy; Viscountess Ridley, J.P.; Sir Walter Thompson, J.P.

Appointed for the period ending March 31, 1952: Dr. Thomas Henry Bates, J.P.; Mr. Norleigh Booth; Dr. Samuel Whately Davidson; Alderman N. Garrow, J.P.; Mr. John Gilmour, F.R.C.S.; Sir Mark Hodgson, O.B.E., J.P.; Mr. Walter Daglish Lockety, J.P.; Prof. James Calvert Spence, M.C.; Alderman Miss Margery Taylor, O.B.E., J.P.; Mr. Sam Usher

United Leeds Hospitals.—Sir George W Martin, K.B.E., J.P. (chairman), who is appointed for the period ending March 31, 1951.
Appointed for the period ending March 31, 1951.

David Beevers, J.P.; Prof. Andrew Moynihan Claye; Mr W. M. Jones; Miss Elinor Gertrude Lupton, J.P.; Prof. William MacAdam; Prof. Thomas Talmage Read; Dr John Elvin Rusby, M.C.; T.D.; Prof. Arnold Nixon Shummin.

Appointed for the period ending March 31, 1951 Prof. Digby Chamberlain; Mr. Marcus Robert Hollings. Mr Joseph Charles Hunter; Mr. William Wilson Powell; Rev. Canon Arthur Sirelton Reeve; Mr. L. Richmond, CBE; Mrs. I. Barbara Shaw; Mr. Richard Wheeler, J.P.; Alderman Joseph Wilkenson, J.P.

Appointed for the period ending March 31, 1952. Mr. James Walker Booth; Mr. John Franco Fattorini; Mr. Frederick J. Higginson; Dr. John Thornton Ingram; Dr. Bernard Mowat Jones, D.S.O.; Mr. Leslie Norman Pyrah, F.R.C.S.; Mr. Harold Abbot Ryott; Prof. Matthew John Stewart; Mr. Mark Whitlock.

United Sheffield Hospitals.—Mr. A. Ballard (chairman), who is appointed for the period ending March 31, 1951

Appointed for the period ending March 31, 1950 Alderman
Alfred Buxton, J.P.; Mr Edward Thornton Lemmon. Mr J
Madin, J.P.; Mr Percy Mally. Mr Arthur Ratcliffe Martin, Mr
James Irvine Orme M.B.E.; Mr Theophilus Pearson.
Dr. Henry Renwick Vickers. Mr Thomas Gilbert Sorby Prof.
Edward Johnson Wynn:

Appointed for the period ending March 31, 1961: Mr. James Victor Bibby, D.S.O.; Mr. M. John Briggs; Mr. Gladys Burton J.P.; Mr. John Lewis Ardern; Great F.R.C.S.Ed. M.C. Alarman Percy Judd; Dr. Balfour McKean; Mr. Frederick Marmont Osborn; Mr. Leslie Bingham; Patrick F.R.C.S.Ed. Mr. William Raymond Shirecliffe; Stephen; Mr. Gerald Francis Young.

Appointed for the period end 1 March 1982: Mr Frank Anthony Barker; Sir Basil Gibson, JP. Mr William James L. F.R.C.S.; Dr. John Gibb McCue, OBE TD. Peter George Lawrence Roberts; Prof. Charles Herbert Sutherland, A'Fellow Mrs. Grace Tebbutt; Mr John Wilford T. Jett, JP.

United Cambridge Hospital - Mr. I. R. K. S. (chairman), who is appointed for the period ending March 31, 1951

Appointed for the term ending March 31, 1956: Mrs. A. J. McClean Bidder; L. B. Brazz J. P. Mrs. E. L. H. N. M. George Hawkins, O. B. M. O. C. E. E. E. H. A. O. M. Ernest William Plump J. P. R. P. O. C. E. E. E. R. L. Dr. Claude Howard W. J.

Appointed for the period ending March 31, 1966: Mrs. E. Binfield; Mrs. Eleanor Margaret Curran; Mr. Walter Macdonald; Francis; Alderman Edward Thomas H. Linar; Mr. O. L. F.R.C.S.; Mr. Roger Henry Parker M.C. Alderman Mr. E. Winifred Parsons; Mr. Alfred Smith; Harold Winifred F.R.C.S. Rt. Hon. Henry Urmston, Whiston M.C.

Appointed for the period 1st January 1962 to 31st December 1962:

Oswald Chivers, CBE, Director, British Antarctic Survey, High Cross, Madingley Road, Cambridge CB3 0ET.

Dean; Mr. Percy French, Director, British Antarctic Survey, High Cross, Madingley Road, Cambridge CB3 0ET.

Mr. Sidney George Newman, M.A., C.B.E., F.R.C.S., Director, British Antarctic Survey, High Cross, Madingley Road, Cambridge CB3 0ET.

Mr. H. J. Pye, Mr. A. J. Shepherd, M.B.E., M.B. (P.), S.D. (P.), Director, British Antarctic Survey, High Cross, Madingley Road, Cambridge CB3 0ET.

Ernest Howard White, Director, British Antarctic Survey, High Cross, Madingley Road, Cambridge CB3 0ET.

United Oxford Hosp. - Mr. E. G. C. ... F.R.C.S.
(chairman), who is accompanied by ... M.B. ...

Appointed for the following: Mr. C. W. Carter; Mr. Arthur F. Smith; Mr. Percy G. Alderman Dr. Isabell. Dr. H. M. J. P. Dr. A. Freeman King; Mr. R. G. M. Dr. Ed. Mr. Leonard Vincent Murray; Miss R. Dr. Arthur Quinton Wells.

Appointed for the period ending March 22, 1917: Dr. Edward Miller Buzzard; Sir Henry C. Park, Arthur D. Brown Gardner; Mr. John J. Johnson, CBE; Mr. A. C. Williams, Henry Booth King; Mr. James Christopher Scott, FRCS; M. Edgar Alfred Semewin, J.P.; Mr. Ralph Francis S. S. OBE, TD.; Dr. Janet Marie Vaughan, OBE; Dr. John Christopher Wharton.

Appointed for the period ending March 31 1952 Mr. Leonard Bertie Guy Bellinger Prof. Sir Hugh Cairns Dr. Alexander Macdougall Cooke; Mr H A Goddard Mr Gilbert Ernest Cecil Holt, J.P.; Mr. William Robert Robson, J.P.; Mr. John Thomson, J.D.; Alderman Lady Laidlaw, J.P. Prof. L.J. Wiggs.

United Bristol Hospitals.—Mr. Charles Cyril Clarke (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: Prof. Arthur Ivan Darling; Mr. Philip William Hort; Miss I. M. Lebb; Alderman John James Milten, J.P.; Sir Philip Robert Morris, C.B.E.; Mr. Anthony Gordon Palin, F.R.C.S.Ed.; Lady Sinclair; Mr. Herbert Bland Stokes; Miss Helen Strimer.

Appointed for the period ending March 31, 1951. Mr. Gilbert Charles Bennett, George Travers Biggs, DSO, Prof. Robert James Brocklehurst, Mr. G. T. Bullock, MBE, Prof. Albert Victor Neale, Rev. K. L. Parry, Dr. Sydney Kishaw Rigg, Mr. Harry Leslie Shepherd, F.R.C.O.G., Lady Wills, JP.

Appointed for the period ending March 31, 1952: Mr. George Alton Watson Allan; Mr. Egbert Caubrey, D.S.C., D.F.C., J.P.; Mr. William James Carter; Mr. Geoffrey Melvyn Fitzgibbon, F.R.C.S.; Dr. James Herbert Grove-Whire; Mr. John Angell James, F.R.C.S.; Prof. Robert Hughes Parry; Prof. Charles Bruce Perry; Mr. Herbert George Tanner

Unned Cardiff Hospitals—Mr. Gilbert David Shepherd, M.B.E., J.P. (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: Alderman Joseph Dicks; Mr. Douglas Benjamin Evan Foster, F.R.C.S.; Alderman James Griffiths, J.P.; Mr. Alex Samuel William Johnson, J.P.; Sir Ewen J. Maclean, T.D., J.P.; Mr. Samuel Ralph Marsh; Mr. Ernest Victor Rogers; Mr. Edward E. Tompkins, J.P.; Dr. Arthur Geroway Watkins.

Appointed for the period ending March 31, 1964: Alderman Sidney Jones, Mr. Robert Davies Owen, F.R.C.S.Ed. Alderman Oliver Cuthbert Purnell, C.B.E., J.P., Alderman Mr. Dorothy M. Rees, Alderman Richard Gruffydd Robinson, J.P., Prof. G. I. Stuchlik, Mr. Ernest Tear, J.P., Sir Ivor B. Thomas, J.P., Mr. James William Tudor Thomas, F.R.C.S., Alderman the Rev. William Degwel Thomas.

Appointed for the period ending March 31, 1982: Sr. Frederick J. Aibar, CBE, JP; Mrs. Helena Evans; Mr. Harold Finch; Prof. Jehro Gough; Mr. Charles James Handa, Jc.; Mr. Sidney Mitchell; Prof. Ralph M. F. Paken; Sr. W. Reardon-Smith, Bt.; JP; Dr. Thomas Roger Rees; Prof. Lambert Charles Rogers.

United Birmingham Hospital.—Mr. Stephen Francis Burman, M.B.E. (Lancaster), who is appointed to the post ending March 31, 1951.

Appointed for the period ending March 1, 1950: Mr. George Paul Alderman, Albert Frederick Brodner, M. D. Bulgin, Prof. Frank Cyril Power Cooke, Mr. John Fairfax Crowder, Alderman Mrs. Elsie May Farley, J.P. Prof. Humphrey Francis Humphreys, OBE, M.C. T.D. Mr. Raymond Edward Ponsley, M.C., Alderman Arthur James Stanley.

Approved for the period ending March 31, 1951

Lizbeth J. Abreu	OBE, F.R.C.S.	Miss Eunice	Madge Bayling
MBE	Mr Thomas Austin Ham	Baynes	J.P. Alderman
William Teggin Bower	Mr C. L. Chas		Alderman Walter
Low Douglas	Mr Vernon William	Grossman, J.P.	Prof. Hilda
Norm Lloyd	Mr William Henry	Newson	Mr William James

Appointed for the period ending March 31, 1952: Mr. Raleigh R. Adams, Dr. Arthur Beauchamp, Mr. Keith Mundelsohn, Mr. Helen Murrigh, Prof. Sir Leonard Gregory Parsons, Mr. T. Patterson, Mr. Baron Theodore Rose, F.R.C.S., Mrs. Rachel Jane Scott, Prof. Arthur Peregrine Thomson, Mr. Eric Walfred Vincent.

United Manchester Hospitals—Mr. Colin Marshall Skinner (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: Mrs. Jean Currier, Dr. Ogilvie Maxwell Duthie, Alderman Joseph Eastham, J.P., Mr. Eric Christopher Carlyon Evans, M.B.E.; Mr. G. H. Goulden; Mr. Graham Halbert; Prof. H. S. Raper, C.B.E., F.R.S.; Sir John Stanford; Prof. Frank Clare Wilkinson.

Appointed for the period ending March 31, 1951: Dr. William Brockbank; Mr Percy Chadwick, J.P. ; Mrs. Mabel Evans, J.P.; Mr. Thomas Mark Larrad, J.P. ; Mr. Harry Lord; Prof. Sir Harry Platt. Prof W. J. Pugh, O.B.E.; Mr James Sullivan; Prof. Andrew Topping, J.D. ; Very Rev. Garfield Hodder Williams, O.B.E.

Appointed for the period ending March 31, 1952: Mr. Norris
Montgomery Agnew; Mr. William Chadwick; Dr. Eric Arthur
Gerrard; Mr. Stuart Hirst Hampson, M.C., M.B.E.; Mr. Kenneth
Graham Holden; Mr. Robert Lord Holt, F.R.C.S., O.B.E.; Mr.
Joseph Kershaw; Mr. Robert Leech Newell, F.R.C.S.; Mr. William
Onions, I.P.; Prof. Robert Platt.

United Liverpool Hospitals.—Sir Richard Harold Armstrong (chairman), who is appointed for the period ending March 31 1951.

Appointed for the period ending March 31, 1950: Mr. John P. Bibby; Prof. Henry Cohen, J.P.; Mr. Thomas Henry Herron; Miss Mary Jones, O.B.E.; Mr. Thomas Keeling, J.P.; Mr. George Leather, J.P.; Mr. Thomas McDonald; Mr. James Bagot Oldham, F.R.C.S. Dr. Prof. Hubert Horace Stones.

Appointed for the period ending March 31, 1951: Mrs. D. Barton M.B.E., J.P.; Mr. Albert Nicholas Denaro, M.B.E., J.P.; Mr.

Averill Doris Eills, M.B.E., J.P.; Prof. William Mowll Frazer, O.B.E.; Prof. Thomas Norman Arthur Jeffcoate; Alderman William John Lucas, J.P.; Mr. John Tertius Morrison, O.B.E., F.R.C.S.; Prof. Edwin Augustine Owen; Dr. Percy Henry Whitaker.

Appointed for the period ending March 31, 1952: Mr. Frederick Bidston; Mrs. Elizabeth M. Braddock, J.P., M.P.; Prof. Norman Brandon Capon; Dr. Robert Coope; Mr. A. Elliott, J.P.; Mr. Arthur Alexander Gemmell, M.C., F.R.C.S.Ed.; Mr. George Jennings; Dr. T. A. Jermy; Mr. James Frederick Mountford; Sir John Nicholson, Bt., C.I.E.; Mr. William Sutcliffe Rhodes, J.P.

MEDICAL BIRTHDAY HONOURS

The names of the following members of the medical profession were included in a Birthday Honours List published in *Supplements* to the *London Gazette* on June 10:

Barony

Sir ALFRED EDWARD WEBB-JOHNSON, Bt., K.C.V.O., C.B.E., D.S.O., T.D., M.B., Ch.B. Surgeon to H.M. Queen Mary. President of the Royal College of Surgeons of England since 1941.

K.B.E. (Military Division)

Air Vice-Marshal ALAN FILMER ROOK, C.B., O.B.E., F.R.C.P., D.P.H., R.A.F. Honorary Physician to the King. Consultant in Medicine to the Royal Air Force.

Knighthood

WILLIAM GILLIATT, C.V.O., M.D., M.S., F.R.C.P., F.R.C.S. President of the Royal College of Obstetricians and Gynaecologists.

JOHN NEWMAN MORRIS, C.M.G., M.B., B.S., F.R.A.C.S. Chairman of National Council of the Australian Red Cross. For outstanding services in Red Cross matters and voluntary hospital work in the State of Victoria.

DAVID THOMAS ROCYN-JONES, C.B.E., D.L., M.B., C.M., D.P.H., J.P. For public services in South Wales.

C.B. (Military Division)

Surgeon Rear-Admiral OWEN DEANE BROWNFIELD, O.B.E., M.B., B.S. Honorary Physician to the King.

Major-General JEREMIAH JOHN MAGNER, M.C., M.B., B.Ch., D.M.R., late Royal Army Medical Corps.

C.B. (Civil Division)

CHRISTOPHER FRANK GOOD, M.R.C.S., L.R.C.P. Principal Medical Officer, Insurance Medical Service, Ministry of Health.

C.M.G.

JOHN CECIL RANKIN BUCHANAN, M.D., F.R.C.P.Ed., D.T.M. and H., Colonial Medical Service. Director of Medical Services, Fiji, and Inspector-General, South Pacific Health Service.

PERCY SROCKS, M.D., F.R.C.P., D.P.H. Chief Medical Statistician, General Register Office.

C.B.E. (Military Division)

Surgeon Captain FREDRICK GEORGE HUNT, M.B., B.Ch., R.N. Air Commodore ERIC ALFRED LUMLEY, M.C., M.D., B.Ch., D.P.H., D.T.M. and H., R.A.F.

C.B.E. (Civil Division)

JOHN HENRY BIGGART, M.D., D.Sc. Professor of Pathology and Dean of the Faculty of Medicine, Queen's University, Belfast.

CHARLES SAMUEL CURTIS, M.D., Medical Director and Superintendent of Newfoundland Medical Service.

FRANK ARNOLD GUNASEKERA, O.B.E., M.R.C.S., L.R.C.P. Senator, formerly Officer Commanding, Ceylon Medical Corps.

EDWARD ROWLAND ALWORTH MEREWETHER, M.D., F.R.C.P., D.I.H. Senior Medical Inspector of Factories, Ministry of Labour and National Service.

JOHN ERNEST ALFRED UNDERWOOD, M.B., B.S., D.P.H. Principal Medical Officer, Ministry of Education.

O.B.E. (Civil Division)

WILLIAM DAVID BATHGATE, M.C., L.R.C.P. and S.Ed., Medical Superintendent, Hospital of the Edinburgh Medical Missionary Society, Nazareth, Palestine.

AGNES ELIZABETH LLOYD BENNETT, M.B.E., M.D. For services as medical practitioner in Wellington.

JOHN ROBERT BLAZE, L.M.S., Senior Physician, General Hospital, Colombo.

PERCY LESLIE FOOTE, F.R.C.S.Ed., Medical Superintendent, Bute Hospital, New Zealand.

JAMES JOHN JOSEPH GIPALDI, M.D. Physician, King George V Hospital, Gibraltar.

CHARLES NORMAN GRIFFIN, M.B.E., M.D., Colonial Medical Service. Federal Senior Medical Officer, Leeward Islands.

WILLIAM ARTHUR EDWARD KARUNARATNE, M.D., Professor of Pathology, General Hospital, Colombo.

SHANKAR DHONDO KARVE, M.B., B.S. For public services in Kenya.

ROBERT KIRK, M.D., F.R.F.P.S., D.P.H., Bacteriologist, Sudan Medical Service.

Mrs. ELIZABETH JOSEPHINE LE SUEUR, M.B., B.Ch., D.P.H., D.T.M. and H., Lady Medical Officer, Sarawak.

EDOWO AWUNOR RENNER, M.B., Ch.B., Senior Medical Officer, Sierra Leone.

GEORGE FRANCIS THOMAS SAUNDERS, M.D., Colonial Medical Service. Senior Medical Officer, Gold Coast.

THOMAS EDMONDSTON SAXBY, F.R.F.P.S., J.P., Medical Practitioner, Unst, Shetland.

Honorary O.B.E. (Civil Division)

LAWRENCE MICHAEL EKEN RICHARD HENSHAW, M.B., Ch.B., D.T.M., Medical Officer, Nigeria.

M.B.E. (Civil Division)

SYBIL KATHLEEN BATLEY, M.R.C.S., L.R.C.P., Medical Superintendent, Church Missionary Society, Onitsha, Nigeria.

GEORGE ERIC WARNER LACEY, M.B., B.S. Admiralty Surgeon and Agent, Woolwich.

Knighthood for C. R. Harington, Ph.D., F.R.S.

The honour of knighthood was also conferred on Charles Robert Harington, Ph.D., F.R.S., Director of the National Institute for Medical Research.

TRAINING OF NURSES

The General Nursing Council for England and Wales has submitted to the Minister of Health a memorandum on the Report of the Working Party on the Recruitment and Training of Nurses (Sept. 13, 1947, p. 426). The Council advocates three years of training instead of the two years recommended by the Working Party, considering that it would be impossible to cover the suggested syllabus in the time. Candidates should undergo the G.N.C.'s test examination before entering the training school if they do not hold the requisite qualifications; they should have a comprehensive medical examination and also be interviewed by the matron. No candidate should start training before the age of 18. Student nurses should be on duty (including theoretical training) for not more than 96 hours a fortnight.

Discussing the wastage during training that the Working Party emphasized in its report, the Council considers that the statistics which the Working Party used are misleading because they relate largely to the war years, when many girls entered the profession to avoid being directed to other work. "Dislike of contact with sick people" is an important cause of wastage not discussed by the Working Party, and the G.N.C. points out that since June, 1947, this reason for discontinuing training has been returned by 63 out of 311 student nurses. Unfortunately it is discovered only after training has started. On the subject of discipline of student nurses, which was discussed at length by the Working Party and by the organizations that have commented on its report, the G.N.C. emphasizes that "discipline to a certain degree" is essential, but that the rules should be accepted and appreciated as necessary to the welfare and comfort of those living in the nurses' home.

In recent years student nurses have had to undertake work that would normally be performed by the domestic staff; the Council deprecates this and considers that students ought only to care for nursing equipment and do such domestic duties as are part of the training. It asks the Minister of Health, and through him the Minister of Labour, to help in the urgent recruitment of ward orderlies and domestics.

Seventeen delegates from Belgium, China, Eire, France, Holland, Switzerland, and Sweden, with a power of attorney from Finland and fifteen from this country, attended the meeting after the sixth annual conference of the British Pharmaceutical Students' Association to discuss the formation of a world federation of student pharmacists. Russia ignored the invitation. Five weeks before the meeting Czechoslovakia promised to send delegates; none arrived. Hungary, after agreeing to be present, wrote asking for an official invitation to allow delegates to get permits to leave the country. Nothing more was heard of them.

Reports of Societies

CO-OPERATION BETWEEN PHYSICIAN AND PSYCHIATRIST

Need for Team Work

A discussion on cooperation between the psychiatrist and the psychologist in psychosomatic medicine took place in the evening of the Section of Medical Psychology. Ronald S. Gellert, M.D., presented a paper on May 25.

Dr. MAURICE DAVIDSON, the expression "team work" is very popular in recent years. It is a sacrifice of immediate materialism and opportunism necessary to realize and maintain its great reputation essential to full understanding any branch of medicine. In discussing that event

The crystallization of Freud and of psychiatry as a idea of psychosomatic centuries. In the Se from their colleague was anxious to eluc and the necessary li trist alike in deah which their function days many patients symptoms for which be discovered were Yet they were none the round of hospit

This extreme evaluation is perhaps less prominent in its own right. The real problem is the operation between the two. Much excellent and valuable medical literature has been written which was confined to the field when it was encouraged by the faculty inherent in the accompanying card. The progressive polyarticular psychosomatic problem or prolonged mental state is a dormant tubercle.

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Dr. G. W. B. J. psychiatry was not his privilege to meet wealth as well as to record that the donations, were bewildered upon him with dis- effectively. As a

[illegible][illegible]

1. The first step is to identify the problem. This involves understanding the current situation and the goals that need to be achieved.

[illegible]

Surprised that

1. The first group of people who are charged with the task of identifying the problem are the "problem solvers". These are the people who are responsible for the problem and who are charged with the task of identifying the problem and finding a solution. They are the people who are responsible for the problem and who are charged with the task of identifying the problem and finding a solution.

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The fact that the methods were empirical in no sense. The psychiatrist badly needed the help of his scientific medical colleagues in the closer investigation of his methods. One point to be remembered, however, no

He hoped that physicians would have experience of psych

part of their own medical education. The mind of a patient was to know one's own. Dr. [illegible] advised a training analysis for the physician. In this way [illegible] would gain insight not only into the way to treat psychoses and other psychiatric cases, but into the aetiology of [illegible] bodily ills beginning in the primitive developing mind [illegible]. The first step to a condition like duodenal ulcer [illegible].

infant: The first step to a conscious

be in the developing mind, and then in process of time, when the character of the ulcer-prone individual was fully formed, the somatic would add itself to the psychic element.

Physicians and psychiatrists united were probably the best hope of a sick world. Man was carrying to-day an immense load of emotional disability. He was lamentably unable to manage his affairs, with his fears and guilts and hates and aggressions. He lived by outworn standards imposed upon him by his grandparents, and it was not surprising that he often found relief in psychosomatic illness.

Prickly Psychiatrists

Dr. J. S. RICHARDSON said that the realization that certain well recognized and frequently encountered diseases which had been accepted as organic since they were first described had in fact a largely psychological basis was comparatively new. The missionary spirit of some psychiatrists made them at times prickly companions, especially when their enthusiasm outran the limits of their subject and even of their capacity. He wondered how long it took psychiatrists to achieve success where success was achieved. And what about the cases that relapsed? The picture they had been given by Dr. James of the grumpy physician doling out his bottle of medicine and yet being followed by his patient for years was true, but how much less good was his treatment than that of the sympathetic gentleman tête-à-tête with the patient, using techniques which were dramatic and doubtless effective, and how vulnerable were these patients to influences which were outside any doctor's control.

The general physician's relationship to the psychiatrist was the same as to any other specialist. He would seek his help as he would that of the surgeon or neurologist. Some patients mistrusted specialists and feared that certain aspects of their cases were apt to be overlooked by them. There were those who resented the suggestion that they should attend the psychiatric department, or felt a sense of shame or failure when this was broached. There would be something wrong with a society which allowed an individual to accept too willingly a psychiatric basis for his complaints. These prejudices contained something of value and furnished an additional reason why the physician should be as competent as possible to deal with such cases himself. He hoped the term "psychosomatic medicine" would fall into disuse, and that the physician and psychiatrist would come to use the word "medicine" in the same sense.

General Discussion

Dr. NOEL HARRIS said that the study of psychology should be incumbent on all who took up medicine, just as much as the study of anatomy and physiology. It was unfortunate that psychology had been thought of too much in the past in connexion with the study of psychiatry alone. Dr. RALPH NOBLE said that the psychiatrist, who of course had been trained as a physician, did examine his patient physically. As to how long it took the psychiatrist to achieve success, the best estimate was obtained by observing the cases treated in the wards of general hospitals by psychiatrists. In this country there were very few hospitals which had beds allocated to properly trained psychiatrists, but in America every good hospital had such beds. Not all patients needed a long treatment to get results by the usual methods now in vogue.

Dr. J. B. MURRAY said that the explanation of the majority of psychosomatic manifestations could be found if one chose to look to one's methods of history-taking and examination of the patient. Dr. DAVID SHAW considered that nothing could be more conducive to keeping the two Sections further apart than the suggestion that every physician should have a training analysis. More emphasis ought to be placed on the need for making psychiatrists better general physicians than for making physicians analytically minded.

Dr. J. RICKMAN said that the first tool of research was history-taking, and the first thing to be considered in taking a history was the cause which had brought about the illness. The technique for getting a fairly satisfactory psychosomatic history was to listen to the patient. If the psychiatrist pulled a lot of information out of the patient, he must give back to his patient—the doctor-patient relationship being a two-way traffic—something of what he had taken out. The patient

would understand better, if he was allowed to talk, how he came to be in the position in which he was, and the psychiatrist must be willing to tolerate information which at that time he felt to be irrelevant. The capacity to listen to a patient in suffering was the only way by which the physician would begin to see the patient completely as a live person. Dr. CECILY HINGSTON and Dr. MARGARET LOWENFELD spoke of the importance of child psychiatry, the latter deploring the lack of co-operation between the physician and psychiatrist in this respect.

Finally a surgeon present related a personal experience. Many years ago as a young man he had ambitions to be a huntsman, and particularly to wear a brown tail-coat and canary yellow breeches, but a fall from his horse and a severe injury to his back put a stop to his career in that direction. He made a good recovery and had enjoyed excellent health, but a few days before that meeting, in the high street of Billericay, he saw the hunt pass through, headed by a lady wearing a brown tail-coat and canary yellow breeches, whereupon he was immediately seized with excruciating pains in the back, which continued for the whole of that day. At night he took an aspirin and applied a hot-water bottle, and next morning the pain had completely gone. Ought he to have been analysed?

THE GREEN MONKEYS OF ST. KITTS

Dental Instability

An interesting piece of special dental research was brought to the attention of the Odontological Section of the Royal Society of Medicine on May 24 by Sir FRANK COLYER, when he demonstrated in the museum of the Royal College of Surgeons the dental condition of the green monkeys of St. Kitts. It is well known, of course, that New World monkeys differ from Old World monkeys; apart from other anatomical variations, New World monkeys have three bicuspid or premolar teeth on each side, both in the upper and lower jaw, whereas the Old World monkeys have only two. But the green monkeys of St. Kitts (*Cercopithecus aethiops sabaeus*), very small animals, exhibit a great capacity for dental variation, the result doubtless of environment, though to what extent a hereditary factor may also be implicated does not seem to be known.

Sir Frank Colyer has succeeded in obtaining a considerable number of the skulls of these monkeys, which reveal a frequency of dental variation three or four times as great as a numerically comparable group of African monkeys. The variations include, in one example, a supernumerary tooth posterior to the mandibular right molar; in another, an abnormal position of the maxillary incisors; in others again, rotation of the right maxillary second premolar and the mandibular third molar, and also projection of the first incisors and inward displacement of the second premolars. The third molar normally has three well-developed and separated roots, but these roots were shown in some of these examples to be in various stages of fusion. Evidence of caries of the right maxillary third molar was shown in one instance.

These animals are apparently in a state of dental instability, a state which alternates with dental constancy in various species. As for the cause of these numerical and positional variations the sugar cane in this West Indian island obviously suggests itself. The monkeys have a habit of tugging at the sugar cane the wear being mainly on the premolars. How far has this habit modified dental structure and produced anomalies? Whatever the explanation, this study has resulted in a further valuable addition to the priceless odontological collection at Lincoln's Inn Fields, which owes so much to Sir Frank Colyer's painstaking enthusiasm.

A school for the treatment and education of Scottish children suffering from cerebral palsy will be established this year in Edinburgh by the Scottish Council for the Care of Spastics. The Scottish branch of the British Red Cross Society is providing financial support, and it has bought for the Council a house in the Murrayfield district of Edinburgh. It is hoped to provide a home where parents can stay while learning how to care for their children. Research and the training of specialists will also be carried out. Dr. A. M. Fraser, Honorary Secretary of the Council, initiated the Scottish plan.

Correspondence

The Red Cross and St. John during War

Sir,—At the request of the Army Council and, subsequently, of the War Office and the Ministry of Health, the Joint War Organization of the British Red Cross Society and the Order of St. John opened during the war years some 250 establishments in England and Wales. These comprised convalescent hospitals, auxiliary hospitals, convalescent homes and residential nurseries. Many establishments providing simple convalescent amenities became hospitals organized for curative and rehabilitative treatments. Well over half a million patients passed through these hospitals and homes. They included officers and men of the British, Dominion, Indian and Allied Forces, and members of the Women's Auxiliary Services. Civilians injured by air attack, infants to 5 years of age and children from that age to 14 all in some way victims of the war.

Of the value of these establishments, Lieut.-Gen. Sir Alexander Hood, D.G. A.M.S., wrote: "No praise can be too high for the services rendered to the Army by the Hospitals and Medical Services Department of the War Organization which has provided care and comfort for thousands of officers and men and done so much for their restoration to normal health and strength." The Ministers of Health also expressed appreciation. Mr. Wilson, describing their assistance as invaluable, said, "But for the willing help given at all times by the auxiliary hospitals the work of the Emergency Hospital Scheme could not have proceeded so smoothly." Mr. Aneurin Bevan described them as "a department not only for the soldiers but also to men and women of other Services and to a certain extent, to civilians. Not only that, he added, but it has been too great for workers in the hospitals to be able to do a good job and well-being of the patients and to keep a great deal of very willing voluntary service is rendered."

A number of these homes were destroyed at the end of the war. The Government, under the direction of the Hon. Mr. St. John and Red Cross, have been opening them and its doors on July 4, and it is a great privilege and opportunity of expressing our thanks and appreciation to all those who made possible the healing and restoration of the homes of the poor. For Horder and Sir Alfred W. Horder, M.D., and the Medical Department, who have been working to restore the homes, and who gave so much to express on behalf and sincere thanks —

Where Are We Going

SIR,—My article on this subject in the *Journal* has brought me a large number of letters from all parts of Great Britain and also from Norway, Canada and the U.S.A. All my correspondents express full agreement with the views set forth at the prospect before us. Many address me for their own experience in support of my case and have asked for reprints for distribution among their friends. I have suggested that I should express my thanks for the book.

The only discordant note is coming from the medical photographers, whom I have worried a little. The photographers. My expression, "The Editors' Private Opinion." Dr. Peter Hansell (April 19, p. 618) says, "I am sorry. If plain English puzzles him, he is not fit to be asked to explain anything to him. My remarks about P. S. and T. Thomson, and Hopkins he thinks false. I assure him they were written in deadly earnest." R. G. W. Ollerenshaw (March 27, p. 618) is aggrieved that "the medical photographers at their word and assent have not meant what they say."

Of course advances in photographic art should be used for the benefit of health. No one wants to use cracked or faded slides. No one wants to do it the hard way when there is an easier, though some can achieve better results by the cheaper way than others can by the more expensive. It is all a matter of proportion. Medical photography must be subsidiary to medicine, not the reverse which is what the extravagant demands of at least some medical photographers threaten.

If photographs are intended for books the cost is usually passed on to the purchaser. Sometimes the author sells at a loss, hoping to recoup himself by increased private practice, greater prospects of promotion or merely admiration, glory, or pride in achievement. In such cases the cost comes out of his own pocket. When photographs are produced by commercial firms the directors and share-holders can be expected to see that so far as they are concerned there is a profit either direct or indirect.

Expenditure on medical photography in the U.S. is confined only in so far as the outlay may be directed toward an improvement in medical practice, resulting eventually in a diminution in the incidence and extent of disease. It is not justified if used for the personal gratification of those whose clinical achievements are thereby facilitated.

Some may believe that medical progress is an ever-
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are the other manifestations of nature's ever-
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6-22-66

Mr. ROBERTS.

Hearing-aids in New Zealand

SRK - The motion "Dec 6/44" is dated concerning the research work carried out by the New Zealand Institute of Medical Research Council. The motion is presented by the Government and often pointed out in the quality, safety and battery of the research training aids, the New Zealand League for the Hard of Hearing in 1940 requested the help of the New Zealand Standards Institute, a department of the Ministry of Industries and Commerce. The first motion of electro-mechanicians and other manufacturers, vendors and manufacturers of the New Zealand Security Department, and the League was called in that year.

I would like first Standard Specification in 1940. This was followed by several subsequent meetings, and in October, 1947, the New Zealand Standard Specification 266 was issued under the authority of the Minister for Industries and Commerce. Hearing-aid companies conforming with the specification and issued with the Government guarantee as to quality service and battery running time were entitled to bear the New Zealand Standards Mark. This was ignored by the vendors of imported aids, which, apart from minor differences, were designed to take batteries of special shape to fit only their own aids.

The Government, having announced its policy of issuing free or subsidized hearing-aids, had an investigation made by the Minister of Finance, which noted the unduly high prices charged for imported hearing-aids. These on examination were all proved to have their essential components—viz., microphones, amplifying valves, and crystal earphones—made by firms in America who held world patents over them. These firms did not make or sell hearing-aids but supplied the essential components to manufacturing vendors or allowed them to construct under licence, who architected them together on principles well known to acoustical science.

The Government called for tenders and accepted one called the "Universal" hearing-aid, which complies with the New Zealand Standard Specification and gives the specification guarantee for maintenance, service, and battery running costs for twelve months.

The Harvard Psycho-Acoustical Committee in its preliminary report on the selection of hearing-aids (*Laryngoscope*, 1946, 56, 81) drew attention to the fact that all valve-model aids made by reputable firms were of equal efficiency. Their design objective differs only in minor matters from the New Zealand Standard Specification 486. The New Zealand Universal model is bought by the Government at £15, inclusive of the crystal earphone with a sensitivity of 5 bars per volt, and an individually moulded ear-canal insert, batteries, battery containers, instruction booklet, carton, a guarantee of twelve months for service, and an estimate of yearly battery costs when the aid is used for six hours a day.

The Universal aid contractors also supplied special types of aids for cases where direct-insertion ear moulds cannot be used or are inadvisable, bone-conduction aids where required (about one case in a hundred), and special high-power aids of wearable type for cases of very severe loss giving high undistorted output for higher than usual speech "inputs." By means of a Universal battery holder, different sizes and weights of B batteries can be used. Two sizes of A battery or torch cells C or D can be used. This provides the necessary compromise between size, weight, and operating costs.

The Government then authorized the establishment of hearing-aids clinics at public hospitals to issue, under a qualified staff, free aids to all persons irrespective of age who had an average loss of 35 decibels over the frequencies of 512 to 4,096 inclusive. At the clinics, if the patient wants another aid from any outside firm, it has to be passed by the clinic officers, must carry the New Zealand Standard Mark, and give the written guarantee as to quality, maintenance, and battery costs if the aid is run for six hours a day. This brought to bay and severely limited the activities of vendors whose advertisements and previous disregard of the Standard Specification were tinged with callous disregard for the welfare of the hard of hearing. The distribution costs were claimed by vendors to be 100% to 150% of the wholesale price. This has been eliminated in distribution by hospital clinics. The cost of the latter is offset by the civil rehabilitation of many persons who were socially and economically depressed.

In the annotation is the statement, "It is, however, necessary to stress that many of the deaf included in this number (half a million in Britain) belong to the higher age groups. In them deafness is often due to senile and other degeneration of the internal ear, and so can seldom be satisfactorily corrected by electrical hearing-aids." We also thought so, but have been surprised at the very few who cannot be helped. We have also been surprised at the number of hard of hearing who had not contacted the various branches of the League. At the Auckland clinic, which started on Nov. 1, 1947, of the first 258 applicants for free aids the ages varied from 20 to 90 years. The greatest number were in the age group of 40 to 70 years. Their average hearing loss was 69 decibels.

In general, they had not had a hearing-aid because of their prohibitive costs, or have been dissatisfied with their efficiency, or have been unable to bear the expense of maintenance and battery supply. Most of them have been badly advised or given a hopeless outlook. Above all, they avoided the constant strain of trying to understand or get the context of what the speaker was saying. They have resigned themselves to practical seclusion, and withdrawn from group conversation lest they disclose their infirmity. The fact that they were in the main the first applicants for aids shows the urgency of their plea for help. In the first six hundred issued they form a mass that shows a correlated national tragedy and a hitherto lost legion.

For testing the hearing the clinic has a room that is reasonably sound-proof, and a Western Electric 6A audiometer. The League sound-proof room has an audiometer of local make which is also periodically calibrated and gives similar readings to the Western Electric. The presence of a supervising acoustical engineer has greatly contributed to the smooth running of the department. There are six distribution clinics in the Dominion and others are in the process of being set up. Over 90% of the patients have taken the Universal aid. Their delight in its efficiency is very gratifying. The other 10% have amongst them some persons who were unaware of the quality of the Government aid and were induced to give the £15 subsidy to the vendors and pay up to £30 additional money.

Determined efforts are being made by practically all hearing-aid manufacturers to produce small aids with the batteries contained in the amplifying case. This type of construction increases the battery costs to a level of £20 to £36 per annum. The smaller the aid the greater the reduction of safety factors. The New Zealand specification calls for an adaptor to be fitted to these single-pack aids, so that if the increased running costs are disclosed after use the ordinary battery pack can be coupled on to give smaller operating costs and more power if desired by the user.

Our great satisfaction is the practical elimination of the aids of some vendors whose meretricious advertisements delude the unwary, and whose disregard for service and battery supply was a source of disappointment and loss to many.—I am, etc.,

JAS. HARDIE NEIL,
President of the New Zealand League
for the Hard of Hearing.

Medical Photography

SIR,—Dr. R. G. W. Ollershaw (May 22, p. 1001) is sceptical of the opinions expressed in my letter (May 1, p. 855). Unlike him I prefer to express my scepticism in English; it is understood by so many more colleagues. Surely photography is not the only section of art which has not made any material progress during the past 40 years, except in the direction I indicated and as the result of advances in non-visible radiations.

Dr. Ollershaw says, "The great bulk of the pictorial work is mediocre," with which I agree, but when he follows with the statement, "Blaming the editorial boards will not help if the material is not good in the first place," I cannot agree. I believe it would help if it ensured efficient representation on those boards, for then that which was not good or accurately described would not be published—a real advance. It is better for the journal and the contributors if quality rather than prejudice decide acceptance.

He suggests that I am being unfair by withholding the name of the hospital whose figures I quoted. Had I felt that they did not contribute point to my argument I should not have used the figures, and I preferred not to give the name lest it be considered that their use was dictated by bias, for I had put up a carefully reasoned but unsuccessful protest against an ultra-modern hospital—the Accident Hospital, Birmingham—being run without a radiologist.

I do not consider that either of the two reasons quoted by Dr. Ollershaw are adequate excuse for the exorbitant demands of which he approves. He states, "The photograph is free from any possibility of personal error, which may well change with the observer." I agree that the possibility of error may well change with the observer, but I hardly think that is what he wishes to imply. Does he really believe that the photograph is free from any possibility of personal error? Surely it is the thing which is not free from the possibilities of erroneous interpretation, for the only person who can accurately interpret the photographs of many specimens is he who prepares the specimens. Without his guidance many photographs are liable to multiple and varied interpretations. For instance, of the two photographs reproduced in the *Journal* of May 22 (p. 993) to illustrate the article on medical photography (good as they are and readily interpreted by the person who prepared them) it can be reasonably claimed that those of us who do not know the specimen consider it a puzzle to find in Fig. 2 a "cavity in which nerve was densely adherent." It certainly is not in the middle of the picture as the object which should at once attract attention.

Fortunately I have been able to secure, by the kindness of Lady Robertson, an album of medical photographs which was made up some 40 years ago for the late Sir John Robertson, and in spite of the age of the prints would submit these with confidence to any unbiased committee for judgment. Had Dr. Ollershaw examined publications which contain examples of these illustrations (see *British Medical Journal*, 1931, 1, 133, and *Brit. J. Radiol.*, 1941, n.s. 14, 79) he would not perhaps have cast the slur contained in his last paragraph. I may say that the author of a book, nearing completion in printing, on pathological conditions of food animals sought permission, even in this modern age, to use some of these and a selection of others to illustrate the book—thus lending support to the old saying, "What Manchester does to-day, Birmingham (with its motto "Forward") did 40 years ago."—I am, etc.,

Edgbaston, Birmingham.

JAMES F. BRAILSFORD.

Obstetric Emergency Service

SIR,—A previous correspondence in the *Journal* (Dec. 13, 1947, p. 976, and Dec. 27, 1947, p. 1055) has revealed a wide spread interest in the working of so-called "flying squads" for treating acute obstetrical emergencies in their homes. The experiences of the scheme which has been operating in London for the past ten years under the L.C.C. therefore may be worth recording. It was started in 1939 with the limited object of supplying essential treatment (especially blood transfusion) for acute obstetrical emergencies occurring in the home, which could not safely be moved to hospital. With the exception of two boroughs, which were served by a teaching hospital, the whole of London was covered by 11 L.C.C. hospitals, a clear

This situation is now entirely changed, and it is understood that the Services Committee of the Central Medical War Committee has had to consider new means of increasing the inflow

of G.D.O.s to the Services. The Medical Women's Federation wishes again to express its opinion that the newly qualified women doctors ought to take their share of the burden, and that they would provide a not inconsiderable contribution to the requirement. It is understood that a recommendation on these lines has been made by the Services Committee of the Central Medical War Committee to the Medical Priority Committee. This would involve legislation to render women doctors liable to National Service, but the principle at stake is so important and the immediate need so urgent that the Federation does not feel that this is an insuperable difficulty. It reaffirms the desire of women doctors to share fully all professional liabilities.—I am, etc.,

Bromley, Kent.

MARY F. LUCAS KEENE,
President, Medical Women's Federation.

Gastric Herpes Zoster

SIR.—The case of gastric herpes zoster described by Dr. R. V. Stone (May 8, p. 882) brings to mind a similar case which I attended five months ago. In this case, however, the haematemesis was slight.

The patient, a woman aged 58, had a fall on her left side in November, 1946, bruised her ribs, and developed arthritis of her left shoulder-joint. She was x-rayed early in November, 1947, as she had stiffness and limitation of movement of the left arm. Nothing was found apart from some arthritis of the left shoulder. Ribs and spine were normal. In December, 1947, she developed severe pain in the region of 9th and 10th ribs, radiating towards the epigastrium, associated with nausea and anorexia. A week later she developed a typical herpetic eruption and the following day vomited about 10 oz. of "coffee"-stained fluid.

She was seen by a surgeon, who took her into hospital for investigation as she had lost a considerable amount of weight and was complaining of a burning sensation over the epigastrium which was not relieved by alkalis, etc. She was also considerably dehydrated and looked ill. All investigations during her 21 days in hospital were negative. Barium meal revealed nothing abnormal. Fractional test meal showed complete achlorhydria. X rays of spine and ribs were normal, and urine was normal. The C.S.F. was not examined. A laparotomy was considered, but the patient would not consent to this and accordingly she left hospital in the middle of January, 1948. By this time the rash was fading, though the pain was still severe but intermittent. Her appetite gradually returned, the nausea disappeared, and by the end of February she was completely well apart from some post-herpetic neuralgia. I last saw her at the beginning of April, when she had gained 10 lb. in weight and was entirely free from symptoms.

An interesting point in this case was the fact that the lady's grandchild had had chicken-pox about three weeks before she developed her initial symptoms. I think the similarity between this case and that of Dr. Stone is most interesting.—I am, etc.,

Belfast

P. E. FITZPATRICK.

Nervous Disorders and Malnutrition

SIR.—Dr. H. S. Stannus in his paper "Disorders of the Nervous System Due to Malnutrition" (Feb. 21, p. 342) remarks that "considerable and new interest has been aroused in nutritional disorders of the nervous system as a result of their high incidence among prisoners of war in the Near and Far East." While malnutrition is undoubtedly of great importance in these manifestations, I want to raise another point. On comparing the reports about the health of returned prisoners of war and of inmates of concentration camps one finds that the syndromes were encountered only amongst the P.O.W.s detained in the East. Both groups were on an inadequate diet, and people in the concentration camps were even on starvation diet. Lipscomb¹ states that "clear-cut specific vitamin deficiency syndromes were strikingly absent." Rosencher² writes that in Dachau "avitaminoses were rare and disappeared rapidly." It seems significant that there was a great incidence of malaria, ankylostomiasis, amoebiasis, and other intestinal infections amongst the P.O.W.s in the East. Lipscomb asserts that in Belsen there was neither malaria nor amoebiasis, nor were these diseases common amongst the P.O.W.s detained on the Continent.

The main reason for the appearance of the nervous manifestations supposed to be due to malnutrition and to vitamin deficiencies amongst the P.O.W.s detained in the East can only be that these manifestations were precipitated by the prevalent infectious diseases like malaria, amoebiasis, and hookworm infections. This is in

accordance with modern views, which regard these diseases as disposing factors for deficiency diseases. These infections are known to cause anorexia and gastro-intestinal disturbances, and this results in a low calorie-intake and contribute to the malnutrition. Simultaneously there will also be poor absorption of the food due to the affection of the gastro-intestinal tract, especially in amoebiasis and ankylostomiasis, which cause loss of mucosal integrity. Last, all three diseases are known to cause hepatitis and affection of the liver, which in turn will lead to decreased utilization of the food.

However, there is another consequence of the involvement of the liver to be considered. Experimentally it has been confirmed that disease of the liver can cause brain lesions and damage to the nervous system. This is demonstrated in hepatico-lenticular degeneration, where derangement of the liver produces nervous changes and disturbances. The course of the disease is influenced by the diet. Homburger and Kozol³ write that "in the cases where exacerbations were related to periods of inadequate diet, remissions followed periods during which the patients had been taking high calorie diets relatively low in fat."

Interference with the metabolism of the host by invading parasites must also be considered. It is well known that the malarial plasmodium consumes glucose and oxygen. It has been established that (1) suspensions of parasites consume oxygen at a high rate much higher than does normal blood; and (2) the malarial parasite uses glucose—half of the proportion which is destroyed being converted into lactic acid and the other half being incompletely oxidized.⁴ Thus malarial infection might deprive the host of the glucose and oxygen which are needed for the metabolism of the brain which derives its energy solely by the metabolism of glucose.

I have seen the nervous disorders mainly during the hot season. This may be due to malaria and amoebiasis being prevalent during these seasons, but it may also be possible that during the hot season there is an increased metabolism and this will accentuate any nutritional deficiencies.—I am, etc.,

Chirala, India.

S. J. GROSS.

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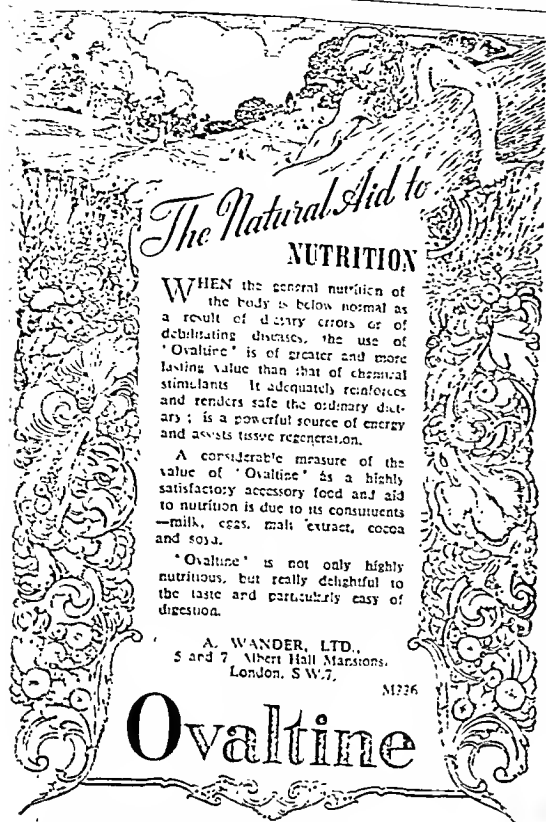
Scoliosis in School-children

SIR.—In 1942 my attention was drawn to scoliosis in the dorsal region caused by slight shortening of the one leg in a munition worker complaining of backache. There was neither history nor symptoms suggesting previous infantile paralysis or other disease, and she had attended and had various treatments at hospital, but it had never been noticed that the one leg was about half an inch shorter than the other. This naturally caused tilting of the pelvis and a compensatory scoliosis higher up the spine. Her symptoms cleared with the raising of the heel by half an inch, and massage and exercises.

Since then, when examining school-children, I get them to bend down and try to touch their toes with knees stiff, so that when standing behind them, one can easily run one's finger along the spines of the vertebrae and note whether there is any scoliosis present. Occasionally one finds a lumbar curve with the muscles of the convex side slightly more prominent than on the opposite side, as if the bodies of the 2nd, 3rd, and 4th lumbar vertebrae were twisted a little on their vertical axis. If these children are turned round and examined from the front, it can be seen that the opposite shoulder drops and the pelvis is tilted, with one anterior superior spine higher than the other. Measurement of the legs, when lying, shows a difference in length of from 1/4 to 3/4 in. (usually about 1/2 in.), as taken from the anterior superior spine to the internal malleolus. There is generally no difference in the circumference of the thigh or calf, though in one girl the whole side of the body seemed slightly smaller. The girls are normally healthy and complain of no discomfort.

When I first see them they range from 9 to 12 years old, and in each set of new girls in the past 4 years there have been one or two cases; so that in the school at present I know of 6 cases, which works out at 1 1/2 to 2%. In 4 of the 6 girls the left is the shorter leg, the lumbar curve is convex to the left, and the right shoulder is dropped. With back exercises and the raising of the heel by the required amount (about 1/2 in.) much of the deformity disappears in time.

Another form of scoliosis is seen among the older girls, but this occurs higher up the spine, mostly in the lower dorsal region; it is combined with a twist of the bodies of the vertebrae which causes a projection of the posterior curve of the lower ribs on one side when they bend down to touch their toes. It is accompanied by dropping of the shoulder on the opposite side, and the syndrome invariably arises from the bad habit so many young people have of standing on one leg with the other knee bent. This gives a



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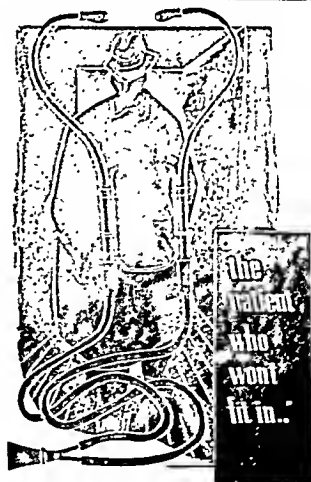
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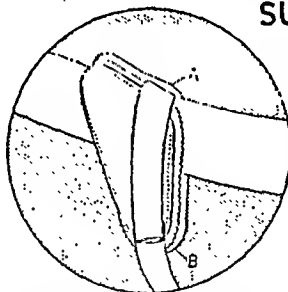
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compared with 10-14 days). This small "re-educating" dose may be followed by 100 mg. every other day until the prothrombin time has lengthened to the desired extent. In spite of the objections of Dr. H. Lempert (Jan. 17, p. 125) and Dr. R. G. Macfarlane (*J. clin. Path.*, 1948, 1, 113), it is maintained that viper venom (the "stypven" of Messrs. Burroughs, Wellcome and Co., Ltd.), if calibrated before use, is a perfectly safe and reliable guide to the prothrombin time after dicoumarol treatment provided the technique is above reproach.—I am, etc.,

Epping, Essex.

FRANK MARSH.

Our Democracy

SIR.—I congratulate you upon your decision to give Dr. A. C. E. Breach (June 12, p. 1157) adequate space in which to deal with the anomalies that many of us feel exist at present in the effort of the R.B. to voice the views of the profession. Dr. Breach's analysis is thoughtful and factual and his suggested remedies call for close attention. But all this will take time, and time is just what we have not got if, as many of us think, we should bring order into the present confusion and stem the drift into *laissez-faire*.

What is the actual position to-day? We had two alternatives before us (and this whether we consider the progress of medicine, the best service for the public, or our own freedoms): either to get the present Act so amended that these things would be safe for a considerable period, or to give the Minister a blank cheque and be in perpetual doubt as to whether we could honour it—in other words, watch every Regulation with critical eyes for an indefinite time. In February we had no doubt that the first alternative was the proper one, and we said so. In April the hurried plebiscite, with its implication that the position had materially changed, and the *volte face* of the Council, which the Chairman was powerless to oppose, broke the all too tenuous thread which held us united; and in May, through the R.B., we chose the second alternative.

How, now, are we to clarify the position and regain our self-respect and the respect of the public? There is a large section of the profession which feels that these things should not be left in the hands of the men who, though they "have discharged their exacting and arduous duties" in a patient and conscientious way (Breach), yet have "taken the wrong turning." Confidence has been badly shaken. There are many doctors asking for guidance, not only for themselves but for their sons and daughters thinking of medicine as a vocation. To these are to be added many members of the public. There will shortly be a third group—men who will leave the Service they have too hastily joined out of fear and not conviction.

What is the best way of dealing with the situation? Will you allow me, Sir, to say through the medium of the *Journal* that I shall welcome the views of any of your readers sent to me privately? Such a step seems to me desirable before any action is taken in which I am concerned.—I am, etc.,

London, W. 1.

HORDER.

Rota of Pharmacies

SIR.—Dr. L. S. Woolf (May 22, p. 1006) draws attention yet again to a pressing problem. During my membership of the Hours of Service Subcommittee of the Middlesex Insurance Committee (shortly to be superseded) I drew upon myself considerable unpopularity and the open antagonism of the pharmaceutical members of the Committee, who were determined to perpetuate what was in effect a wartime practice of early closing. I pointed out that the pharmaceutical service was as integral a part of medical benefits as the doctors' service, and that, although something was paid to the doctors for emergency supply of drugs after hours, this was based on the old assumption that chemists would remain open during normal evening hours—say, till 8 p.m. in most cases.

The pharmacists' case was that they were bound by the Shop Hours Act as regards the sale of cosmetics, fancy goods, etc., and that it would not pay them to remain open solely for the purpose of dispensing. It was finally agreed that the rota system, which had been more honoured in the breach than the observance, should be properly implemented. A little improvement has taken place, but it is to be hoped that the new regulations will insist on an adequate pharmaceutical service in the evening. A woman should be able to obtain a sulphonamide after 6 p.m. even if she cannot get a lipstick.—I am, etc.,

M. MUNDY.

Remuneration in Rural Areas

SIR.—It fell to my lot to be the representative of the Rural Practices of Great Britain on the Association's Representative Committee which discussed the "shape of things to come" with the Minister of Health (then Mr. Ernest Brown) while the White Paper for the National Health Act was in preparation. I was also one of the two witnesses called to give evidence on behalf of rural practitioners before the Spens Committee. Not unnaturally, therefore, after reading the official leaflets describing the scheme, I am moved to make some comments on matters which seem to be of vital importance to country doctors.

Take first of all the main condition for granting the (unfortunately so christened) "basic salary"—the minimum number of patients. At this, in the words of one of Mr. George Robey's songs, "I'm not only surprised, I'm amazed!" For no distinction is made between the town doctor with all his patients within easy walking distance (over pavements) and the country doctor in a sparsely populated, extensive, and difficult district, with each patient an average of five miles away from him (and part of that five miles "o'er moor and fen, o'er crag and torrent wide"). As things stand, each alike, it seems, qualifies for "basic salary" on the same minimum of 500 patients. Surely, as a matter of plain common sense and equity the truly rural doctor should qualify on less than is stipulated for the town doctor.

It should be made quite clear also in what way the "inducement grants" to those who practise in difficult areas will be distributed and how much they will amount to. Without adequate inducement it will certainly be found that many experienced and fit country doctors in their fifties will turn from doctoring to farming—a very lucrative occupation just now.

The question of adequate mileage grants to rural doctors is another matter that needs very special consideration, because our car expenses are greatly increased by quite abnormal conditions, which are not likely to be remedied for a very long time. My own case is perhaps typical of many other colleagues'. I have to use two cars against the town doctor's one car. The roads I travel along are in a very poor state—and little wonder, for during the war this was a battle area, and heavy tanks, many hundreds of them over a long period, pounded over roads and lanes which were meant for horse traffic. Now repairs to these roads have been further hindered by the "axing" in the county of a large number of roadmen and the drastic curtailment of road maintenance and improvement schemes. The cars which I have to drive along these roads are respectively of 1937 and 1938 vintage because I cannot get a new car under present conditions of supply. Whereas it was my pre-war routine to change one car for a new car every year, the agents now tell me that if they can supply a new car in two or three years' time I shall be lucky. In the meantime repair bills mount up to alarming figures on each car annually—a factor which is not contemplated at all under any existing scheme of N.H.I. mileage grants. Neither is adequate allowance made for the time factor in country work, not only the time spent in motoring and walking to distant farms (I may walk often six or seven miles in a day), but also the time spent in driving ten or twelve miles to the nearest town for car repairs beyond village resources; for shopping, or to get to a cinema or concert. (One is entitled to one's recreations in the country as well as in the town.)

Then there is the rent of the branch surgeries and "houses of call" which are so essential in country areas; and there is the dispensing, for willy-nilly dispense we must if most of our patients are not to be saddled with great inconvenience or even real hardship. For instance, at one of the villages from which I mainly carry on my practice the nearest chemists are respectively eight, ten, and twelve miles distant, and the only form of public transport is a bus once a week to two of the towns. If I did not dispense at my branch surgery a messenger would have to be employed to get any medicines that were urgently needed; and the tariff is 10s. per journey by motor-cycle, £1 by a hired car.

Obviously doctors must dispense under conditions such as these, and the dispensing allowance should cover the cost of employing a dispenser as well as the cost of the drugs. Indeed, was not that the suggestion, or even the promise, made by Mr. Bevan in a Parliamentary reply soon after he took office? Unfortunately I have not the time nor the opportunity to delve into *Harisard* on this point, but I seem to have a very clear recollection that such a statement by him was duly reported in the *B.M.J.*'s "Notes in Parliament."

Lastly, there is the matter of telephone and postage expenses. These are very heavy in country practice at the present high rates I have, for instance, to rent two telephone installations and an extension. One of my neighbours maintains three. Each call to the nearest hospital costs 6d., and two or three such calls may have to be made to secure the admission of a panel patient. All the many local calls are on the same scale—and will multiply after July 5. The 2½d. postage stamp makes a big difference, too, in the costs of

sending necessary letters and tablets to patients, and there is the quite appreciable item of medicines sent by train and by bus. It is true that most patients would willingly reimburse these items, but it is quite impracticable to keep a note of the multitude of them—small payments individually, but very appreciable annually in their sum.

Such are some of the considerations that, I submit, should be borne in mind in assessing the remuneration of the rural doctor. Many of them were emphasized in my evidence to the Spens Committee. I hope that they may materialize as something more tangible than the elusive "rare and refreshing fruit" of Mr. Lloyd George's promises in 1911—or the receding mirage of health centres. Will the rural doctor get a "new deal" under this new Act? Or, in the words of my one-time sergeant-major (a ruthless castigator of super-optimists) is it just going to be "some bloody 'opes"?—I am, etc.,

Clynderwen, Penn.

E. R. ROLAND WILLIAMS.

* * Mr. Bevan said in the Committee stage of the N.H.S. Bill (*Hansard*, June 25, 1946) "arrangements will be made in rural areas for doctors to provide medicines." The Secretary of the B.M.A. writes: "The Association has not yet discussed with the Ministry of Health the doctors' remuneration for dispensing under the National Health Service. It is awaiting a proposal from the Ministry, and the Ministry is not in a position to make one until it has dealt with the chemists' remuneration." The Association is, however, alive to the position in which rural practitioners will find themselves inasmuch as the persons for whom they will be required to dispense will be fewer in number, though they will still have to employ a dispenser. The Ministry has been informed and recognizes that this is one of the points which will have to be taken into consideration.—Ed., B.M.J.

Partnership Agreements

SIR.—A great deal of correspondence dealing with the multitude of aspects of the N.H.S. Bill affects the individual practitioner or section of the profession, and has appeared in the columns of the *B.M.J.* No direct exchange of views has been made concerning existing partnership agreements when the N.H.S. comes into operation on July 5. We are informed through the medical and national press that the question is under consideration by a legal tribunal.

The tribunal was formed over a month ago and no report have been forthcoming. This most important question affecting a large number of medical practitioners in practice have been neglected. Announcements containing such phrases as "40 doctors will be free to work on a partnership basis" leave one in doubt as to whether this applies to existing as well as future partnership agreements. Since, no conclusion could be reached and announced on the existing proposal, the advent of the N.H.S. quickly approaches and surely we are entitled to know our position as partners before the grand upheaval on July 5.—I am, etc.,

Manchester.

M. J. O'DONNELL.

Health Centres

SIR.—In your leading article entitled "What We Have Gained" (May 15 p. 47) I should like to contribute when referring to the building of health centres. Building materials and labour will be more usefully employed in providing new houses. In many parts of Great Britain this may be true in the industrial areas I feel that the building of health centres is most urgent. Practically all the doctors' houses have quite small surgery accommodation. The war programs were designed for private practice and during the winter months have been only just able to cater for the increased numbers attending for N.H.I. certificates. It is certain that with free medical attention there will be a considerable increase in the number of women and children attending. During the winter months there will be a gross deficiency in accommodation. It is apparent to anyone working on the spot that in the winter there will be queues outside almost every doctor's house; women and children will be refused admission; they will either have to wait outside in rain or snow, or return home and hope to gain admission at a later date. Mr. Bevan has produced

the regulation for the Service without any provisions. He has set up the machinery, but appears to have no intention of providing a roof.

I submit, Sir, that the provision of health centres, whether temporary or permanent, must be given urgent consideration. This Government is pledged to help the working classes. Unless it provides accommodation the patients in these areas will suffer hardships in the not far distant future. During the war whole air-fields were rapidly erected. Surely enough materials could be obtained in times of peace. Each health centre would cater for the needs of several thousand people. It has been stated that there is a shortage of trained staff. For attendance on "sick parades" and simple dressings any woman who has had experience as a nursing orderly in H.M. Forces or as a V.A.D. in hospital would be suitable.

I feel that the Minister of Health could encourage the local authorities to proceed in thickly populated areas. He is reluctant because it will mean an increase in expenditure. Both doctors and patients are expected to manage under grossly inadequate conditions. I hope the leaders of the B.M.A. will investigate and press for action.

As I write the rain is pouring down on us.—I am, etc.,

Bristol Lane.

W. MARSHALL BENNETT.

Wise Action

SIR.—I feel it is time that some of your correspondents stopped moaning and started to get down to make this new Health Service a success. Most of what they write is prejudiced rubbish, to say the least, and I am sure the new scheme can be a success both for patient and doctor, though no doubt changes will be necessary from time to time. I feel that the B.M.A. Council and the Representative Body have acted wisely and, as it may be seen in the years to come, farsightedly.—I am, etc.,

Wolverhampton, Dec. 1, 1947.

D. W. MANNING.

44-hour Week

SIR.—It is high time that somebody thanked those who have tried to maintain the principles on which the British Medical Association is based (see "Points from Letters," May 22, p. 1006 "Self-government") and I take this opportunity of doing so.

The number of our casualties up to the eve of the Special Representative Meeting and reported by Dr. Dain on May 28 were encouragingly small in view of the intensity of Mr. Bevan's attack, and I have no doubt that the figures available by May 26 stimulated Sir William Douglas to write to Dr. Hill on that date (*Supplement* June 5 p. 155). Such a written statement is always useful, and besides, we now know that satisfactory hours of work for doctors will like central clinics, go by the board. However, this can be avoided if the following motion, postponed on May 28 owing to lack of a quorum at 6.30 p.m., is passed by the Annual Representative Meeting at the end of June:

No. 145. Motion by Liverpool.—That the Minister of Health should be told exactly what the doctors can do on the following lines: (a) doctors will work a 44-hour week or as advocated by the T.U.C. for their supporters and will take the holidays with pay customary for Civil Servants of equal status; (b) the State must provide the receptionists and filing-clerks necessary to enable doctors to devote themselves to clinical work; (c) existing semi-private and private beds will be reserved for the use of patients who prefer to see their doctors privately outside State hours. When the Government provides more free beds the percentage of pay-beds can be kept up if the public voluntarily contributes the necessary capital.

Clause (a) now has special significance in view of the following sentence taken from Sir William's letter: "The charging of a private fee to a patient on a doctor's public list for anything within the field of general medical practice would, in the Minister's view, be repugnant to the whole new health scheme." The Representative Body's acceptance of the B.M.A. Council's Recommendation A to co-operate conditionally amounts to handing the Minister a blank cheque. It is likely to cause more friction than did the way in which a majority wish was waived in favour of a minority, as in the case of the April plebiscite result of a 64% vote against accepting service. It will be inconsistent if the representatives who on May 28 set

a precedent for an eight-hour working day—for more than half of them left the meeting before the end—do not on June 29 preach what they practised and vote for Clause (a) of Motion 145, thus giving doctors a chance to think again and providing the Council with the powder and shot they now appear to lack.—I am, etc.,

Liverpool.

H. RICHARD BICKERTON.

The Independence Fund

SIR.—History has again resembled itself, and brilliant leading articles cannot conceal the fact that under B.M.A. leadership medicine and the profession have been betrayed. This time, unfortunately, the results are likely to be very much more considerable than in 1911. An impregnable position has been reduced by sowing doubts and dissension within, and a large number of colleagues have already voted away the constitutional right of British citizens of access to the courts of the country. Perhaps it is hardly surprising that such men are now no more mindful of the more altruistic principles which until recently found so much space in your pages.

We are now left with a "soldiers' battle." One of the first questions which immediately arises in the minds of those of us who backed our support with such money as we could afford is what is now to be the future of the "independence fund" to which we were asked to subscribe. Of the two declared objects of the fund one was to organize the unification of the profession in its expressed determination not to accept service, the other to provide financial aid to practitioners who may suffer hardship as a result of their loyalty to the cause of the profession. As a prompt subscriber I wish to know at once what interpretation is likely to be placed by the trustees on the loyalty of those members of the profession who are unable to share the view expressed by Dr. Dain that the present debacle is in reality a great victory, and who are still not prepared to sign away either the great and abiding professional principles for which we have stood or the few personal rights remaining to us, such as access to the courts, by accepting the terms of service.—I am, etc.,

Carlisle

C. GORDON HARPER.

Defeat or Victory

SIR.—In April the Council instituted a plebiscite in order to find out whether the attitude of the profession towards the N.H.S. Act was such as to warrant an all-out fight against the Minister. The accepted terms were that only if 13,000 general practitioners voted against it would the profession be called to fight. Unfortunately 13,000 general practitioners did not vote against it—much to the disappointment of a large section of the profession, including some members of Council. The fight, therefore, was off. The Council, recognizing that there was nothing else to do, drafted Recommendation A, and submitted it to the profession, to the majority of which it meant nothing else than what it was—a symbol of defeat. Yet on May 28 we find this same symbol of defeat carried bravely aloft on the rostrum of the great hall, as a flag of victory—of a victory, the greatest that has been won against this or any other Government: surely a strangely accommodating recommendation, but only as strange as the sight of the members of Council urging us all to surrender unconditionally.—I am, etc.,

Nantwich, Cheshire

OLIVER H. BLACKLAY.

Medical Trade Union

SIR.—Dr. R. E. Clarke (May 29, p. 1048) has in my opinion hit the nail right on the head when he advocated the formation of a medical trade union. In my presidential address to the Northern Ireland Branch of the B.M.A. in 1935 I said that only the formation of such a union, which would ostracize professionally and socially any and every doctor who refused to join, could save our profession from disaster, and unfortunately in the absence of such a union disaster has overtaken us.

Dr. Clarke advises that the B.M.A. should "transform itself into a properly constituted trade union," but I understand that under its articles of association this is impossible. Should an alteration of these articles which would permit this to be effected be impracticable, could not the B.M.A. foster the formation of such a union to work in close liaison with itself?

I also advocated the fixing of a substantial annual subscription—£10 10s. at least—and the accumulation of a substantial fighting fund. Had this been done even ten years ago we would now have a fund of some millions and would be in a position to fight any Government to a successful finish. Unless such a union is formed the profession of medicine in Great Britain and Northern Ireland will deteriorate to such an extent that no one can be a member of it and retain his independence and self-respect, nor can the standards and traditions which constitute a precious heritage be maintained.—I am, etc.,

Belfast.

W. LYLE.

SIR.—Kindly permit me to express my strong support for Dr. R. E. Clarke's proposal (May 29, p. 1048) that the B.M.A. constitute itself a legal trade union affiliated to the T.U.C.

On July 5 the great majority of doctors will find themselves to be subcontractors to His Majesty's Government under conditions which no trade unionist would tolerate for one week.

As members of a properly constituted trade union our minimum demands should be: (1) A 44-hour week. (2) Payment at time-and-a-half rate for overtime up to 12 hours a day and double time for any longer hours worked. (3) Holiday with pay. (4) Locum provided free in sickness or when on holiday. (5) Transport provided. (6) Compensation for accident or illness sustained while at work. (7) Special payment of "danger money" for work in pathology, bacteriology, and infectious diseases. (8) Provision of staff to do work of secretary, telephonist, and receptionist. (9) Provision of surgery with furniture and all medical instruments, or payment or rent for those now supplied by doctor.

I submit that these demands at no point go beyond well established trade union principles and practices, and that until the B.M.A. is a trade union the practice of medicine will continue to be the last example of sweated labour in Britain.—am, etc.,

Isle of Barra

NORMAN J. L. MACKINVEN.

POINTS FROM LETTERS

Soil Fungi

DR. DUDLEY F. TORRENS (Market Rasen, Lincs) writes: The stupefaction of soil fungi arose out of the successful work of the late Sir Howard in practical agriculture, and the work of Dr. M. C. Rayner. It has found corroboration in field work by agriculturists, in practical health studies by Sir R. McCarrison, and in social surveys great and small in all parts of the world. These have all approached the problem as one of agriculture, as it ought to be, but it has been derided as "cranky," "uneconomic" costly in labour and money etc., and so far has failed to get the backing it deserves. The question arises whether the examination of these fungi might not yield in the laboratory a product which used as a food accessory might make available to humanity the undoubted great increase in resistance to disease and increased bodily and mental vigour which we are denied through faulty agriculture.

Treatment of Pruritus Ani

DR. H. MARGULIES (London, N.W.2) writes: I have read with great interest Dr. Alexander Orley's letter (May 8, p. 904) on pruritus ani and feel that both his explanation of its cause and the suggested therapy merit some comment. . . . The "functional pruritus ani" for which no cause can normally be found (and these mainly a matter of discussion) normally starts with an accidental irritation, followed by scratching, infection, etc.—the recognized vicious circle which usually foils all endeavour to cure it.

The rational therapeutic approach, therefore, will require to combat the two main links in the chain of mentioned factors, and these are (a) irritation, and (b) infection. In the last six months I have used an ointment containing 0.3% of phenylmercuric nitrate in combination with "amethocaine" and benzocaine ("polycrest cream"). Of the 12 cases under my care 10 were cured within 4 months, and some of these patients had a history extending over 3-4 years. . . .

Terms of Service

DR. F. C. MCN. MCLWICK (Callander, Perthshire) writes: . . . Having been advised (or ill advised) to take part in the Health Service and probably having somewhat unwillingly taken the advice it is not time that the terms of service were discussed openly? . . . I have had quite enough of hush hush, now now, come come. Having lost our right to earn a considerable part of our living, is it not time to discuss and insist that the terms of service will be sufficient to recompense us in full? . . .

on leave, she obtained the F.R.C.S.Ed., and in 1941 was appointed superintendent of the Medical School Hospital. The next year she was called to succeed Dame Edith as principal, and quickly her great ability and energy were evident in the raising of standards and the maintenance of the highest traditions of Christian medicine. During the recent communal disturbances Dr. Pollock was put to a very great strain, working incessantly, taking but a few hours of rest by day or night. It was due to her initiative in establishing a cholera hospital that this disease was controlled among the tens of thousands of refugees who were being cared for in the inadequate transit camps. On Easter Sunday night she was last seen visiting a seriously ill patient at 1.30 a.m. She was found dead in her bed next morning from the condition of which she had premonitions, though she refused to modify the course of her life and the burdens she so readily accepted. Thus her death was but the crown of a living sacrifice. As a local official put it, "I often felt ashamed that a woman could do so much." Two days of mourning were observed in the city, and from the theatre sweeper to the wealthiest patient in the district there will be sorrow as long as her memory lives. In Dr. Pollock a very strong personality which had surmounted many difficulties was combined with a unique degree of selfless giving of herself in the service of others. India and the profession will be immeasurably poorer for her loss.

Dr. LEONARD EDGAR WHITAKER, who died on May 12 at the age of 72, was the seventh son and youngest child of Joseph Whitaker, founder of *Whitaker's Almanack*. He was educated at Lansing College and St. Bartholomew's Hospital, qualifying in 1899. He was ophthalmic house-surgeon to Dr. Vernon, whose other junior was Walter Jessop. He was an enthusiastic sportsman, and during his time at the hospital was captain of the association football team and of the combined hospitals team. On leaving Bart's Dr. Whitaker travelled to New Zealand with a fellow student, returning to England on the outbreak of the South African war. He served throughout as a civil surgeon and was awarded the medal and five clasps. Again coming back to England he started in practice at Diss, Norfolk, but in 1910, attracted by his earlier visit to the country, he went with his wife and two small children to New Zealand, settling in Palmerston North. He became ophthalmic surgeon to Palmerston North Hospital, and later its treasurer. He was instrumental in raising funds to extend it and make it at that time the most efficient and up-to-date hospital in New Zealand. Dr. Whitaker also became medical officer of health for the district, although troubled by increasing deafness, and in the great influenza epidemic after the 1914-18 war he gave devoted service. The lessons he learned at this time had much to do with the further improvement and expansion of the local hospital service. In 1920 he left for England and joined the family publishing business of J. Whitaker and Sons, Ltd., becoming a director and later managing director of the firm. He was keenly interested in literature and in the book trade. Although his main interests in later life were literary, he was croquet champion on several occasions, both in England and New Zealand. After croquet his principal diversion was motor-cruising on the Thames. He leaves a widow and two sons.

Dr. DOUGLAS EDWARD WILSON died suddenly from a heart attack at his home in Bishop Auckland, Co. Durham, on May 20, at the age of 45. Dr. Wilson graduated in the University of Aberdeen in 1925, and served in the Colonial Medical Service in Tanganyika Territory from 1928 until 1942. During the last five years of that period he was working as a pathologist. Owing to temporary ill-health Dr. Wilson returned to England, where he held laboratory appointments until 1943, when he joined the R.A.M.C., serving in France and the Middle East. He was finally assistant director of pathology to "Paiforce" with the rank of lieutenant-colonel. On his release from the Army Douglas Wilson rejoined the Colonial Service as senior pathologist, Palestine, and on his retirement from this post he was offered and accepted the appointment of area pathologist in County Durham. Dr. Wilson was an enthusiastic and indefatigable worker, and published several contributions to medical literature. All who knew him will feel that they have lost a charming, sincere, and sympathetic friend, and the high esteem in which he was held, not only by his professional colleagues but also by everyone who came in contact with him, will comfort his widow and two sons, to whom the deepest sympathy is extended.—H. J. L.

Dr. LAURENCE WILLIAM POLE, who died at Edinburgh on May 21, was a student at Edinburgh University. He graduated M.B., Ch.B. in 1901, and took the D.P.H. in 1906. For a time he was engaged in general practice in Edinburgh and then in Canada. Returning home, he took up public health work and was a student M.O.H. for the City of Worcester, and later

county medical officer for Radnorshire. His career was interrupted by the first world war, when he served in France with the R.A.M.C. In 1920 he was appointed medical officer of health for Llanelli Borough and continued in this capacity until 1944. His medical colleagues expressed their appreciation of his work over a period of twenty-four years at a farewell meeting just before he went into retirement. Dr. Pole possessed the traditional characteristics of his race—to the casual acquaintance he might appear distant and reserved, but to anyone privileged to know him his friendship was something of genuine value. He did much for public health but frequently regretted that he could not do more. He was a great lover of children, and never did he appear happier than when he was among them at the annual summer camp on Pendine sands, which had been established by him in 1923. He is survived by his widow and one son, Dr. Alan Chateris Pole.—D. M.

Dr. ALLAN LEONARD SMITH TUKE died suddenly at the age of 82 at his home in Dunfermline on May 25. Dr. Tuke, who was Dunfermline's oldest practitioner, was the youngest son of the late Sir John Batty Tuke. A native of Edinburgh, he graduated M.B., C.M. in 1887, and continued his studies at Leipzig and Vienna. He was Prof. Sheen's house-surgeon at the Edinburgh Royal Infirmary before settling in Dunfermline as assistant to the late Dr. Arthur Drysdale, subsequently becoming his partner. Dr. Tuke was for many years the senior member of the honorary medical staff of the Dunfermline and West Fife Hospital. He was associated with this institution from its inception and was largely responsible for the extensions to the hospital which were completed in 1931. In 1888 Dr. Tuke enlisted as a trooper in the Fife Light Horse, a unit of the Old Volunteers, which later became part of the Fife and Forfar Yeomanry. In 1914 he was mobilized with his regiment, serving with the rank of major in the Egyptian and Palestine campaigns and being awarded the M.C. in 1916. After the war Dr. Tuke was one of the founders of the Dunfermline branch of the British Legion and acted as its chairman for a number of years. In April, 1931, he was made a Free Burgh of Dunfermline in recognition of his public services. Dr. Tuke had attended a meeting of the managers of the Dunfermline and West Fife Hospital on the day before his death and had been seeing patients at his home the same afternoon. He was able to recall a time when operations were conducted on a kitchen table by the light of a tallow candle and with the assistance of a handywoman. In 1938 Dr. Tuke was appointed a Deputy-Lieutenant of the County of Fife. He had been member of the British Medical Association for many years and was president of the Fife branch in 1922. He was one of the original members of the Carnegie Dunfermline Trust and inspired and originated one of its most important enterprises, the setting up of the Dunfermline College of Hygiene and Physical Education.

Dr. CHARLES DAINTY HATRICK, who was for thirty-six years in practice at New Barnet, Middlesex, died on May 31 at the age of 72. Dr. Hatrick had only returned the week previous from South Africa, where he went last year to visit his two daughters. A student at University College Hospital in closing years of the last century, he graduated in 1901 and proceeded M.D. two years later. The teaching staff at U.C. included such brilliant men as Gowers, Barlow, Sidney Mart Victor Horsley, and Godlee, and it was here that Dr. Hatrick began a life-long friendship with Wilfred Trotter. Immediately after qualifying, he went out to the South African war as a civil surgeon. Returning home, he did some house appointments, and then settled in New Barnet, where he remained until his retirement in 1940. Hatrick was a man of outstanding ability, of courage, and of decision. He was a quick worker, a quick thinker, and possessed of abundant energy. Although not of robust physique he carried on an extensive practice without apparent effort. He was a member of the B.M.A. long standing and took a great interest in the Association's work. He was the first chairman of the newly created Barnet Division, president of the Hertfordshire Branch, and an original member of the Hertfordshire Local Medical and Panel Committee, of which he was chairman for four years. In 1935 he went out to South Africa as a representative of the B.M.A. to the South African Medical Association Congress. In all his offices he gave of his best and never spared himself. In the first world war he served with the R.A.M.C. in India, and the last war he played his part as a member of a National Service Military Recruiting Board. His leisure was spent in the garden. He was an expert gardener, and he grew flowers of great beauty that were a source of delight to his friends. He was singularly fortunate in his married life. To his wife and to his three children, a son in the medical profession and two daughters, one also a doctor, married and living in South Africa, the sympathy of all his friends will be extended.—W. G. H.

Medico-Legal

FAILURE OF ANOTHER RESTRICTIVE COVENANT

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

Last year the peace of mind of medico-legal draftsmen was disturbed by the decision of the Court of Appeal in the "Okehampton case." In this case of *Routh v. Jones* the Court of Appeal declared invalid a restrictive covenant in an agreement between a principal and an assistant, with the effect that the ex-assistant was left free to compete in practice with his former employer. The covenant had been drawn in a form quite commonly used. Now the Court has upset another restriction which, although the agreement itself was not a very usual one, was by no means unusual. As in last year's case, the decision doubtless renders useless several covenants on which practitioners are now relying for protection if their present relationship with partners or assistants should end.

Dr. Robert Donaldson Jenkins had a general practice in the Gloucestershire countryside just north of Bristol. The bulk of the work was the treatment of common ailments and injuries; there was the ordinary proportion of midwifery cases and of minor surgery but no specialist work. In 1935 he married a lady who had just qualified; she helped occasionally with the practice but took no regular active part. Early in August, 1939, Dr. Jenkins entered into partnership with Dr. Alexander C. Reid. As the doctor's wife, Mrs. Rosalind Mary Seymour Jenkins, was well known to the patients of the practice as a doctor on her own account, Dr. Reid desired to guard against the possibility that after Dr. Jenkins retired or died, or if she set up in practice on her own in the district patients might consult her for she was in a specially favourable position to acquire a knowledge of the practice. The partnership deed therefore contained a clause providing that during the continuance of the partnership or if Dr. Jenkins died or withdrew from the practice Mrs. Jenkins should not at any time thereafter practise as a physician or surgeon or apothecary within a radius of five miles, or professionally visit or consult with any of the patients of the practice. During the continuance of the partnership however she could see patients of the practice by consent of either partner and account to the partnership for the fee.

At the end of August Dr. Jenkins was called up for service in the Navy, and by arrangement with the partners Mrs. Jenkins worked for the partnership till through the war as an assistant. This engagement ended at the end of March, 1947. Dr. Jenkins had died in September, 1946. Mrs. Jenkins then put up a plate with her name and qualifications and Dr. Reid, who had built another surgery and wished to take in another partner, objected that she was breaking her restrictive covenant. She moved the Court for a declaration that the covenant was invalid, saying that it covered doctors well outside the practice and also many kinds of special practice and even the duties of a works medical officer.

Judgment

The judge, Mr. Justice Rottner, in the Chancery Division of the High Court, heard evidence from a number of the British Medical Association on the precise meaning of the terms "consultant," "specialist," and others used in the evidence. He disregarded the old authorities on the ground that the approach of the courts to covenants of this nature is now fundamentally different from what it had been when they were decided. He bore in mind, while not considering it the decisive factor, that the area of restraint included a built-up area on the outskirts of Bristol from which the partnership did not normally draw patients. He was much impressed by the fact that the restriction was not limited in time. There was no evidence to show why this should have been necessary, and he did not infer that it was in the least necessary to preserve the goodwill. He bore this in mind also when deciding on the question generally. Moreover, the covenant would prevent Mrs. Jenkins from acting as a consultant or specialist in medicine or surgery, although no such work had ever been done by the partnership. The question of

whether the restriction on practice could be severed from that on visiting or consulting with patients of the practice did not arise, because the second restriction was as bad as the first. Consultation was not part of the work of the practice, and the whole sentence was hopelessly vague. He thought that "patients of the practice"—a phrase of very uncertain meaning—meant persons who might at any time during Mrs. Jenkins's lifetime after the termination of the partnership be treated as patients of the practice. Even if counsel's suggestion was right, that the phrase covered only regular patients, Mrs. Jenkins could never know whether a given person was or was not a patient of the partnership. If she set up in practice in London and somebody came from the prohibited area on a visit, she would clearly be guilty of breaking the agreement if she treated him. Restrictive covenants are construed against the persons who invoke them, and he did not feel inclined to guess at some narrow meaning which would save the clause from defeat. He therefore declared that the whole restriction was void and unenforceable as contrary to public policy, too vague, and in unreasonable restraint of trade.

Like all other decisions in cases of this nature this decision turned largely on the facts, and must not be interpreted as being of universal application.

Universities and Colleges

UNIVERSITY OF CAMBRIDGE

On May 29 the degree of M.D. was conferred on K. S. MacLean and P. F. Barwood.

UNIVERSITY OF GLASGOW

George McCreath Wyburn, M.B., Ch.B., F.R.F.P.S. (Glas.), Senior Lecturer in the Anatomy Department of the University has been appointed Regius Professor of Anatomy in succession to Prof. William James Hamilton, D.Sc., M.D., F.R.S.E., who has retired.

UNIVERSITY OF LONDON

Philip H. Murchiner, C.B., C.B.E., M.D., M.S., F.R.C.S., has been reappointed a member of Convocation (Medicine) on Senate of the University for the period 1948-52.

John William Stewart Blacklock, M.D., F.R.F.P.S., professor of pathology in the University of Glasgow since 1937 and director of the Institute of Pathology at the Royal Infirmary, Glasgow, has been appointed to the University Chair of Pathology, tenable at St. Bartholomew's Hospital Medical College, from Oct. 1.

James Whillis, M.D., M.S., F.R.C.S., has been appointed to the Chair of Anatomy tenable at Guy's Hospital Medical School, from Oct. 1.

The title of Reader in Morbid Anatomy in the University has been conferred on Daniel Merlin Pryce, M.D., in respect of the post held by him at St. Mary's Hospital Medical School.

UNIVERSITY OF WALES

The following candidates for the degrees of M.B., B.Ch., at the Welsh National School of Medicine have satisfied the examiners at the examination indicated:

Surgery—Sarah A. Chard, G. J. Davies, Joan V. Davis, Janet Dean-Jones, T. Griffiths, E. I. Harzard, Ben H. Jones, Rosina E. Jones, D. M. D. King, G. M. Reynolds, Esme S. Rogers (with distinction), Mary C. Sumpster, G. Thomas, J. D. Thomas, J. A. Wilkinson.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

Dr. J. W. Trevan, F.R.C.P., F.R.S., will deliver the Bertram Louis Abrahams Lecture on "Curare and Curarimimetic Drugs" at the College (Pall Mall East, S.W.) on Tuesday, July 13, at 5 p.m.

The Mitchell Lecture, to be given by Dr. Robert Coope, F.R.C.P., has been postponed till Thursday, Nov. 18.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

On June 7 Prof. J. A. Ryle delivered a lecture at the Royal College of Physicians of Ireland on "The Modern Concept of Social Medicine." The President, Dr. Bethel Solomons, presided, and a vote of thanks to the lecturer was proposed by Dr. A. Parsons and seconded by Prof. T. G. Moorhead.

The following have been admitted as Fellows of the College: R. S. W. Baker, M. D. Hickey, F. E. Pilkington, C. B. Robinson.

The following have been admitted as Members of the College: J. G. Callanan, S. Davis, L. Godfrey, K. W. Hazratji, P. J. G. Quinn, M. Brown, D. C. Connolly, J. O. Doyle, M. F. Healy, T. Lynch, J. McNutt, J. P. Malone, R. Sahu, R. H. O'Hanlon.

ROYAL COLLEGE OF SURGEONS IN IRELAND

The following officers have been elected for 1948-9: *President*, Prof. H. S. Meade; *Vice-President*, Prof. William Pearson; *Other members of Council have been elected as follows*: J. F. L. Keegan, R. A. Stoney, H. Stokes, E. L. Sheridan, J. F. Devane, A. A. McConnell, T. O. Graham, W. Doolin, W. C. P. Smyly, F. Gill, A. B. Clery, I. Fraser, A. S. Pfrench-O'Carroll, T. G. Wilson, M. P. Burke, R. R. Woods, J. H. Coolican, T. A. Bouchier-Hayes, and N. A. Kinnear.

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

At the meeting of the Council of the College, held on May 22 with the President, Mr. W. Gilliatt, in the chair, it was announced that Dr. Emil Novak, Baltimore, U.S.A., had accepted an invitation to become an Honorary Fellow of the College. Dr. Novak was appointed lecturer for 1948 under a lectureship founded to cement more closely the bonds of friendship between the British Empire and the United States of America. Prof. N. W. Philpott (Montreal) was appointed William Blair Bell Memorial Lecturer for 1948.

The following were elected to Council to fill vacancies caused by retirement, statutory and otherwise: As representatives of the Fellows: Prof. O'Donel Thornley D. Browne (Dublin), Mr. Malcolm Donaldson (London), Mr. H. L. Hardy Greer (Belfast), Prof. Hilda Nora Lloyd (Birmingham), Mr. Harold Jordan Malkin (Nottingham), Dr. Douglas Miller (Edinburgh), Prof. H. J. Drew Smyth (Bristol). As representatives of the Members: Mr. Donald Blake Fraser (London), Dr. Robert James Wotherspoon (Glasgow).

The following were admitted to the Fellowship of the College: J. O. Baker, S. C. Bose, F. J. Burke, H. H. Caple, W. Clement, G. J. StC. Fisher, I. Goldberg, C. J. K. Hamilton, J. S. Henry, O. S. Heyns, J. Howkins, J. G. H. Ince, Hilda M. Lazarus, D. M. Lindsay, R. Lodge, D. M. Low, J. R. McArthur, K. F. Mackenzie, P. A. McLeon, R. B. Meiklejohn, Jocelyn A. M. Moore, A. B. Nash, I. Y. Patrick, Susanne J. Paterson, H. N. Ray, Helen E. Rodway, W. N. Searle, G. A. Simpson, J. R. Vant, G. M. White, W. R. Winterton.

The following were admitted to the Membership of the College: S. C. Anderson, E. C. Bryant, Margaret E. M. Boulton, J. M. Bowen, J. C. McC. Browne, J. T. Burrowes, R. W. Burslem, A. W. Chester, J. Crawford, L. A. Cruttenden, P. C. Denham, J. C. H. Dunlop, S. Evans, J. B. Fleming, J. F. Foulkes, D. C. Galloway, S. F. Hans, Betty Hargreaves, J. R. Hassard, Rosa Hertz, J. B. Hurll, P. S. Jaikaran, Eileen I. Jamieson, E. W. Jones, M. M. Kriseman, Sylvia Lerer, Una G. Lister, Florence P. Logan, J. T. Louw, S. D. Loxton, A. M. Michael, N. V. Mody, Cecilia M. Murray, G. S. Musgrove, M. J. D. Noble, K. Pasricha, R. G. Patel, A. E. Perera, P. T. Por, R. W. K. Purser, T. F. Redman, O. A. Schmidt, F. Shaw, B. H. Sheares, D. M. Sheppard, W. R. Sloan, B. S. Surti, D. A. Thomson, J. G. Thurston, May D. Westerman.

Feeding customs, like any other, vary with the way society is organized. The three square meals proverbially advocated by our forefathers as necessary for a good day's work are unsuited to people working in offices or factories, who prefer more and smaller meals. Many believe that their minds do not work so keenly when their stomachs are full, and present difficulties in preparing substantial meals confirm their choice. A Research Group appointed by the London Council of Social Service Standing Committee on Communal Feeding and the London and Middlesex Standing Conference of Voluntary Youth Organizations has recently investigated the meals taken by juvenile workers in the London area. The Group interviewed first 36 boys and 18 girls, most of whom were aged between 15 and 18, and then a further 112 boys and 84 girls. It found that six meals a day were almost universally accepted, and a seventh was often taken by those who frequented clubs.

Breakfast on weekdays is light and sometimes hurried, though over half have something cooked. Nearly all take sandwiches or cake to eat at work at 10 a.m., and some also drink tea or cocoa. They have a mid-day lunch at a canteen or restaurant or at home, and most then have a snack in the middle of the afternoon. All have tea on returning home, which may be a cooked meal if the lunch was small, and most of them have supper between 9 and 10.30. The likes and dislikes of these young people for different kinds of food vary considerably. Fish is the least popular animal food: indeed, many eat little or none. But the Group comments that "fish and chips" may have been regarded in the inquiry as an item distinct from mere fish. Turnips and parsnips are unpopular, and 10 of the group of 56 dislike one or all green vegetables except beans. The Group concludes that boredom conduces to hunger, which is readily satisfied by snacks, and since many make a poor breakfast employers might provide light refreshments at the start of the day to encourage work. The short breaks for rest are better times than the mid-day meal for introducing any supplementary foods, such as milk, that may be necessary. On the whole, however, the meals of 50% or more of these juveniles are satisfactory.

¹ *Every Worker at Meal Time*, National Council of Social Service, 1948.

Medical Notes in Parliament

NATIONAL HEALTH SERVICE

There were presented to Parliament on June 2 Draft Regulations entitled: the National Health Service (Superannuation) (Amendment) Regulations, 1948; National Health Service (Superannuation) (England and Scotland) Regulations, 1948; National Health Service (Transfer of Officers and Compensation) Regulations, 1948; and the National Health Service (Executive Councils) Amendment Regulations, 1948. On June 3 there was presented the National Insurance (Medical Certification) Regulations, 1948.

On June 9 there were presented to Parliament the National Health Service (Scotland) Superannuation (Amendment) Regulations, 1948, and the National Health Service (Transfer of Officers and Compensation) (Scotland) Regulations, 1948.

Interim Contracts for Specialists

Sir ERNEST GRAHAM-LITTLE on June 8 invited Mr. Bevan to publish the interim terms of remuneration for specialists. He said these had been made known to Regional Boards, but not to those who were to be asked to serve under the Health Act as specialists.

Mr. BEVAN replied that whole-time specialists who, by virtue of Section 68 of the National Health Service Act, 1946, were transferred on July 5 to the employment of a Regional Hospital Board or a Board of Governors of a teaching hospital would continue, for the time being, to receive the same remuneration as they did before the appointed day. Part-time specialists who, in general, were not so transferable and whose appointments would therefore lapse on July 5, would be offered temporary contracts remunerated at the flat rate of £200 per annum for each half-day per week up to a maximum of £1,600. These terms of remuneration were broadly based on current practice where part-time visiting staff were paid for their hospital appointments. They were designed simply as interim payments on account until the recommendations of the Special Committee had been discussed with the profession, and a new scheme of remuneration worked out. As soon as that was done adjustments would be made so as to apply the new scheme as from July 5 (even if the discussions were prolonged beyond that date) and to do so in such a way as to bring the specialist's remuneration up to a level appropriate to his seniority and experience.

Sale of Goodwill

On June 10 Sir ERNEST GRAHAM-LITTLE asked Mr. Bevan whether, in view of the fact that general practitioners could carry on private practice in conjunction with public practice under the National Health Service Act, 1946, he would introduce amending legislation to enable them to dispose of the goodwill of their private patients.

Mr. BEVAN replied that he could not do this, but he pointed out that full compensation was provided to cover both element in these combined practices.

Medical Certificates

Mr. STEELE stated on June 7 that under the National Health Service certificates signed by any qualified medical practitioner would be accepted in support of a claim for sickness benefit. It was not essential that the certificates should be on the standard official form, but convenient that they should be. Medical practitioners practising outside the National Health Service could obtain these forms by applying to the Executive Council set up under the Act.

RADIOACTIVE SUBSTANCES BILL

The Radioactive Substances Bill, which had already passed the House of Lords, was considered in Committee by the House of Commons on June 4. On Clause 3 Major VERNON moved to omit the provision authorizing the sale by registered pharmacists and sellers of poisons of substances containing more than a prescribed quantity of radioactive element. He said that special skill and elaborate precautions needed to avoid the dangers in handling these substances were outside the range of education of the ordinary pharmacist and outside the range of many medical practitioners. It had never been the practice to sell radium and radon in small quantities all over the country. They had been prepared in establishments equipped for the purpose and taken direct to the hospitals where they were used. Even so there had been accidents and losses.

Mr. Linstead said that beside the substances mentioned by Major Vernon there was a group of preparations in which very minute quantities of radioactive substances were intro-



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duced. Radioactive mud and waters were used in medicine. He hoped the Minister would bring under control substances with very small quantities of radioactive material which at present were sold without control and could easily be used to exploit credulous people. The coming of the National Health Service probably meant that there might be preparations, in addition to those now known, which could properly be prescribed by the general practitioner for use by a patient under his direction and which would not require elaborate machinery.

Capt. FIELD said that if the nomination of properly qualified people were left to the Advisory Committee it should not be rigidly confined to medical practitioners, dental practitioners, registered pharmacists, or authorized sellers of poisons. One or two hospitals in London had on their staffs physicists who were not necessarily medical practitioners, yet would be ideal persons to handle and prescribe these substances in certain cases.

Mr. BEVAN said this point should be raised on another part of the Bill. The subsection to which Major Vernon's amendment was directed dealt with persons who sold or otherwise supplied these substances and not with persons who used them. All kinds of radioactive substances such as ointments and hair restorers, might contain dangerous percentages of radioactive matter and it was essential that they should not be allowed to be sold freely.

Major Vernon's amendment was negatived. He then moved the deletion of the "escape Clause" providing a period of three months from the appointed day during which any qualified practitioner who had applied for a licence could act as though that licence had been granted.

Mr. SOMERVILLE HAS also hoped the Committee would not agree to the removal of this Clause. Only a few doctors specialized in this line of treatment and they did not undertake it lightly. There must be a Clause of this sort so that treatment already begun could continue in the interval between application for licence and the granting of it.

Mr. BEVAN said he did not know how long would be required to grant the licences. It might be a month or more, but it would be. The Government could not say that in the appointed day all work must stop. The amendment was withdrawn and Clauses 3, 4, and 5 were agreed to the Bill.

Advisory Committee

On Clause 6 Comm. under Sub-section 1, Mr. BEVAN said that the Steel Institute and the Institute of Metals, being asked to send have representation on the Advisory Committee.

Mr. HASTINGS asked whether the Minister of Health would suggest to the College of Physicians and the Society of Apothecaries to the Committee.

Mr. LINSTED felt consulted. It had a representative on the Advisory Committee under the Therapeutic Substances Act.

Mr. BEVAN said that the Committee had been asked by the bodies nominating it to include representatives of the claims of dermatologists. The Committee had accepted the recommendations were made by the Royal College of Physicians. He would investigate to see whether there was any other body of specialists was essential. He would also consider whether there would be directly involved in the matter considered in this part of the Bill, as well as the other bodies.

On Clause 9 Mr. BEVAN said that the Minister had asked himself injured by the Bill, the Minister had asked himself, the inquiry would be made by the Minister.

Mr. BEVAN said that he would be asked to make an inquiry in each case. The Minister would be asked to make an inquiry before the House. The Committee would be asked to make an inquiry through the report stage without further discussion. The Bill was read a third time.

VETERINARY SURGEONS' BILL

Mr. TOM WILLIAMS on June 4 moved the Second Reading of the Veterinary Surgeons' Bill. The Bill had passed the House of Lords. He said the Bill was adding the country's herds of bovine tuberculosis was moved in the supply of veterinary surgeons. Both Cambridge and Bristol Universities were planning courses in veterinary science. Under the Bill the Privy Council could give an appropriate degree of the university would carry with it a registrable qualification as veterinary surgeon. The Bill did not limit the number of universities which would be brought in. The Bill proposed to register and control practitioners who fulfilled its conditions, to place them under the disciplinary control of the Royal College, and to allow them to describe themselves as

"veterinary practitioners." The title "veterinary surgeon" was reserved for the fully qualified person.

Mrs. MASSING said that this country had only 94 veterinary surgeons per million cattle, against 148 veterinary surgeons per million cattle in Denmark and 247 in Switzerland. The suggestion that the intake of veterinary surgeons should only be increased to 220 a year was pitiful.

Mr. KENYON said that sterility in dairy cattle affected one-fifth of the herds. The remainder, after taking three years to come into production, produced only three lactations. If the veterinary profession found a remedy it would greatly contribute to the welfare of the country.

Mr. GEORGE BROWN, replying for the Government, said the figure of 220 qualified entrants annually into the profession had been based on the estimate of the number for whom decent posts could be found, here or in the Colonial Service. The number of unqualified persons admitted to the supplementary register was unlikely to be more than 500 as against 4,000 qualified people on the other register. "Veterinary practitioners" would be allowed to move between tests, to issue certificates, and to act for insurance companies.

The Bill was read a second time.

Purchase Tax on Drugs

The Schedules of the Finance Bill, 1948, were considered in Committee by the House of Commons on June 8. On Part II of the Schedule Mr. N. MACPHERSON introduced the distinction made in levying purchase tax, between drugs mentioned in the *Pharmacopoeia or National Formulary* and unlicensed drugs. He said the Government had made it well understood that the distinction was made in order to protect the public from getting more easily. Sir STAFFORD CROMBIE pointed out that in the matter before the Report stage and the Committee stage of words could be found to distinguish between undesirable and desirable drugs. The Schedules were approved and the Committee Stage concluded.

Employment of Blind Persons.—Mr. GEORGE ISAACS announced on June 1 that the Ministry of Labour had set up a working party to investigate the facilities existing for the employment of blind persons in industry and in public service, and to make recommendations for their development.

Testimony of Enure.—Mr. BRAMWELL on June 1 asked about the treatment of a soldier who suffered from enuresis and was compelled to sleep in the gutter. Mr. MICHAEL STEWART said that the soldier in the gutter was in medical recommendation for his treatment. The arrangements made were calculated to be considerably to his comfort.

Unemployment.—Mr. BEVAN said that the artificial limb supply was now working for the Ministry of Pensions can supply the artificial limbs without undue delay. The artificial limbs required for the National Health Service with the aid of other establishments.

Medical Research Council.—Persons who will be eligible for grant of the disability of partial deafness to qualify for the "disabled" hearing-aid are estimated by experienced otologists to number about 150,000. This estimate is based on a survey by the Medical Research Council.

Approved Societies.—All Approved Societies will be wound up by July 5, 1948. Regulations governing the procedure will be issued shortly.

Anaesthesia in Domiciliary Midwifery.—Asked what progress had been made in providing analgesic apparatus in hospitals and for use by midwives Mr. BEVAN replied that the apparatus was now equipment in hospitals, and 2,820 sets had been supplied for domiciliary midwives who used them for 43,683 cases in 1947 as against 20,507 in 1946. Reports remained favourable. Whether a hospital patient should be given analgesia must continue, he said, to be decided by the doctor in charge.

The Services

Brigadier A. A. Eagger, C.B.E., T.D., and Colonel F. Whalley, C.B.E., D.S.O., T.D., K.H.P., R.A.M.C., T.A., have been appointed Honorary Colonels to the 16th (Airborne) Division, R.A.M.C., and the 49th (W.R. and M.) Armoured Division, R.A.M.C., respectively. The Efficiency Decoration has been conferred upon the following officers of the Territorial Army: Colonels H. J. A. Longmore, W. McK. H. McCullagh, D.S.O., M.C., Major (Temporary Lieutenant-Colonel) J. B. Bishop, Majors (Honorary Lieutenant-Colonel) D. J. Campbell and J. D. Finlayson, M.B.E., and Major J. E. McCartney, R.A.M.C.

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended May 29.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included), (b) London (administrative county), (c) Scotland, (d) Eire, (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London), (b) London (administrative county), (c) The 16 principal towns in Scotland, (d) The 13 principal towns in Eire, (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever Deaths	40	2	13	2	2	73	3	46	6	4
Diphtheria Deaths	151	24	35	14	7	194	14	55	15	9
Dysentery Deaths	122	14	43	3	1	46	4	19	—	—
Encephalitis lethargica, acute Deaths	2	—	1	2	—	3	—	—	—	—
Erysipelas Deaths	—	—	28	11	2	—	—	25	10	3
Infective enteritis or diarrhoea under 2 years Deaths	45	3	13	26	—	64	3	23	33	2
Measles* Deaths†	13,468	1,134	210	139	73	12,314	545	177	110	34
Ophthalmia neonatorum Deaths	56	4	12	—	1	56	6	12	—	—
Paratyphoid fever Deaths	5	2	2(B)	1(B)	—	7	—	1(A)	—	—
Pneumonia, influenzal Deaths (from influenza)*	579	37	3	7	—	512	30	3	5	10
Pneumonia, primary Deaths	163	26	184	41	8	24	171	20	6	6
Poli-encephalitis, acute Deaths	1	—	—	—	—	3	—	—	—	—
Poliomyelitis, acute Deaths‡	20	2	2	5	—	18	2	4	4	—
Puerperal fever Deaths	—	1	7	—	—	—	2	18	—	—
Puerperal pyrexia Deaths	92	13	13	3	—	116	7	14	2	1
Relapsing fever Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever Deaths†	1,216	98	276	47	23	886	75	147	22	42
Smallpox Deaths	—	—	—	—	—	14	—	—	—	—
Typhoid fever Deaths	9	—	—	6	—	1	—	6	2	1
Typhus fever Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough* Deaths	3,085	265	56	117	19	1,657	240	154	38	20
Deaths (0-1 year) Infant mortality rate (per 1,000 live births)	315	37	47	29	6	395	47	74	26	15
Deaths (excluding still-births) Annual death rate (per 1,000 persons living)	4,145	658	568	202	104	4,476	696	582	175	111
Live births Annual rate per 1,000 persons living	8,281	1383	972	449	254	8,561	1329	1131	522	320
Still-births Rate per 1,000 total births (including still-births)	224	33	38	—	—	273	32	29	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ The 13 principal towns for England and Wales, London (administrative county), and Northern Ireland.

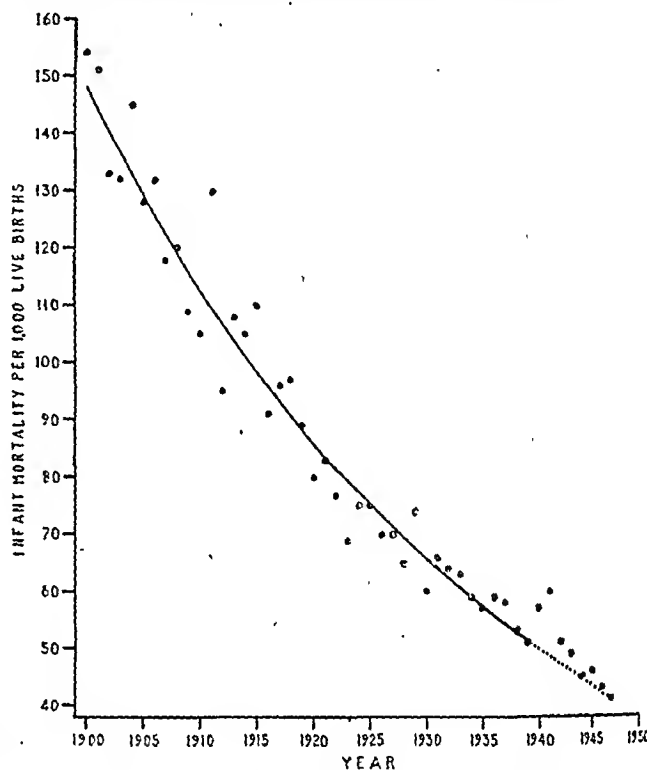
§ The 16 principal towns in Scotland and poliomyelitis and poli-encephalitis for England and Wales, London (administrative county), are combined.

|| The puerperal fever for England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Infant Mortality

The infant mortality rate, which has been steadily declining since the beginning of this century, reached the record low level of 41 per 1,000 live births in 1947. This low value has received considerable publicity and has been attributed to the current standards of nutrition of mother and infant. It may be of general interest therefore to review briefly the trend of infant mortality from the beginning of this century. What the exact course of infant mortality would have been if there had been no war is a matter for speculation, but the break in the downward trend in 1940 can probably be justly attributed to the outbreak of hostilities. The rate increased then from 51 in 1939 to 57 in 1940 and to 60 in 1941; after 1941 the decline in the infant mortality rate was resumed. To obtain an estimation of the possible trend a curve was fitted to the values from 1900 to 1939 and the extrapolated values found for 1940-7.



Infant mortality in England and Wales, 1900-47.

In the graph which is here reproduced the smooth calculated values are shown as a full line and the extrapolated values as a dotted line. The graph begins in 1900, when the infant mortality rate was 154 per 1,000 live births. Assuming that the average rate of decrease during 1900-39 continued to operate during 1940-7 the calculated infant mortality rate for 1947 is found to be 41, the same as the observed rate. The calculated values for 1940-6, however, were all less than the observed rates.

There is no reason to suppose, from the shape of the curve of infant mortality, that any exceptional depression of mortality in infancy has occurred in the last year or two. It appears that the factors responsible for the decline in the period before 1939 continued to operate. Of these many and complex factors the most important probably is the increase in knowledge of infant welfare and management. The diffusion of knowledge throughout a community is a gradual process and some time elapses before any new idea is universally practised, so that it may be several years before the full effects of this improved knowledge are shown in the infant mortality rate.

Discussion of Table

In England and Wales there was an increased incidence of measles 1,791 and whooping-cough 405, and a decrease in the notifications of scarlet fever 138 and of diphtheria 17.

Very little change occurred in the trend of measles in most areas, and the large increase in notifications was contributed by only a few counties; the largest rises were Lancashire 286, Warwickshire 239, Durham 234, Essex 213, Cheshire 147, London 140, and Nottinghamshire 98.

The notifications of during the week included 3,207, diphtheria 166, cerebrospinal fever 42 paratyphoid 2, and typh

Medical News

Mr. F. Messer, M P Regional Hospital Board would pool all existing on a fifty-fifty basis to ment committees, who

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COMING EVENTS

The Annual Meeting of the Royal Society of Medical Illustration will be held at the West Hotel, London W. from Monday, June 21, to Wednesday, June 23, 1937. The hours are 10 a.m. to 4 p.m. on Mondays, Tuesdays, and Wednesdays, and 10 a.m. to 12 p.m. on Saturdays. The exhibition will be opened by the President of the Society, Sir Maurice Cassidy, on June 21 at 11 a.m. All those interested in the subject will be welcome.

Faculty of Homoeopathy
The annual assembly of the Faculty of Homoeopathy will be held at the London Homoeopathic Hospital, Great Ormond Street, London, W.C., on Wednesday, June 23, at 5 p.m., when there will be a general discussion of the National Health Service Act as it affects homoeopathic practice.

S.E. Metropolitan Regional Specialists Association
The first annual general meeting of this association will take place at B.M.A. House, Tavistock Square, at 5.0 p.m. on June 25. The B.M.A. has asked the council of this association to consider acting on its behalf in the area of the S.E. Metropolitan Regional Hospital Board, and this proposal will be discussed at the meeting. A cordial invitation is extended to all members of the specialist and consultant staffs of hospitals, including tuberculosis dispensaries.

National Association of Insurance Committees

The final meeting of the National Association of Insurance Committees will be held in the Spanish Hall, Winter Gardens, Blackpool, on Thursday, June 24, at 10.30 a.m.

Institute of Laryngology and Otology

Dr. Arthur Proetz, of St. Louis, U.S.A., will deliver a lecture on "Medical and Surgical Treatment in Relation to the Physiology of the Nose" at the Institute of Laryngology and Otology, 330-2, Gray's Inn Road, London, W.C., on Monday, June 28, at 5.30 p.m. Questions and a discussion will follow. Admission is by invitation, which may be obtained from the secretary of the institute.

Conference on Maternity and Child Welfare

The annual conference on Maternity and Child Welfare, arranged by the National Association of Maternity and Child Welfare Centres and for the Prevention of Infant Mortality will be held at Friends House, Euston Road, London, N.W., on Wednesday, Thursday, and Friday, June 23, 24, and 25, under the presidency of the Rt. Hon. Aneurin Bevan, P.C., M.P. (Minister of Health). The conference will be opened at 10.15 a.m. on June 23 by Dr. Jane H. Turnbull, chairman of the Association, and Mr. John Edwards, M.P., Parliamentary Secretary to the Ministry of Health. At 11 a.m. Mr. S. F. Wilkinson (Ministry of Health) and Dr. J. A. Scott (London County Council) will speak on "The National Health Service Act as it Affects Young Children," and a discussion will follow. On June 24, at 10.15 a.m., Dr. J. L. Burn (medical officer of health and school medical officer for Salford) and Miss Mary Smith (Manchester) will open a discussion on "Home, School, and Other Environmental Factors." On June 25, at 10.15 a.m., Mr. John Ross (Assistant Under-Secretary of State in charge of Children's Department, Home Office) and a Children's Officer will speak on "The Children Bill," and a discussion will follow. At 2.15 p.m. the Minister of Health will deliver his presidential address. The conference is open to all who are interested in maternity and child welfare, whether representatives of local authorities or voluntary organizations, or as individuals. Tickets for the three days are £1 1s.; for one day or one session, 10s. 6d. A remittance should accompany all applications and should be sent to Miss M. R. Lovelock, secretary of the Association, 5, Tavistock Place, London, W.C.1.

University of Durham: Department of Surgery

Mr. R. Guy Pulvertaft will deliver a lecture in the Royal Victoria Infirmary, Newcastle-upon-Tyne, on Friday, June 25, at 5 p.m., on "Tendon Surgery in the Hand."

Genetics of Cancer

A symposium on the genetics of cancer, organized by the Genetical Society of Great Britain (Lister Institute, Chelsea Bridge Road, London, S.W.1) and the British Empire Cancer Campaign (11, Grosvenor Crescent, London, S.W.1) will be held in London on June 24 and 25. The programme is as follows: June 24, 10 a.m., at Royal Society of Medicine, 1, Wimpole Street, W., "Inheritance of Cancer in Animals"; June 24, 2.30 p.m., at Medical Society of London, 11, Chandos Street, W., "Virus and Carcinogen Induced Mutations." June 25, 10 a.m., at Royal Society of Medicine, "Virus and Carcinogen Induced Mutations" (continued) and "Inheritance of Cancer in Animals" (continued); June 25, 2.30 p.m., at Royal Society of Medicine, "Inheritance of Cancer in Man." A number of American, European, and British scientists will read papers. The meetings are open to all interested in the subject. An informal dinner will be held on Thursday, June 24, at 7 for 7.30 p.m., at Brown's Hotel, Albemarle Street, London, W. Morning dress will be worn. Accommodation is limited to 70.

Tuberculosis Association Annual Conference

The annual conference of the Tuberculosis Association will be held at Queen's University, Belfast, on Wednesday, Thursday, Friday, and Saturday, June 30, July 1, 2, and 3. The programme is as follows: June 30, 2.30 p.m., Dr. Brice R. Clarke (Belfast), "The Northern Ireland Tuberculosis Service"; Prof. Arvid Wallgren (Stockholm), "The Time Table of Tuberculosis"; Dr. Dorothy S. Price (Dublin), "B.C.G. Vaccination of Infants." 8.30 p.m., annual general meeting; Dr. Robert Marshall (Belfast), "There Were Giants on the Earth in Those Days." July 1, 9.30 a.m., Prof. Jorgen Lehmann (Gothenburg), "P.A.S. in Pulmonary Tuberculosis"; Dr. T. G. Dempsey (London), "P.A.S. in Tuberculous Empyema." Dr. A. F. Foster Carter (Frimley Sanatorium), "The Segments of the Lungs"; Dr. Dillwyn M. E. Thomas (Sully Hospital), "The Treatment of Pulmonary Tuberculosis in Relation to the Segments of the Lungs." 2.30 p.m., Mr. J. H. Carver (London), "Silent Renal Tuberculosis"; Dr. Johann Gravesen (Copenhagen), "Combination of Reduced Apical Thoracoplasty and Extrapleural Pneumotomy of the Thorax." 8.30 p.m., reception and entertainment arranged by the Lord Mayor of Belfast. July 2, 9.30 a.m., Dr. Joseph Smart (London) and Mr. W. P. Cleland

(Epsom), "Primary Thoracoplasty"; Dr. James A. D. Deeny (Dublin), "The Epidemiology of Tuberculosis." 2.30 p.m., Dr. Johannes Holm (Copenhagen), "Refined Methods of Search for Tubercle Bacilli"; Dr. J. E. Wolf (Davos), "Some Observations on the use of Streptomycin in Tuberculosis." 7.30 p.m., annual dinner at Grand Central Hotel. July 3, Excursion and golf competition for the Fowler Cup. Information concerning accommodation in Belfast during the period of the meeting may be obtained from Dr. J. E. Geddes, 151, Great Charles Street, Birmingham, 3.

Training as Health Visitor Tutors

A special whole-time course of training for health visitor tutors will be started towards the end of September for a limited number of students. The course will cover a period of not less than three terms in one academic year and be followed by an examination and the award of diplomas to successful candidates. Health visitors with a minimum of three years' experience in health visiting are eligible for this course. Successful applicants will receive an allowance of £150 towards the cost of maintenance, together with the payment of their training and examination fees and the cost of textbooks. They will be required to sign an undertaking that if they pass the examination they will serve as health visitor tutors for at least two years. Application should be made immediately and in any event not later than July 2, to the Secretary, the Ministry of Health, Division 3c, Whitehall, S.W.1.

SOCIETIES AND LECTURES**Tuesday**

EDINBURGH POSTGRADUATE BOARD FOR MEDICINE.—At Edinburgh Royal Infirmary, June 22, 5 p.m. "Clinical Problems of Polymyositis," by Prof. R. E. Tunbridge.

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—June 22, 5 p.m. "Toxic Eruptions, including the Erythema," by Dr. J. E. M. Wigley.

Thursday

MEDICO-LEGAL SOCIETY.—At 26, Portland Place, London, W., June 2, 8 p.m. Annual general meeting. Paper: "Rex v. Camb," by Geoffrey Dorling Roberts, K.C.

Friday

KENT AND CANTERBURY HOSPITAL, Canterbury.—June 25, 5 p.m. Monthly Clinical Meeting.

Saturday

ROYAL SANITARY INSTITUTE.—At Greensfield Health Centre, Mulgrave Terrace, Gateshead, June 26, 10 a.m. Gateshead sessional meeting "The Stigma—A Problem of Social Medicine," by Drs. Jam Grant and C. B. Bamford.

APPOINTMENTS

Arthur Espie Porritt, C.B.E., M.Ch., F.R.C.S., and Henry Osmer Clarke, C.B.E., F.R.C.S., have been appointed to the Civil Consultant Staff of King Edward VII Convalescent Home for Officers, Osborne, Isle of Wight, in succession to Sir Claude Howard Stanl Frankau, C.B.E., D.S.O., M.S., F.R.C.S., and Walter Rowl Bristow, F.R.C.S., deceased, respectively.

Dr. Kathleen B. Cobb has been awarded a Fellowship in Paediatric Psychiatry at the Colorado Psychopathic Hospital (University of Colorado), Denver, Colorado, U.S.A., for the year beginning July 1, 1948.

The Council of the Senate of the University of Cambridge has appointed Richard Edward Montagu Pilcher, M.B., B.Ch. F.R.C.S.Ed., to be Governor of the Boston Grammar School until May 7, 1951.

Mr. Pilcher was educated at the University of Cambridge and at St. Thomas Hospital. He is Honorary Surgeon to Boston Hospital and to Spalding Hospital Consulting Surgeon to the Holland County Council's Maternity and Public Assistance Department; Consulting Obstetrician to the Lindsey County Council's Maternity and Emergency Hospital; and Orthopaedic Surgeon to the Holland County Council and to the Borough of Boston.

J. W. D. Bull, M.D., M.R.C.P., D.M.R., Honorary Assistant Radiologist, National Hospital, Queen Square, London, W.C.

After graduating with second-class honours in the Natural Sciences Tripos at Cambridge in 1932, Dr. Bull qualified by L.M.S.S.A. in 1934, took his M.B. 1936 and the M.R.C.P. in 1937. He took the D.M.R. of London University in 1938 and in the same year was appointed to a Rockefeller Travelling Fellowship. In 1947 he proceeded M.D. Dr. Bull has written on radiological diagnosis of chronic subdural haematoma and the diagnosis and treatment of intracranial tumours.

Zina E. Moncrieff, M.B., Ch.B., M.R.C.P., D.C.H., Honorary Assistant Physician to Children's Department, Royal Free Hospital, Gray's Inn Road, London, W.C.

Dr. Moncrieff qualified at Aberdeen in 1938, took the Diploma of Child Health in 1942, and the M.R.C.P. in 1944. She has written on the diagnosis and treatment of thyroid dysfunction in children.

Dr. James Charles Sleigh has been appointed Divisional Medical Officer for the St. Albans Division (comprising St. Albans City, Harpenden Urban, St. Albans Rural, and Elstree Rural Districts) under the Herts County Council's Health Service scheme and Medical Officer of Health for St. Albans City, St. Albans Rural, and Harpenden Urban Councils.

Ch B at the University of Aberdeen in 1918 and is at present Medical Officer of Health and School. He has long been interested in aviation, holding is an examiner for the Royal Aero Club. "A" he served in the R A M C in Germany with the

DRUMMOND, J. S., M.B., Ch B D P H. Medical Officer of Health, Mansfield
EEDY, B. N., M.B., B.Ch., D P H. Joint Medical Officer, Warsop and Mansfield
Woodhouse Urban Districts and Assistant to County Medical Officer of
Nottinghamshire.

HART, E. W., M.B.E., M.D. M.R.C.P., Honorary Paediatrician, Hampstead General and North-west London Hospital, Haverstock Hill, N.W.

LANCASTERSHIRE COUNTY COUNCIL—The following have been appointed Divisional Medical Officers under the NHS for the districts indicated in parentheses: G. H. Potter, M.B., Ch.B. (D.P.H.) (Aberham, Ashton-in-Makerfield, Aspull, Billinge and Winstanley, Hindle, Runcorn); A. C. Crawford, M.B., Ch.B. (D.P.H.) (Barnoldswick, Bolton-le-Willows, Euxine, Farnworth, Haslingden, Horwath, Littleborough, Oldham, Radcliffe, Salford, St. Helens, Wigan); J. Hallwood, M.D. (D.P.H.) (Blackburn, Burnley, Chorley, Clitheroe, Colne, Great Harwood, Haslingden, Heysham, Preston, South Ribblesdale, West Lancashire, Wharfedale); J. Hallwood, M.D. (D.P.H.) (Crosby, Formby, Littlehampton, Ormskirk, Skelmersdale, and West Lancashire); G. G. Wray, M.D. (D.P.H.) (Chorley, Farnworth, Littlehampton, Ormskirk, Skelmersdale, and West Lancashire).

RUNWELL HOSPITAL, near W. & Essex - Asst. Obst. Physician W. A. L. Haynes, M.R.C.S., L.R.C.P. S. Cohen, M.R.C.S., L.R.C.P.

SEMPLE, A. B., M.D., D.P.H. District Medical Officer of Health Liverpool
ST. ANDREW'S HOSPITAL, B. & L. E.—Consultant Ophthalmologist
M.B., B.Ch. House-physician J. H. F. Wood, M.B., B.Ch. and J. Zamler
M.R.C.S., L.R.C.P.

ST. THOMAS'S HOSPITAL, London SE — Honorary Surgeon, R. H. Bagnall
M.S., F.R.C.S. Honorary Surgeon, Out-patient, C. G. R. F.R.C.S.
Honorary Physician to Deputies, Out-patient, M. J. W. W. Sergeant
M.R.C.P., D.P.M. Honorary Out-patient, H. J. Anders, M.R.C.P.

BIRTHS, MARRIAGES, AND DEATHS

13. 02. 1984

Laddlow.—On June 6, 1948
Edwin V. Laddlow, M.B.
Laws.—On May 29, 1948
John W. Laws, R.A.M.C.
Malcomson.—On June 8, 1948
Stantonson-on-Wye, Hereford
Mosehl.—On June 5, 1948
of Dr. A. Moshi, a son
Moss.—On May 4, 1948
Dorothy (née Boothroyd)
Rayner.—On June 2, 1948
Mary M. Rayner (née De
a son—Christopher Mary
Turner.—On June 4, 1948
Turner, of Broadway Hou
Aldren, a sister for John

Binning—Repard.—On May 19, 1936, at 10, Wick Square, Hove, and
Binning, of Southampton.
A. Green, of Hove
Watts—Lambert.—On June 1, 1936, at the Great, London, R. & S.
M.R.C.S., L.R.C.P.

Bowie.—Recently, at Craw-
L.A.H., D.P.H.
Buckland.—On June 5, 1942
Scott Buckland, M.B. B.
Campbell.—On June 1, 1944
M.B., F.R.C.S.Ed
Clay.—On June 12, 1945
Clay, M.R.C.S., L.R.C.P.
Culmer.—On June 5, 1945
M.R.C.S., L.R.C.P.
Dingley.—On June 1945
Afred Dingley, M.D. J.P.
Gossage.—On June 8, 1945
Milne Gossage, C.B.E. M.D. L.R.C.P.
Hardie.—On June 3, 1945 W
Second Avenue, Glasgow
Hirsch.—On May 20, 1945
Hutcheson.—On June 11, 1945
Hutcheson, M.B., Ch.B. D.P.H.
Jellett.—On June 8, 1945
F.R.C.P.I.
Leach.—On June 7, 1945
M.D.Aberd.
Llewellyn.—On June 10, 1945
Wood, Chislehurst, Kent
Lloyd.—On June 11, 1945
William Lloyd, F.R.C.S.
McCaan.—On June 11, 1945
McConnell.—On June 3, 1945
McConnell, M.B., B.S. D.P.H.
Tatchell.—On June 1, 1945
M.R.C.S., L.R.C.P., aged 42
Walton.—On June 8, 1945
Walton, M.R.C.S., L.R.C.P., aged 42

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

Hypnosis in Labour

Q.—What are the facts and arguments for and against hypnosis for procuring analgesia in childbirth?

A.—According to J. B. DeLee in *The 1939 Year Book of Obstetrics and Gynaecology* (p. 164) sundry trials of hypnotism during labour have been made since the method was introduced into surgery in 1821. A recent report on 12 cases (with only one failure) is by W. S. Kröger and S. T. DeLee (*Amer. J. Obstet. Gynec.*, 1943, 46, 655). These authors also review some of the earlier literature on the subject. The method has two main features:—(1) hypnosis and (2) post-hypnotic suggestion—i.e. when the patient is in a trance it is suggested to her that labour will be painless. Repeated sittings are given, beginning about the seventh month of pregnancy. During labour itself the patient is hypnotized early in the first stage. Many advantages are claimed: no interference with uterine function; smooth and rapid progress of labour with the patient calm and relaxed; a decreased tendency to haemorrhage and shock; relief of pain; and good anaesthesia. Indeed hypnosis is said to be the only analgesic which is completely safe for both mother and child. Under its influence the patient is able to obey the instructions of the attendant and "bear down" or "relax" accordingly. They can also take nourishment and empty the bowel and bladder at will. Forceps delivery, episiotomy, and perineal repair can all be carried out without the aid of any other analgesic agent.

The disadvantages of the method include the practical difficulties inherent in devoting a very considerable amount of time and care to each individual patient. The same operator has to carry out the hypnosis on each occasion and to attend to others. However, he or she need not remain in personal contact with the patient throughout the whole course of labour. Once the patient is hypnotized, rapport can be transferred to a nurse whose instructions will then be followed by the patient. Perhaps the chief disadvantage of the method is that its success depends on having a confident and experienced operator working with a susceptible patient. Many women are not amenable to hypnosis, it seems likely that hypnosis in labour has a wider application than has been appreciated and the practical difficulties may have been so overstated that it has not received a thorough trial. There is no doubt that it works well in some cases. In certain ways it can be regarded as an extension of "suggestion" therapy which every good obstetrician practices consciously or subconsciously, as part of antenatal care.

Vagotomy

Q.—Is the operation of vagotomy for gastric or duodenal ulcer widely performed? In what type of case is it indicated or contraindicated? What is the prognosis and what are the results?

A.—Vagotomy has been widely practised in America for at least five years, and its use here has been and still is steadily increasing, especially in the last year or so. Indications in this country have been confined almost entirely to two groups of cases. (1) selected duodenal ulcers, and (2) gastro-jejunal ulcers following either short-circuiting operations or gastrectomy. In group 1 the ulcers which respond best are those occurring in young men whose ulcers have failed to respond to extensive medical treatment, where obstructive symptoms are absent or minimal, and where a psychosomatic factor is in evidence. In group 2 vagotomy is probably the treatment of choice, but the possibility that stenosis may follow the ulcer's healing must be borne in mind. Vagotomy is not advocated for gastric ulcer, as it leaves the question of possible malignancy unsolved. This obviously applies in greater degree to the older age groups. The immediate prognosis (provided the nerve section is adequate) is excellent. Follow-up studies are as yet too brief

to merit an opinion on long-term results, but interim results (up to five years) show 75-80% completely satisfactory results and another 10-15% greatly improved.

Acne Vulgaris

Q.—What is the modern theory of the aetiology of acne vulgaris? What success has there been with oestrogens, and what is the rationale of treatment with these hormones and their limits and dangers? The case I have in mind is that of a man of 28 who has suffered from acne vulgaris for 14 years, chiefly about the chin and forehead. His general health is good except for a mild chronic bronchitis and post-pharyngeal catarrh. He has had sulphur lotions, x rays, ung. quinolor, dieting, vitamin A, internal mercury, and ultra-violet rays. Nothing has been of any use except the x rays, which cleared the condition up for eight months, leaving a small area of alopecia on the chin. A second dose of x rays twelve months later had exactly the same effect. Focal sepsis has been removed and a diet poor in fats recommended.

A.—Acne vulgaris is a normal accompaniment of puberty related to the influence of endocrine development upon the activity of sebaceous glands. Similar changes are sometimes seen in infants, possibly consequent upon hormonal influences from the mother. A related affection may accompany disease of the central nervous system, probably the hypothalamus, as is seen in post-encephalitic Parkinsonism. There is often a strong hereditary and familial factor, which in some cases amounts to a gross navoid abnormality (acne conglobata) and is not responsive to any treatment other than surgical. In the ordinary case of pubertal acne there may be a wide range of aggravating factors—psychological, dietetic, focal, sepsis—which may demand chief attention in treatment. Local treatment, including the use of modern degreasing agents, is always important, but each case is an individual problem.

The case described suggests the possibility of rosacea rather than acne, or perhaps the combination. The chronic bronchitis and catarrh suggest, on the one hand, sepsis about accessory sinuses, which would provoke acne or rosacea. On the other hand, it may relate to a catarrhal diathesis likely to be helped by a diet rich in proteins and vitamin B, and restricted in carbohydrates, fluids, and salt. Oestrogens should not be employed in the female unless there is an indication in menstrual irregularities. In the male they are harmless and worth trying in moderate dosage for a period, but results are not very encouraging. There is no doubt of the effect of a large dosage in many cases of acne, but such dosage cannot be regarded as safe or wise. A small dose of stilboestrol will often help in rosacea.

Adiposity in Childhood

Q.—A woman has had a large abdomen and pendulous breasts since her youth; all kinds of treatment had no effect. Can anything be done to prevent her children, aged 7 and 5, from developing the same condition? They are already showing signs of adiposity—protruding abdomen, and, in the elder girl, developing breasts. They are healthy and normal otherwise, and do not overeat.

A.—A tendency to the condition described is determined genetically and cannot be avoided; nor, unfortunately, is there any endocrine hormone which fundamentally changes this innate endocrine constitution. Postural exercises will minimize the accompanying lordosis, which is part of the clinical syndrome, dieting is of limited value.

Effect of Oestradiol Benzoate in the Elderly

Q.—Could you tell me the effect of doses of oestradiol benzoate by injection on a woman of 70? I have taken these at intervals since 1924, and they have kept me far younger than my years; now I have been told that they may cause an ovarian growth.

A.—The action of oestrogens on the ovary is a depressant one and there is no reason to fear that they will cause an ovarian growth. Apart from effects on general metabolism and other endocrine glands their action is on the secondary sex organs, stimulating the Fallopian tubes, uterus, vagina, vulva, and breast. The effects vary with the dose, but there is a risk of endometrial hyperplasia and uterine haemorrhage and

possibly of carcinoma of the uterus, although this latter is proved. They might also stimulate the glandular tissue of breast to unnatural activity. Although in some cases no result may result or be apparent, it is generally believed to be wise to continue oestrogen therapy for long periods after the menopause. One of the disadvantages is that chronic oestrogen therapy makes the patient tolerant to it, and it is then difficult to discontinue it without precipitating severe menopausal symptoms. It is, moreover, doubtful whether any preservation of youth, except in respect of preventing atrophy of the secondary sex organs, can be ascribed to oestrogen therapy.

Multiple Boils

Q.—Does penicillin predispose to recurrence? What is the chance of breeding a strain resistant to penicillin in a case of recurrent boils? A male patient, aged 63, has had multiple boils for 18 months, due to Staph. aureus. He has had three courses of penicillin by injection, which temporarily cleared the boils; but they returned a few weeks after each course in spite of sterilizing all clothing. He is now having a course of autogenous vaccine, and the boils have developed again, also one large carbuncle, a month after beginning the course. What further treatment can be given?

A.—Penicillin certainly does not predispose to recurrence; on the other hand, penicillin treatment often breeds a resistant strain, which will remain insusceptible to further treatment. A further culture should be made and the present susceptibility of the staphylococcus to penicillin tested. Such a history as this in an elderly patient suggests an underlying cause of diminished resistance to infection, which may have to be dealt with before more specific treatment can succeed.

Penicillin for Vincent's Angina

Q.—Is there any treatment for severe Vincent's angina besides penicillin and local applications such as chromic acid? Is penicillin more effective in the form of a lozenge or given systemically?

A.—Before the introduction of penicillin it was usual to treat Vincent's angina with neoarsphenamine, of which even on injection of 0.45 g. was often followed by rapid recovery. In any case in which penicillin is proving ineffective arsenical should be tried. It has been the general experience that penicillin is the most effective treatment for this infection. In patients in whom angina is the salient feature parenteral administration of 15,000 to 20,000 units every three hours is probably best. Local applications of penicillin solution in concentrations of 500 to 1,000 units per ml. four times daily will also lead to healing of the ulcers. Pastilles or penicillin chewing-gum are most useful where gingivitis is the main disability. The time taken for healing varies from one to ten days, depending on the severity of the infection.

NOTES AND COMMENTS

Mumps at 80.—Dr. L. G. JACOB (Braeknall, Berks) writes: This week I was called by a woman to see her mother, as it was thought that she had mumps. The diagnosis was correct, but found the patient, quite cheerfully, doing the family washing. Her age is 80.

Disclaimer.—The Medical Committee of the Charterhouse Rheumatism Clinic, London, wish to dissociate themselves from the statements appearing in the Press in connexion with a visit to the Clinic by the Duchess of Gloucester. There is no foundation in statements suggesting knowledge of a potential new drug for the treatment of chronic rheumatic diseases, nor is any such preparation under investigation at the present time.

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B.M.A. SCOTTISH OFFICE: 7, Drumheugh Gardens, Edinburgh.

LONDON SATURDAY JUNE 19 1948

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TERMS AND CONDITIONS OF SERVICE

regard will be had to the Spens Committee's report on specialists' remuneration.

Pending the date of operation of new scales the recent Revision of the Askwith Memorandum will continue to apply, in accordance with the agreement with the local authority associations.

Another item of importance which has been referred to the Subcommittee is the draft of the Regulations on transfer of officers and compensation, to be made by the Minister under Section 68 of the Act. The Standing Public Health Committee of the Association has been dealing with this up to now in conjunction with the Society of Medical Officers of Health. As a result of representations which have been made, from other quarters as well as medical, a new amended draft has been issued and is being considered by the Subcommittee.

CONSULTANTS AND SPECIALISTS IN THE NATIONAL HEALTH SERVICE: SUMMARY OF THE PRESENT POSITION IN ENGLAND AND WALES

With the reopening of discussions with the Ministry, a Public Health Subcommittee has again been appointed by the Negotiating Committee. The main question which is likely to occupy attention is future remuneration and conditions of service of medical officers, not only medical officers employed by the local health authorities in the National Health Service—i.e., County and County Borough Councils—but also those in the service of other local authorities. The Minister has recognized the principle of medical officers of all local authorities being dealt with at the same time by the same negotiating machinery as part of the general negotiating machinery that is being set up in the Health Service.

Proposals which were formulated two years ago on a basis of future negotiations are to be reviewed, and in this connexion

General Organization

Hospital and specialist services apart from teaching hospitals, are now being organized by Regional Hospital Boards, and for this purpose the country is divided into 14 hospital regions. The name and address of the Senior Administrative Medical Officer of each region is as follows.

Addresses. Senior Administrative Medical Officers and Secretaries of the Regional Hospital Boards

No. of Regional Hospital Board	Address of Board	S.A.M.O.	Secretary
Newcastle Area 1	Dunston, Osborne Road, Newcastle upon Tyne Tel. No. Jesmond 22475	Dr. W. G. Patterson, M.D., M.R.C.P., D.P.H.	E. B. Jenkins
Leeds Area 2	24, Elphinstone Road, Leeds 1 Tel. No. 32281	Dr. A. B. Williamson, O.B.E., M.A., M.D. B.Sc., D.P.H.	William A. Shee
Sheffield Area 3	12, Hill Street, Sheffield S1 1JF	Dr. W. A. Ramsay, T.D.	Leonard William Faulkner
East Anglian (Cambridge) Area 4	10, Colchester Road, Cambridge CB2 3PL	Dr. James Barclay, Esq., M.D., M.B., Ch.B., D.P.H.	K. V. S. Morton
North West Metropolitan Area 5	10, Farnham Road, Wigan, Lancs. Tel. No. Market 27959	Dr. H. M. C. Macaulay, B.Sc., M.D., D.P.H., M.B., B.S.	A. J. Bennett, M.A.
North East Metropolitan Area 6	10, Farnham Road, Wigan, Lancs. Tel. No. Market 27959	Dr. J. P. Wilson, M.B., Ch.B., M.D., F.R.C.S., D.P.H.	C. E. Nicol
South East Metropolitan Area 7	10, Farnham Road, Wigan, Lancs. Tel. No. Market 27959	Dr. H. L. Glynn Hughes, C.B.E., D.S.O., M.C.	C. M. Ker, O.B.E.
South West Metropolitan Area 8	10, Farnham Road, Wigan, Lancs. Tel. No. Market 27959	Dr. J. Gill, M.D., F.R.C.S. Ed.	E. G. Braithwaite, M.A., LL.B.
Nottingham Area 9	48, Blyth Road, Nottingham Tel. No. 47642	Dr. G. C. Williams, O.B.E., B.A., D.P.H.	George Watts, F.H.A.
North Western Area 10	4, Elton Road, Bristol 8 Tel. No. 25051	Dr. G. C. Kelly, M.D.	M. O. Carter, C.I.E.
Gales Area 11	Westminster House 2-11, St. Mary Street, Cardiff Tel. No. Cardiff 4722	Dr. A. Trevor Jones, M.D.	William Roberts
Birmingham Area 12	10, Agincourt Road, Edgbaston Tel. No. Edgbaston 661-3	Birmingham, 15 Dr. S. I. Scurlock, O.B.E., M.C., M.D.	W. F. Newstead
Manchester Area 13	10, Agincourt Road, Edgbaston Tel. No. Edgbaston 661-3	St. House, Quay Dr. F. N. Marshall, M.D., D.P.H.	J. Gibbon
Liverpool Area 14	10, Agincourt Road, Edgbaston Tel. No. Edgbaston 661-3	Dr. T. Lloyd Hughes, M.B., Ch.B., M.D., D.P.H., LL.B.	Vincent H. Collinge, A.C.A., F.R.Econ.S.

* South East Metropolitan Area Transport H. Board—until further notice this Board is remaining at its old address: 27, Queen Anne Street, W.I. Tel. No. 2265

The hospitals, individually or in groups of varying sizes according to circumstances, will be administered by a Hospital Management Committee, which will appoint a secretary (medical or lay) and other administrative officials.

Thirty-six individual or grouped hospitals have been designated as teaching hospitals. These are independent of Regional Hospital Boards and will be administered by Boards of Governors.

The ownership of all voluntary and municipal hospitals will be transferred to the Minister on the appointed day, except for some 200 which the Minister has disclaimed because of their religious or other special character. These hospitals and their staffs will continue to function as now, outside the Service, though some may be in contractual relationship with Regional Boards.

Nursing-homes

The Minister is unable to give a general assurance that hospitals and nursing-homes not taken over on the appointed day or later established privately will not subsequently be the subject of compulsory purchase under the Act. He has pointed out, however, that the exclusion of some 200 hospitals from the Service is direct evidence to the contrary, since he would scarcely exclude a hospital first and then acquire it by purchase afterwards. He has further stated that the acquisition of private nursing-homes is not in prospect.

If subsequent to July 5 any private body were to contemplate spending money on a private hospital or home run for profit, and feared that the Minister would wait for it to exist and then use compulsory purchase powers on it, it should first discuss the project with the Minister at the time, and the Department would indicate its likely attitude straight away.

Hospital Staffs

The existing staffs of transferred hospitals will be taken over by Regional Hospital Boards and Boards of Governors of Teaching Hospitals on the appointed day. Full-time staffs will be transferred under the Act and will carry on under existing contracts. In the case of part-time staffs the Boards will offer interim contracts extending to March 31, 1949. It will not be possible for a part-time specialist to continue on the staff of a transferred hospital without entering into a contract, but it will be possible for him to enter into an engagement to perform services in an honorary capacity if he so elects.

After the appointed day the Boards will review the specialist services of their regions or hospitals and will no doubt create new appointments and terminate others. The Minister has indicated that if an appointment is terminated it is anticipated that the holder will normally be offered another post in the same hospital or at least in the same region. He has also stated that hospital staffs will have all normal remedies for unlawful dismissal and will be protected in addition to their medical committees by Whitley machinery. Whitley councils will be established for each broad professional group, and will contain representatives of the management on the one hand, and of the hospital staffs on the other. The Association is pressing for separate Whitley councils to deal with the medical profession, including hospital staffs. Medical committees are committees formed by medical staffs, and the Minister has agreed that it is desirable for the staff of every hospital or group to set up such a committee, and has asked Boards and Management Committees to give every help and encouragement.

New or vacant hospital and specialist appointments will be advertised in the medical press as at present, and specialists will accept them or not, as they choose; there is no compulsion, nor any power of compulsory transfer to other areas or hospitals. Junior appointments in non-teaching hospitals up to and including chief assistant or registrar will be made by Hospital Management Committees. Specialist appointments (including appointments in teaching hospitals) will be filled by the appropriate Boards on the recommendation of Advisory Appointments Committees, predominantly medical bodies which will be set up for the purpose. A practitioner will become a specialist in the Service by applying for and securing a specialist appointment. (The Association's Consultants' Roll has no connection with the National Health Service. It is a list of Consultants and Specialist members of the Association who are entitled to elect members of the Consultants and Specialists Central Council.)

Part-time Consultants and Specialists

It is anticipated that a large proportion of consultants and specialist appointments will continue to be part-time as at present and the Minister has given an assurance that he will exclude from Regulations to be made under the Act any provision for universal whole-time specialist service. A part-time specialist in the Service will be able to devote the remainder of his time to private specialist work outside the Service. A proportion of private pay-bed accommodation in hospitals will be preserved, and a part-time specialist will be entitled to treat private patients in these beds. Normally a maximum scale of fees will be laid down, but in a percentage (not yet settled) of the beds there will be no ceiling.

General-practitioner Consultants and Specialists

A part-time specialist in the Service will also be fully entitled to devote the remainder of his time to general practice, either within or outside the Service. A general-practitioner consultant, who wishes to enter the Service both as a general practitioner and as a consultant will enter his name as a general practitioner on the medical list of an Executive Council, and will also enter into contract as a consultant with a Regional Hospital Board. He will then qualify for compensation under the Act. Should he subsequently wish to devote himself entirely to consultant or specialist work, it will be open to him at any time after July 5 to give to his Executive Council three months' notice of retirement from general practice. This will in no way affect his compensation provided that he signified his intention of entering the Service as a general practitioner before July 5. A general-practitioner consultant in the Service will not be entitled to charge fees for any specialist service rendered to his own or his partner's public patients, except in pay-beds provided under Section 5 of the Act or in a registered nursing-home and provided he is on the staff of a hospital as a specialist furnishing treatment of the kind required by the patient.

Reference of Patients to Specialists

Patients will be referred to consultants or specialists very much as they are at present—i.e., they will be sent to the out-patient departments of hospitals accompanied by letters from their general practitioners. A domiciliary consulting service based on the hospitals will also be organized by Regional Hospital Boards to be available when the patient's condition makes a home visit essential. The Boards will make known to general practitioners which consultants are available, the days and times when they can be consulted, and the hospital through which their services can be obtained. As far as possible both for emergency and non-urgent calls the hospital will arrange for general practitioners to have the consultant of their choice.

Remuneration

The Minister announced to Parliament on June 3 that the Government had accepted the recommendation of the Spens Committee on the remuneration of consultants and specialists in principle. This report has been fully reviewed in the *Journal* and its recommendations are now being considered by the Association and by the Hospital and Specialists Service Subcommittees of the Negotiating Committee.

Early discussions will then take place with officials of the Ministry with a view to translating the recommendations into detailed terms and conditions of service for consultants and specialists taking part in the new Service.

These discussions will inevitably take some little time to complete, and in the meantime the position will be as follows

(1) Whole-time specialists transferred to Regional Boards or Boards of Governors will continue to receive the same remuneration and enjoy the same conditions as on transfer.

(2) Part-time specialists will receive £200 per annum for each half day per week given to hospital or other work in the service of the Board (other than domiciliary visits), up to a maximum of £1,600 per annum.

(3) In addition remuneration for domiciliary visits will be paid to those specialists who agree to make them, at the rates of four guineas for a consultation, five guineas for a visit involving minor operation, and ten guineas for a visit involving major operation, up to a maximum of 100 guineas in any one quarter.

The Minister has informed Parliament that these terms will be adjusted when the recommendations of the Spens Report

of the Medical Practices Committee
automatic except in any area where the number of doc

participating is already such that the Committee are satisfied that no more are needed or where more than one doctor seeks to fill the same vacancy and the Committee therefore have to decide.

One of the first duties of the Medical Practices Committee, shortly to be set up, will be a review of the distribution of general practitioners throughout the country. This review may show that certain areas are already over-doctored. Except in those areas, every doctor will be free to practise where he chooses and consent will be automatic except where there is more than one applicant for the vacancy. In these areas a doctor can undertake private practice without permission of any sort.

A doctor who already has a National Health Insurance practice, and who decides to take part in the new scheme, will carry his present insurance patients with him into the new arrangements except so far as any of them express a desire to change to another doctor. No special steps need be taken in such cases either by doctor or patient—except for the doctor to see that he is included in the appropriate medical list before July 5, 1948. (Similarly, insured members of "approved institutions" under the Insurance scheme—e.g., medical aid societies—will be regarded (unless they express a desire to change) as continuing with the doctors employed by those institutions, if the latter are included in the Executive Council's list before July 5.) In all these cases there is *no* need for the patients to make any formal application for acceptance by the doctor, or for the doctor to take any formal steps to accept them.

Any doctor can at any time decline to continue to undertake the medical care of any particular patient except while the patient is actually under treatment by him.

Anyone only temporarily resident in any area can ask any doctor participating in the scheme in that area to accept him for temporary medical care. He will still remain nevertheless on his own doctor's list in his normal home area. In these circumstances the practitioner rendering temporary medical care will be eligible for a temporary residents fee.

Size of Lists

Normally, the maximum number of people who can be accepted under the new arrangements by a single doctor will be 4,000. In a partnership individual partners can accept up to 5,000, so long as the average per partner is not more than 1,000. For each employed assistant, up to 2,400 more people can be accepted. But at the outset these maxima may have to be exceeded in certain cases to enable patients who so wish to continue with their present doctors in the new scheme.

Range of Medical Care Involved

A doctor accepting patients in the new scheme will be expected to give them all proper and necessary advice and treatment, but not any treatment involving special skill or experience not possessed by general practitioners as a class, though in an emergency he should give whatever treatment he thinks to be in the best interests of the patient.

Surgery Hours : Visiting

Doctors are asked to give their proposed surgery hours when seeking inclusion in the Executive Council's medical list. They should also show in what district they propose to participate in the new scheme. Within that district it will be their responsibility to visit and treat any of their patients whose condition so requires. If they accept people resident outside that district it will be their responsibility similarly to visit those people as necessary.

Certification

The Minister has appointed an interdepartmental committee to advise how far the number of medical certificates can be reduced. The Association is presenting evidence to this committee and the interests of practitioners are being carefully watched.

Drugs

Doctors in urban areas will not usually supply drugs or appliances to their patients, except those required immediately or where a supply can be otherwise obtained. They will normally give prescriptions for those drugs and appliances which are necessary for the treatment of their patients.

There will be no restriction on the drugs which may be ordered for free supply for the proper treatment of any patient, so long as they are medically necessary. A *National Wholesaler's Formulary* has been prepared to assist doctors in their prescribing by listing various preparations by short titles.

In rural areas the Executive Council may arrange with, or in certain circumstances may require, doctors themselves to dispense drugs and supply appliances for patients who would otherwise have serious difficulty in obtaining them or who live at least a mile from the nearest chemist. Doctors are asked to indicate their willingness to provide this service to particular patients when sending to the Executive Council the acceptance forms or medical cards given to them by these patients.

Private Fees

A doctor will not be able to charge fees for any treatment, whether or not it is within the range of general medical care undertaken by him, to patients who have been accepted by him on his list (or the list of a partner or assistant) except:

- by way of deposit if they claim to be on his list and cannot produce evidence of that fact in the form of their medical card; (patients may claim back these deposits);
- under the Road Traffic Act, 1934, for attending a person involved in an accident;
- for specialist treatment in pay-beds provided under Section 5 of the National Health Service Act or in a registered nursing-home, provided that he is on the staff of a hospital as a specialist giving treatment of the kind required by the patient.

He will be able to receive payment from Regional Hospital Boards, local authorities, or other employing bodies for services carried out on their behalf or by agreement with them. He will also be entirely free to treat privately, and charge fees to, any persons not on his list or on the list of his partner or assistant.

Personal Attendance

Doctors will be expected to give personal attendance to patients accepted by them, unless prevented from doing so by absence from home, illness, or other reasonable cause, in which case they will be expected to arrange for a deputy. A partner, assistant, or locumtenent can act as the deputy.

Disputes Procedure

Complaints that a doctor has not complied with the general conditions under which the care of patients is undertaken in the new scheme will (except where the considerations are wholly professional) come before the Medical Service Committee of the Executive Council—on lines broadly similar to the past. The Committee will consist of a chairman, three medical members (appointed by the Local Medical Committee), and three lay members. Their report will go to the Executive Council, who if they find the doctor has been at fault, may recommend that a sum should be withheld from his remuneration. The doctor may appeal to the Minister, who for certain more serious types of case will before deciding that money should be withheld consult a special Medical Advisory Committee.

Complaints involving wholly professional considerations (e.g. where unnecessarily costly prescribing, or failure to keep proper clinical records, is alleged) will be dealt with in the first instance by the Local Medical Committee.

Representations that a doctor's name ought no longer to be included in a medical list will be considered by a special Tribunal, consisting of a lawyer of standing, appointed as chairman by the Lord Chancellor, a lay member, and a medical member selected from a panel of available members having regard to his special experience in the particular issue before the Tribunal.

The Tribunal alone can decide that his name should be removed, and if they so decide the doctor can appeal to the Minister to reverse the decision. If they decide he should remain on the list the Minister cannot intervene. Before reaching his decision on an appeal the Minister must consult the special Medical Advisory Committee mentioned earlier.

Partnerships

The Minister has stated that partnership agreements existing before July 5, 1948, are not affected by the National Health Service Act and that clauses relating to buying and selling between partners of shares in the goodwill of the partnership

or options to purchase such shares, will remain operative. The Association's legal advisers have cast doubt on this interpretation of the Act, and doubt there must remain until the committee appointed for the purpose of clarifying this issue has reported. The Minister has undertaken to amend the Act if in the light of the committee's report he finds that partners in existing partnerships might be unfairly prejudiced. If these findings are not available before the appointed day the Minister has given an assurance that any subsequent legislation in clarification of the position will, so far as is at all practicable, be made retrospective. He has also stated that where a partner in good faith joins the Service and subsequently finds himself placed in an unfavourable position his claims for adjustment will be sympathetically reviewed.

While no guidance can be given to practitioners in partnership at the present time, every effort will be made to have the position clarified before the appointed day.

All practitioners will be free to choose their colleagues, partners, and assistants unless the area requires no more or the Regulations on the employment of assistants are contravened. Where more than one doctor wishes to be the partner or assistant in question the Medical Practices Committee will be asked to observe the wishes of the doctors concerned. (The approval of the Medical Practices Committee is only required for an assistant if it is intended that the assistant's name should be included in the medical list for the area.)

Practitioners needing advice on partnership problems should write to Headquarters for further information.

Partnerships and groups will be entirely free to allocate duties and responsibilities as now. Doctors will be free to decide when an additional partner or assistant is necessary, subject to the cases where the Medical Practices Committee decide that no additional doctor at all is needed in the area and subject to the conditions about assistants. A retiring doctor's views as to his successor would be taken into account by the local Executive Council, but that Council must ultimately decide what to advise the Medical Practices Committee about the new practitioner to come to the area.

Compensation

Doctors taking part in the new scheme will not be able to sell their practices, but those whose names are on a medical list by July 5, 1948, will be entitled to compensation. The actual amount of compensation payable cannot be calculated until it is known how many doctors have entered the Service by that date, and it is therefore not possible to estimate how much an individual doctor will receive. It is contemplated that generally speaking, the total amount will be divided among the doctors entitled to participate in proportion to their gross incomes from general medical practice in the last convenient accounting year before July 5.

Compensation will be assessed as soon as all the relevant information is available. Normally it will be paid when a doctor retires from practice or dies, and meantime interest at 2½ per annum will be paid, but early payment may be made in cases of hardship.

As it will not be possible to assess individual compensation for some little time, the Minister proposes to deal with urgent cases of hardship and cases coming under Section 37 by payments on account, final settlement being reached as soon as practicable. A practitioner whose name is included on a medical list by July 5, 1948, can subsequently retire with compensation after giving the statutory period of three months' notice. A practitioner in these circumstances is not debarred from engaging in general or specialist practice outside the public service in the same area or in any other area, though he will be precluded from subsequently selling his practice in the same area.

Local Medical Committees

The Amending Bill will empower Executive Councils, where the local practitioners agree, to cover the administrative costs of the Local Medical Committee by the necessary deduction from the practitioners' remuneration.

Freedom of Speech and Publication

Regional Hospital Boards and Management Committees have already been told by the Minister that no prior consent should be required to any publication as part of the conditions of service of consultants. No express provision need be made for

general practitioners, as under the general terms of service it would be impossible for anyone to require consent, as there is no power to do so.

Contributions to National Insurance Scheme

All practitioners on Executive Council lists will, so far as their general practice is concerned, be deemed to be self-employed persons under the meaning of the National Insurance Act, but special considerations may apply where such practitioners also hold hospital, etc., appointments.

Income Tax

Income tax will be assessed under Schedule D as at present.

REMUNERATION OF INDUSTRIAL MEDICAL OFFICERS

In para. 58 of the Annual Report of Council (Supplement April 10, p. 77) it is stated that the Council has laid down principles and recommended rates of remuneration for whole-time and part-time medical officers employed in industry. The scales are now published below for the information of employing authorities and industrial medical officers. Attention is drawn to the fact that these are minimum scales, and that the Council is strongly of the opinion that all industrial medical officers should be entitled either to regular increments or to periodic review of salary.

Whole-time Salaries

1 The commencing salary of a *whole-time* industrial medical officer in charge, single-handed or with assistants, should range from £1,000 to £1,750 per annum according to the degree of responsibility, qualifications and experience, and age.

2 The minimum commencing salary of an *assistant* industrial medical officer should be £850 per annum according to the degree of responsibility and character and extent of the duties.

3 The industrial medical officer should be entitled to expect either regular increments or periodic review of salary.

Part-time Salaries

(The following scale is minimum and applies to *part-time* appointments where no *full-time* medical officer is employed.)

- 1 Remuneration should be by salary on an annual basis.
- 2 Where the average time spent (including travelling time) is less than one hour per week, the salary should be £75 per annum.
- 3 Where remuneration is on an hour-per-week basis and the time spent exceeds one hour per week, payment should be made on the following basis:

Hours	Annual Salary	Hours	Annual Salary
1	£ 75	10	
2	150	11	£ 675-£ 725
3	225	12	
4		13	£ 750-£ 825
5	300-375	14	
6		15	
7			
8	450-525		
9			

4. Where remuneration is on a sessional or visit basis, payment should be on the following basis:

No of Sessions or Visits	Annual Salary
	£
1	150-225
2	300-375
3	450-525
4	600-675
5	750-825

5. The above scales are intended to include work inside and outside the industrial establishment and cover not only routine work but also telephone consultations, preparation of memoranda, advice on Government publications, etc.

6. A visit or session is reckoned as being normally of 1½ to 2½ hours' duration.

7. Where an industrial medical officer is employed and paid on a sessional basis and is required to travel beyond a radius of two miles in the course of his duties a mileage rate of 1s. a mile each way should be paid.

8. Where the appointment involves more than 15 hours per week or more than five sessions each of not more than 2½ hours' duration the appointment of a whole-time officer should be considered.

RECRUITMENT OF YOUNG PRACTITIONERS

The Central Medical War Committee is issuing the following circular to hospital authorities in England and Wales. A similar circular will be issued in Scotland by the Scottish C.M.W.C.

DEAR SIR,

Recruitment from "A" Posts

1. The Central Medical War Committee has recently experienced great difficulty in obtaining the numbers of medical recruits required by H.M. Forces and it has become clear that exceptional measures are necessary if the recruitment of medical practitioners during the remainder of this year is not to fall far short of the requirements of the Services.

2. On the recommendation of the Medical Priority Committee the Minister of Health, with the concurrence of the Secretary of State for Scotland, has now instructed the Central Medical War Committee that young practitioners who are liable for military service and who complete a six months' tenure of "A" posts in hospitals during the second half of 1948 must be recruited on the termination of their "A" appointments and must not be permitted to proceed to "B2" posts. Appeals for deferment will not be considered by the Central Medical War Committee in such cases, but a practitioner will retain the right to appeal against recruitment on the ground of conscience and to appeal for postponement of recruitment on the ground of exceptional personal hardship.

3. A practitioner whose "A" appointment terminates before he has occupied it for six months will be permitted (subject to what is said in para. 5 below) to occupy another "A" appointment for the remainder of the six months' period, but will not be allowed to proceed to a "B2" post. In the exceptional case in which the first post held after medical qualification is not in the "A" category, the practitioner will be recruited after a six months' tenure of the post.

4. This is to be regarded as a temporary emergency measure, and the need for its continuance will be reviewed towards the end of the year. The Central Medical War Committee will be glad if hospital authorities will kindly arrange for it to be brought to the notice of those practitioners in their employment who will be affected by it.

Recruitment before the 26th Birthday

5. I am asked to inform you also that in future all practitioners, liable for military service, who are below the age of 26 on their admission to the *Medical Register* will be recruited before they reach their 26th birthday, even if this should prevent them from completing the normal period of six months in an "A" post, or from occupying an "A" post at all. It follows that a hospital which appoints to an "A" post a practitioner who will attain the age of 26 during the six months following the commencement of the appointment will not be able to retain his services for the normal period. The urgent need to increase the number of recruits makes it necessary to adopt this procedure, as a practitioner granted deferment in an "A" post beyond his 26th birthday is no longer liable to compulsory recruitment. The same procedure will be adopted in the exceptional case of the newly qualified practitioner approaching the age of 26 who is appointed to a "B2" or other post without having first held an "A" appointment. In such a case the practitioner will not be permitted to hold the post for six months if this would prevent his recruitment being effected before his 26th birthday.

Summary

6. (i) A young practitioner, liable for military service, who completes a six months' tenure of one or more "A" posts on or after July 1, 1948, will be recruited forthwith and will be allowed to appeal only on the ground of conscience or on the ground of exceptional personal hardship. Similarly, a practitioner whose first post after medical qualification is not in the "A" category will be recruited after he has held the post for six months. This modification of the present regulations governing deferment of recruitment will be reviewed towards the end of 1949.

(ii) A young practitioner below the age of 26, and liable for military service, will not in future be allowed to hold an "A" or other post, or to complete the normal tenure of the post, if this would prevent his recruitment being effected before his 26th birthday.

(iii) Hospital authorities are invited to assist the Central Medical War Committee by bringing these decisions to the notice of practitioners in their employment who will be affected by them.

Yours faithfully,

CHARLES HILL,
Secretary.

NATIONAL HEALTH SERVICE

Supplementary Ophthalmic Services: Notice to Ophthalmologists

It is understood that the Ophthalmic Services Committee of each Executive Council will be required to publish a list of medical practitioners and opticians, having the prescribed qualifications, who undertake to test sight on the terms obtaining in the Committee's area. The expression "medical practitioner having the prescribed qualifications" means a medical practitioner who has:

"(a) completed an academic or postgraduate course in ophthalmology approved by the Committee hereinafter in this paragraph mentioned, and received a diploma or certificate in respect of this course; or

(b) held for a period of two years an appointment as an ophthalmic surgeon or assistant ophthalmic surgeon on the staff of an eye hospital or a hospital having a special eye department; or

(c) held any appointment for a period of two years affording special opportunities for acquiring the necessary skill and experience of the kind required for the services to be rendered; or

(d) had immediately before the appointed day his name included in the list of medical practitioners prepared by either the B.M.A., the National Ophthalmic Treatment Board, or the Incorporated Ophthalmic Council, for use by Approved Societies for the purpose of ophthalmic benefit under the National Health Insurance Act 1936;

and who shall, to the satisfaction of the Minister, acting on the advice of a Committee to be recognized by him for the purpose of approving such qualifications, have had adequate, *including recent, experience.*"

The central professional Committee referred to above has been recognized by the Minister and is composed of practitioners nominated by the B.M.A. and the Faculty of Ophthalmologists. This Committee has the duty of compiling a central list of medical practitioners having the prescribed qualifications. The Committee therefore invites applications from all ophthalmic medical practitioners to be included in the central list which is an essential preliminary to inclusion in local lists for which separate application must be made to the Ophthalmic Services Committees of the Executive Councils concerned.

Inclusion in the central list is entirely without prejudice to future action and it will be open to every practitioner to decide, when he knows the terms of service, whether he will take part in the Supplementary Ophthalmic Service or not. Ophthalmic practitioners should not, however, await the publication of the terms of service before applying for recognition by the central committee.

All ophthalmic practitioners are therefore requested to apply as soon as possible to the Secretary, Ophthalmic Qualifications Committee, B.M.A. House, Tavistock Square, W.C.1 giving the necessary evidence that they comply with the criteria outlined above. It is particularly important that details of recent experience should be included.

CORRECTIONS TO PROGRAMME OF ANNUAL MEETING

In the section of Anatomy and Anthropology Dr. D. V. Davie is the only Honorary Secretary.

In the section of Neurology and Psychiatry Dr. Denis Williams F.R.C.P., and Mrs. A. V. Jhill have been invited to speak at the discussion on "The Early Recognition and Management of Senile Deterioration."

THE B.M.A. AND TRADE UNION LAW

1. During the period of reconstruction which followed the war of 1914-18 there arose among a section of the medical profession a demand for the reorganization of the Association. The advocates of this policy contended that the Association was organized on the wrong lines and that to be really effective the body representative of the profession should modify its constitution and become a registered trade union. There are signs of a revival of the controversy of 25 years ago. There is, however, some misunderstanding of the advantages and disadvantages of the trade union method of organization. Some believe that it is the short cut to the millennium; others believe that registration as a trade union involves affiliation with the T.U.C. and entanglement in political strife.

2. The B.M.A. is not a trade union. It is a limited company with the licence of the Board of Trade to omit the word "limited" from its title, being an association formed for scientific purposes and not for profit. Its primary object is "to promote the medical and allied sciences and to maintain the honour and interests of the medical profession" Its Memorandum of Association provides

(1) that "the Association shall not support with its funds any object or endeavour to impose on or procure to be observed by its members or others any regulation restriction or condition, which if an object of the Association would make it a trade union"

(2) that the income and property of the Association "shall be applied solely towards the promotion of the objects of the Association as set forth in this Memorandum of Association, and no portion thereof shall be paid or transferred directly or indirectly by way of dividend or bonus or otherwise, by way of profit to the persons who at any time are or have been Members of the Association" with the exception of payment of remuneration in return for services rendered to the Association.

Opinion of Counsel

3. In 1946, when the Trade Disputes and Trade Union Act 1927, was repealed and certain local authorities sought to enforce the "closed shop" principle the Association reviewed its position and constitution in relation to trade union law generally and obtained legal advice on a number of points including (a) the advantages and disadvantages that would accrue if the Association sought to become a registered trade union or a certificated but unregistered trade union, and (b) the alterations in the constitution of the Association which would be required to enable the Association to become a trade union.

The joint opinion of Mr Cecil R. Havers K.C., and Mr M. L. Gedge is given below

(1) In our opinion there is no means of placing the contributions of the British Medical Association so as to serve the Association into a trade union. The Association is a voluntary association under the Companies Act, 1929, and is not, and cannot be, a trade union having regard both to the provisions of its Memorandum of Association providing the Association having trade union objects and to section 2 of the Trade Union Act, 1871, and section 332 (7) of the Companies Act, 1929, which provide that the registration of any trade union under the Companies Act shall be:

(2) It follows from the above opinion that if it is desired to form a trade union consisting of members of the medical profession, this can only be done by forming a new body independent of the Association. We consider that the latter course will be without difficulty in establishing such a body.

A trade union for the purpose of the Trade Union Act 1913, means any combination (whether temporary or permanent) the principal objects of which are under its constitution or objects (Trade Union Act 1913, section 2 (1)) those objects being (section 1 (2)) "the regulation of the relations between workmen and masters, or between workmen and workmen, between masters and masters, or the imposing of restrictive conditions on the conduct of any trade or business, and also the promotion of benefits to members."

Members of the medical profession are not in our opinion either "masters" or "workmen" whether carrying on business on their own account or employed by a local or other public authority, and in our opinion the only effective statutory object which could be adopted would be "the imposing of restrictive conditions on the conduct of their business" and "the promotion of benefits to members," that is to say, those would have to be the principal objects under the constitution of a "medical" trade union.

The fact that a combination has under its constitution objects or powers other than statutory objects does not prevent the com-

bination being a trade union for the purposes of the Trade Union Acts, 1871 to 1906 (Trade Union Act, 1913, section (1) (1)), so long as the combination is a trade union under the Act of 1913, but under section 2 (2) of the Act of 1913 the Registrar can refuse to register any combination as a trade union unless in his opinion, having regard to the constitution of the combination, its principal objects are statutory objects, and the Registrar may under that subsection withdraw the certificate of registration of a registered trade union if in his opinion the principal objects for which the union is actually carried on are not statutory objects.

We stress this point because we anticipate that, if a "medical" trade union were to be formed, then although the principal object might *prima facie* appear to be the two objects we have mentioned, and although the certificate of the Registrar that the union was a trade union would so long as it was in force be conclusive for all purposes (Trade Union Act, 1913, section 2 (5)), there might be some danger of a member seeking to establish that the principal objects as actually carried on were not the stated objects, so as to cause the Registrar to withdraw his certificate.

(3) We are asked to advise as to the advantages and disadvantages of forming a medical trade union which members of the Association might join.

One suggestion we have considered is that the Association should be wound up and the new body formed as a trade union which all members of the Association could join.

We were informed in consultation that such a course is entirely impracticable; whilst, apart from practical disadvantages, there would be the additional difficulty that it is impossible to transfer the assets of the Association to the new body, these assets in a winding up of the Association being the property of the members.

There may, however, be practical advantages in forming a medical trade union independent of the Association, which managers could not see the great advantage being that it is not open to his authority made in a condition of employment, a member of the medical profession may be a member of a trade union in connection which is liable to be unfilled upon the threat of a Trade Disputes Act, 1927, then there would be a trade union already made" for the members of a joint Association, and in cases in the formation of a trade union are the "common rule" in the Act (Trade Disputes Act 1916, section 4 and 5 and 6, 1927, and 1928)

The disadvantages as we see them are: (1) a signature. We were informed in consultation that many members of the Association might object to the formation of a more wide union, while in any event the formation of a separate one must tend towards the creation of a divided organization and be harmful to the Association.

For the reasons stated above, the Commission is of the opinion that the provisions which might be disallowed in the submission of the Registrar of Donations of Receipts, funds, effects, and expenditures, and on balance, our view is that the advantage of having a fund union available for members to join would outweigh the potential disadvantages; no such union should be formed.

of the practical disadvantages: no such union should be formed. We have assumed that a trade union would be formed and would be registered under the Trade Union Acts, 1871 to 1913, so as to establish it on the statutes, statutory footing and then to seek recognition in the Trades Union Congress. It is of course possible to form an unregistered trade union but we doubt whether this course would be of any practical advantage. It would in our opinion in any event then be necessary to apply to the Registrar under section 2(3) of the Trade Union Act, 1913, for his certificate that the union is a trade union, which certificate could be withdrawn on the application of any person if the Registrar were satisfied that the principal objects are not statutory objects or that the union is not actually formed on for those objects. But even if such certificate were granted the practical disadvantage would remain that an *unregistered* trade union would have no status in the trade union world.

Summary

It will be seen that counsel expressed the view that members of the medical profession are neither masters nor workmen within the meaning of the Trade Union Acts. The medical profession could not satisfy the first of the "statutory objects"—namely, the regulation of the relations between workmen and masters, etc. The only effective "statutory objects" which could be adopted would be the imposing of restrictive conditions on the conduct of their business and the provision of benefits to members. These would have to be the *principal* objects under the constitution of a medical trade union. Thus, the main question is whether a body representative of doctors can properly adopt as one of its *principal* objects the imposition of restrictive conditions on the professional work of its members. For example, can it properly withdraw its services from the public? For the imposition of restrictive conditions to be one

of the objects would not suffice: it would have to be a principal object to satisfy trade union law.

On the other hand it has been demonstrated, both in connexion with the "closed shop" controversy and the question of acceptance of service under the National Health Service Acts, that the two limitations on the use of its funds imposed by the Association's present constitution (see para. 2 above) render it extremely difficult for the Association as such to administer anything in the nature of a fighting fund and impossible to reimburse—from the Association's funds—loyal members of the Association for any loss they might suffer in following the Association's policy. It was for this reason that the Independence Fund was established.

BRITISH MEDICAL ASSOCIATION

ANNUAL REPRESENTATIVE MEETING, 1948

MOTIONS AND AMENDMENTS BY DIVISIONS AND BRANCHES

National Health Service

Motion by BRADFORD: That this meeting views with grave concern the non-implementation of the general practitioner Spens Report.

Motion by HEXHAM: That this meeting is concerned at the lapsing of the Spens recommendations in relation to remuneration, and the apparent absence of consideration of the betterment clause of the Spens Report in the scale of remuneration proposed by the Minister.

Motion by CARDIFF: That the Mileage Fund, and the Regulations connected therewith under the present Act, be reviewed in their application to the new Act.

Motion by NEWCASTLE-UPON-TYNE: That the mileage fees for general practitioners should be reconsidered so that a general practitioner in any area should be entitled to charge mileage fees for a State patient on his list, even though that patient may be within two miles of another State doctor.

Motion by EAST HERTS: That the question of remuneration of general practitioners on the staff of cottage hospitals be brought to the notice of the Minister.

Motion by HEXHAM: That this meeting views with considerable dismay the indefinite postponement of health centres, and the complacency with which this postponement has been accepted by the profession.

Inasmuch as the original conception of a State Health Service was based on the health centre idea, with its improved amenities and the lessening of the burden placed on the doctor's household, it is considered that the construction of these centres should be expedited with urgent priority.

Motion by HEXHAM: That no doctor qualified in medicine should be required to apply to any appointed Body to confirm his qualifications to practise midwifery.

That it should be the inherent right of any doctor entering the Scheme to have his name placed on the Obstetric List if he so desires and that there should be a universal rate of payment.

Motion by EAST HERTS: That every patient who exercises his right to obtain his medical advice outside the scheme should nevertheless not have to forgo the benefits of the pharmaceutical service.

Motion by LEICESTERSHIRE AND RUTLAND: That private patients of practitioners working under the National Health Service should be allowed to obtain all drugs and appliances free of cost, it being realized that their contributions have entitled them to receive all the benefits of the Service.

Motion by MID-ESSEX: That to safeguard the profession legislation shall be introduced into the Amending Act so that the medical practitioners appointed to the Central Council, the Regional Board, and the Local Medical Authority shall be by democratic election by the medical profession and not nomination by the Minister.

Motion by CITY OF EDINBURGH: That radiologists, as registered medical practitioners, should have the right to join the National Health Service in their own sphere, and to receive remuneration in view of their expensive equipment.

Motion by LIVERPOOL: That the general practitioners be assured of an automatic rise in capitation fees in step with any increase in the cost of living or any increase in the number of doctors in the State pool.

Motion by LIVERPOOL: That this meeting considers that the time has now come to negotiate the terms of service for all medical hospitals staffs not covered by the Spens Report. The negotiation should be based on the scales of salaries approved by Council on June 5, 1946.

Motion by LIVERPOOL: That the official working hours of doctors should be limited to (a) a 40-hour week in conformity with the limitation of working hours that applies to other members of the community, and that work performed at times outside a recognized working period should be paid for at an increased rate or that such times should be available for work at fees to be arranged privately between patient and doctor;

(b) That in order that doctors may devote themselves to clinical work salaries of receptionists and clerical assistants be provided by the State.

(c) That as hospital accommodation under the National Health Scheme is increased the proportion of private beds be increased *pari passu*.

Motion by HENDON: That the Representative Body is of opinion that compulsory vaccination should be restored, and that the Minister of Health be advised accordingly.

Future Organization of the Profession

Motion by NEWCASTLE-UPON-TYNE: That the B.M.A. should devise some method whereby it can assume trade union status and so be in a better position to protect the interests of the profession.

Motion by PERTH: That in view of the introduction of the National Health Service on July 5, with the inevitable alteration in the status and outlook of the medical profession, and in order to safeguard its working conditions and remuneration, steps be taken to form a trade union of registered medical practitioners.

Motion by NORTH GLAMORGAN AND BRECKNOCK: That immediate steps be taken to draw up plans for modifying or adding to the Association's structure so that, if the necessity arose, it could effectively take action to protect the interests of the profession.

Motion by BOURNEMOUTH: That the constitution of the Association be reviewed to determine whether the organization in Great Britain should be altered (i) to provide a new basis of representation of members and (ii) to further such collective negotiation and action by the Association as the institution of the National Health Service may make desirable.

Motion by READING: That it be referred to the Council to investigate the best means of protecting the interests of the profession by guild or otherwise.

Motion by DERBY: That this Representative Body is of the opinion that, having regard to the increasing need for safeguarding professional freedom, the Independence Committee organization should not, under any circumstances, be discontinued.

Motion by NEWCASTLE-UPON-TYNE: That some means should be devised whereby a small part of the B.M.A. annual subscriptions should in future be earmarked as a fighting fund.

Motion by LEICESTERSHIRE AND RUTLAND: That the National Insurance Defence Trust Fund be continued, and that all taking part in the National Health Service be asked to subscribe by means of a voluntary levy.

GENERAL PRACTICE

Recruiting Medical Boards

Motion by GATESHEAD: That in view of the complicated system of classification recently introduced a considerable reduction should be made in the number of candidates called for examination by both male and female boards.

Night Visits

Motion by GATESHEAD: That in Minute 67 of A.R.M., 1947, the following should be substituted for Part (b). That any

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A.R.M., 1948: MOTIONS AND AMENDMENTS

SUPPLEMENT TO THE
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visit between the hours of 9 a.m. and 8 p.m. on any weekday should be considered a day visit and that any visit between 9 p.m. and 8 a.m. the following weekday, or between 9 p.m. on Saturday and 8 a.m. on Monday shall be considered a night visit.

Medical Examination of Intending Emigrants

Motion by DERBY: That with regard to medical examination of intending emigrants this meeting wholeheartedly supports the Council in its efforts to obtain an upward revision of the fee paid to a minimum of £1 11s 6d, and regards such revision as long overdue

Allowances to Medical Witnesses

Motion by LEICESTERSHIRE AND RUTLAND: That the Association continues to press with all its powers for the adoption of the increased fees and allowances which have been recommended by the Departmental Committee

Certification under National Health Service Act

Amendment by GATEHEAD: That the words "as provided by the National Insurance Act" be inserted after the word "benefit" in subheading (a) in the following recommendation: (a) "That the obligation placed upon a practitioner by Regulations under the National Health Service Act to furnish to patients seeking to receive treatment in accordance with the provisions of the Act be limited to such certificates as are necessary to make a claim (a) for sickness and disablement benefit, (b) for essential medical appliances, and (c) for special treatment under the National Health Service."

Amendment by GATEHEAD: That paragraph (d) be omitted from the following recommendation

"Recommendation D—That a certificate at any time written by a practitioner who has seen a patient regarding employment, and that the Health Insurance Act, is satisfied that his patient should at any time after the certificate valid for a period governing the reissue of additional supplies of ration books with a discretion on the condition of his patient, be required to issue a certificate to the private or Governmental agency the first and second

Motion by GATESHEAD

and highly desirable to secure the benefit under the National Insurance Act, without the necessity of the certificate of the

Amendment by READING

Council's proposals for the use of all National Insurance Act, without the necessity of the certificate of the

Health Service certificate

amended to read:

*attributable to the
not attributable

Motion by HENDON

explore the possibility of the distinctive motor badge B.M.A. and that the various materials at a reasonable

Motion by HENDON

representations to the allotment of basic petrol purposes.

Amendment by GREENWICH AND DEPTFORD

ing is not satisfied that there is any improvement in the position

in regard to the obtaining of doctors' cars and expresses dissatisfaction with Council's statement, and urges the Council to secure definite priority

Medical Examinations for Life Insurance

Amendment by GREENWICH AND DEPTFORD: That with reference to para. 26 of Council's report the following words be inserted before "10s 6d" in the penultimate line "not less than"

Conferences

Amendment by SWANSEA AND SOUTH STAFFORDSHIRE: That the following para. (iv) of the Council's recommendation on Merituary Accommodation and Part-time Practice be amended

That measures be established under the control of the Council with accommodation and a separate venal system of running water, and a supply of running water, and a proper collection of refuse, and that the assistance of the Council be obtained for the purpose of the central management of the Council's

Amendment by SWANSEA AND SOUTH STAFFORDSHIRE

That the following para. (iv) of the Council's recommendation on Merituary Accommodation and Part-time Practice be amended

Amendment by SOUTH STAFFORDSHIRE

That the following para. (iv) of the Council's recommendation on Merituary Accommodation and Part-time Practice be amended

Amendment by GREENWICH AND DEPTFORD

That the following para. (iv) of the Council's recommendation on Merituary Accommodation and Part-time Practice be amended

CONSULTANTS AND SPECIALISTS

Regional Consultants and Specialists Committee and establish a Regional Consultants and Specialists Committee

Amendment by NEWCASTLE-UPON-TYNE: That in para. 60, the word "more" be substituted for "less" in the sentence to read

The Council proposes that not more than one member of those Regional Consultants and Specialists Committees by the staffs of the hospitals should be part-time consultants and specialists

Amendment by NEWCASTLE-UPON-TYNE: That in para. 61, the word "more" be substituted for "less" in the sentence to read

12-20 of whom not more than a quarter shall be part-time consultants and specialists

Amendment by SOUTHPORT: That para. 61 of the Council's report be amended by omitting the following words:

61 (1)

(i) (a)

such hospital(s) and are in consulting or specialist practice in the Region"

Amendment by SOUTHPORT: That para. 61 of the Council's report be amended by omitting the following words:

61 (1)

(i) (a)

a hospital other than a teaching hospital and are in consulting or specialist practice in the Region."

Motion by DERBY: That this meeting urges the Council to proceed immediately with the setting up of Regional Consultant and Specialist Committees.

HOSPITALS

The Position of the Medical Superintendent

Motion by LANARKSHIRE: That this Meeting reaffirms the previous decision of the Representative Body that in most instances the medical superintendent is recognized as the administrative head of the hospital and that in any final settlement arranged with the Government the B.M.A. will ensure that this principle is maintained and that terms and conditions of service of these officers shall be subject to negotiations.

PUBLIC HEALTH

Salaries in Public Health Service

Motion by GATESHEAD: Section 81, Annual Report of Council. That in view of the present value of the pound as compared with its value in 1939 the percentage increases in the salaries of whole-time medical officers of health are still inadequate.

Examination of Municipal Employees

Motion by GATESHEAD: That it should not be part of the duties of the public health staff to examine municipal employees for superannuation.

ORGANIZATION

Election of Council

Motion by PLYMOUTH: That Council be asked to report progress on that part of the Plymouth resolution adopted by A.R.M. in 1943, that consideration be given at an early moment to the election of Council on a more direct and better geographical basis.

Expenses of Representatives

Motion by PLYMOUTH: In order to ensure that suitable Representatives should not be prevented from attending meetings on the score of cost, reasonable out-of-pocket expenses in addition to first-class railway allowance should be paid by the Association, even if the expenditure should necessitate an increase in the annual membership subscription.

OTHER MOTIONS

Motion by NEWCASTLE-UPON-TYNE: That every session done by a practitioner should be paid for at full rate with no limitation of the number of sessions undertaken.

TRADE UNION MEMBERSHIP

The following is a list of local authorities which are understood to require employees to be members of a trade union or other organization:

Metropolitan Borough Councils.—Fulham, Hackney, Poplar.

Non-County Borough Councils.—Dartford, Radcliffe (limited to future appointments), Tottenham, Wallsend.

Urban District Councils.—Denton, Droylsden, Houghton-le-Spring, Huyton-with-Roby, Portslade, Redditch (restricted to new appointments), Tyldesley.

EX-I.M.S. OFFICERS AND THE COLONIAL SERVICE

The Armed Forces Committee of the B.M.A. has now been informed by the Commonwealth Relations Office that Kenya, Tanganyika, Northern Rhodesia, and Zanzibar have agreed to accept the terms reported in the *Supplement* of Feb. 28 (p. 35):

Service since appointment to the I.M.S. will be regarded as the equivalent of service in the Colonial Medical Service for the purposes of starting salary. Officers will enter the salary scale of Medical Officer in the Colony to which they are appointed at the point they would have reached if they had been appointed to the Colony at the time of entering the I.M.S. If such service exceeds the time required to reach the maximum of the Medical Officers' scale, they will enter at the maximum.

The Governments of Uganda and Nyasaland have not agreed to accept these terms, and except at the express wish of a candidate who has full knowledge of the rules governing starting salary in those territories the Colonial Office does not intend

All Governments, with the exception of the Federation of Malaya, have agreed that seniority should be determined age in accordance with the relevant section of the Colonial Office pamphlet R.D.W.6, which reads: "All officers appointed to permanent posts in the Colonial Service between the break of war and a post-war date, to be fixed by the Government of State, will be regarded as having entered the service in single group. The seniority of such officers as between themselves in a given Colony will be reckoned by age."

The Federation of Malaya, on account of local issues, are unable to accept this formula and will only accept that seniority should date from the date of appointment to Colonial Service. As the only I.M.S. officers appointed to Malaya so far have been on contract terms, the question of seniority does not arise in their case.

AUSTRALASIAN MEDICAL CONGRESS (B.M.A.),
6th SESSION, AUGUST, 1948

The Federal Council has decided to resume holding sessions of the Australasian Medical Congress (B.M.A.) after a lapse of nine years. The next session will be held in Perth, Western Australia, from August 15 to 21, 1948, and the Association has been invited to appoint representatives. Members of the Association who propose to attend the Congress and who would be willing to act as representatives of the parent body, if invited to do so, are asked to communicate with the Secretary of the Association, B.M.A. House, Tavistock Square, London, W.C.1.

Correspondence

Questions to Minister: Correction

SIR,—In the interests of accuracy I write to correct an error which has crept into the report of the Special Representative Meeting (*Supplement*, June 5, p. 147). You quote the Chairman of Council as saying (p. 147): "The Council devised a series of questions which were put to the Minister and his answers were obtained." In fairness to the Council it ought to be made quite clear that it was the N.H.S. Executive Committee which devised the questions. The Council as a whole did not have access to either the questions or the answers until both were read out by the Secretary at its meeting during the afternoon of April 14, when the decision to hold the second plebiscite was promulgated.—I am, etc.,

Harrow, Middlesex.

J. B. WRATHALL ROWE.

Association Notices

WEMBLEY DIVISION

Notice is hereby given by the Council of the Association to all concerned of the formation of a new Wembley Division comprising the area of the Borough of Wembley. The new Division will form part of the Metropolitan Counties Branch.

CHARLES HILL,
Secretary.

Diary of Central Meetings

JUNE

- 25 Fri. Annual Representative Meeting, Large Examination Hall, Bene't Street, Cambridge, 9.30 a.m.
- 26 Sat. Annual Representative Meeting, Cambridge, 9.30 a.m.
- 28 Mon. Council, Small Examination Hall, Bene't Street, Cambridge, 9 a.m. Annual Representative Meeting, Cambridge, 10 a.m.
- 29 Tues. Annual Representative Meeting, Cambridge, 9.30 a.m. Annual General Meeting, Large Examination Hall, Bene't Street, Cambridge, 12.30 p.m. Adjourned Annual General Meeting and President's Address.

LONDON SATURDAY JUNE 26 1948

MODERN THERAPY OF BENIGN TERTIAN MALARIA

BY

J. F. MONK, B.M., B.Ch.

Not the least beneficial result of prosecuting a war widespread throughout highly malarious regions after being deprived of our main sources of quinine has been the impetus given to the search for the ideal antimalarial drug. A vast army maintained in the field is an excellent source of clinical material to the research worker, and has been responsible for the determination of the properties of many drugs which would have taken twice or thrice as many years of peace to elucidate partially.

At the onset of the recent war, mepacrine had the reputation of being a poor prophylactic agent and one which could not be taken in adequate dosage by the majority of persons owing to its toxic properties. This reputation had been built up during 10 years of investigation since its synthesis in 1930. Within about 12 months of its adoption in place of quinine it was established as being slightly toxic in a very small proportion of cases treated and to be a very satisfactory suppressive agent.

At the same time it was recognized that mepacrine had many disadvantages from both the prophylactic and the therapeutic aspects. Urgent and enthusiastic research then developed with the object of discovering a drug having all the properties of an ideal antimalarial substance—namely, one which, given in infrequent and non-toxic but regular doses, would prevent the establishment of any form of plasmodial infection, and which also, when given in therapeutic doses over a short period, would produce both rapid clinical and radical cure without any unpleasant side-effects. Such an ideal has not yet been achieved, but many new and invaluable drugs have been synthesized and explored, and these have largely altered the outlook on the treatment of malaria.

In particular, the brilliant researches of Cird, Davey, and Rose¹ resulted in the synthesis of paludrine, a new antimalarial drug with exceptional properties, particularly in its action on the pre-erythrocytic stages of the malaria parasite. In America a vast co-ordinated programme of research was undertaken² and over 14,000 synthetic drugs have been exhaustively tested for their antimalarial properties. Of the large number which were shown to have both suppressive and curative actions, two have emerged as being of great value, and have been given the non-proprietary names of chloroquine³ and pentaquin.⁴

The object of this paper is to review the stage at which the treatment of benign tertian (B.T.) malaria has arrived. Malignant tertian (subtertian) malaria presents difficulty only in its diagnosis, since the establishment of *Plasmodium falciparum* in the human host can be almost entirely prevented by regular dosage with almost any antimalarial drug. Its eradication is likewise easily procured if diagnosis is made early enough and there is no cerebral involvement. First relapses are very unusual after any adequate treatment, and second relapses even less common. The

treatment of benign tertian malaria, on the other hand, is concerned almost entirely with the prevention of relapses.

The following drugs will be considered: quinine (Q), a complex quinidine compound; mepacrine (M), an acridine dye; paludrine (X), a biguanide derivative; chloroquine (C), a 4-aminoquinoline derivative; pamaquin (P), an 8-aminoquinoline compound; pentaquin (SN), an 8-aminoquinoline derivative. Table I lists a series of results from the administration of a wide range of treatments for the cure of B.T. malaria.

It is emphasized that the expected relapse rates following various forms of treatment quoted elsewhere in this paper are no more than approximate estimations. Under certain circumstances the actual relapse rate may differ widely from the expected relapse rate. Saper⁵ has emphasized that in interpreting the often conflicting results even of similar therapeutic regimes the percentages of medical cure obtained depend on three factors: (1) the percentage efficacy of the drugs used; (2) the percentage efficacy of the immune response; and (3) the inherent characteristics of the causative species or strain.

In endeavouring to estimate the value of the first factor, the second and third must always be taken into account. The second factor is usually difficult to assess, but the third is based on information that is more readily available. It is the difference in geographical strains which is most likely to be responsible for apparent discrepancies in the success of various therapeutic regimes. The Chesson strain, for example, used by American research workers⁶ originated in the South-west Pacific and is notorious for producing rapid and often-occurring relapses after antimalarial therapy. Other strains commonly met with produce relapses less frequently and at longer intervals. It is therefore also important to take into account the duration of the follow-up period when comparing relapse rates.

Treatment Involving Use of Only One Drug

Quinine

The relapse rate following treatment with quinine alone in an adequate regime averages well over 50%. A regime is considered inadequate if the daily dosage totals less than 30 gr. (2 g.) and is given for less than 10 days. In a series of cases (Q) treated by Most *et al.*¹³ the relapse rate after a 14-days course was nearly 90%. This is probably exceptionally high. When, however, as so often happens, treatment is self-administered and lasts only three to four days the relapse rate is likely to be over 90%.

When the object of treatment is the production of radical cure unaided quinine therapy is of very little value. Considering that there are more valuable methods of treatment which can produce radical cure in 8 or 9 out of every 10 cases treated, it is questionable whether there is any profit in persevering with treatment for the whole of 10 days

TABLE I.—Comparative Relapse Rates

Course	Reference	Geographical Strain	Dosage	Days of Treatment	Days of Follow-up	Cases Treated	Cases Relapsed	Rel. Rate
Q	13	South Pacific	Quinine 10 gr. (0.65 g.) t.d.s.	14	120	75	67	89
M1a	2	Not stated	Mepacrine 0.2 g. 6-hourly for 2 days followed by mepacrine 0.1 g. t.d.s. for 10 days	12	120	650	221	34.0
M1b	5, 10	Mediterranean	Mepacrine 0.2 g. 6-hourly for 2 days followed by mepacrine 0.1 g. t.d.s. for 10 days	12	180	86	23	26.7
M2	5, 10	Mediterranean	Mepacrine 0.2 g. 6-hourly for 2 days followed by mepacrine 0.1 g. t.d.s. for 5 days	7	180	31	11	35.5
M3a	13	South Pacific	Mepacrine 2.8 g. in 7 days	7	120	69	57	84.0
M3b	5, 10	Mediterranean	Mepacrine 2.4 g. in 7 days	7	180	29	8	27.6
X1a	6	India/Burma	Paludrine 250 mg. b.d.	10	180	107	47	43.9
X1b	10	India/Burma	" 25 mg. b.d.	10	180	24	16	66.6
X2	6	India/Burma	" 25 mg. b.d.	10	180	108	46	42.6
C	1	*Chesson	Chloroquine 2 g. in 14 days	14	15-89	21	14	66.6
SNa	1	*Chesson	Pentaquin 60 mg. daily	14	423	5	3	60.0
SNb	11	India/Burma	" "	10	180	25	3	12.0
Pa	1	*Chesson	Pamaquin 30 mg. daily	14	—	5	5	100.0
Pb	10	India/Burma	" "	10	180	29	8	27.6
OPa	10	India/Burma	Quinine 10 gr. + pamaquin 10 mg. t.d.s.	10	180	168	35	20.8
OPb	6	India/Burma	" " " "	10	180	108	17	15.6
OPc	2	Not stated	" " " "	10	150	584	60	10.3
OPJ	5, 10	Mediterranean	" " " "	10	180	94	11	11.7
OPe	13	South Pacific	" " " "	14	120	72	8	11.1
OPf	4	South Pacific	" " " "	10	30-180	223	31	13.8
OPg	1	*Chesson	" " " "	14	54-355	10	5	50.0
PX1	12	India/Burma	Paludrine 250 mg. + pamaquin 10 mg. t.d.s.	10	180	179	37	20.6
PX2	4	South Pacific	Paludrine 100 mg. + pamaquin 10 mg. t.d.s.	10	30-180	232	31	13.4
QMP	5, 10	Mediterranean	Quinine 10 gr. t.d.s. for 3 days. Mepacrine 0.1 g. t.d.s. for 5 days. Pamaquin 10 mg. t.d.s. for 3 days	11	180	29	5	17.2
QSNa	1	*Chesson	Quinine 10 gr. + pentaquin 20 mg. t.d.s.	14	2-523	76	6	7.9
QSNb	11	India/Burma	" " " "	10	180	26	3	11.5
Intermittent QP	5, 10	Mediterranean	Quinine 10 gr. + pamaquin 10 mg. t.d.s. in 3 courses of 7, 5, and 5 days during 31 days	31	180	45	0	Nil
Intermittent M	5, 10	Mediterranean	Mepacrine in 3 courses of 2.5, 3, and 3 g. in 5, 6, and 6 days respectively during 31 days	31	180	42	12	28.6

* Artificially sporozoite-induced malaria.

in the absence of symptoms when there is at best only an even chance of escaping a relapse during the next few weeks. The disuse of quinine alone for the treatment of *P. vivax* infections should be recommended.

Mepacrine

The relapse rate following treatment with mepacrine alone is rarely lower than 25%. In a series (M3a) reported by Most *et al.*¹³ the figure given is 84%. This is unusually high. It is probably true to say that on the average two out of every five cases treated relapse at some subsequent date.

The actual amount of drug administered appears to be relatively unimportant in the production of radical cure, although rapid clinical cure is more easily produced by a boosting dose at the beginning of therapy. In two parallel and strictly comparable series of cases (M2 and M3b) treated in Rome by Innes *et al.*⁵ and followed up six months later¹⁰ a larger total dosage of mepacrine produced a significantly higher relapse rate than a smaller dosage regime given over an equal period of time. An increase in the total duration of treatment also appears to have little significant effect in improving the success rate. (Compare Courses M1b and M2.)

The popularity and value of mepacrine in the treatment of *vivax* malaria from a military point of view was due to the fact that it can be given in a short course of only seven days' duration without prejudicing the final result; and to the fact that, since it is only slowly excreted, relapses consequently rarely occur within two to three months of discontinuing treatment. At the same time there is no interference with prophylactic mepacrine. With other forms of therapy, such as quinine and pamaquin given concurrently, although the success rate is much higher, the relapses that do occur relapse often within two to three weeks of discharge from hospital, and in this respect are

less welcome from a military point of view than those which relapse after two to three months.

The toxic effects of mepacrine when given in normal therapeutic dosage are negligible. Some cases, however, show an idiosyncrasy and present quite dramatic reactions to small amounts of this drug. Such reactions (mental disturbances, acute abdominal pain, etc.) should always be kept in mind when a course of therapy is started.

Paludrine

The relapse rate following treatment with paludrine alone is rarely less than 35%. In a small series of patients (X1b) from India and the Far East treated at Woolwich¹⁰ the relapse rate was 66.6%. On the average probably at least two out of every five patients treated relapse after five to six weeks or longer. The therapeutic value of paludrine alone is probably no greater than that of mepacrine.

Paludrine is remarkable in that, given in a total amount as small as 50 mg., it is capable of producing clinical cure of an overt attack of B.T. malaria. Experiments are therefore being conducted at Liverpool⁹ in order to test the curative value of paludrine given in a once-weekly dosage over a period of six or more months.

The outstanding value of paludrine is as a prophylactic or as a curative when given concurrently with pamaquin. The importance of the latter regime will be discussed later. As a prophylactic a dose as small as 100 mg. once or twice weekly is adequate to produce complete suppression of all manifestations of malaria. It does not, however, prevent the establishment of *vivax* infection, although it has been shown to inhibit to some extent the exo-erythrocytic forms which exist in the interval between the disappearance of the sporozoites from the blood and the demonstration of parasites 8 to 10 days later in the peripheral circulation.⁴ The only other drug so far demonstrated to possess this property is pamaquin.

Paludrine produces negligible toxic reactions unless given in amounts approximately twenty times the therapeutic dose. It has the advantage over mepacrine that it does not discolour the skin.

Chloroquine

This was synthesized in 1944 in the United States and has had extensive trials in America, particularly as a prophylactic agent for the suppression of malaria. It is highly active as a schizonticide in all types of plasmodial infection, but it "does not prevent relapses in vivax malaria even when administered in doses many times those required to terminate an acute attack." Rapid clinical cure is produced with only small amounts of the drug and in very short courses, as in the case of paludrine. Relapses, however, are very frequent, and occur several weeks after discontinuing treatment, since, like mepacrine, chloroquine is only slowly degraded in the body.

Chloroquine is an excellent prophylactic, considerably superior to mepacrine and qualitatively comparable to paludrine. Given in doses of 300 mg. once or twice weekly it has been shown to produce effective suppression of all forms of malaria. It does not, however, prevent the establishment of vivax infection, but merely prevents the appearance of symptoms, and does not appear to have any action upon the pre-erythrocytic forms of the parasites. On discontinuing treatment, as with mepacrine and paludrine, an overt attack of B.T. malaria will develop several weeks later. As with paludrine, there is a wide margin between the therapeutic and the toxic dose, and no discoloration of the skin is produced with prolonged dosage.

Toxic reactions following normal therapeutic or prophylactic dosage are negligible.

Pamaquin

Although pamaquin has the reputation of being of little value as a schizonticide, it is capable of producing radical cure in an easily tolerated dosage. In a small series (Pb) treated at Woolwich¹ with 11 mg. t.d.s. for 10 days the relapse rate proved to be only 27.6%, comparing very favourably with a series of similar cases treated with paludrine alone. Against artificially induced infection with the Chesson strain (Pa) pamaquin proved ineffective in preventing relapses in all five cases treated.¹

Pamaquin has acquired an undesired reputation as a most dangerous drug. It is true that there is a very small margin between a therapeutically effective dose and one that is severely toxic. The toxic symptoms, too, are somewhat dramatic. Unless, however, pentaquin is shown to produce even more encouraging results than those expected of it, pamaquin will continue to be of the greatest importance in the treatment of vivax malaria. Its value, which will be discussed later, lies in the fact that, given concurrently with other drug therapy, it almost invariably lowers the relapse rate. This can be clearly seen from Table II and the Chart.

TABLE II.—The Value of Pamaquin in Antimalarial Therapy

Course	Dosage Regime	Cases Treated	Relapses	Relapse Rate % of All Cases Treated	Relapse Rate % Cases Followed Up for 6 Months
QNP	Quinine 90 gr. in 3 days. Mepacrine 1.5 g. in 5 days Pamaquin 90 mg. in 3 days	29	5	17.2	19.2
MP	Mepacrine 2.4 g. in 7 days Pamaquin 90 mg. in 3 days	29	3	10.3	12.5
QPD	Quinine 10 gr. + pamaquin 10 mg. t.d.s. for 10 days	94	11	11.7	14.3
M1b	Mepacrine 4.6 g. in 12 days	86	23	26.7	35.0
M2	Mepacrine 3.1 g. in 7 days	31	11	35.5	44.0
M3b	Mepacrine 2.4 g. in 7 days	29	8	27.6	23.6
QM	Quinine 90 gr. in 3 days Mepacrine 2.5 g. in 5 days	21	5	23.8	26.3

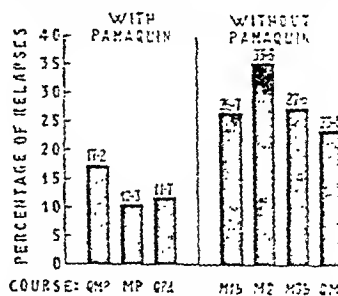


Chart showing effect of pamaquin on relapse rates.

The toxicity of pamaquin will be discussed under quinine-pamaquin therapy.

Pentaquin

The relapse rate following treatment with pentaquin alone is not yet fully established. In a small series (SNb) treated at Woolwich¹ the relapse rate was as low as 12.5%. In a series of five cases (SNa) artificially infected with the Chesson strain treated at Stateville¹ three relapsed. In a large series of cases pentaquin would probably be found to give a relapse rate of not less than 25%. Pentaquin, which is very closely related to pamaquin, was synthesized in the United States in 1945. It is a very active schizonticide which produces rapid clinical cure. The recommended dosage should not exceed 60 mg. daily for 10 to 14 days.

Toxic reactions are the same as those met with in pamaquin therapy. "At the therapeutic dose, the toxicity of pentaquin is qualitatively the same and quantitatively approximately one-half to three-fourths that of pamaquin in adult persons." In the Woolwich series of 25 cases a daily dosage of 60 mg. produced toxic reactions in over 50% of those treated.

Pentaquin, as will be shown later, is of greatest value when given in conjunction with quinine.

Treatment Combining One or More Drugs

Quinine and Pamaquin

The specific action of pamaquin in reducing the relapse rate following quinine therapy was pointed out nearly 20 years ago.¹ Since that time quinine 10 gr. (0.65 g) given concurrently with pamaquin 10 mg. 8-hourly for 10 to 14 days has come to be used as the standard control course for the evaluation of other forms of treatment. Until the introduction of treatment combining paludrine with pamaquin, and pentaquin with quinine, quinine-pamaquin was the most effective of all forms of therapy for the radical cure of vivax infections. It is rapid in its clinical action, rarely produces symptoms of toxicity, may be given to ambulant patients on light work, and on the average produces radical cure in eight or nine out of every ten patients treated (Table I, Courses QPa-g).

The minor disadvantage that quinine is preferably administered in liquid form and has an unpleasant taste may lead to its replacement by paludrine-pamaquin treatment, since the latter has been shown to be probably as successful in producing radical cure. The final judgment on quinine-pentaquin therapy will have to await the results of wider field trials.

It is usually recommended that pamaquin administration should take place under medical supervision in hospital. Although an ideal, such precautions are unnecessary in a large majority of cases, particularly those treated with quinine and pamaquin, provided that the daily dosage of pamaquin never exceeds 30 mg. In a series (QPa) of 168 cases occurring in British troops treated at Woolwich¹ only 18 showed toxic symptoms. All except one of these 18

cases required no modification of their dosage and continued to be treated ambulant for the last seven days of their 10-day course without any adverse effects. The exception developed malaria while convalescent from lobar pneumonia, and the appearance of rather more severe toxic signs in a debilitated patient made it advisable to discontinue therapy.

Cyanosis and gastric symptoms are the common manifestations, but do not in themselves indicate discontinuance of treatment, only requiring that an increase in their severity or the development of additional symptoms should be at once reported and investigated.

The premonitory general malaise and anorexia of the patient is usually a good indication of the degree of toxicity prevailing, and such symptoms require to be pronounced before discontinuation of treatment need be considered. Signs of intravascular haemolysis are a clear indication for immediate withdrawal of the drug; they occur more often in the dark-skinned races.

Paludrine and Pamaquin

Treatment with paludrine alone has been shown to give a relapse rate of 35-40%. When pamaquin is added to the regime the success rate is at once improved. Pamaquin exerts a similar specific action in lowering the relapse rate to that found when it is administered concurrently with quinine. In the two series (PX1 and PX2) shown in Table I the results were almost identical with those found in the control series treated with quinine-pamaquin (QPa and QPf respectively).

It will be noted that the total amount of paludrine in course PX1 is two and a half times that given in course PX2, and that despite this larger dosage, when compared with the control, the success rate is no higher. This is the more important since with the higher dosage of paludrine the incidence of toxic reactions was considerable, approximately 40% of cases showing cyanosis or gastric symptoms. There was also a marked anorexia and malaise in the great majority of patients which compared unfavourably with the state of well-being of the control series treated with quinine-pamaquin.¹² In the other series, in which the paludrine dosage was only 300 mg. daily, the toxic side-effects were negligible.⁴ This difference in toxicity of the two courses is due to the fact that, like mepacrine, paludrine is a stronger base than pamaquin and displaces it from the tissues. The toxic reactions therefore are related not to paludrine but to a high plasma pamaquin level.

The optimum eight-hourly dose of paludrine when given concurrently with 10-mg. doses of pamaquin is probably 100 mg. or less. Such a course of treatment is likely to prove at least as successful as quinine-pamaquin therapy.

Combinations of Quinine, Mepacrine, and Pamaquin

Quinine, mepacrine, and pamaquin have been given in various combinations for the treatment of B.T. malaria. A commonly used regime consisted of quinine 10 gr. t.d.s. for three days, followed by 1.5 g. of mepacrine, given in five days, followed by 10 mg. of pamaquin eight-hourly for three days. Good results, with moderately low relapse rates, were obtained with this course, but generally speaking it is less successful than quinine-pamaquin therapy.

Innes *et al.*⁹ treated several series of cases at Rome with different combinations of these drugs. These were followed up six or more months later,¹⁰ with the results shown in Table II.

The significance of these figures is less in the actual relapse rates obtained than in the comparative results (see Chart). It is clearly shown that the three courses which contained pamaquin had a higher rate of success than the

other forms of treatment. The relapse rate following therapeutic regimes containing pamaquin is 12.5%, whereas that following the four other modes of treatment which exclude pamaquin is 28.2%.

The bad reputation suffered by pamaquin should not be allowed to nullify this important conclusion. Until pamaquin is convincingly shown to be the drug of choice pamaquin should continue to be given as an essential part of any attempt to eradicate *vivax* infection, whatever course of therapy is preferred. It must be remembered that pamaquin should not be given concurrently with mepacrine, for the latter causes the plasma pamaquin level to rise considerably, resulting in serious toxic reactions. Pamaquin is undoubtedly best administered concurrently with quinine or paludrine.

Quinine and Pentaquin

Preliminary indications from America regarding this latest form of therapy indicate that it is likely to be more successful than any other treatment yet devised. Pentaquin is still under trial and not yet generally available, so that final judgment will have to be suspended until a large complete series of cases of naturally occurring *vivax* malaria has been treated and adequately followed up against standard controls.

It was probable that pentaquin, being an 8-aminoquinoline derivative closely related to pamaquin, would have a specific action in reducing the relapse rate when administered with quinine. This indeed has been the case, for, although the results from Stateville¹ are as yet incomplete, interim reports show that against the Chesson strain of *P. vivax* (QSNa) the expected relapse rate is far lower than with any other mode of treatment suggested for this severe type of malaria.

In a series of 26 cases of naturally occurring B.T. malaria (QSNb) treated at Woolwich¹¹ three cases are detailed as relapsing, but none in fact had proved infections. Two patients treated themselves with mepacrine at the onset of symptoms, which were as likely to be due to coryza as to malaria; while the third did report having symptoms suggestive of a rigor. A relapse rate nearer 5% would probably be a more accurate estimate for this series of cases.

With the recommended dosage of 60 mg. daily very few, and only mild, toxic symptoms have been reported from America.¹ These consisted of cyanosis of a mild degree and occasional abdominal pain. In the Woolwich series these symptoms and signs were encountered in over 50% of the cases treated. One patient also developed pyrexia and pain in the hepatic area, and treatment was discontinued. The general malaise and anorexia of the great majority was in marked contrast to the good health and appetite of those treated with quinine-pamaquin.

Intermittent Therapy with Quinine-Pamaquin and Mepacrine

Innes *et al.*⁵ treated a series of cases at Rome on intermittent regimes of quinine-pamaquin and mepacrine. The follow-up of these cases six months or more later showed remarkable results.¹⁰ The courses used were as follows:

Mepacrine.—An initial course of 2.5 g. in five days followed by two courses of 3 g. each given in six days, with "rest" periods of seven days between all courses.

Quinine-Pamaquin.—An initial course of quinine 10 g. plus pamaquin 10 mg. given eight-hourly for seven days, followed by two similar courses of five days each with "rest" periods of seven days between all courses.

The patients chosen were those who had experienced six or more relapses in the previous six to nine months. At the time of treatment all patients had recently concluded a

course of therapy and were consequently symptomless and parasite free. The results are summarized in Table III.

TABLE III.—Results of Intermittent Therapy

Course	Cases Treated	Cases Followed Up	Relapse Rate	Relapse Rate of Those Succeeded Followed Up for 6 Months	Relapse Rate of All Cases Treated
Intermittent mepacrine	42	66	12	42.9%	28.6%
Intermittent quinine-pamaquin	45	62	0	Nil	Nil

It was regrettable that more cases could not be followed up, but owing to the exigencies of war the majority of the Dominion troops could not be traced. Nevertheless the result of the intermittent quinine-pamaquin treatment is significant and in remarkable contrast to the results obtained in any other series of cases treated in the Mediterranean area.

The rationale for such treatment was based on the discovery by Innes *et al.* that during treatment with quinine or mepacrine a drug-inhibited stage of development of the plasmodium occurred corresponding to the pre-schizont stage, and persisted for at least 12 to 24 hours in the peripheral circulation after other parasites had undergone schizogony. A tentative hypothesis suggests that if relapses of malaria can at all be ascribed to these drug-inhibited or retarded development forms, they may possibly persist in the host until the plasma drug level has fallen low enough for their redevelopment to take place. Such relapses would occur during the "rest" periods of the intermittent therapy. The majority of the organisms would be destroyed by the second course of treatment and the remainder by the third course. For the success of such a regime it would be necessary to use a drug which is rapidly excreted from the body. Mepacrine is unsuccessful because it is slowly excreted and the "rest" periods are not long enough to allow recrudescence of the drug-inhibited forms.

It would be of great interest to pursue such treatment in a large series of cases. The course has the disadvantage that it is lengthy, but it is also harmless and may be given without risk to patients on a full day's light work, provided they consult their medical adviser at the first suggestion of toxic symptoms. Such treatment would probably be preferable to 10-day courses of high-dose or paludrine possibly more profitable than the 2-monthly. The latter taken over a period of six months is successful in a climate treatment, although likely to produce somewhat too prolonged to be adhered to by the majority of patients.

Summary and Conclusions

The ideal drug for the prevention and radical cure of benign tertian malaria has yet to be discovered. The use of quinine is recommended. The disuse of unaided quinine treatment is recommended. Suppressive and curative treatment with mepacrine is likely to be superseded by more recently discovered antimalarial drugs.

Paludrine and chloroquine are probably equally effective in producing complete suppression of overt attacks of malaria in once-weekly dosage. Neither is able to prevent the establishment of *P. vivax* in the human host even by daily dosage, but paludrine has some inhibitive effect on the pre-erythrocytic forms. Neither drug given alone is as successful as other forms of therapy in producing a permanent cure.

Pamaquin is a drug which deserves greater recognition as a safe medium for the elimination of *P. vivax* infections. Given as an adjuvant in any course of antimalarial therapy it is of the greatest value in reducing the relapse rate. The toxicity of pamaquin is shown to be less formidable than is generally accepted.

No treatment so far administered to a large series of cases of naturally occurring B.T. malaria is more successful than quinine given concurrently with pamaquin. Paludrine given concurrently with pamaquin is equally successful.

Pentaquin given concurrently with quinine is likely to prove more successful in producing a lower relapse rate than any other therapeutic regime. The toxicity of pentaquin is approximately three-quarters that of pamaquin.

A 31-days intermittent course of quinine and pamaquin proved successful in the complete eradication of *P. vivax* infections in all patients followed up in a series of 45 cases. It is suggested that such a course is worth extended trials among chronic relapsing cases in a non-malarious area.

I wish to acknowledge permission from the Consulting Physician to the War Office to quote from the 1945-6 report of No. 2 Malaria Research Team, R.A.M.C. The work done by his team was the instigation of the Medical Research Council. I wish to thank Dr. Alf S. Alving, of the University of Chicago, for permission to quote figures obtained from his work at Sisseton, and Dr. F. Hawking of the Medical Research Council, for his hospitality in reading the reports to the National Institute of Health, America.

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DEMONSTRATION OF A PERSISTING EXO-ERYTHROCYTIC CYCLE IN PLASMODIUM CYNOMOLGI AND ITS BEARING ON THE PRODUCTION OF RELAPSES

BY

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From the earliest days of the modern study of malaria the phenomenon of relapses in this disease has been invested with a mystery which has been responsible for various hypothetical solutions made in an attempt to explain the known facts.

The first of these facts is that periods of patent infection accompanied by the demonstrable presence of parasites in the peripheral blood are often succeeded by more or less prolonged periods when no such parasitaemia can be demonstrated. This condition is described as latent malaria, and it may supervene in the natural course of the disease or may be produced artificially by the use of anti-malarial therapy which destroys the erythrocytic infection. Another fact is that such relapses are often precipitated by

any happening which causes a temporary lowering of the host's resistance, and the problem here is the source of the parasites producing the relapse. A third fact is that the various species of malaria parasites vary in their tendency to relapse and in the period of years during which relapses may recur. A final fact relates to artificially produced infections. Those which are produced as the result of inoculation of blood show no tendency to relapse after anti-malarial treatment, while those induced by sporozoite inoculations, either artificially or by mosquito bite, tend to produce relapses after the cessation of treatment.

The extent to which these facts are explained by the finding that is the subject of this communication is dealt with in the discussion.

Up to the present time three commonly adduced explanations of relapses have held the field, but, in the absence of accurate knowledge of the life-cycle of malaria parasites, none could claim greater weight than a mere guess. These theories are: (a) The continued existence of a low-grade erythrocytic infection kept in abeyance by the host's immune mechanism but flaring up on any impairment of the latter; (b) the theory of the parthenogenetic development of the female gametocyte (Grassi, 1900; Schaudinn, 1902); (c) the existence of a cryptic stage in the internal organs capable of producing an erythrocytic invasion on any lowering of the host's resistance. The third of these theories gained added weight with the discovery of the exo-erythrocytic cycle in bird malaria, where these forms play an important, if not the essential, part in the causation of relapses.

The possibility that the hypothetical exo-erythrocytic cycle in mammalian malaria played a similar part in the production of relapses has been put forward at various times by many workers, and the names given in brackets are only a representative selection from workers who have made such a suggestion, after the first establishment of a definite exo-erythrocytic cycle in bird malaria by James and Tate in 1937. (James and Tate, 1937; Shortt, Menon, and Iyer, 1940; Fairley, 1945; Huff, 1947; Cooper, Ruhc, and Coatney (personal communication to Huff), 1947; Shortt and Garnham, 1948.)

The discovery recorded in this paper of the continued existence in monkey malaria of the exo-erythrocytic cycle after establishment of the blood infection would appear to constitute the strongest proof that this form of the parasite is the aetiological agent concerned in the production of relapses. When we (Shortt and Garnham, 1948) published a detailed description of the pre-erythrocytic cycle in *P. cynomolgi* and *P. vivax* we suggested that if this cycle was found to persist after establishment of the blood infection it might play an essential part in the maintenance of the infection over long periods and in the production of relapses, so that the present work is the logical sequence to the experiment establishing the pre-erythrocytic cycle in mammalian malaria.

To investigate the theory of the persistence of the exo-erythrocytic cycle and its relation to relapses, examination of infected monkeys a considerable time after the establishment of sporozoite-induced infections seemed to offer the most direct approach to the problem. For this purpose we selected a monkey (*Macaca mulatta*) originally infected by sporozoites, in which the infection had reached a latent stage. This stage, with apparent absence of parasites in the peripheral blood, had lasted for over a month, and from our experience it was considered probable that a relapse would soon occur.

If we were correct in this assumption and if the hypothetical exo-erythrocytic forms, probably in the liver, were to be the source of parasites for the relapse, it would follow that examination of the liver would reveal these forms if

in sufficient numbers to make this a practical proposition. This aggregation of "ifs" did not allow us to draw an easy or rapid conclusion to the investigation, but events turned out, the monkey chosen proved to be at the earliest stage of an imminent relapse and we were able to demonstrate the presence of an exo-erythrocytic stage. This finding is considered important enough to justify setting forth in detail the history of the monkey concerned. This is given below.

Monkey 37 (Macaca mulatta). Weight 3 lb. Feb. 18, 1948: Fed on by 680 *Anopheles maculipennis* infected with *P. cynomolgi*. The mosquitoes were then ground up, in 0.5 ml. serum-saline, and inoculated into the same monkey intratoneally and intramuscularly. Sporozoites were microscopically demonstrable in the 10-ml. volume of the suspension. Mosquitoes of this batch were fed, as a control, on Monkey 38, which developed malaria on March 2. On dissection of six of these mosquitoes five contained sporozoites in the salivary glands, showing that a very high proportion of the batch must have been infective. Feb. 21: A piece of liver removed by open operation. Feb. 23: A second similar operation. Feb. 26: A third similar operation. March 1: Blood contained rings and maturing schizonts. March 10: Numerous mature gametocytes present. April 1: Blood negative. April 7: Scanty infection of blood. April 24: Condition of blood similar. May 5: Blood negative. May 22: Blood negative. May 26: Blood negative. June 1: Blood negative. Piece of liver removed by open operation. June 2: Considerable numbers of very early ring forms (23 in 100 fields of 1/12 oil immersion lens). June 4: Scanty mature schizonts.

The piece of liver removed on June 1 was placed in Carnoy's fixative and sections were prepared. These showed the presence of exo-erythrocytic forms of *P. cynomolgi*.

Description

The description given applies to the two exo-erythrocytic parasites encountered. The first was situated in a parenchyma cell of the liver and extended over four serial sections cut at 4 μ in thickness. This would give the parasite a diameter of 16 μ , which was confirmed by actual measurement of the longest diameter. The stain in use was the modified Giemsa previously employed by us for pre-erythrocytic stages of *P. cynomolgi* in sections of liver.

The parasite was an almost spherical schizont lying in a parenchyma cell, the cytoplasm of which was separated from the schizont by a clear area either due to shrinkage or to some cytolytic effect. In one part of the periphery of the infected liver cell was the nucleus, itself somewhat flattened but not obviously degenerate.

The parasite had a pastel-blue-staining cytoplasm, markedly and coarsely granular and with a single sharply differentiated spherical blue staining mass, the origin and explanation of which is obscure. In this cytoplasm were distributed irregularly shaped masses of chromatin staining a magenta colour and numbering about 130 when counted over the four sections in which the parasite appeared. This schizont was similar in appearance to those described by us as occurring in the pre-erythrocytic development of *P. cynomolgi*, and in size and general morphology was comparable to a parasite between the fifth and sixth days of pre-erythrocytic development. The parasite appeared to be bounded by a wavy line which might indicate a containing membrane.

It does not, of course, follow that the size of this exo-erythrocytic form would necessarily imply that it was of the same developmental age as a pre-erythrocytic parasite of the same size, but this is probably a justifiable conclusion in the absence of any contrary evidence.

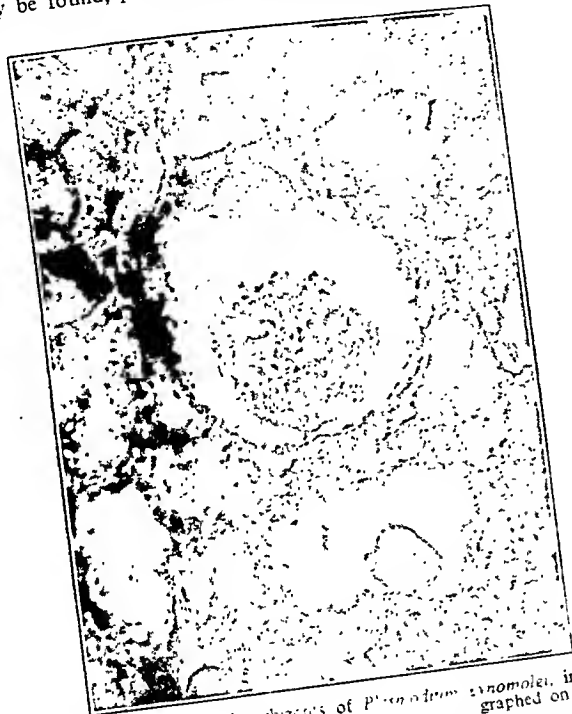
The second parasite encountered, almost spherical in shape, was in an advanced stage of development, comparable to the eighth-day stage of the pre-erythrocytic cycle and measured 30 μ in the longest diameter. The blue

toplast showed commencing segregation to form merozoites, the chromatin particles of which numbered over 500. The cytoplasm exhibited two small vacuoles and several very densely stained blue masses which we interpret as dual bodies. The outline of the parasite was wavy as the smaller form.

After the exo-erythrocytic cycle has been in progress for some time synchronism among the parasites is lost and o-erythrocytic forms in various stages of development may be found, presumably from their first entry into the

In 1948 we propounded an almost identical view in saying: "If certain of the merozoites resulting from exo-erythrocytic schizogony enter fresh liver cells to maintain the local liver cycle, the destruction of the blood infection, either by specific immune response or by chemotherapeutic agents, would possibly leave intact the exo-erythrocytic cycle, which, under a suitable stimulus, could renew the blood infection."

It is true that the continuance of an exo-erythrocytic cycle is not clear scientific proof that this is the source of



Two exo-erythrocytic schizonts of *Plasmodium cynomolgi* in sections of liver, the probable cause of relapses in simian malaria. Photographed on the same scale, $\times 1700$.

liver cells up to mature schizonts. The relative rarity of these bodies is indicated by the fact that 412 sections were examined in finding two schizonts.

Discussion

The finding of exo-erythrocytic schizonts of *P. cynomolgi* in the liver of a monkey nearly three and a half months after the production of a sporozoite-induced infection is unequivocal evidence of the persistence of the exo-erythrocytic cycle after establishment of the blood infection. That this finding is the fulfilment of intelligent anticipation by various workers will be evident from the following quotations, which are only three chosen from many others.

Thus Fairley (1945) writes: "The reappearance of erythrocytic forms in *P. vivax* after the blood has been completely cleared of parasites, no less than the tendency of benign tertian infections to relapse repeatedly, despite prolonged antimalarial treatment, suggests the persistence of a tissue stage (exo-erythrocytic form) which, from time to time, throws off asexual parasites into the circulation for invasion of the erythrocytes."

Huff (1947) states: "There is a suggestion, though no clear proof, in these statements that any hypothetical phanerozoic stages in human malaria may arise principally, if not wholly, from the, as yet, hypothetical pre-erythrocytic stages."

clinical relapses, but there are various facts which seem to make that a reasonable conclusion. Thus in the course of an infection there are long periods when the presence of parasites in the circulation cannot be demonstrated even by inoculation of blood into susceptible hosts. Again, in the case of sporozoite-induced infections, antimalarial treatment can suppress the erythrocytic cycle before a clinical attack is manifested or can apparently effectively sterilize the blood of the erythrocytic cycle when this is present. Yet after a longer or shorter interval relapses will occur, and these presumably are caused by merozoites originating in the exo-erythrocytic schizonts in the liver.

Lastly, work on bird malaria and recent work on the exo-erythrocytic cycle in man (Shortt and Garnham, 1948) have shown that immunity against the erythrocytic parasite is not active against the exo-erythrocytic parasite. This is possibly because the latter in their intracellular habitat in the parenchyma cells of the liver are protected from the host's immune mechanism and become susceptible only when the merozoites are released. In these circumstances those merozoites which regain other liver cells are similarly protected and the liver cycle can go on for an indefinite period independently of the blood infection.

In the case of the monkey which was the subject of this experiment the fact that the blood was negative on the day of the operation and became positive on the day after would indicate that we were correct in expecting an early

relapse and, in fact, that the relapse was imminent on the day of the operation. The finding of a contemporaneous exo-erythrocytic cycle would supply a reasonable explanation of the source of the parasites producing the relapse if the interpretation of our findings given below is accepted.

Although it involves some repetition, we think it would be useful to give, in a few words, our interpretation of the findings obtained in our recent work on the exo-erythrocytic cycle in mammalian malaria.

The inoculation of sporozoites by the infected mosquito is followed by a pre-erythrocytic development in the parenchyma cells of the liver, with the ultimate production of merozoites. Many of these enter the erythrocytes to produce a parasitaemia and a clinical attack of malaria. Other merozoites enter normal liver cells and repeat the process of exo-erythrocytic schizogony. This latter process repeats itself indefinitely, irrespective of whether the erythrocytic cycle is present or is in abeyance as the result of antimalarial treatment or a naturally acquired active immunity. This active immunity is operative only against the erythrocytic parasites and destroys those merozoites liberated by the exo-erythrocytic schizonts which are destined to enter red cells. Those which enter liver cells to maintain the exo-erythrocytic cycle are protected from this immunity by their intracellular position outside the circulating blood.

If for any reason, the active immunity of the host is removed it no longer operates against the merozoites destined to start the erythrocytic cycle, and these enter the blood cells and initiate a clinical relapse.

The marked similarities both in erythrocytic and in pre-erythrocytic stages between *P. cynomolgi* and *P. vivax* make it reasonable to suppose that the course of events here described in the case of the former parasite will be applicable to the latter.

Until recently the fact that exo-erythrocytic development is the rule in the case of avian plasmodia, while it was not demonstrable in the case of mammalian plasmodia, tended to cause some misgiving in placing both groups in the same genus. The discovery, however, of the pre-erythrocytic cycle in simian and human plasmodia appeared to narrow the gap between the two groups, and now that the simultaneous existence of erythrocytic and exo-erythrocytic cycles has been demonstrated in a simian *Plasmodium* there seems still less justification for considering avian and mammalian plasmodia as other than very closely related.

Summary

The finding of exo-erythrocytic schizonts of *Plasmodium cynomolgi* in the liver of a monkey about three and a half months after a sporozoite-induced infection is evidence of the persistence of the exo-erythrocytic cycle after establishment of the blood infection.

Reasons are given for the assumption that this is the cycle responsible for the production of relapses.

As in earlier work in this investigation we wish to record the valuable technical assistance of our staff, Mr. W. Cooper and Mr. E. Blackie and Miss J. Stedman.

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BILHARZIAL AFFECTION OF THE URETER

A STUDY OF 110 CONSECUTIVE NECROPSIES SHOWING VESICAL BILHARZIASIS

BY

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The ureter is often affected in urinary bilharziasis. The purpose of this article is therefore to report on the various lesions found in the ureter in a series of 110 consecutive necropsies on Africans held at the Salisbury Mortuary, Southern Rhodesia.

The literature would appear to stress the obstructive lesions met with in urinary schistosomiasis. As early as 1919 Fairley drew attention to the tendency of the disease to invade the lower portion of the ureter. He reported that catheterization of such a ureter may reveal a hydronephrosis that has not shown any clinical manifestations. He is one of the early workers to refer to the golf-hole appearance of the ureteric orifice, which he not infrequently found involved even in early cases. In another publication Fairley (1919b) drew attention to the obstruction occurring in a bilharzial ureter, but he also recognized the possibility of a hydronephrosis resulting from obstruction in the bladder-wall itself. In his experimental work on infected monkeys he found that the lumen of the lower third of the ureter may show dilatation and the wall considerable thickening. The dilatation results from obstruction due to thickening from the cellular infiltration of the wall in the neighbourhood of deposited ova.

Aly Bey Ibrahim (1923) published from Egypt an important paper on bilharziasis of the ureter. In it he refers to the very serious complication of stricture of the ureter. He writes: "The disease ends in the formation of fibrous tissue, which replaces the normal coats of the ureter. This leads to contraction and narrowing or even complete obliteration of the lumen of the lower part of the ureter. Secondary to this, the upper part of the ureter and pelvis of the kidney become dilated." Dew (1923), of Egypt, infers that the ureter becomes narrowed because of fibrosis and calcification, contraction ensuing fairly early in the disease. Hydronephrosis as a result is common. Also from Egypt, Hutchison (1928) refers to an ascending pyelitis and hydronephrosis resulting from stasis of the urine, occurring because of obstruction at the lower end of the ureter. Campbell-Begg (1944), writing on schistosomiasis in South Africa, refers to the occurrence of a tight fibrous stricture of the ureter, which is found only in the minority of cases. Kirkaldy-Willis (1946), working in East Africa, mentions the possibility of obstruction in the lower ends of the ureters.

Procedure

Because of the prevalence of urinary bilharziasis in Southern Rhodesia investigation into the incidence of stricture and other possible effects of the disease in the ureter was not difficult. Mashonaland, where the work was done, is a highly endemic focus for both the urinary and the intestinal forms of the disease. Bilharzial disease there is essentially a disease of childhood, acquired by exposure of children in the Native Reserves to infected waters. In fact, in some districts haematuria in a child is regarded almost as a normal phenomenon, and little notice is taken of it. By the time adult life is reached it is safe to assume that the

individual has had the disease for a number of years, and complications in the ureter can be expected.

Adults were therefore chosen for this investigation, as naturally it would take a few years for complications to arise. In all, 110 consecutive cases showing urinary bilharziasis were examined. The vast majority of these were men between 20 and 50. The technique adopted at necropsy was as follows.

After the liver had been removed each kidney was carefully taken out, together with its ureter as far as its lower third in the pelvis. The bladder was then removed below the prostate from its connexion with the urethra and carefully dissected free from the rectum and in women from the uterus. Finally, the lower third of each ureter was dissected out. In other words, the whole bladder, ureter, and kidneys were removed *in toto*. The bladder was then opened with a sharp pair of scissors through the urethral orifice, the incision being continued upwards through the anterior wall, thus exposing to view the fundus (base) and below the trigone.

After the bladder was inspected for signs of schistosomiasis the ureteric orifices were identified and a narrow probe (2 mm. in diameter) was passed up the whole length of the ureters. A stricture was considered to be probably present when a sense of obstruction, tightness or a complete hold-up of the probe was encountered. Later it was found easier and quicker to open the ureter just below its junction with the pelvis and to pass the probe down into the bladder.

With this method a number of apparent strictures were first encountered in some cases as the probe would not pass beyond a certain point. When, however, the ureter was opened along its length from its bladder orifice to the pelvis most of these hold-ups were found to be due to sacculations, dilatations, or any pouch-like distortions in the wall. Only in a few cases was a true reduction in the normal lumen of the ureter demonstrable.

After each ureter was opened its inner surface was carefully inspected for bilharzial patches. In each case the circumference of the ureter was measured at about $1\frac{1}{2}$ in. (3.75 cm.) from its orifice into the bladder. It was found that the normal circumference (as determined in those free of any bilharzial disease) varied from about 5 to 11 mm., with an average of about 8 mm. This site was selected as the disease chiefly affects this portion of the ureter. Other areas were measured, depending on whether disease was found. By this means I was able to determine whether the ureter was narrowed, dilated, or unaltered.

Results

Dilatation was found in the ureter in 25 of the 110 cases. Three others showed stenosis or stricture—that is, reduction of the normal circumference—one case had the lower end of the ureter blocked by a small phosphatic calculus, and in three cases both ureters were dilated because of obstruction reduced at their lower ends by an infiltrating carcinoma of the bladder associated with bilharziasis.

In 16 of the 25 cases the dilatation was unilateral; in 9 of them the dilatation affected the whole length of the ureter, in five it was present in the middle and lower thirds, and in five only the lowest third was dilated. In nine cases the dilatation was unilateral—in two being present throughout the length, in four confined to the middle third, and three confined to the middle and lower thirds of the ureter.

Occasionally those portions of the ureters which dilated by the disease may show one or more narrow constricting fibrous-tissue bands running horizontally, but the lumen at these points was always greater than normal. Two such cases in the above-mentioned series were encountered.

The disease in the ureter can, as a rule, be easily identified, as the patches have a distinctive colour and the mucosa is roughened as if it were sprinkled over with fine sand. The colour of the patches varies from light brown, flowish or greenish brown, to darker brown or a dark-

brown discoloration. They have a roughened feel. In other cases tiny tubercles, like sago grains, are seen, whereas in still fewer cases flattish or even pedunculated "papillomata" are found in addition.

The usual site of the disease was the lower third of the ureter. The dilatation was therefore generally found in this portion, but also not infrequently in the middle or upper third of the ureter. In some cases the dilatation was uniform throughout its length. A very important and interesting observation was that the dilatation was present only where the bilharzial disease was found. Where the ureter looked normal no dilatation could be demonstrated.

If stricture were the cause of dilatation one would naturally expect all portions of the ureter above the obstruction to be dilated, and not, as these cases showed, only at the diseased site. Further, the dilatation often varies from point to point, depending on the local effect of the disease. Thus the ureter becomes corrugated and irregular in its course. In a severe case the ureter may be thrown into folds or assume an S-shaped bend at one or other point. Therefore when a probe is passed upwards it is liable to encounter such a bend or be held up in one of the tiny pockets or corrugations, thus simulating stricture.

To determine the presence of hydronephrosis each kidney was bisected and the size of the pelvis and its calices was noted. So as to exclude urethral obstruction as a cause of hydronephrosis a curved metal sound was passed up the urethra into the bladder. In no case with hydronephrosis was such an obstruction demonstrated. In the series there were eight cases in which hydronephrosis was observed. Four of the 25 cases showing dilatation of the ureter were affected by hydronephrosis (bilateral). One of the three cases of stenosis or stricture showed hydronephrosis on the side of the narrowing (this case also showed dilatation of other parts of the ureter by the disease). All three cases of carcinoma of the bladder were associated with bilateral hydronephrosis due to obstruction of the lower portions of the ureter by the growth.

Of the three cases showing narrowing or stenosis of the lumen of the ureter two did not have any hydronephrosis, but one showed early hydronephrosis on the right side. In its upper two-thirds this ureter was dilated by disease to a circumference of 14 mm. and in its lower third to a similar extent; but in between these two dilated portions was a narrowed portion with a circumference of 8 mm., through which the probe passed easily. The left ureter was dilated by the disease in its lower third. In another of the cases accepted as stricture the probe was held up in the middle third of the left ureter. On opening this ureter a fine fibrous stricture was found. This was the only stricture which held up the probe. In the third case of stricture there was a narrowing at one point to 8 mm. in the middle third of the right ureter, with dilatation above (28 mm.) and below to 20 mm. The probe easily passed up the ureter.

One case of bilateral hydronephrosis was interesting. Although there was bilharzial disease of the bladder and ureters, the latter opened into the apex of the bladder, the orifices being only about $1\frac{1}{2}$ in. (1.25 cm.) apart. The bladder mucosa between the orifices was considerably reticulated and thickened. The ureters were markedly thickened and dilated. The intravesical parts of the ureters were dilated (14 mm. right and 11 mm. left). In this case the hydronephrosis could be explained by the congenital anomaly of the ureteric openings.

The dilatation of the particular part of the ureter affected is usually caused, so far as this study shows, by the disease itself. Owing to infiltration of the wall the affected portion dilates and rarely stenoses, as is commonly thought. As

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a rule not only is the ureter dilated by the disease but there is well-marked thickening of the coats of the tube by fibrous-tissue formation. This causes the ureter, when removed, to appear somewhat rigid and elongated.

A number of the dilated portions of the ureters affected by bilharziasis were examined histologically. Ova were found not only in the submucosa but also in between the muscle bundles in the muscular layer. The ova are often seen lying together in clumps with a varying amount of fibrous-tissue and inflammatory reaction. Such fibrosis may be slight. This is in striking contrast to the pathological processes in the appendix, where tubercle formation is often observed. It seems to me, therefore, that as a result of the deposition of eggs in the muscle layers the muscle bundles are separated, atrophy ensues, and eventually dilatation sets in. The affected part of the ureter thus widens, elongates, and becomes tortuous.

The ureteric orifice may or may not show changes. In none of the cases in this series was the lumen of the orifice occluded or so narrowed as not to allow the probe to pass with ease. In many of the cases the orifice is widened, producing the golf-hole appearance. In some cases the orifice itself appears smaller than usual, whereas in others it is not easy to find owing to the surrounding disease of the bladder mucosa. In such cases passing the probe downwards in the ureter from above will assist in locating it.

Comments

My results reveal certain interesting points, and if corroborated by others might cause the present-day treatment of bilharzial ureteric disease to be reviewed.

While stricture or stenosis of the ureter is encountered in necropsy, this finding is very much less common than I originally expected. Gelfand (1947) reported a series of 10 consecutive necropsy cases affected by vesical bilharziasis and found only one stricture but many dilated ureters. In one of the three cases showing stenosis in this second series hydronephrosis was present. I do not state that stricture or stenosis is not serious and does not occur in practice or that cases of hydronephrosis due to it are not found. I have seen such cases, but I consider that they are comparatively rare.

My experience goes to show that dilatation of the ureter by the disease is far more common than stenosis or stricture. Such dilatation is usually associated with thickening of the wall of the ureter, which also becomes elongated and tortuous. This effect is usually well demonstrated radiologically. The functions of such a ureter will become impaired, peristalsis will be diminished or lost, and hence urine would not be properly propelled towards the bladder. As a result stasis will follow, and with it some degree of hydronephrosis. This may not be the only explanation of the hydronephrosis in cases showing only dilatation of the ureters. Another possible explanation for some of these cases may be a reflux of urine up an incompetent ureteric orifice during micturition, when the bladder actively contracts. Owing to the dilatation produced by the disease the sphincteric function of the intravesical portion of the ureter is lost or impaired. The hydronephrosis due to such loss of sphincteric function probably explains some of the cases of hydronephrosis seen in prostatic disease (Hughes, 1946).

The ureter when it dilates also lengthens and "unfolds" itself. This "unfolding" may cause the ureter in the paravesical portion affected to assume an S-shaped curve or kink, the simulating stricture. This was seen in one of 25 cases reported with dilatation of the ureter. The ureteric orifice protruded about 2 mm. beyond the

bladder mucosa. The orifice itself was dilated (6 mm.). The tube could be passed neither from below nor from above, and a stricture was held to be responsible for this. However, on opening the ureter the intravesical portion was dilated owing to disease, its circumference being 11 mm. as compared with 8 mm. on the opposite side. The intravesical portion of the ureter had elongated and hence its orifice protruded beyond the bladder mucosa; the rest of it had become "folded," so to speak, upon itself, causing an obstruction.

Recently Dr. N. Barlow, of the Southern Rhodesia Government Medical Service, was able to demonstrate such a reflux in one of my ward cases. The patient, an African male, passed ova of *Schistosoma haematobium* in his urine, and an intravenous pyelogram revealed a well-marked dilatation of the lower end of the right ureter. Dr. Barlow filled the bladder with "uropac" and then inserted the patient to empty his bladder. An x-ray film taken before and after micturition revealed that some of the dye had passed up the ureter from the bladder. In this case there was no evidence of a hydronephrosis on the affected side.

Summary

A series of 110 consecutive necropsies were performed on African adults found to have bilharzial disease of the bladder. In 25 cases the ureters were dilated by the disease. Stenosis or stricture of the ureter was found in three cases. Hydronephrosis was found in three cases showing dilatation of the ureters and in one of the cases affected by stenosis of the ureter.

Possible explanations for the hydronephrosis in the presence of dilated ureters are advanced.

I would like to express my thanks to Dr. R. M. Morris, Medical Director of Southern Rhodesia, for permission to carry out this investigation and to publish my findings. Dr. Graham White rendered invaluable assistance in the mortuary.

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Dr. Evang, Chief Medical Officer of the Norwegian Public Health Service, has recently been advocating health passports for all. Often when questioned by his doctor, the patient recalls a tuberculin test but cannot say whether it was positive or negative; his blood pressure was measured recently but he does not know what it was; he has undergone an abdominal operation but is blissfully ignorant of what it revealed. In the autumn of 1946, Dr. Evang set up a committee to study the whole problem of health passports. A year later this committee reported, and the type of health passport it recommends is issued as a supplement to the May 1 issue of *Tidsskrift for Den Norske Lægeforening*. It is a modest 16-page booklet measuring about 6 inches by 4 (15 by 10 cm.). Dr. Evang's committee recommends the issue of this booklet to everyone on leaving school. It is not necessary to provide a similar document for children because their ailments are recorded by the school medical service. The booklet provides a record of diseases in the family and of such children's diseases as whooping-cough. In it are also to be recorded height and weight; blood and urine tests; examinations of the eyes and ears; vaccinations against smallpox, diphtheria, tuberculosis (B.C.G.), and other diseases; doctors' reports and radiological examinations of the lungs; doctors' reports and hospital records with the name and address of the hospital and the nature of the disease for which treatment was given. Disabilities due to disease or injury are also to be entered in this miniature medical biography.

RECENT TRENDS IN TREATMENT OF PROSTATIC OBSTRUCTION*

BY

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The term "prostatic obstruction" implies a wide variety of underlying pathology. It is now generally accepted that the enlargement, whether due to a hyperplasia of pre-existing acinar tissue with an increase of fibrous tissue or to an adenomatous growth, occurs at the expense of the rest of the prostate, which is compressed into a false capsule of fibro-muscular tissue. A benign enlargement arises from the lateral lobes, the median lobe, or, as is most common, from the three lobes in combination, and thus may assume a variety of forms. A normal prostate weighs about 8 g., an obstructing prostate anything up to 200 g. and occasionally more. The so-called median-bar obstruction is not a true prostatic enlargement. It is a thickening of the posterior lip of the vesical outlet, frequently associated with a sclerotic internal sphincter. Another pathological variety is the calculous prostate. The calculi are generally in clusters, the collections varying greatly in size. Sometimes their total dimensions are such as to replace the glandular tissue completely. Finally, there is the malignant prostate, the characteristics of which vary from a small hard gland to that of an immense nodular enlargement.

Symptoms

With these varying types of prostatic pathology in mind, let us consider briefly the symptoms for which they are responsible and which cause the patients to seek advice. These symptoms are as variable as the pathology, but not very much related to it. All types tend to obstruct the outflow of urine. The bladder at first responds to this by a hypertrophy of its musculature, but, sooner or later, as a result of persistence or increase in the degree of obstruction, the hypertrophy is followed by a dilatation, the bladder is unable to empty itself, and a residual urine of variable quantity results. This in turn causes impairment in the renal function with subsequent dilatation in the ureters and renal pelves, as can often be demonstrated by intravenous pyelography. Into this picture infection is readily introduced—a complication with serious potentialities. It is these consequences of bladder-neck obstruction which are responsible for the symptoms. Increased frequency of micturition is a common but by no means constant symptom. For example, it is often absent in one of the most serious types of case—that of the man with an atonic distended bladder. When the obstruction is well established the frequency is due to the presence of a residual urine, which causes a diminished bladder capacity. In early cases, however, there may be frequency with little or no residual urine, and this is explained by the enlarged gland interfering with the mechanism of the internal sphincter—urine, in consequence, being constantly present in the posterior urethra; or the trigone may be elevated as a result of the increased size of the prostate and thereby under constant stimulation to initiate the act. Frequency may also be due to a coincident cystitis resulting from a urinary infection. It is noticed chiefly at night, interrupting sleep perhaps two or three times, and in advanced cases much oftener.

Difficulty of micturition is a variable symptom, and is in no way related to the size of the enlargement. There is often delay in starting the act, particularly at the initial morning effort or when the call to micturate has been too

long neglected. Such neglect may precipitate acute retention. Thus it is common to hear of attacks of retention following a motor run, particularly when the presence of ladies has prevented a self-conscious sufferer from seeking relief. Excessive drinking and exposure to a cold or wet atmosphere are other predisposing causes of retention, the superadded congestion of the already enlarged prostate resulting from these conditions being sufficient to bring about a complete hold-up. In the absence of retention, pain is not a prominent symptom unless a bladder calculus is complicating the picture, in which event interruption of the stream may be a feature. Such an interruption may also occur when a middle-lobe enlargement projects over the internal meatus. Haematuria, when present, is often associated with a massive soft, friable type of gland.

These symptoms are well known and make a potential diagnosis of prostatic obstruction fairly easy. There is, however, a syndrome that may easily be missed though the life of the patient affected is often in jeopardy. I refer to the man who has slowly developed an increasing degree of chronic retention. The process may have been so gradual that no alteration in the bladder function is complained of. Direct questioning may elicit the admission that there has been a loss of projectile force in the stream. There may be little or no nocturnal disturbance, but involuntary leakage during sleep is sometimes experienced. Advice is sought because of a persistently dry tongue and a constant thirst. There has been inability to concentrate, loss of weight, a poor appetite, increasing constipation, and the skin has a dry, yellowish colouring. These are uraemic manifestations, due to back-pressure effects of long standing from the distended bladder; but the symptoms are so suggestive of a gastric lesion or of chronic intestinal obstruction that the underlying cause is easily overlooked and time is wasted in referring the patient for investigation of his gastro-intestinal tract. When complaints of this nature are made by a man in the prostatic age group—and remember this may occasionally include those under 50 years of age—the abdomen should at once be examined for evidence of vesical distension.

Indications for Operation

Operations on the prostate are required not because of enlargement of the gland but on account of the necessity for relieving obstruction at the vesical outlet. The pathological conditions of the prostate might in themselves be regarded as trivial, but the effects on the urinary tract may prove disastrous. It follows, therefore, that it is the degree of obstruction present and not the size of the prostate that constitutes the chief indication for operation. In many, the need for operation is self-evident. Thus the patient who is subject to recurring attacks of retention, who has a persistent complete retention, or who has a chronic vesical distension obviously requires operation. So also does the man who experiences a delay in initiating the act of voiding and accomplishes it with difficulty and with diminished volume. It is less easy to dogmatize about the treatment of a patient with minor prostatic symptoms.

Men who have reached the prostatic age often seek advice because of some disturbance in micturition. They are aware of the prostate and the possibilities which may ensue from it. They wonder whether something needs to be done, as they are rising once or occasionally twice during the night and are experiencing a slight hesitancy in starting micturition. Rectal examination reveals a slight enlargement of the gland, but the bladder is being emptied except for an ounce or so of residual urine, which amount is obtained on catheterization immediately after voiding. It is quite unjustifiable to advise operation for these patients. They do not, and may never, require it. With all our

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advances in technique, prostatectomy by any method is not indicated as a prophylactic measure.

On the other hand, a patient in the early sixties with a diminished force in the urinary stream, a residual urine of 3 or 4 oz. (85-115 ml.) and well-defined enlargement of the gland, should have operation, though one in the late seventies with similar findings might best be left alone. The probable longevity with the younger age group is such that, the obstruction having established itself, it is likely to be progressive, and as operation is almost certain to be necessary sooner or later it is best that it should be done whilst he is a "good risk." The patients in the older age group should be kept under observation, and if an increasing degree of bladder distension takes place operation will be indicated irrespective of age. It is impossible to lay down hard-and-fast rules for these patients, and each must be judged individually. Some to whom I have recommended operation and who declined have, to my knowledge, carried on without added discomfort for years. Others whom I have advised that operation was not indicated have subsequently come under my care with retention. There is really no way of definitely predicting the future course of events following the commencement of early prostatic symptoms. A delay of six months or more before forming a conclusion will result in no harm to the patient, provided that damage to the kidneys is not occurring as a result of back pressure from an increasingly distended bladder.

Recent Innovations in Operative Treatment

The normal prostate is an extravascular structure. One that is enlarged is still so, though it may intrude into the bladder to a greater or lesser degree. In the case of the prostatic bar, the site of the obstruction is at the bladder neck. It is therefore not surprising that an extravascular approach through the perineum has vied for many years with an intravesical approach by way of the suprapubic route as a method of choice in operating for the relief of prostatic obstruction. It is also natural that instruments for excising the small amount of tissue which constitutes a prostatic bar should have been devised to give access to the obstruction by way of the urethra and that from these original prostatic-bar excisors an armamentarium has been developed which in trained and skilled hands makes possible the removal of a prostatic enlargement or a substantial portion of it. Thus during the past fifteen years or so the transurethral route has become a third recognized method of approach to the prostate.

The underlying motif that has stimulated differing operative efforts has been the need for a procedure which will give relief to a group of patients who, as a rule, are not ideal subjects for operation because of their age and the coincident cardiovascular, pulmonary, and renal pathology that frequently accompanies the prostatic lesion. It is an unfortunate circumstance that major surgical intervention requires to be carried out when degenerative changes have become established. I have never practised perineal prostatectomy, but have been an active exponent of the suprapubic operations, using the techniques of Freyer, Thomson-Walker, and Harris as these succeeded each other. I have also employed the transurethral method since its inception, but have tended to restrict its use to the smaller types of enlargement. One felt that every possible mode of access to the prostate had been explored and that good results depended on careful timing of operation after adequate preparation of the patient, particularly in regard to improvement of renal function; on selecting the approach most suitable to the variety of prostatic obstruction present; on perfecting one's operative technique and planning a careful regime of post-operative care. In latter years judicious use of the sulphonamides and penicillin has given further

aid. Of great importance also has been the help we have had from some of the newer methods of anaesthesia.

But urology, as an American colleague has stated, is dynamic specialty, and the search for still further improvements stimulated the ingenuity of Terence Millin (194, 1947) to devise yet a fourth approach. Two years ago he published his method of prostatectomy, for which he claimed not only a low mortality but also an absence of the variable difficulties, complications, and post-operative discomforts that may beset the other three methods, as well as a short confinement to bed and a rapid convalescence. Briefly, the technique is as follows.

The retropubic space behind the symphysis is exposed through a low abdominal incision, either transverse or vertical in direction. The prostate gland within its capsular coverings is defined below the bladder, cleared of overlying fat, and the capsule then opened by a transverse incision immediately distal to the bladder neck. The lower extremities of the lateral lobes are freed with scissors and the separation is continued with the finger, working from below upwards until both lateral lobes and the middle lobe, when present, are delivered into the wound, when the complete adenomatous mass can be readily detached. A wedge from the posterior lip of the vesical neck is now excised, this being an essential step in the operation to obviate stricture subsequently occurring at the vesico-urethral outlet. The cavity is carefully inspected, spurting vessels are caught in forceps and coagulated with the diathermy, and any small residual adenomata or loose tags removed with scissors so that a smooth surface remains. A catheter is then passed along the urethra into the bladder and the prostatic capsule is closed by catgut suture. Sulphanilamide powder is inserted into the retropubic space and the wound closed, a small drain of corrugated rubber being delivered through it. The drainage from the catheter must be carefully watched, particularly during the first six hours, to ensure that there is no blockage from clots. The patient is generally able to get up on the third or fourth day and to void urine on the fourth or fifth day, when the catheter is removed. The majority of patients are ready to go home within about a fortnight from the time of operation.

I can comment on this operation with some knowledge for I have personally employed it on 205 patients. Its execution is a more difficult technical undertaking than the suprapubic operation, but with experience it can be accomplished within 30 minutes and with little blood loss. The patient should have a painless convalescence with, in the majority of instances, no suprapubic seepage of urine at all. Included in my series are patients with serious cardiovascular lesions and permanent renal damage who would formerly have been regarded as unsuitable for prostatectomy. Seventy-five had passed their 70th birthday, 2 being between 75 and 83 years of age. In spite of including this "bad-risk" type of case, my overall post-operative mortality has been 7.2%.

Another new mode of procedure has been described by Wilson Hey (1945). His advocacy is startling, not so much because of his method of operation, which is through the suprapubic route, but because of the principles he enunciates, principles which condemn that which for many years has been regarded as dogma in the treatment of the prostatic. He advocates immediate prostatectomy on a patient with acute retention, and prostatectomy without preliminary drainage on the patient with chronic retention even if he be uraemic. Now, this latter group of patients is generally regarded with the greatest anxiety, as it is believed that the presence of renal impairment prostatectomy will aggravate the kidney failure. The renal function, it is considered must first of all be adequately restored by a preliminary period of bladder drainage, the indwelling catheter being employed for this if a week or two of drainage will suffice a suprapubic tube if more prolonged drainage is required. Hey, however, considers that these measures are potent means of introducing infection into the urinary tract.

adding a new infection, and it is this, and consequent pyelonephritis, that is responsible for the mortality. He therefore condemns the preliminary use of the catheter or suprapubic tube and, following such supportive and anti-septic treatment as the timing of his operation will permit, carries out a bimanual enucleation of the prostate by the suprapubic route, removing at the same time a substantial segment of the bladder trigone. The large cavity which is thereby left permits visualization of bleeding points, and meticulous haemostasis is obtained by diathermy of these. It is thus possible to close the bladder completely, after passing a tube down the urethra in a retrograde direction. Hey claims a low mortality, early ambulation, and a short stay in hospital for his method also. I have used his operation on 43 patients, selecting for the most part those suffering from chronic distension and consequent marked renal impairment. There were three post-operative deaths.

Hey has, I consider, certainly produced a strong case for his contention that the introduction of sepsis into the urinary tract and subsequent renal infection is a chief source of danger in prostatectomy. It is, however, difficult to admit his claim that it is, for example, safer to perform a prostatectomy on a man with uraemia, a gross urinary infection, and a severe secondary anaemia than to carry out the operation after these conditions have been righted, even though the time required to bring about the necessary improvements will call for preliminary drainage of the bladder.

Suprapubic Cystostomy

The establishment of permanent suprapubic drainage as a method of relieving prostatic obstruction is highly undesirable, and indeed must be regarded as a confession of failure. As a temporary measure to relieve acute or chronic retention, however, I consider the procedure still has a useful role to fulfil, particularly when there is gross renal impairment associated with severe secondary anaemia, or when a serious cardiac lesion is present which time and supportive treatment might improve. The drainage, by relieving the upper urinary tract of back pressure, will generally be followed by a betterment of the renal function. When this preparatory measure has resulted in the maximum improvement that can be achieved, the surgical attack on the prostate can be proceeded with. In some instances little or no improvement in the kidney function takes place. This may be because the kidney damage is so advanced as to be irreversible, or it may be due to compression of the lower ends of the ureters by the enlarged prostate. That this can happen may be demonstrated at operation, when following removal of the gland—usually one that is markedly enlarged—through the suprapubic route, urine can sometimes be observed gushing out of the ureteral mouths.

The optimum improvement likely to follow in those on whom cystostomy has been deemed expedient will occur in from one to three months. After that time there are but few who should not be offered operation. Some may be content to carry on with a permanent tube, but most will gladly accept operation, even if this is not without hazard, in preference to being relegated to that unhappy group of men, "the permanent cystostomized and abandoned prosthetic." There are, of course, those who develop urinary obstruction, who are already in a stage of terminal physical and mental dissolution, or who suffer from some other lesion of a mortal nature. The insertion of a suprapubic tube under local analgesia is all that is indicated as a means of easing their remaining days. Out of 310 operations for prostatic obstruction that I have carried out during the past two years, cystostomy was the sole procedure in 11. One patient with congestive cardiac failure died within 48 hours.

Eight lived for periods of one to six months and two still survive.

Treatment of Prostatic Carcinoma

The incidence of the malignant prostate is high, accounting for about 16% of all prostatic obstructions. Now, there are several ways of carrying out a radical operation for prostatic carcinoma, the perineal, retropubic, and suprapubic routes each offering an alternative method. Only, however, in the earliest cases will such operations hold out the prospect of cure. When the gland by its asymmetry, hardness, nodularity, or fixation is clinically recognizable as being malignant no radical operation can be offered. Into this group fall the large majority of patients suffering from prostatic carcinoma. The late Hugh Young (1945), of Baltimore, before his death published the results of his radical operation for the malignant prostate. These were on the whole excellent, the operative mortality being around 6% and a cure claimed for nearly 50%. One noted, however, that in the 40 years during which he had been carrying out the operation he had been able to employ it on only 184 patients.

I think the fact must be squarely faced that at the present time palliative treatment only is possible for the large majority. The outlook is brighter than formerly, however, as a result of oestrogen therapy, which is based on the knowledge that the cells of a prostatic cancer will atrophy if the supply of androgens is cut off. This process is achieved either by castration, which eliminates the main source of androgen, or by the administration of oestrogens or their synthetic equivalent, stilboestrol. The effect of oestrogen is to arrest the androgen output from the testicles by inhibiting the supply of gonadotrophin from the pituitary. Those of us who have been engaged in the clinical application of this treatment since its introduction recognize that it does not cure. From experience gained during the past five years I am not even prepared to state that it prolongs life, but it certainly eases it in a large proportion of sufferers. In those who are responsive to the treatment the nodularity and induration disappear in a matter of weeks, and micturition becomes easier and frequency less. Lumbar and sciatic pains, from which many suffer, disappear, and the patient generally has a new feeling of well-being. One patient, whom I saw for the first time after he had lost all power in both legs as a result of a metastatic deposit in the lumbar spine, was able to be up and about within two weeks of starting treatment, and now, after the elapse of a year, remains well enough to travel to his office daily. I have not obtained by the use of stilboestrol any measure of success in restoring normal micturition in cases with retention or severe obstructive symptoms, but a transurethral resection generally accomplishes this and obviates the necessity for a permanent cystostomy in the majority. Orchidectomy, the surgical method of reducing male hormone, is of proved value in the treatment of prostatic carcinoma and is probably quicker in action than the administration of oestrogens. The testicular substance from the body of each testicle can be readily shelled out through an incision in the tunica after delivering the testicles in turn through a small single incision made at the lower extremity of the scrotum. I generally employ the method if I require to carry out a resection for the relief of obstruction, performing the orchidectomy at the same time.

Thus my treatment at present for an established prostatic carcinoma is on the following lines. In the absence of obstructive symptoms, reliance is placed on stilboestrol therapy alone. The initial dosage is 5 mg. four times daily, this being continued until an adequate response occurs, when the amount is reduced to a level which appears to be adequate for control. About 3 mg. a day will generally

prove sufficient for this purpose. The optimum dosage has not yet been determined, but continuity of treatment is considered essential. When retention or severe obstructive symptoms necessitate a transurethral resection the opportunity is taken of removing the testicular substance and stilboestrol is withheld, to be used as a final measure if signs of reactivity manifest themselves.

Conclusion

The following table shows the different methods I have employed in a personal series of 310 consecutive operations for prostatic obstruction during the past two years:

Operations for Prostatic Obstruction, December, 1945, to November, 1947

Method of Operation	No.	Mortality
Retropublic prostatectomy	205 (7 2-stage)	15 (7.2%)
Prostatectomy by Wilson Hey technique .. .	43	3 (6.9%)
Suprapubic prostatectomy	10 (9 2-stage)	0 (0%)
Transurethral resection	41 (19 malignant)	1 (2.4%)
Suprapubic cystostomy	11	1 (9.0%)

It may seem strange that no single operation has been universally accepted as a standard method for the relief of prostatic obstruction. The variety of operative measures is, however, not so surprising if the varied prostatic pathology and the differing physical status of the individual patients is borne in mind. Because of this, I believe it is undesirable that one should be exclusively devoted to a single operation which all our prostatic patients must submit to.

Having served an apprenticeship in the surgery of the prostate, extending over a period in which many fundamental changes have been introduced in the surgical approach to this problem, I have learnt that one must not be reluctant to admit the necessity for change. Suggestions which do not accord with established ideas should be viewed critically, but not with distrust. If a new technique seems indicated the change must be made, even though a major effort is required to alter course and master its accomplishment.

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LOWER-SEGMENT CAESAREAN SECTION A NEW HEAD EXTRACTOR

BY

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Incision of the lower uterine segment for delivery was first proposed by Frank as long ago as 1907. It was not until many years later that it became a recognized procedure and its true advantages were realized. To-day these advantages have been proved. The lower-segment section, with its decreased maternal mortality and morbidity rates, has come to stay. Few classical operations are now performed in the world's great clinics, and some authorities have not performed one for many years. It may almost be said that, except in special cases, classical caesarean section should be regarded as malpractice. It seems surprising, therefore, that the technique of delivering the head in the so-called lower-segment operation is still far from perfect. This is shown by the many different methods in use to-day,

for in a tour of operation theatres each surgeon may be seen to use his own pet manoeuvres.

To my mind, delivery of the head has always been the most difficult part of the operation, especially for inexperienced surgeons. I have therefore tried to devise an instrument to simplify this procedure.

Methods for Delivering the Head

Several methods have been used for delivering the head—e.g., Willett's forceps, a single blade of the large obstetric forceps, Wrigley's forceps, small straight forceps, and the operator's hand. I submit that each of them has its disadvantages.

Willett's Forceps.—The obvious disadvantage of scalp traction with Willett's forceps is damage to the foetal scalp. This may not be severe, but it is a circumstance to be avoided if better methods are at hand. Sepsis of the scalp may follow and cases of *Clostridium welchii* infection with serious results have been reported. Furthermore, the lifting power on the foetal head, through the scalp, is not all that could be desired, and haemorrhage from the uterine incision cannot always be controlled by the upward pressure of the foetal head. Most operators have abandoned the use of Willett's forceps in favour of other methods.

Single Blade of Large Obstetric Forceps.—A single forceps blade is sometimes used as a lever to deliver the head. This method is unsatisfactory, as the lack of curve of the blade makes it extremely hard to introduce if the head is engaged. Again, if it can be introduced successfully the leverage is in the wrong direction, with resulting tears of the lower segment.

Wrigley's Forceps.—These are used by many surgeons at the present time. They are not completely satisfactory and are sometimes difficult to apply. The chief disadvantage is that haemorrhage may take place while the head is being manoeuvred into position and the forceps are being applied—a procedure that can take a considerable time even with an expert operator.

Small Straight Forceps.—Straight forceps are generally easier to apply than Wrigley's forceps, but the disadvantage mentioned above still applies. Small straight forceps are perhaps the best method of delivery in use at present, but they are still far from the ideal.

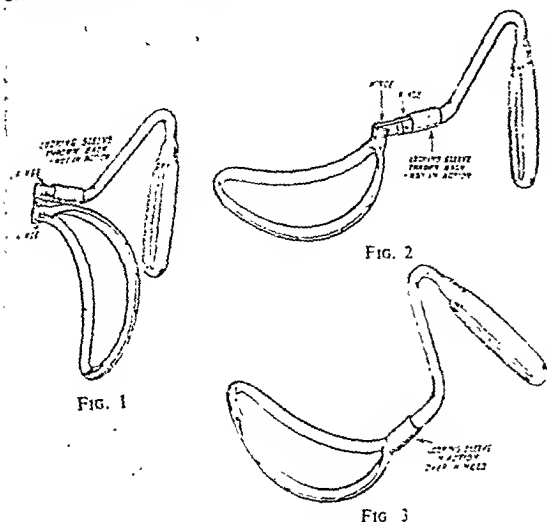
Operator's Hand.—Many operators use their hand to scoop the head out of the uterine incision. In my experience it is always necessary to introduce four fingers and the whole of the palm of the hand into the uterus to get below the foetal head. It is a "blind" method of delivery and serious tearing of the lower segment may result, endangering the uterine vessels, no matter how carefully the manipulation is done. To onlookers the method appears clumsy, and the unnecessary introduction of the whole hand into what may be the infected area offends the principles of surgery.

The Extractor

An instrument fashioned like a forceps blade, which curves round the foetal head just above the symphysis pubis and gently lifts the head out of the uterus, would, it seemed, be ideal. It was soon found that a blade with the correct curve and a fixed handle was impossible to introduce owing to contact of the handle with the anterior abdominal wall thrown forward by the pregnant uterus. A blade with a detachable handle was therefore made and it worked successfully. Finally, the instrument described below with a handle that folds back on a double hinge was designed.

The instrument consists of a single fenestrated blade the shape of which is very similar to that in the ordinary midwifery forceps, except for an exaggerated cephalic curve. Immediately at the base of the blade is a double hinge built into the normal diameter of the shaft connecting the blade to the handle. The shaft carries a sliding sleeve which by a simple movement covers and locks the double hinge, thus

converting the instrument into one piece and making the blade rigid with the handle.



Technique of Operation

The abdomen is opened by a subumbilical incision in the midline. A self-retaining retractor is inserted and the operation area packed off with a gauze roll in the usual way. A 2-in. (5-cm.) transverse incision is made through the uterine wall where the loose peritoneum is reflected from the bladder. The lower edge of the uterine incision is grasped with a vulsellum forceps and raised from the foetal head. With the handle folded back the curved blade of the extractor, lubricated with "dettol" cream, is introduced between the lower edge of the incision and the head. As it slides round the head the handle is straightened out and the hinge locked.

The assistant now takes the extractor in his left hand and gently lifts the foetal head against the uterine wall. The sucker in his right hand keeps the field clear of liquor. The surgeon now enlarges the incision at either end with scissor snips, at the same time applying fundal pressure with his other hand. There is usually no bleeding, but any vessels that are seen to be cut may be clamped with de Martel's forceps to forestall haemorrhage when the head is out. When the incision is large enough the head is slowly delivered by fundal pressure and the lift of the extractor. The operation is then completed in the usual manner.

Before labour, when the head is not engaged, the whole procedure is extremely simple. Under certain conditions modifications of the technique may be necessary. If during labour the bladder is raised on the lower segment the peritoneal reflection is incised separately and the bladder pushed down before the uterus is incised. If the head is deeply engaged in the pelvis it may be necessary to disimpact it by inserting two fingers into the uterus and pushing the head up before the extractor can be introduced. While the fingers are holding the head the extractor is introduced between the fingers and the lower edge of the uterine incision and slid into position before the fingers are withdrawn.

Once the extractor is in place the operator's difficulties are over. If the head lies in the transverse position it is turned to an occipito-anterior or, should it be easier, to an occipito-posterior position, when the foetal chin is slipped over the upper edge of the uterine incision and the head eased out with the extractor as a "face presentation."

Advantages of Extractor.—(1) The most striking advantage claimed for this instrument is the absence of haemorrhage during delivery of the head. Consequently the uterine incision can be enlarged bit by bit, the whole time under direct vision. The incision is therefore never made unnecessarily large. (2) Tearing the uterus should not occur, as delivery is slow and under complete control. Under these conditions unsuspected damage to the uterine vessels should be impossible. (3) If difficulty is experienced in turning the head it can be lifted out in any position. This is not possible when delivering with forceps, as they cannot be applied if the head lies in the transverse diameter. (4) The foetal skull is subject to a minimum of pressure, which is probably less than that of normal labour. Head injuries should therefore be extremely rare. This is not always so after a hurried delivery by the operator's hand or the small forceps. (5) With the use of the extractor the operation becomes a neat surgical procedure. This cannot be claimed for most other methods of delivery in use at present.

Discussion

The instrument has now been tested in over a hundred cases. When the head is not engaged it has been found universally satisfactory and easy to introduce. If the head is low a little practice is needed to introduce the extractor successfully, but it is found that the head can nearly always be raised enough to make this possible, though it may be necessary to enlarge the uterine incision. The extractor has not been tested in extraperitoneal section, as since penicillin has been in good supply I have not used this method, but it might prove a useful adjunct in this operation.

This report is published in the hope that the extractor will be tried out and improved by others, and that its routine use may simplify what most surgeons still regard as a difficult manoeuvre.

Summary

A new head extractor for low caesarean section is described. Other methods of delivering the head are discussed. The technique of using this instrument is described, with the modifications necessary in certain circumstances. Advantages claimed for the extractor are listed.

(The instrument was made by the Surgical Division of Allen and Hanburys (Africa) Limited, and will be obtainable through Allen and Hanburys, Wigmore Street, London.)

PAPILLOMATA OF BLADDER TREATED WITH PODOPHYLLIN PRELIMINARY REPORT

BY

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In 1942 Kaplan reported a series of cases of genital warts successfully treated with a suspension of podophyllin in mineral oil. The application of this drug to meatal and urethral papillomata revealed an apparent resistance of normal transitional epithelium to its caustic action; this suggested the possibility of its use in treating papillomata of the bladder. After a preliminary investigation a suspension of the drug in liquid paraffin was used in the following cases.

Case Reports

Case 1.—A man aged 73 had had haematuria for several months, which had been severe for the last 13 days. Cystoscopy showed numerous large papillomata involving the right

lateral and the posterior walls of the bladder, too extensive for perurethral fulguration. The general condition of the patient contraindicated cystostomy and open fulguration. Five instillations of podophyllin in liquid paraffin were carried out twice weekly in strengths increasing from 1 to 12%. During these applications the normal mucosa of the urethra and bladder showed no reaction to the drug. Haematuria ceased after the first instillation. After the fifth the growths had diminished in size to a small patch of sessile papillae above the right ureteric orifice, where it was easily fulgurated per urethra. After one year the patient has had no recurrence. The bladder and urethra show no ill effects from contact with the drug.

Case 2.—A man aged 30 had had haematuria on and off for three years with marked anaemia. Cystoscopy showed multiple papillomata involving the posterior and left lateral walls of the bladder, too extensive for perurethral fulguration. Histological section revealed benign papillomata. Four instillations of podophyllin in liquid paraffin increasing in strength from 1 to 8% were carried out in the course of four weeks. There was no reaction of the bladder or urethral mucosa as seen on cystoscopy and urethroscopy. After the fourth application the papillomata showed areas of sloughing and the growths were much diminished in size. The growths were completely cleared from the bladder after three fulgurations in the out-patient department.

Case 3.—A man aged 72 first noticed haematuria two weeks before I saw him. On cystoscopy a large papilloma about 2.5 cm. in diameter, as estimated by the scale on a ureteric catheter, was seen above the left ureteric orifice. Two instillations of podophyllin in liquid paraffin of 4 and 10% were carried out without any discomfort. Three weeks after the second application the tumour had shrunk enough to allow the growth to be fulgurated at one sitting.

Case 4.—A man aged 44 had had haematuria for three weeks. On cystoscopy a simple papilloma above the left ureteric orifice about 1.5 cm. in diameter was seen. In the out-patient department 5 ml. of podophyllin in liquid paraffin was instilled into the bladder. No discomfort resulted from the application. Three weeks later the papilloma had shrunk considerably and appeared much atrophied. The base was fulgurated per urethram.

Technique

The method that has evolved from the above cases is that at the end of diagnostic cystoscopy the window of the cystoscope is placed immediately over the growth and the bladder is emptied. Then 3 ml. of 0.5 to 1% podophyllin in liquid paraffin is introduced into the bladder through the instrument direct on to the papilloma. The telescope is then inserted to empty the sheath of the oil and for its withdrawal. The patient is turned on to the side on which the growth is situated and lies thus for half an hour, by which time urine will have collected in the bladder and will tend to float the oil off the tumour. In order to maintain the contact of the suspension with the papilloma the patient is turned on to the opposite side, and remains there for as long as possible. He is encouraged to empty his bladder when the urge arises, as a result of which nearly all the podophyllin will be expelled. Even if this expulsion is not complete the bladder mucosa is not apparently injured.

The initial minimal dose is used to test the susceptibility of the patient and the potency of the drug, the latter varying greatly in different samples. Provided no reaction occurs, an instillation of an effective dose of 5 ml. of 4% podophyllin in liquid paraffin is introduced through the cystoscope four to seven days later, the patient lying on alternate sides as before. A week later a third application is carried out through the cystoscope, using 5 ml. of 8% podophyllin in liquid paraffin. Further applications can be made depending on the size and extent of the growth. Perurethral fulguration is used to complete the destruction of the new growth.

Discussion

The commercial podophyllin powder is a mixture of resins produced from the American and Indian podophyllum rhizome by alcoholic extraction and water precipitation. Merck's *Index* states that the resin contains picropodophyllin, quercitrin, podophylloresin, and podophyllotoxin. The active principle of the cutaneous application has not been determined. Haber (1945) suggests that an alkaline secretion of the wart converts podophyllotoxin into podophyll acid, which coagulates the wart. Sullivan and Wechsler (1947) have caused the disappearance of the wart with filtered aqueous extract of podophyllin.

The mode of action is also debated. Culp and Kaplan (1944) suggest that degeneration is produced by spasm of the smaller vessels owing to irritation of the drug. Sullivan and Wechsler, investigating its cytological action on the growing root of the onion, found that it had a marked effect on the chromosomes of the nuclei, causing increased mitotic figures in the metaphase and later the decrease and complete absence of the anaphase and telophase figures. King and Sullivan (1947) showed that the action of podophyllin and colchicine on the skin was similar, causing varying degrees of destruction of cells, mainly in the deeper part of the prickle-cell layer, some being completely destroyed as shown by shrunken eosinophilic cytoplasm and pyknotic nuclei, while others reveal swollen basophilic reticulated cytoplasm, thickened cell membranes, diminished or absent intercellular bridges, peripheral or perinuclear vacuolation of the cytoplasm, and changes in the nuclei, which these authors interpreted as abortive and not as true variations of mitosis (so-called podophyllin cells).

The only warts that resist podophyllin are those which are extensively keratinized; it might therefore be expected that the delicate epithelium of a bladder papilloma would be affected by this drug. In three of the cases reported, the size and extent of the new growths would normally have necessitated open fulguration, but after a few applications of podophyllin they had decreased to a size that allowed them to be successfully fulgurated per urethram. The fourth case showed marked degeneration of the papilloma, so that the base alone required fulguration. There have been no immediate or remote ill effects following the application of this drug in those cases which have been observed for over a year, nor has there been any evidence on cystoscopy or urethroscopy of any reaction of the normal bladder or urethral mucosa. Colchicine is said to be superior to podophyllin in its action on the skin; but further investigation of this drug is required before extending its use. Other vehicles besides liquid paraffin have been tried with the object of improving the application of the suspension to the new growth, such as using an oil heavier than water, but without improving the results.

The results obtained by the application of podophyllin to papillomata of the bladder are encouraging enough to warrant a further trial of this drug or of drugs having a similar action (such as colchicine, auramine, urethane, and sodium cacodylate (Ludford, 1936)).

Summary and Conclusions

Four cases of papillomata of the bladder treated with podophyllin in liquid paraffin applied direct to the new growth through a cystoscope are reported and the technique is described. Three of these cases would have required cystostomy and open fulguration, but after a few applications of podophyllin the extent and size of the tumours had diminished so that they were successfully treated by perurethral fulguration. The fourth case showed marked atrophy of the growth, so that perurethral fulguration of the base of the papilloma was alone required.

The number of cases in which this method has been carried out is too small to allow any definite conclusions to be drawn.

CASE OF SARCOMA OF THE LARYNX

but the results appear to warrant further trial of this drug and those allied to it in action.

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CASE OF SARCOMA OF THE LARYNX

BY
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Tumours other than squamous-cell epithelioma of the larynx are rare. According to Havens and Parkhill (1941) 26 cases were encountered at the Mayo Clinic during a period of 30 years. These included four cases of sarcoma previously reported by New (1935). During that period 1,100 malignant and 722 benign tumours of the larynx were examined at the Mayo Clinic. Of the 26 malignant non-squamous-cell tumours 11 were cases of sarcoma, 8 of haemangio-endothelioma, 5 of adenocarcinoma, 1 of melano-epithelioma, and 1 of myeloma. Of the 11 cases of sarcoma 8 were diagnosed as fibrosarcoma, including fibromyxosarcoma. 2 as chondrosarcoma, and 1 as rhabdomyosarcoma. The ratio of all other types of malignant disease of the larynx to squamous-cell epithelioma of the same organ was 1:44, and the ratio of sarcoma to carcinoma was approximately 1:100.

This is at variance with Ewing (1928), who stated that sarcomas form about 11% of malignant laryngeal growths. Ewing added, however, that "many cases recorded as sarcomas are of epithelial origin." In Jackson and Coates' (1929) series of 643 malignant tumours of the larynx, one case of true sarcoma was found, and Thomson and Colledge (1930), in a wide experience, have seen only one case of sarcoma. Clerf (1946), from the Jefferson Hospital, Philadelphia, where, since 1930, 740 cases of carcinoma of larynx were seen, reported 8 cases of sarcoma (4 fibrosarcoma), and notes that 7 further cases have been added to the literature since Havens and Parkhill's report. A ratio of 1:100 of sarcoma to carcinoma is probably not far off the mark.

Sarcoma of the larynx is a localized tumour with little tendency to infiltrate underlying and surrounding tissues. It is very often pedunculated, but in some cases erosion of its surface is not observed. The sites of predilection of the surface can be observed. The sites of predilection of the surface of the larynx are the true vocal cords. Metastases are very uncommon, recurrences less so. The size of the tumour varies, but generally it is bigger than that of carcinoma. The symptom most frequently present is huskiness, and the mechanical obstruction causes dyspnoea only rarely.

In two out of the four cases described by Figi (1933) an emergency tracheotomy had to be performed. Dysphagia is rare except in cases involving the epiglottis or when the tumour occludes the hypopharynx. A history of influenza

or acute or chronic chest troubles immediately before the finding of a tumour of the larynx is often encountered.

Histologically, according to the presence of a variety of mesodermic structures, fibromyxosarcoma, chondrosarcoma, and rhabdomyosarcoma can be distinguished. In an irregular pattern of spindle or round cells arranged in cells can be seen. The blood vessels are often scanty and small. The cell nuclei are small and spindle-shaped, but in some tumours round nuclei can be seen.

The treatment is usually on surgical lines. According to the degree of differentiation of the tumour, and its cellular population, the question of post-operative or "radical" radiotherapy has to be considered. Simple punching of the tumour with direct or indirect laryngoscopy followed by electrocoagulation of the point of attachment of the tumour, although feasible in some cases, is not satisfactory. Laryngofissure is adequate even in cases in which on first inspection, the size of the tumour rules this procedure out.

The prognosis in sarcoma of the larynx is relatively good. Of the 11 cases of sarcoma at the Mayo Clinic (Havens and Parkhill, 1941) 9 were treated principally by surgical operation and 2 with radium—8 patients were alive and well (6 for more than five years), 2 died without recurrence, and 1 died with recurrence. In Clerf's series 2 were living for over five years, 3 died of intercurrent disease, 1 died of local recurrence and metastases in the lung, and 2 were observed for only a few months post-operatively.

Case Report

The patient was a man aged 66. On May 12, 1943, he reported huskiness of a few weeks' duration and some difficulty on swallowing since December, 1942. A smooth, mobile, semi-pedunculated wet-looking tumour, 0.8 cm. across, was found in the middle of the right true vocal cord. The movements of both vocal cords were normal and full. On June 1 the tumour was removed by diathermy (E.B.B.) and the piece sent for section.

The pathological report (E.S.D.) was "sarcoma, probably fibromyxosarcoma." This section was also seen by Dr. A. H. T. Robb-Smith, Radcliffe Infirmary, Oxford, who concurred in the diagnosis of fibromyxosarcoma. The patient was followed up, and was well until November, 1943, when, after a bout of influenza, he started complaining of huskiness again, and a small nodule reappeared in the middle of the right vocal cord, which was now limited in its movements. The tumour was hard and nodular, roughly circular, and measured 0.7 cm. each way. On Jan. 11, 1944, a laryngofissure was performed (E.B.B.). Post-operative deep x-ray treatment was given (B.J.). The section of the removed tumour was seen by Mr. D. Harmer and the late Dr. J. C. Mottram, of Mount Vernon Hospital, Northwood, who also concurred with the original report of fibrosarcoma. The patient was well on Jan. 11, 1948, and, except for slight thickening of the right vocal cord and anterior commissure, there was nothing abnormal in his larynx.

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Sponsored by the Mexican Government and the British Council. Dr. Luis Vargas is spending six weeks in Britain to study Mexican and neotropical mosquito and blackfly specimens in the Natural History Museum. Dr. Vargas is chief parasitologist in the medical science division of Mexico University Graduate School, and laboratory-of-entomology chief in the Institute of Public Health and Tropical Diseases.

Medical Memoranda

A Simplified Method for the Estimation of Chloroform in Blood

Small amounts of chloroform may readily be estimated by the colorimetric reaction with pyridine and caustic alkali (Fujiwara, 1914; Daroga and Pollard, 1941; Habgood and Powell, 1945). The normal procedure is to recover the chloroform from blood by steam distillation. This is time-consuming and requires ground-glass apparatus, which is now difficult to procure. The present method utilizes Conway's microdiffusion technique (Conway, 1947) and is both simple and rapid; 10 to 20 estimations may be performed in $1\frac{1}{2}$ to $2\frac{1}{2}$ hours, and require only 1 to 2 ml. of blood.

The principle is very simple. Undiluted blood is placed in the outer compartment of the diffusion cell and toluene in the centre compartment. The cell is sealed and, on standing, the chloroform distributes itself so that its vapour pressure in the blood, toluene, and air phases is equal; and, since the Conway cells provide a large liquid surface compared with the volumes used, this occurs rapidly. Now chloroform is some 100 times as soluble in toluene as in blood, so the vapour pressure of chloroform in toluene is $1/100$ that in blood; hence with the volumes used here about 96 to 97% of chloroform will be transferred to the toluene at equilibrium. At room temperature (20°C .) the equilibrium is 95% complete in 3 to 4 hours, but at 37°C . the equilibrium is 95% complete in 15 minutes, and 99% complete in 45 minutes if 1 ml. of blood is used; it is 80% complete in 15 minutes and 98% complete in 45 minutes if 2 ml. of blood is used.

REAGENTS

Toluene.—Pure toluene is shaken with concentrated sulphuric acid to remove thiophene, and then twice distilled, the middle fraction boiling at 115°C . being retained.

Pyridine.—Analytical grade or redistilled. It must be quite clear and colourless.

20% Sodium Hydroxide.

Diffusion Unit Fixative.—Five g. of gum tragacanth is ground with 70 ml. of distilled water to a smooth jelly and 25 ml. of glycerol is then added.

METHOD

Toluene 0.8 ml. is pipetted in the centre compartment of a standard Conway unit (obtainable from A. Gallenkamp, Ltd., Finsbury Square, London); 1 or 2 ml. of whole blood collected with suitable precautions (no oil in the syringe; narrow tubes filled to the top, and closed with a cork covered with silver foil) is rapidly pipetted into the outer compartment and quickly

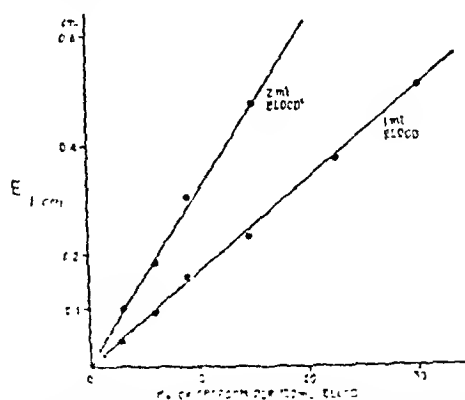


Chart showing that the intensity of the colour obtained (1-cm. cell) increases linearly as the concentration of chloroform in the blood is increased.

spread with the tip of the pipette. The cover, which has been impregnated with fixative, is applied and the whole unit placed in an incubator at 37°C . for 50–60 minutes. The unit is then removed from the incubator, uncovered, and 0.5 ml. of toluene from the centre compartment transferred to 5 ml. of pyridine in a test-tube. Now 2.5 ml. of 20% sodium hydroxide is added, the

tube is agitated and then placed in a boiling-water bath precisely 5 minutes. It is then cooled in iced water, and, cool, 5 ml. of the supernatant pyridine layer is transferred to a clean tube and 1 ml. of water added to remove the turbidity. The resulting purplish-red colour is stable for about one hour.

The colour is measured in a colorimeter with an Ilfo micro-3 green filter, setting to zero with a blank. The intensity of absorption is linear with concentration (see Chart). Normal 1-cm. cells are used, but for concentrations below 5 mg. per 100 ml., cells of 2 to 4 cm. should be used if available. The absolute values for the absorption vary somewhat with different batches of pyridine, but owing to the linearity of the absorptive curve the slope of the line can readily be checked by running a few standards.

RESULTS

Chloroform in blood can be estimated in concentrations 0.5 to 35 mg. per 100 ml., the concentrations likely to be found during and following anaesthesia, with an accuracy of $\pm 5\%$. The method is applicable without modification to estimations in urine, cerebrospinal fluid, and tissue extracts.

The method has also been applied to the estimation of trichlorethylene. The colour obtained here with pyridine-sodium hydroxide is orange-red, with an extinction approximately one-third that of chloroform. Since the concentration of trichlorethylene found in blood during anaesthesia is only 6 to 12.5 mg. per 100 ml. (Powell, 1945) the colours obtained are rather feeble and the use of 4-cm. cells is essential.

A. S. V. BURGEN, M.B., M.R.C.P.

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Similar Obstetric Behaviour in Identical Twins

Two primiparous identical twin patients were confined within three weeks of each other at the same hospital, both having extended breech presentation, failed version, and toxæmia. It may be of interest to publish the histories of these cases, if only as a "curiosity."

CASE HISTORIES

The patients were the only children of their mother and were stated to have been born three to four weeks early, with no history of maternal toxæmia, "about 7 lb. (3.18 kg.) the two," and "both in the same-afterbirth." An aunt of their father had had twins and their mother had a brother and sister who were twins.

In the present instance the patients were delivered of their first babies (one each) within three weeks of each other in the autumn of 1945. Both were referred to the hospital antenatal clinic five weeks before term (as calculated) with extended breech presentations, right sacro-anterior, confirmed by x-ray examination, each breech being deep in the pelvis. X-ray examination also showed normal shapes of the pelvic brim. In each case, a week later, version under general anaesthesia failed. The first started in labour two days and the second nine days after attempted version. Both had uneventful extended breech deliveries with episiotomy, the one baby weighing 4 lb. 14 oz. (2.21 kg.) and the other 4 lb. 2 oz. (1.87 kg.), being three and four weeks premature respectively. The babies went home when 5 lb. (2.27 kg.) in weight, being breast-fed three-hourly, and both mothers had normal puerperia.

When first seen at the clinic both mothers had blood pressures of 140/90. A week later the first was admitted with toxæmia, B.P. 160/100, but no albuminuria; this settled with rest. The second rested at home on account of a B.P. of 145/100 (after version) and was readmitted a week later in labour, with B.P. 150/105 and albuminuria. Both patients had had scarlet fever at the age of 6 and were of stocky build (height 5 ft. 2 in.—157 cm.), as was their mother. Menses were regular 5/28 in both cases.

At the postnatal clinic (both failed to attend at the routine date!) the blood pressures were 160/90 and 150/100. They had no symptoms nor albuminuria and had each put on 2 stone (12.7 kg.) in weight nine months after delivery. Menses subsequently started again three and five months post partum.

I wish to thank Mr. Bryan L. Jeaffreson, consultant obstetrician, and Dr. James W. Affleck, acting medical superintendent, St. Mary's Infirmary, Leeds, for permission to publish these cases.

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in medicine and surgery. This book accords with American concepts of the scope of physical medicine, which do not always coincide with ours. There is some repetition in the various chapters, and we should have welcomed articles on diagnosis and on the use of physical medicine in gynaecology and obstetrics.

W. TEGNER.

CARDIOLOGY ATLAS

Atlas of Cardiovascular Diseases. Correlation of Clinical Electrocardiography and Cardiac Roentgenology with Clinical History and Autopsy Findings. By Irving J. Treiger, M.D. (Pp. 180; 69 plates containing 244 illustrations; 11 in colour. 50s.) London: Henry Kimpton. 1947.

Cardiology is suitable for presentation in atlas form because the clinical and instrumental methods used are often complementary and the data they provide may be pieced together to establish the diagnosis. In this book Dr. Treiger is concerned principally to relate clinical, radiological, and electrocardiographic methods to necropsy findings. In the opening section he illustrates the normal heart, and he shows that there is no better way of demonstrating the significance of screening appearances in terms of the heart's anatomy and the cardiographic patterns depending upon the lie of the heart, its posture, rotations, and displacements. The photographs of specimens of morbid anatomy are clear, but the dozen or so coloured plates are on the whole less satisfactory. In a section on arteriosclerotic heart disease illustrations of opened hearts show at a glance how the position of a cardiac infarct is signified by special serial changes in the electrocardiogram and the corresponding radiographic configuration.

Each electrocardiogram includes a tracing from "lead IV" in addition to the usual limb leads. The chest lead is at the apex, but the author does not state whether the lead is C or F or V. Additional precordial leads would have provided information of interest in some of the cases. This work has obviously been planned chiefly to demonstrate common conditions; it is therefore a pity that congenital lesions are less well presented than others, now that diagnosis is becoming more precise and the scope of surgeons greater.

K. SHIRLEY SMITH.

SURGERY FOR STUDENTS

Textbook of General Surgery. By Warren H. Cole, M.D., F.A.C.S., and Robert Elman, M.D., F.A.C.S. Fifth edition. (Pp. 1,160; 558 figures. \$11.) New York: D. Appleton-Century Company. 1947.

There is no doubt that this is a very good textbook of surgery. In its fifth edition there are all the changes and additions necessary to bring the subject up to date. It is written for the undergraduate student, yet will surely be used also by post-graduates, practitioners, and practising surgeons. A feature which commends it to the latter classes of reader is the references to original papers on debatable and new aspects of surgery.

English students will want to know if it will serve their purpose as an undergraduate examination book. Like many of the books they are accustomed to read it is by a number of authors. This has the great advantage that we can rely on finding the opinions of authorities on any particular subject; on the other hand the writing and exposition are of uneven quality. All writers have not the same power of emphasizing the important facts and presenting them in a balanced way. Nothing could be more lucid than Ewart Graham's account of thoracic surgery, but other sections—for example, that on urinary diseases—are not treated as fully as our students are accustomed to. The new chapter on surgical convalescence is a welcome addition. Then again dualism is helpful in teaching the novice. Some of the authors here are almost hesitant, or at least unobtrusive, in their recommendations (as deep thinkers and great experts often are). Frequently they evade deciding on the best line of treatment by referring to the original sources. Perhaps the average American student is more apt than the British to consult original papers and monographs. The many illustrations are good and the layout of the book is excellent.

C. A. PANNETT.

BOOKS RECEIVED

[Review is not precluded by notice here of books recently received.]

The Treatment of Malignant Disease by Radium and X-rays. By Ralston Paterson, M.C., M.D., F.R.C.S.Ed., D.M.R.E., F.F. (Pp. 622. 45s.) London: Arnold. 1948.

The principles and practice of treatment as carried out at the Radium Institute at Manchester.

The Economics of the Just Society. By Griffith Evans, M.A. D.M., F.R.C.S. (Pp. 71. No price.) Caernarvon: Gwyllyn. 1947. An essay on economics.

Food Policy is Health Policy. By Griffith Evans, M.A., D.M. F.R.C.S., D.O.M.S. (Pp. 43. No price.) Cardiff: The Castle Books. 1948.

Notes on nutrition, the use of town refuse as fertilizer, and the Health Act.

Industrial Medicine. By T. A. Lloyd Davies, M.D., M.R.C.P. (Pp. 244. 15s.) London: Churchill. 1948.

An introduction intended for students and nurses as well as medical practitioners.

Memoirs of an Army Surgeon. By J. A. R. (Pp. 354. 15s.) London: Blackwood. 1948.

Stories of the author's activities during the recent war.

Veterinary Education. By W. I. B. Beveridge. (Pp. 40. 1s. 6d.) Cambridge: University Press. 1948.

A lecture reviewing veterinary education in Britain and abroad.

Into the Atomic Age. By Chapman Pincher, B.Sc. (Pp. 158. 9s. 6d.) London: Hutchinson. 1948.

An account of atomic energy for the layman.

Surgical Pathology of the Mouth. By E. Wilfred Fish, C.B.E., M.D., Ch.B., L.D.S., D.D.Sc., D.Sc., F.D.S.R.C.S. (Pp. 463. 50s.) London: Pitman. 1948.

Intended to supplement general textbooks of dental pathology.

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Surgical Urology. By G. de Illyés, M.D. 2 vols. (Pp. 679. 63s.) London: Constable. 1942.

A textbook with operative details by the Director of the Clinic of Urology in the Hungarian Royal Péter Pázmány University, Budapest.

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Oral Vaccines and Immunization by Other Unusual Routes. By David Thompson, O.B.E., M.B., Ch.B., D.P.H., et al. (Pp. 329. 42s.) Edinburgh: Livingstone. 1948.

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Klinik und Therapie der Leptomeningitiden. By Hermann Czickeli. (Pp. 95. 20 schillings.) Vienna: Wilhelm Maudrich. 1948.

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THE EPIDEMIOLOGY OF YELLOW FEVER

In spite of the general interest aroused by many of the medical discoveries which were made during the war, few troubled to speculate how it was that Allied operations were never impeded by outbreaks of yellow fever. This freedom from yellow fever was the more remarkable, for never before in the history of the world have so many potentially susceptible European soldiers had to campaign in lands where yellow fever is endemic.

The yellow fever zone in Africa is now known to extend from the southern border of the Sahara to the Barotseland, and from the Atlantic seaboard to the shores of the Red Sea and Indian Ocean. The East African campaign was thus fought out within the endemic yellow fever zone. Many hundreds of thousands of Allied soldiers and airmen tarried unwillingly in Freetown harbour, and at any rate in the earlier years of the war had ample opportunity of confirming the fact, originally demonstrated by Boyle¹ in 1831, that there was no berth in the harbour where one could be free from the ubiquitous mosquito.

From 1940 onwards the air route eastwards from the Gold Coast was one of the Allies' main lines of supply first for the Middle East and later for India and the Far East. To guard this air line as well as to train the junior of a million West Africans who voluntarily enlisted in the Armed Forces some fifty thousand Europeans from the Navy, Army, and Air Force spent a part of their war service in West Africa. Among all these troops—British, French, American and African—there were but four cases of yellow fever—one in an African sailor on the Gold Coast and three in European soldiers in Sierra Leone. Two of the four had almost certainly escaped inoculation against yellow fever. This freedom from yellow fever ever to the disappearance of the disease from Africa. In 1940 there occurred the largest epidemic of yellow fever ever recorded, an outbreak in the Nuba Mountains in the Anglo-Egyptian Sudan involving probably some 30,000 Sudanese. Smaller epidemics also broke out in Spanish and Portuguese Guinea, though of the latter no clear account has been published. Sporadic cases likewise were seen in Gold Coast and Nigeria, while immunity surveys among young children and monkeys indicated that the disease was in fact widely distributed during the years of war. The freedom of the armed Forces from yellow fever must be attributed to the fact that they were very carefully and systematically immunized against the disease. At the same time immunization was also extended to civilian populations in areas where the new knowledge of the

epidemiology of yellow fever indicated that outbreaks might be specially dangerous to the war effort.

The epidemiology of yellow fever in its broad lines is now clear. The fact that the disease is transmitted from man to man by the stegomyia mosquito *Aedes aegypti* is seen to be only part of the picture. Yellow fever both in Africa and South America appears to be primarily an enzootic or in many cases an inapparent infection of monkeys, transmitted from one animal to another by forest-dwelling mosquitoes. Occasionally an infected monkey mosquito may bite a human being, or an infected monkey approaching human habitations may be bitten by a house-haunting *Aedes aegypti*. If the latter mosquito is common in a village a typical *Aedes aegypti* outbreak may follow, provided a high proportion of the population is not already immune.

The role of monkeys in the spread of yellow fever was first suspected by Sir Andrew Balfour² in 1915, but it was not till 1936 that both in South America³ and in Africa⁴ primates were shown to be immune to the disease. Since then monkeys have been found with immune bodies in many countries of Africa. Durrant *et al.*⁵ for instance, have reported that a high percentage of the baboons on the north bank of the Gambia River are immune. As hordes of three to four hundred baboons not infrequently raid the unfortunate Gambian's farm, this monkey may well be responsible for maintaining infection in this area. In Uganda the lowland colobus monkey, *Colobus polykomos vellensis*, is probably the main species involved in the monkey-to-monkey yellow fever cycle in the uninhabited forest areas, while *Cercopithecus nictitans* plays an important part in bringing the virus into close contact with man.⁶ In Barotseland and Northern Bechuanaland, however, no infected monkeys have been found.⁷

In South America the oecological picture differs again. Thus in an endemic area in Brazil the marmoset *Callithrix penicillata* has actually been found infected on four occasions at a time when an epizootic was occurring among these animals.⁸ In Colombia the squirrel monkey, *Saimiri sciureus caquetensis*, is the most susceptible to yellow fever, except in a few areas where its place is taken by the marmoset *Oedipomidas oedipus*.⁹ The evidence that marsupials play a part in maintaining infection is less complete.

It seems that the mosquitoes involved also differ in different areas. Lewis,¹⁰ for instance, divides the Anglo-Egyptian Sudan into a number of oecological zones with differing mosquito faunas. Around Malakal, Kaka, and possibly Tonga, on the direct air line from Alexandria to the Cape, *Taeniorhynchus africanus* appears to be the probable vector, for *Aedes aegypti* has been found there or control for many years, and none has been found there in the surrounding country. Yet yellow fever has undoubtedly occurred in this area in recent years.¹¹ In the Nuba mountains during the great epidemic of 1940 infection was transmitted from man to man probably by *Aedes metallicus*.¹² In Uganda, in the forest region, the most likely vector is the mosquito *Aedes africanus*, whose favoured habitat is in the upper foliage of trees. *Aedes africanus* is a crepuscular or night feeder, and transmission

of the infection to monkeys probably occurs at night when the animals are asleep rather than during the day. In East Africa man is rarely if ever infected in the forest after nightfall. Human infections in Uganda probably result from a secondary cycle in which *Aedes simpsoni* functions as a vector. This mosquito is a plant-axil breeder and is found principally along the edges of forests and about human habitations.¹³ Presumably *A. simpsoni* initially acquires the infection from marauding monkeys, but thereafter the virus may be transmitted from man to man through the medium of this mosquito.

In West Africa, where the extent of tropical rain forest is now somewhat limited, man would seem to be very rarely infected in the forest at night. Infection probably occurs more commonly through infected monkeys raiding farms in the vicinity of villages and thus passing on the infection to *Aedes aegypti*, which exists in most West African villages. In South America the virus, according to Laemmert and his colleagues,¹⁴ crops up in different places by direct extension through the forest zone. The haemagogus mosquito is the principal vector, and as it is a day feeder woodcutters and others who visit the forest are the victims. Very occasionally *Aedes leucocelaenus* may transmit infection.

The whole problem of the epidemiology of yellow fever has been complicated by the fact that virucidal bodies have been found in the sera of certain animals which there is good reason to think have never been infected with the yellow fever virus.¹⁵ In addition to cows and sheep, the sera of certain rodents have been found, both in Africa¹⁶ and in South America,¹⁷ to neutralize the yellow fever virus. Of 1,794 rodents tested in one endemic area in Brazil 449, or 25%, were positive, but, contrary to what would be expected of an acquired specific immunity, the proportion of positive reactors did not increase with age.

A further complication is the finding of virucidal bodies in the blood of certain birds in West Africa,¹⁸ in an area of South Africa⁷ where primates gave negative results, and in Brazil.¹⁴ Of 114 birds examined in Brazil the blood of 3 inactivated virus, in South Africa 2 of 6, and in West Africa 4 of 40. Laemmert and Moussatché,¹⁷ working with laboratory strains of yellow fever virus, have found that it will circulate in the blood stream of birds for several days after injection, but attempts to infect birds by mosquitoes have not been very successful. Elucidation of the origin and nature of these virucidal bodies, which are not found in every specimen but in only a small percentage of certain species of animals and birds, is a matter of considerable importance not only for the epidemiology of yellow fever but for the study of virus diseases in general.

¹ A Practical Medical-Historical Account of the Western Coast of Africa, 1831. S. Hildesley, London.

² Trans. roy. Soc. trop. Med. Hyg., 1915, 2, 75.

³ Soper, F. L., Quart. Bull. Hlth Org. L.N.O., 5, 19.

⁴ Forday, G. M., et al., Trans. roy. Soc. trop. Med. Hyg., 1936, 29, 419.

⁵ Brit. Soc. Path. exot., 1947, 40, 111.

⁶ Hildesley, A. J., et al., Trans. roy. Soc. trop. Med. Hyg., 1947, 40, 677.

⁷ South African Institute for Medical Research, Annual Report for the Year 1946-47, p. 21. Johannesburg, 1947.

⁸ Laemmert, H. W., Jr., and Ferreira, L. de C., Amer. J. trop. Med., 1943, 23, 227.

⁹ Buzz, M., Secret. Monthly, 1946, 63, 42.

¹⁰ Bull. Int. Fed., 1947, 27, 543.

¹¹ Forday, G. M., et al., Ann. trop. Med. Parasit., 1941, 35, 121.

¹² Forday, G. M., et al., 1941, 37, 65.

¹³ Forday, G. M., and Hildesley, A. J., Amer. J. trop. Med., 1946, 26, 261.

¹⁴ Bull. Int. Fed., 1947, 27, 543.

¹⁵ Forday, G. M., et al., Trans. roy. Soc. trop. Med. Hyg., 1941, 35, 51.

¹⁶ Forday, G. M., and Cockburn, T. A., Nature, Lond., 1943, 152, 245.

¹⁷ Laemmert, H. W., Jr., and Moussatché, H., J. infect. Dis., 1943, 72, 228.

GOLDEN JUBILEE OF R.A.M.C.

This week the R.A.M.C. celebrates the Golden Jubilee its foundation in 1898, when Queen Victoria signed a royal warrant stating: "Our Will and Pleasure is that the officers below the rank of surgeon-major-general serving in Our Army Medical Staff shall be formed into corps, together with the warrant officers, non-commissioned officers, and men of Our Medical Staff Corps; it is Our further Will and Pleasure that the designation 'Medical Staff Corps' shall be abolished, and that the corps formed as above-mentioned shall be styled 'The Royal Army Medical Corps.'" Before the standing Army was raised in 1660 medical men engaged in warfare were the personal attendants of high officers. In that year the few medical officers and orderlies incorporated in the Regular Army wore the uniforms of their regiments, and except for some garrison and general hospitals the medical service was regimental. Apothecaries and a number of lay officers for administration and supply swelled the ranks, but the medical arrangements in the field were often disorderly, though during the Napoleonic wars the sick and wounded received considerably more attention than formerly. Not until 1854 was the Hospital Conveyance Corps formed—solely to evacuate the wounded. It proved to be a failure in the Crimean war, chiefly because it consisted of old and feeble pensioners, and it was incorporated in the Land Transport Corps the following year, thus in effect being a predecessor of that part of the R.A.S.C. that has always co-operated so well with the R.A.M.C. In 1855 the Medical Staff Corps was created by royal warrant; its personnel had neither military titles nor badges of rank, and the sole officer appointed to it (a regimental officer) lived at the depot at Chatham. Naturally enough, this corps was not a success either, and two years later the Royal Will and Pleasure ordered the Army Hospital Corps to be raised forthwith. Its ranks were serjeant-major to private, and were filled chiefly by volunteers from the line and from the Medical Staff Corps. Subsequently some medical and other officers were appointed to it, though their duties were strictly limited. Only inferior medical men presented themselves for service in the Army,¹ and a B.M.A. deputation therefore waited on Lord Lansdowne on Jan. 20, 1898, to advocate the formation of a medical corps with proper ranks. He welcomed the proposals, and the royal warrant appeared on June 23.

It is sometimes said that the Forces' medical services developed as man became more humane. There is little evidence that he has, and in any case there were other more important causes of their growth. Healthy soldiers fight better than ill-nourished and diseased men inspired only by enthusiasm for fighting. Morale is better sustained when men know that they receive early treatment if they are wounded and that they have a high chance of recovery; and the healed can be returned to battle or some other war-winning occupation. Moreover, medicine itself has developed so much in the last 50 years that it is now indispensable for waging war efficiently. A century ago military surgeons could do little to help the sick and wounded

¹ British Medical Journal, 1898, 1, 236.

² Ibid., 1947, 2, 219.

³ Jubilee Scrapbook of the R.A.M.C., 1948. Aldershot: Gale and Polden.

except ease their pain, and any advice they might offer to the fighting men could not have been of much use. Now, even before the modern soldier engages the enemy, he is a highly finished product of medicine's art. Fed on a diet precisely balanced by the dietitians, immunized against typhoid, paratyphoid, tetanus, and smallpox, and possibly cholera, yellow fever, and typhus, dosed with mepacrine, smeared with anti-mosquito cream, the nausea of sea and air travel mitigated by hyoscine hydrobromide, he enters battle in the perfection of health. Physiologists and psychologists have designed his personal equipment, the cockpit of his aeroplane or tank, and his breathing apparatus under water. The R.A.M.C. brings its skill and equipment into the front line beside the fighting soldier; by treating him as soon as possible after he is wounded, and at every stage of his evacuation to the rear areas, it has greatly increased the likelihood of his survival. Fifty years ago a perforating abdominal wound on the battlefield was usually fatal; in the 1914-18 war the overall mortality was 70-75%, and in the recent war about 50%.² Chemotherapy played a large part in reducing the 54% mortality of thoracic wounds in the first world war to 5.7% in the second.²

As medical men we can only be appalled at the tragedy of our art being applied to such ends, at "the expense of spirit in a waste of shame." But when war has been inflicted on us the R.A.M.C. has never ceased to maintain its reputation for skill, courage, and compassion whether in a muddy ditch or a fully equipped base hospital. Its personnel have now to advance its great tradition under the critical eyes of a largely conscripted Army in peacetime, and Queen Elizabeth, their Colonel-in-Chief, who visited the depot at Crookham on June 23, has said in her message to them: "I know that the Royal Army Medical Corps will carry out this new task with the same success as they have accomplished those given to them in their long and distinguished history."

ARTIFICIAL LIMBS

The Ministry of Health has decided that patients in the National Health Service requiring artificial limbs will have to obtain them from the contractors to the Ministry of Pensions. It appears that there are only two firms who have contracts with the Ministry—one for supplying artificial upper limbs and the other for lower limbs. A surgeon who amputates a limb will have to send his patient to a Ministry of Pensions hospital for prescription of the artificial substitute. It is also intended that the patient requiring amputation should have this done at a Ministry of Pensions hospital if possible.

As was stated in the Departmental Report¹ issued in 1945, the Government is entitled to say that limbs the cost of which is met wholly or mainly from State funds should be obtained from their own suppliers. But it was also stated that "no action should be taken by the Government which would have the effect of gradually forcing out of business those firms which do not supply the Government." The Report was, of course, issued at a time when the National Health Service was in embryo, but after July '5 every amputee in the country will have the right to obtain an artificial limb from the Government. The

effect of the decision to grant a monopoly for the supply of limbs, therefore, will be to drive private firms out of business, an effect contrary to the advice of the Ministry of Pensions Committee in 1945. We understand that one well-known firm that has made substantial contributions to the design of artificial limbs has decided to close down its artificial-limb department. The business side of this matter is no concern of the medical profession, but we are concerned with the dangers of a monopoly. As Professor H.J. Seddon points out in a letter to *The Times*,² referring to the work of the Departmental Committee, of which he was a member, "many of us thought that the Ministry contractors had become stuck in a groove—and this indeed proved to be the case." Professor Seddon adds: "It seemed only reasonable that our maimed people were entitled to all the benefits flowing from continued inventiveness and enterprise." If there is to be a Government monopoly of artificial limbs will there be the stimulus to continued improvement of design so essential if the maimed are to be enabled to undertake productive work in the most efficient way? We hope that the Ministry of Health will have second thoughts on this difficult problem, which might well be considered by the British Orthopaedic Association as an organization best qualified to give authoritative advice.

PROFESSOR MAX NEUBURGER

This week sees the end of the long association between this country and a celebrated medical historian, Professor Max Neuburger, who is leaving these shores for the United States, where he will spend his retirement. Max Neuburger was a distinguished neurologist before he became widely known as a medical historian, but it is in the latter role that his scholarship has established for him a permanent place in medical literature. Professor Neuburger was born in Vienna in 1868 and graduated as a doctor of medicine in 1893. Thereafter he held posts in the Rudolfspital and in the Allgemeine Poliklinik in Vienna. He gradually established himself as a painstaking and learned neurologist in his native city. In 1898 he came under the influence of Puschmann, and from then on he devoted much of his leisure to the study of the history of medicine. He became professor extraordinary in 1904, and from 1917 onwards he was Professor of the History of Medicine in the University of Vienna. The Vienna Institute for the History of Medicine, which he founded, remains a permanent memorial to his great work in this field.

During this Viennese period numerous publications showed evidence of Professor Neuburger's industry and scholarship. One of his earliest contributions was on the historical development of the experimental work of Flourens on the brain and spinal cord, and among other important papers which he wrote at that time are those on the early history of antitoxin therapy of the acute infections, and on the Spanish humanist, Luis Vives. One of the standard works on the history of medicine was Puschmann's "Handbook," and in 1902 Neuburger in collaboration with Julius Pagel, of Berlin, edited a new and much improved edition in three large volumes. This co-operative work of a number of authors retains its place as a standard text to this day.

Professor Neuburger was himself at this time engaged in writing a history of medicine, and this work appeared at Stuttgart between 1906 and 1911. The first volume of an English translation was published by the Oxford University Press in 1910 and the first part of the second in 1925, but it was never completed. The book is marked by sound scholarship and a familiarity with the earlier periods of medical history which is now much more rare than it

¹ Artificial Limbs: Report of the Departmental Committee appointed by the Ministry of Pensions. H.M.S.O. 1945. Price 4d.

² *The Times*, June 15, 1948

was. All those who have used this valuable book will appreciate the wealth of information which cannot readily be obtained elsewhere. After the publication of this monumental work Professor Neuburger communicated many other articles to the journals. He also produced monographs on Johann Christian Reil (1913), on Old Vienna medicine (1921), and the standard biography of Hermann Nothnagel (1922).

Soon after the Germans occupied Austria in 1938, Professor Neuburger came to Great Britain, and for the last nine years he has been on the staff of the Wellcome Historical Medical Museum. During these years he has contributed largely to the current literature on the history of medicine, and he has published a book on *British Medicine and the Vienna School* in which he expresses on every page his conviction of the importance of the work done by British physicians and surgeons during the eighteenth and nineteenth centuries, and his gratitude to the country of his adoption. In his more recent papers he has given an account of some great Irish physicians and of the contributions made to British industrial medicine by Charles Turner Thackeray (1948). Now, when he is approaching the advanced age of 80 years, he once again sets out for a home in another land. He will spend his retirement with one of his sons, who is a medical practitioner in Buffalo. Medical historians all over the world, and indeed the medical profession at large, will unite in wishing Professor Neuburger many more years of active work in the specialty which he has so brilliantly adorned and in hoping that in his new home he will find congenial surroundings and new friends to augment the roll of those who have been indebted to him in the past.

VIRUS HEPATITIS WITH A HIGH MORTALITY

Infective hepatitis has long been known as an important disease in military medicine, but it is doubtful if it has ever been such a serious problem as it was in World War II. Both the epidemic disease and the hepatitis associated with the inoculation of blood or blood products caused such a loss of man-power that research was undertaken in several theatres of war in an attempt to solve outstanding aetiological questions. Although no experimental animal susceptible to infection with the responsible viruses has been found, experiments on human volunteers have confirmed a number of epidemiological observations on the incubation period and the possible mode of spread. In the majority of cases the incubation period is between 15 and 35 days. Experiments indicated that the virus may enter the body through the alimentary tract, but many observers have failed to obtain evidence of such a mechanism and consider that infection by the nasopharyngeal route is more likely.

In limited trials injection of the gamma globulin fraction of certain large pools of human plasma appeared to give some protection provided the individuals were inoculated within a week of exposure to infection. With the slender amount of knowledge available, however, attempts to control the disease under battle conditions met with little success.

As a rule this disease is relatively benign; many patients never consult a doctor, and large-scale inoculation of immune globulin would not appear to be warranted. The mortality rate is usually about 0.2. However, from time to time the disease assumes an extremely virulent form. This may be attributable to local conditions such as dietary deficiencies, as in the outbreak among Brazilian soldiers infected with an heterogenic (serum-containing) virus in Brazil, where the fatality rate was 2.4.¹

Among Africans, also, rates of 3.0 and 6.1% have been recorded.² In an investigation of jaundice in pregnant Nixon³ and his co-workers concluded that the severity of the disease when due to virus infection depended on the state of nutrition of the mother. A recent report by Sherlock and Walshe has a bearing on this aspect of the problem.⁴ These workers examined specimens taken at liver biopsy from 21 individuals who had been living about a year on a diet low in protein, and that mainly of vegetable origin. They conclude that a low protein diet and diminished intake of lipotropic compounds alone do not necessarily cause in man the liver necrosis, cirrhosis or fatty changes which have been produced in rats fed on such a diet. In a paper which appeared in the issue of June 5 (p. 1079) Major K. Damodaran describes the liver changes observed in fatal cases of infective hepatitis. He suggests that the decrease in the vitamin content of the blood may be secondary to the disease process rather than an important predisposing factor.

In a recent epidemic of hepatitis in Denmark with a very high mortality rate the disease was confined almost entirely to women at the menopause.⁵ In the fatal cases the illness usually lasted for several months, with the development of chronic hepatitis and ascites. This epidemic occurred after the subsidence of a widespread epidemic of hepatitis with nothing unusual about the age incidence. No explanation of this extraordinary incident has been forthcoming.

During a recent epidemic among Polish troops in Germany, many of whom were receiving parenteral injections of arsenic and bismuth preparations or penicillin for venereal disease, 74 patients were admitted to one hospital.⁶ The mortality rate was 25.6%. The epidemic was attributed to syringe transmission. Possibly the direct inoculation of virus, together with powerful drugs, in individuals already debilitated by another infection may result in a high death rate. One of the fatal cases of acute necrosis described by Damodaran was that of a patient receiving arsenic injections for syphilis.

In these epidemics there have been secondary factors which might have caused the high mortality, but there have recently been at least two outbreaks in which no such obvious reason was present. Stokes and Miller⁷ have described an epidemic of severe infective hepatitis which occurred in Burma in 1945-6, with a mortality rate of 2.0% in South Burma, but only 0.16% in North Burma. The fatality rate increased when the epidemic was waning, and in the majority of the fatal cases death occurred within 30 days of the onset of the disease. There was no evidence of malnutrition, and Stokes and Miller concluded that a specially virulent strain of virus must have been responsible.

The second outbreak was also extremely localized, being confined to the city of Basle and its environs.⁸ Switzerland was involved in the widespread epidemic of 1942-3, but the fatality rate was only 0.6%. There were 244 cases in the city in 1944, 87 in 1945, and 220 in 1946. But in 1946 there were 44 deaths, giving a case fatality rate of 20%. The usual age incidence was reversed—only 20% of the patients being under 30 years of age—and instead of an even distribution among the sexes there were twice as many cases in women. There was a very high fatality rate in the age group 50-70 years. As in Denmark, this epidemic came to an end completely unexplained.

¹ Fox, J. P., Manso, C., Penna, H. A., and Para, M., *Amer. J. Hyg.*, 1942, 36, 68.

² Findlay, G. M., *Mon. Bull. Min. Hlth.*, 1948, 7, 2, 32.

³ J. Obstet. Gynaec. Brit. Emp., 1947, 54, 641.

⁴ Sherlock, S., and Walshe, V., *Nature, Lond.*, 1948, 161, 604.

⁵ Tersild, M., *New Engl. J. Med.*, 1947, 237, 8.

⁶ Mackay-Dick, J., *J. R. Army med. Cpt.*, 1947, 89, 290.

⁷ *Quart. J. Med.*, 1947, 16, 211.

⁸ Müller, T., *Schweiz. med. Wschr.*, 1947, 77, 796.

THE PATHOGENESIS OF TUBERCULOSIS

The difference between primary and adult tuberculosis now appears to be much less distinct than was formerly supposed. It used to be thought that primary tuberculosis, with its small pulmonary lesion and gross lymphadenitis, was a disease of children, while phthisis, characterized by a destructive, progressive, usually apical lung lesion and no lymphadenitis, was considered a disease of the adult. It was generally recognized that primary tuberculosis was the result of exogenous infection, but many authorities believed that this rarely occurred in the adult; phthisis, they maintained, was the result of endogenous infection from foci which had remained latent since the disease was acquired in childhood.

Ustvedt¹ in 1946 described clinical studies in Scandinavia which showed that adult primary infection was becoming more common and that the time interval between primary infection and destructive pulmonary tuberculosis was often quite short. In fact phthisis frequently developed directly from the primary infection. More recently Medlar² has approached the problem from the standpoint of a pathologist. Assuming that the lymph glands indicated an active primary infection and calcified glands a healed primary infection, he reported his findings at the necropsy of adults who died from pulmonary tuberculosis. In these he examined the thoracic and abdominal lymph glands macroscopically with great care. Rich³, among others, confirms that the absence of progressive lesions in the regional glands is one of the distinguishing features of adult tuberculosis when they do occur they may exceed microscopic changes. The presence of microscopic caseation therefore strongly suggests a primary infection. In his 100 cases Medlar found that the lymph glands were caseous in 34, calcified in 46, and normal in 6. The incidence of caseation was highest in the younger adults, and in the older group. Thus it would seem that 34% of the cases in the 16 to 64 years, died from a "reinfected" primary infection, and 46% from a "primary" infection. The remaining 20% had typical progressive tuberculosis.

The presence of caseation in the lymph glands in 17 patients out of 100 is in agreement with the older theories of the pathogenesis of tuberculosis. It seems that after the primary infection, the disease must have been a true reinfection in the sense that it behaved like a second primary infection. This is in agreement with the classical studies of the pathogenesis of tuberculosis in reported similar cases. In addition to the caseation in the lymph glands, primary infections—primary lung lesions with no other involvement—in 22 of the patients, and in 21 cases in which neither caseation nor calcification of glands was found may be examples of a condition but even so they defy classification. Was the progressive pulmonary tuberculosis in these patients the result of a progressive incomplete primary infection or a reinfection after an incomplete primary infection had occurred? Tuberculin testing could help to solve this and other problems in the future.

Gloyne⁴ has advocated the repeated tuberculin testing of a series of patients over a long period of time. The epidemiology of tuberculosis varies in different parts of the world, and another tuberculin survey in this country is long overdue.

It is evident that progressive pulmonary tuberculosis in the adult can no longer be placed in a neat, inclusive category labelled "reinfection" or "post-primary" disease. The controversial conceptions of endogenous and exogenous reinfection also cease to have much practical importance. Phthisis can be the result either of reinfection or of progressive primary disease, and in the past far too much emphasis has been placed on reinfection. It now seems certain that progressive primary infection is an important cause of the disease in adults.

EXCHANGE OF INFORMATION

One of the ill effects of war was the isolation of men of science and learning in different countries from each other. Medical men in Europe have felt this isolation acutely, and since 1945 have been almost painfully eager to learn of the medical progress made in Britain and the U.S.A. European doctors have clamoured for British medical books and journals, and many have been done to supply their wants. One of the surest ways of overcoming international antagonisms is to have the best of the course between the professional groups of different countries, and to this end the free interchange of periodicals is an important step.

Between ourselves and Russia there is still a big gap in the exchange of information. To bridge this gap the British Embassy in Moscow decided to give to the State Central Medical Library certain medical journals, including the *British Medical Journal*. A short time ago the Ministry of Foreign Affairs, U.S.S.R., informed the British Embassy in Moscow that the Directorate of the State Central Medical Library had subscribed to British medical journals and was interested in receiving additional copies. The receipt of the journals from the British Embassy was stated to be the desire of the Director of the Supreme Library of the U.S.S.R. on the procedure to be adopted by the Ministry of Foreign Affairs and their officials in their relations with the embassies and officials of foreign States. As with the State Central Medical Library in Moscow, the State Central Medical Library in London can now be approached by foreigners only through the Ministry of Foreign Affairs. From the western point of view this can be completely senseless and appears to be another attempt to keep Russian medical men in ignorance of the achievements of the decadent bourgeoisie. If we are to reach that understanding with Russia which is essential if peace is to prevail, the channels of intellectual communication must be widely opened. But Russia, it must be admitted, seems to be doing its doctrinaire best to put obstacles in the way, and we can only express our sympathy with the unfortunate librarian of the State Central Medical Library in Moscow at having his powers of selection of books and periodicals clipped by the Ministry of Foreign Affairs.

MEDICAL CHARITIES

When the National Health Service starts, a number of medical clubs and associations and benevolent funds will cease to function and will have surplus funds for disposal. They might like to contribute to some of the medical charities that will continue, and we would mention among these in particular the British Medical Association Charities Trust Fund, the Dain Fund, the Sir Charles Hastings Fund, the Royal Medical Benevolent Fund, and Epsom College, which offers scholarships and favourable terms to the sons of medical men.

¹ *Brit. J. Tuberc.*, 1946, 40.

² *Amer. Rev. Tuberc.*, 1947, 55.

³ *The Pathogenesis of T.*

⁴ *Amer. Rev. Tuberc.*, 1940, 42.

⁵ *Brit. J. Tuberc.*, 1946, 40.

AN INTERNATIONAL STANDARD FOR STRETCHERS

BY

R. T. WELLS, M.D., F.R.C.S.Ed.

Lieut.-Col., I.M.S., ret.

In the early days of the Geneva Committee for Aid to the Wounded, the historic forerunner of the International Red Cross Committee, its founders had emphasized the importance of the exchange of ideas and of close co-operation with the medical services of the various Powers. The objectives which exercised Henri Dunant, in particular, included improvement in the means of transport of the wounded, the universal adoption of approved methods of treatment, and the institution of a "veritable museum" of military equipment. Again, Dr. Appia, another of the five famous men who founded the Geneva Committee, made two cogent suggestions in this sense: first, that a collection be made of existing literature on medical equipment; and, secondly, that liaison be established between the Committee and the various national medical services.

In the thoughts of these pioneers was the seed which finally germinated when the Permanent International Commission for the Study of Medical Relief was appointed by the International Red Cross Conference of 1925, and provided with library and museum. Liaison between the Commission and the International Congress of Military Medicine and Pharmacology was officially established in 1929. In the meantime a definite proposal for the general adoption of a stretcher of standard dimensions had been made independently by Colonel van Baumberghen at the International Congress of Hygiene held in Berlin in 1907; but this proposal seems to have been followed by no immediate action.

Experience in the Field, 1914-17

During the 1914-18 war the diversity of types of stretcher in use by the various Powers came into distressing prominence. The measurements of French, British, American, and German stretchers differed to such a degree that each stretcher was suited for transport only in an ambulance of corresponding national origin. Thus the wounded had at times to be transferred from one stretcher to another—a process inevitably painful, often dangerous, and, in any case, involving loss of time in the urgent business of collecting the wounded. As General Marotte remarked: "Never have the differences in the standard of equipment been so conspicuous and so prejudicial to the interests of the wounded." Even during hostilities conferences were held, including representatives of both sides, in the endeavour to reach some degree of uniformity in means of transport for the wounded, but with no success.

Development of the Idea

In 1921 the Tenth International Red Cross Conference, the first to be held after the war, met in Geneva and included an exhibition of equipment used by the various national Red Cross Societies. Senator Cirio (Italy), President of the International Relief Union, pleaded for the adoption of a uniform standard of equipment by the different national Red Cross Societies in order to facilitate collaboration in relief operations in the case of civil disasters.

At the Twelfth International Conference, held in Geneva in 1925, an international exhibition of military medical equipment had been organized. The Permanent International Commission on Standardization was appointed and the Institute of Study was founded. The primary task before this Commission was emphasized by the President, Dr. Reverdin, in the words: "It is of the utmost importance for the wounded that the dimensions of all stretchers should permit of their adaptation to every type of carrying fitment, and *vice versa*."

A standard of dimensions recommended by the Commission was adopted by the Red Cross Conference held at the Hague in 1929, subsequently modified by the Brussels Conference in 1930, and finally approved by the Tokio Conference of 1934. This model, however, for one reason or another, failed to win the approval of the various national medical services.

The Commission undertook extensive research on other medical problems of armies in the field, up till their thirteenth and last pre-war session; but, in spite of their momentous labours, the outbreak of the 1939-45 war found their original objective—the adoption of an international standard of stretchers—still unattained.

Civil Defence

Advances in the technique of bombardment from the air had led to the development of special measures of passive defence including the provision of first-aid and ambulance services for the collection of casualties among the civil population. In England this task was undertaken by the specially created Air Raid Precautions Department of the Home Office. For this purpose ambulance transport was formed by stripping the coachwork of selected motor-cars and building on the bare chassis an ambulance body of simple standard design.

The "A.R.P." stretchers were rigid, the poles consisting of cast-iron tubing and the beds of iron-wire mesh. The all-over dimensions of the British Army stretcher were adopted, but the "feet," consisting simply of downward salents on the poles, were too wide for admission to the grooved carrying-fitment of the Army ambulance.

Of the three main types of stretcher in use in England during combined operations—British, American, and A.R.P.—none were mutually interchangeable. Ultimately a simple adaptation of the width of the A.R.P. stretcher-racks permitted the carriage of both American and British Army stretchers in A.R.P. ambulances. An awkward feature of all three types was the length of the rigid poles, which prevented their introduction to most hospital elevators.

Conclusion

Allowing for differences in materials of construction and in details of fitment, it is evident that a stretcher of standard dimensions could meet most, if not all, occasions, both civil and military; indeed, the argument in favour of a universal type applies not only to armies but to civil institutions and voluntary organizations.

The outbreak of the 1939-45 war called a halt to the activities of the Standardization Commission; the contents of their library and museum went into store, but it is hoped that, in view of the first post-war International Red Cross Conference, due to be held in Stockholm next autumn, the Commission will be endowed with a new lease of life and will see its beneficent labours crowned with success.

LADY TATA MEMORIAL TRUST

International Awards for Research in Blood Diseases

The Trustees of the Lady Tata Memorial Fund announce that, on the recommendation of the Scientific Advisory Committee in London, they have made the following awards for research in blood diseases, with special reference to leukaemia, in the academic year beginning Oct. 1, 1948.

Grants for Research Expenses and Assistance.—Dr. Marcel C. Bessis (France), for work in Paris; Dr. Jörgen Bichel (Denmark), for work at Aarhus, Denmark; Dr. Pierre Cazal (France), for work at Montpellier; Dr. Johannes Clemmesen (Denmark), for work in Copenhagen; Dr. Peter A. Gorer (Great Britain), for work in London; Dr. Andrew Kelemen (Hungary), for work at Szeged; Dr. Edith Paterson (Great Britain), for work at Manchester; Prof. Edoardo Storti (Italy), for work at Pavia.

Scholarships (for whole-time or part-time research).—Dr. Simon Iversen (Denmark), for work in Copenhagen; Dr. Claus F. M. Plum (Denmark), for work in Copenhagen; Dr. Guido H. R. Tötterman (Finland), for work in Helsinki.

Mr. R. W. Raven, surgeon to the Royal Cancer Hospital and the Gordon Hospital for Gastro-Intestinal and Rectal Diseases, left Britain on June 12 to lecture to the Roman Surgical Society in Rome. Between June 19 and 29 he is lecturing on behalf of the British Council to the medical schools of Florence, Bologna, Milan, and Turin.

TREATMENT OF DEFICIENCY DISEASES

TABLE II

Factor	Pharmaceutical Preparation Available	Dose	Approximate Cost Per Dose
Vitamin B ₁	Tablets: 1-5 mg. and 25 mg. Ampoules: 1, 2, 5, 10, 25, 50 mg.	10 mg. 10 mg.	s. d. 3 ½
Riboflavin	Tablets: 1, 2, 5 mg.	10 mg.	4
Nicotinic acid	Tablets: 10, 25, 50, 100 mg.	50 mg.	7 ½
Nicotinic amide	Tablets: 50 mg.	50 mg.	1 0
Folic acid	Tablets: 5 mg.	5 mg.	2
Crude liver extract	Ampoules: 1, 2, 5 ml.	25 mg.	6
Pantothenic acid	Tablets: 3, 25 mg.	50,000 I.U.	3
Vitamin A	Cod-liver oil (1,000 I.U./g.) Halibut-liver oil (30,000 I.U./g.) Vitamin A concentrate (50,000 I.U./g.)	50,000 I.U. 50,000 I.U. 50,000 I.U.	2 6
Vitamin D	Tablets: 1, 2, 5 mg. Liquid	10,000 I.U. 10,000 I.U.	3 ½
Vitamin K	Tablets: 2, 10 mg. Ampoules: 5, 10 mg.	1 mg. 1 mg.	less than ½
Vitamin C	Tablets: 5, 10, 25, 50 mg. Ampoules: 50, 100, 500 mg.	500 mg. 100 mg.	3 ½ 2 ½

ACCELERATED PAINLESS LABOUR
LECTURE BY PROF. LOUROS

A lecture, attended by the Greek Minister, was given at the Royal College of Obstetricians and Gynaecologists on June 11 by Dr. N. C. Louros, professor of obstetrics and gynaecology in the University of Athens.

Prof. Louros, who brought the salutations of the Faculty of Medicine of Athens, of which he is dean, said that almost a century had elapsed since John Snow in 1853 tried to obtain obstetric analgesia by administering chloroform to Queen Victoria. From that time onwards repeated efforts had been made in the same direction, but wholly satisfactory results had not been achieved. At regular intervals new methods were announced, but they were not without disadvantages and risks, particularly in the prolongation of labour. Analgesia was a double-edged weapon. It reduced pain, but it had an inhibitory effect on the contraction of the uterus. He held that this inhibitory effect of successful analgesia could be counteracted by the use of utero-constrictor substances. He believed this procedure offered some advantages in that it was applicable from the onset of labour. After many trials he had selected pethidine hydrochloride, a hydrochloride of methyl-phenyl-piperidine-carboxylic-ethyl acid ester, which had a maximum analgesic action; but any drug similar to this might be used provided it was non-toxic and produced a high degree of analgesia.

The effect of a small quantity of pethidine given during dilatation, especially in cases in which some abnormality was present, was minimal, and to be certain of results he combined pethidine with the administration of "thymophysin." The combination of these two drugs, one tending to reduce or abolish pain and the other assuring the continuance of uterine contraction, had proved favourable. As soon as dilatation began, he administered a small quantity of pethidine together with thymophysin. The patient then became somnolent, but reacted perfectly during the stage of expulsion, and slept well during the intervals between contractions. When delivery had been effected the patient usually expressed surprise at the diminution or absence of pain. In addition to freedom from pain a second important result of this drug combination was a considerably reduced and rarely extended over more than three or four hours. For some years he had been in the habit of giving active treatment in cases of premature rupture of the membranes with primary or secondary inertia by using heat in the form of light baths for from ten minutes to half an hour, and these also were of service.

Technique and Results

For the full achievement of painless and accelerated labour some additional measures were indicated—details perhaps, of practical importance. First of all, the patient must adopt the most favourable position for expulsion. A useful manoeuvre was to press strongly with the palms of the hands on the thighs, though before this manoeuvre could be undertaken there should be absolute certainty that dilatation was complete, and the procedure should be carried out only during contraction. This was sometimes desirable during the last phase of expulsion to administer a few drops of ethyl chloride or to give some gas necessary. Pethidine was non-toxic, had no undesirable effect on the child, and no inertia was observed either during or after placental delivery. The procedure he had described, which aimed at achieving an accelerated painless labour, could only give satisfactory results when pethidine and thymophysin were given together and the other procedures he had just mentioned were carried out. This method should be used only by experienced obstetricians.

Prof. Louros added that he could not claim universal success for his method. Moreover, these drugs were expensive and so he had not been able to use them in as many cases as he would have wished. He had applied his method in roughly 600 cases, of which about 450 were normal labours. The analgesic action was complete in some 500 cases out of the 600, incomplete in 75, and had failed altogether in about 25; but even when the analgesia failed, the acceleration of labour, which itself shortened the duration of pain, might be considered a helpful factor. He thought he was justified in saying therefore that in experienced hands this method enabled a considerable contribution to be made towards solving the problem of pain during labour and relieving the strain and exhaustion of a prolonged confinement.

Sir William Gilliat, president of the Royal College, who took the chair, commented on Prof. Louros's mastery of English, which, he said, had been acquired by listening to B.B.C. broadcasts while in a concentration camp during the recent war. The Anglo-Saxons had been pioneers in the relief of pain in obstetrics, and in this field as in others they were glad to have the co-operation of Greek medicine.

SIR ALEXANDER FLEMING IN SPAIN
[FROM A CORRESPONDENT]

Sir Alexander Fleming's visit to the capital of Catalonia as the guest of its municipality has proved a great success. He delivered three lectures, translated immediately from his English into Spanish, on "Some Problems of a Septic Wound," "Lysozyme," and "The Use of Penicillin," besides making several speeches in all of which he expressed his pleasure at the reception he had received. Sir Alexander, who was accompanied by Lady Fleming, was eloquently welcomed by Dr. Garcia Tornel, deputy mayor of Barcelona, and in the presence of many Catalonian physicians in the great hall of the Royal Academy of Medicine he was elected an academician. Another interesting ceremony was Sir Alexander's inauguration of the new research department at the municipal hospital for infectious diseases in a suburb of Barcelona. Before unveiling the black tablet with gold lettering which records in Spanish that this research department was inaugurated by Sir Alexander Fleming on June 5, 1948, he told the assembly of medical men, nurses, and civic dignitaries about his work at St. Mary's Hospital. He wished the rising generation of Spanish scientists all success in their endeavours, and reminded his audience that "the quality of work depends on the quality of the worker." The tablet was veiled by a double curtain of the Spanish and British flags and they fell away to reveal a terra-cotta bust of Sir Alexander.

Among other entertainments arranged by Dr. Trias de Bes and the municipality were a visit to the mountain monastery of Montserrat; a reception at the British Institute, whose director, Mr. Derek Traversi, accompanied the city's guest on many occasions; and an excursion along the tortuous coastal road to the little watering-place of Sitges. There was also a reception by the Rector of the University at which Sir Alexander spoke philosophically about "Success."

to have been originated by the late H. G. Wells, who started the Diabetic Association. Rheumatism, said Lord Horder, was a long-term business; it called for a great amount of research and co-ordination of the available methods of treatment. The British Rheumatic Association would help by encouraging centres for rheumatism at university hospitals, by research work, and by the collection of material at clinics. The Ministry of Health had done something in this matter, and the Minister's support was indicated by the presence of a member of the medical staff of the Ministry, Dr. E. T. Conybeare, at the inaugural meeting and by a letter of appreciation from Sir Wilson Jamieson.

Dr. F. Hernaman-Johnson, chairman of council of the new organization, said that it was commonly supposed that rheumatism was of importance to the middle-aged and elderly, but some of the greatest tragedies of this disease were to be found in young people. Rheumatic fever in children and its effects were treated by the general physician rather than by the specialist in rheumatic diseases, but it should be remembered that rheumatoid arthritis frequently attacked young women, especially young mothers after childbirth, and if not skilfully treated the victim might be crippled for life. Spondylitis often attacked young men. The State provided at great expense for the victims of tuberculosis, but did nothing to avert the tragedies of rheumatism. The new Association would urge public authorities to attack this problem, though it did not believe that everything should be done by the State. The Association itself intended to raise funds to build rest centres.

Col. M. Stoddart-Scott, M.P., vice-chairman of council, presented a report of the initial year of the Association, which, he said, had already 1,000 members. It was intended to establish branches all over the country; one had already been set up at Cardiff, and another would be established at Leeds. Vice-Marshal F. P. Don said that this was an opportune moment for the launching of such an Association, because many big-minded corporations, firms, and persons were now making their contributions from institutions which were going to be financed by the State. There was some risk that the more common forms of disease might monopolize the attention of the State Boards, in spite of the fact that rheumatism caused more sickness and invalidism than any other complaint except tuberculosis.

The Association has a governing council which includes representatives of some forty national organizations connected with medical and allied services, social welfare, and industry. Its immediate programme is the enrolment of sufferers and their friends in an organization strong enough to ensure that their needs will be met by national, regional, and local authorities. The honorary organizer is Mrs. C. Neville-Rolfe, well known for her work over a long period of years for the British Social Hygiene Council. The address of the secretary is 111 Woodville Road, New Barnet, Herts.

On May 31 the Princess Royal visited the Westminster Children's Hospital in Vincent Square, of which she is president. On arrival Her Royal Highness was met by Lord Nathan, chairman of the hospital, and Lady Nathan, with Lord Wigram, president of Westminster Hospital, with which the Children's Hospital is amalgamated. Officials of the hospital, members of the committee, and medical staff were presented, and the royal visitor inspected the deaf-mute clinic, the dining-room and milk kitchen, the Gomer Berry ward, the theatre and out-patient gallery, the casualty and dispensary departments, and the nurses' home, and took tea in the lecture theatre. This hospital, formerly known as the Infants' Hospital, was founded by Sir Robert Mond in 1907. It was severely damaged by a high-explosive bomb in 1940, but was partially restored and reopened as an American military hospital during the war, while its day clinic and other work was carried on in an adjoining building in Vincent Square, and the main nursing staff was transferred to Westminster Hospital. The amalgamation with Westminster Hospital took place in 1946-7, and just over a year ago the hospital was reopened under its present name, with 36 beds for children under 12 years of age. Two additional wards have now been opened, making 52 beds, and as soon as conditions permit the bed capacity will be extended to 140. The out-patient department will open and provide a 24-hours service.

BOARDS OF GOVERNORS OF TEACHING HOSPITALS (LONDON)

The Minister of Health has appointed the following chairmen and members of Boards of Governors of Teaching Hospitals.

The Royal Hospital of St. Bartholomew.—Sir George Aylwen (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: Sir Herbert Benjamin Cohen, Bt., O.B.E., T.D.; Sir Henry H. Dale, O.M., G.B.E.; Sydney Limbrey Higgs; Prof. Harold Gordon Jackson; Ernest Tom Neathereop, C.B.E., J.P.; Alexander McLaren Niven, J.P.; Wilfred Shaw; Robert Reginald Johnston Turner, O.B.E.; John Spearman Weatherley.

Appointed for the period ending March 31, 1951: Horace Evans; George Graham; Miss Kathleen Mary Halpin, O.B.E.; Richard Christmas Hammett; Charles Felix Harris; John Basil Hume; The Lord Huntingfield, K.C.M.G.; Henry Knight Eaton Ostle; Mrs. A. Louise Reeve; Alderman Charles Henry Simmons, J.P.

Appointed for the period ending March 31, 1952: Ronald Armstrong-Jones; John Joseph Gillard Bishop; Frederick Cecil Wray Capps; Prof. Ronald Victor Christie; William Malcolm Lingard Escombe, D.S.O.; Lady Ismay; Denis Colquhoun Flowerdew Lowson; A. Maxwell Nelson-Barrett; Prof. James Paterson Ross.

The London Hospital.—Sir John Mann, Bt. (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: Horace Denton; Professor B. Ifor Evans; Horace Evans; Miss Elizabeth Farrelly; Douglas William Claridge Northfield; V. C. Ponsonby, M.C.; W. M. Pryor, D.S.O.; H. A. Ray; Ronald William Reid.

Appointed for the period ending March 31, 1951: A. G. Allen; F. T. Baldock, J.P.; Prof. James Dixon Boyd; Walter Russell Brain; Herbert William Butler, M.P., J.P.; W. C. Hale, O.B.E., M.C.; Harry Roy Hobson, D.S.O.; J. Jacobs; Sir Albert Stern, K.B.E., C.M.G.; W. Stone.

Appointed for the period ending March 31, 1952: Hubert Ashton; A. E. Clark-Kennedy; Richard Coppock, C.B.E.; Professor Victor Wilkinson Dix; Eustace Hoare; B. A. Salmon; J. Stanley Thomas, J.P.; Prof. Clifford Wilson.

The Royal Free Hospital.—Sir Hubert Winthrop Young, K.C.M.G., D.S.O. (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: Mrs. Florence E. Cayford, J.P.; Prof. Winifred Clara Cullis, C.B.E.; Sir Percy Winn Everett; W. E. Ford; Prof. Mary Frances Lucas Keene; Alderman Mrs. Martin-Smith, M.B.E.; John Douglas McLaggan; Prof. Tom Sydney Moore; Albert Clifford Morson, O.B.E.

Appointed for the period ending March 31, 1951: The Lady Bingham; J. Bruce; Basil Mortimer Lindsay Fynn; Miss Gladys Hill; Theo Jenner Hoskin; Alderman Ernest Alexander Minter; Sir Frank Hillyard Newnes, Bt.; Miss E. M. Scarborough; William Reed Hornby Steer; Mrs. Charity Taylor.

Appointed for the period ending March 31, 1952: Geoffrey Bostock; Gerald Edward Breen, O.B.E.; Alderman Mrs. Ruth Carnegie; Arthur John Gardham; Miss Katherine Georgina Lloyd-Williams; The Hon. Mrs. John Mulholland; The Hon. Peter Montefiore Samuel, M.C.; Clement Edward Shattock; Harry Smith.

University College Hospital.—Sir Harold Augustus Wernher, K.C.V.O., T.D. (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: Stuart Jasper Cowell; M. L. Formby; Arky Staveley Gough; Edward Andrew Gregg; J. Hadgraft; Mrs. W. C. Northeott; David Randall Pye, C.B.E.; Alan Shefford; The Rt. Hon. Sir Leslie Orme Wilson, G.C.S.I., G.C.M.G., G.C.I.E., D.S.O.

Appointed for the period ending March 31, 1951: Miss Vera Dart; Neil Hamilton Fairley, C.B.E.; Sir Archibald Montague Henry Gray, C.B.E.; Prof. George Macdonald; Sir Alexander Hyslop Maxwell; George Mitchell; Sir Findlater Stewart, G.C.B., G.C.I.E., C.S.I.; Stephen James Lake Taylor, M.P.; Miss Doris E. Westmacott.

Appointed for the period ending March 31, 1952: Frederick J. Ballard; The Hon. Margaret Bigge; Haydn Davies, M.P.; C. W. Flemming, O.B.E.; Kenneth E. Harris; Prof. Harold Percival Himswoorth; R. J. Kirby; Seymour Cochrane Shanks; Hugh Walter Kingwell Wontner.

The Middlesex Hospital.—The Hon. John Jacob Astor (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: Sir Eric Gore-Browne, D.S.O.; Somerville Hastings, M.P.; Lionel Frederick Heald, K.C.; Charles Grafton Izard, O.B.E.; Fred Messer, J.P., M.P.; Walter Bristowe Morison; Simon Whitbread; Maurice Henry Whiting, O.B.E.; Prof. Brian Wellingham Windeyer.

Purdon Martin; P. McHugh; The Countess of Rothes; Julian Taylor, O.B.E.; William Henry Taylor.

Appointed for the period ending March 31, 1951: Donald N. Black; W. Russell Brain; Edward Arnold Carmichael, C.B.E.; The Hon. Mrs. Waley Cohen; Sir Archibald Gray, C.B.E.; Austin Charles Longland, K.C.; Piers Danvers Power.

Appointed for the period ending March 31, 1952: Denis Hubert Brinton; Miss Kathleen Cooper-Abbs; Prof. D. Hughes-Parry; The Lord Rayleigh; John Kenyon Vaughan-Morgan; Francis Martin Rouse Walshe, O.B.E.

The Royal National Throat, Nose, and Ear Hospital.—Ernest Edward Taylor (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: A. G. Farr; Lewis Davis Lewis; Frank Cunliffe Ormerod; Joseph Reginald Rosselli; Mrs. Mabel Rye.

Appointed for the period ending March 31, 1951: Nehemiah Asherson; Ferdinand Robert Eiloart; Gilbert Haywood Howells; W. Humphrey; William Stewart McKenzie; A. W. Scott.

Appointed for the period ending March 31, 1952: Samuel Arthur Beards; Chapel Gill-Carey; Frederic Noel Hornsby; Thomas Henry Lawley; Mrs. Obre Alsager MacIver; Mrs. Clare Turquet.

The Moorfields Westminster and Central Eye Hospital.—The Lord Luke, J.P. (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: N. E. Behrens; John Douglas Magor Cardell; Mrs. Elsie Franks; Frank William Law; Sir Harold Spencer Morris, M.B.E., K.C.; Miss Spenser-Wilkinson; Sir John Stainton, K.B.E., K.C.

Appointed for the period ending March 31, 1951: Edward Philip Carter, O.B.E.; F. le Gros Clark; Eric Walter Hall, J.P.; Mrs. Annie Louisa Hollingsworth, J.P.; Swithin Pinder Meadows; George Parker-Jervis; The Earl of Rothes.

Appointed for the period ending March 31, 1952: Jonathan Backhouse; Robert Cecil Davenport; Sir Stewart Duke-Elder, K.C.V.O.; The Hon. Arthur Gore; Francis William Lascelles; Thomas Keith Lyle; Alderman Charles H. Simmons.

The Bethlem and Maudsley Hospitals.—Gerald Edward Coke (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: W. J. Bourne; Mrs. Eva Marian Hubback, J.P.; Prof. Aubrey Julian Lewis; Alderman Thomas Edward Morris, J.P.; T. A. Munro; Prof. Samuel Nevill; Alderman Sir Frederick Michael Wells; George Percival Wright.

Appointed for the period ending March 31, 1951: M. Critchley; Charles Gordon Dickson; Miss Dorothy F. Sutherland Gill; Mrs. H. Girling, O.B.E., J.P.; W. G. H. Luckett, J.P.; Mrs. Norah C. Runge, O.B.E.; Ernest Charles Sherwood.

Appointed for the period ending March 31, 1952: Prof. R. V. Christie; John Gerard Hamilton; William Gordon Masfield, J.P.; Prof. J. McMichael; J. F. Murphy; Dr. Doris Odum; Mrs. Mary Ormerod; Gerald Eustace Howell Palmer.

St. John's Hospital for Diseases of the Skin.—J. A. M. Ellison-Macartney (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: Francis Ray Bettley; Sir Archibald Gray, C.B.E.; Hal Gutteridge; Humphrey Whitbread.

Appointed for the period ending March 31, 1951: A. Franklin; Sir Samuel Gluckstein; Gordon Barret Mitchell-Heggs, O.B.E.; John Bryan Poynder; Seymour Cochrane Shanks.

Appointed for the period ending March 31, 1952: Henry Corsi; Arthur Herbert Montgomery; Edward Snowdon, J.P.; John Edwin MacKenochie Wigley.

The Hospitals for Diseases of the Chest.—Sir Robert Arthur Young, C.B.E. (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: Alderman Albert Edward Allaway, J.P.; The Lord Blackford; Mrs. M. G. Burton; John Harold Cooke; Sir Bennett Hance, K.C.I.E., O.B.E.; Sir Henry Pelham Wentworth Macnaghten; A. J. Newman; Sir Hugh Stephenson Turnbull, K.C.V.O., K.B.E.; Frederick Hugh Young, O.B.E.

Appointed for the period ending March 31, 1951: R. C. Brock; Mrs. Ann Bromley, J.P.; Mrs. Sarah Candy; Sir John Little Gilman, Bt.; Vincent Alpe Grantham; John Clifford Hoyle; J. L. Hinton; Clarence Rutter; Sir Harold Scott, K.C.M.G.; Vernon Cecil Thompson.

Appointed for the period ending March 31, 1952: The Lord Devonshire; The Hon. Lord Glyn, O.B.E.; Frederick Roland George Hoff; Leslie Burnett Preece; J. G. Scadding; Joseph Smart; Ben Smith; William Stafford; Clement Price Thomas.

The Royal National Orthopaedic Hospital.—Louis Fleischmann, C.B.E. (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: E. P. Brockman; Fletcher Bremner Coates; A. T. Fripp; Howard Kerr, C.M.G. C.V.O., O.B.E.; William Nichols, J.P.

Appointed for the period ending March 31, 1951: Sir Henry Robert Kincaid Floyd, Bt., C.B., C.B.E.; F. Campbell Golding; Prof. George Perkins, M.C.; H. C. Willig; Miss M. Joan Wood.

Appointed for the period ending March 31, 1952: Harold Jackson Burrows; R. Y. Paton; Stanley Graham Rowlandson, M.B.E.; Harold Sutcliffe, M.P.; The Lady Wakehurst.

The National Heart Hospital.—Milton Victor Ely (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: R. C. Brock; John Maurice Campbell, O.B.E.; The Earl of Cromer, G.C.B. G.C.I.E., G.C.V.O.; J. Simons; Leslie Hamilton Watts.

Appointed for the period ending March 31, 1951: John Mar' Freeman Cohen; Thomas Forrest Cotton; Sir Francis Fraser; J. M. Oakey, M.C., J.P.; Basil T. Parsons-Smith.

Appointed for the period ending March 31, 1952: Sir William Arbuthnot Lane, Bt.; Sir John Parkinson; P. H. Wood, O.B.E.

St. Peter's and St. Paul's Hospitals.—Laurence E. D. Bevan (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: A. W. Badenoch; Alfred Ridley Martin; Claude Harry Mills; Sir Hewitt Skinner, Bt.; Hubert Martin Tobin; R. Ogier Ward, D.S.O., O.B.E., M.C.

Appointed for the period ending March 31, 1951: Arthur McNeil Farquhar; Sir Bertram Galer, J.P.; A. R. C. Higham; I. G. Mitchell-Innes; G. Williams; Horace Powell Winsbury-White.

Appointed for the period ending March 31, 1952: F. J. F. Barrington; A. R. G. Hudson, O.B.E.; E. D. Jefferiss Mathews, O.B.E.; The Rev. Ernest Reginald Moore; Albert Clifford Morson, O.B.E.; Miss Rosina Whyatt.

The Royal Cancer Hospital.—Sir Giffard Le Q. Martel, K.C.B., K.B.E., D.S.O., M.C. (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: A. Lawrence Abel; Alderman Albert Edward Allaway; Prof. R. G. D. Allen, O.B.E.; D. E. W. Gibb; Sir Kenneth Wigram, G.C.B., C.S.I., C.B.E., D.S.O.; W. G. Wilsher; F. Griffiths Woollard, J.P.

Appointed for the period ending March 31, 1951: Prof. Ian Aird; Alfred Chester Beatty; P. E. Thompson Hancock; Gordon L. Jacob; Prof. W. V. Mayneord; Mrs. Noel Patrick; G. C. Stanley; C. M. Vallentin, M.C.

Appointed for the period ending March 31, 1952: The Lord Ashecombe; G. Koch de Gooreynd, O.B.E.; Prof. Alexander Haddow; John B. Hunter, C.B.E., M.C.; Septimus Leonard Lyons; Mrs. Murray-Graham; Prof. D. W. Smithers.

Queen Charlotte's and Chelsea Hospitals.—Sir Frederick Minter (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: Frank Cook; The Hon. Mrs. Eliot Hodgkin; Mrs. A. Margaret King, J.P.; Desmond Reid; Mrs. Norah C. Runge, O.B.E.; J. Montagu Wyatt; Prof. James Young, D.S.O.

Appointed for the period ending March 31, 1951: H. G. E. Arthur; Miss Joan Bourne; Aubrey Goodwin, O.B.E.; The Viscountess Jowitt; E. Musgrove; Charles Newman; Alexander McLaren Niven; Lady Oglivie; Goodman Whiffen.

Appointed for the period ending March 31, 1952: A. C. H. Bell; The Lord Bingham; Alderman Mrs. Olive Alice Florence Davis; A. J. Espley, O.B.E.; The Hon. Mrs. Angela Murray; J. Senior; Charles Lionel Woolveridge.

The Eastman Dental Clinic.—Sir Frank Hillyard Newnes, Bt. (chairman), who is appointed for the period ending March 31, 1951.

Appointed for the period ending March 31, 1950: Miss Rosamond Caseley; Sir Percy Winn Everett; Prof. W. E. Herbert; Miss Eileen Norah Morton; W. H. Stevenson.

Appointed for the period ending March 31, 1951: Clarence Endicott; William Kelsey Fry, C.B.E., M.C.; B. M. Lindsay Fynn; A. C. McLeod; G. Meekoms; William Ritchie Young.

Appointed for the period ending March 31, 1952: Frederick J. Ballard; Alan Clark Deverell; Mrs. Dorothy M. Holman; Arthur Douglas Page; The Hon. Peter Montefiore Samuel, M.C.

Mr. John Edwards, Parliamentary Secretary to the Ministry of Health, opening the London County Council's Elderwood Home for aged people at Norwood, Surrey, on May 12, spoke of the national assistance scheme due to come into force on July 5 as rounding off a comprehensive plan of social service. The National Assistance Bill, he said, should help in finding out what the old folks really needed. The general opinion was that from 30 to 40 persons made a better unit than 60 or 70. The L.C.C. were experimenting to decide the most satisfactory size. They had already many rest homes of 30 to 40 or even smaller, and some of 80 to 100, and indeed larger institutions, which some residents preferred.

Correspondence

B.C.G. Vaccination

It seems to me that my article under which Prof. Wallgren, at the Conference of Physicians last September I did not attempt to diminish the value of B.C.G. vaccination. I made it clear at the beginning that I was deliberately marshalling the evidence against it, and at the end that the conclusions I drew were solely in relation to its probable effect on tuberculosis *in this country*. I wanted to show that no entirely satisfactory investigations on the efficacy of B.C.G. had yet been carried out, and that, because of the differing epidemiology of tuberculosis in different countries, conclusions drawn in one part of the world were not necessarily applicable to another. I pleaded for a properly conducted investigation into the value of B.C.G. vaccination under British conditions, which, as readers of Prof. Wallgren's article will realize, are very different from those in Sweden. I think, in fact, for no more than the International Conference in London has asked to do in the United States. I do not obtain it, and we shall be for the use of B.C.G. in the United States. I

...different from those in Sweden. If we do not obtain this information now, we shall probably never obtain it, and we shall be forced by public opinion to adopt the use of B.C.G. indiscriminately. If, on the other hand, we do succeed in carrying out an investigation under "scientific and unimpeachable conditions"—and there seems to be some hope of this being realized—I am ready to assure Prof. Wallgren that I shall abide by the results.—I am, etc.,
London, S.W. 1.

G. S. WILSON

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2. *Am. J. Hyg.*, 1948, 55, 1129.
3. *Am. J. Hyg.*, 1947, 54, 346; *ibid.*, 1948, 55, 593.

Some Dust Diseases of the Lungs

Some Dust Diseases of the Lungs

Sir - In your leading article, "Some Dust Diseases of the Lungs" (June 5, p. 1087), in which you comment on my Goulstonian Lectures, there are some misquotations which may give rise to misunderstanding. You say, "In 1947 men were certified in South Wales at the rate of 100 a week, and certification has risen in all the other coalfields of Great Britain, the provisional figures for 1947 showing a rise of about 1,000 in that year." In fact, it was in 1945 that this high rate of certification was reached in South Wales and in 1947 it had fallen to about 60 a week. In the rest of Great Britain provisional figures show a rise to about 1,000 not of about 1,000 in 1947. Later on you say that "high dust concentration is due in the anthracite mines mainly to poor ventilation." This should read "high dust concentration was due in the anthracite mines mainly to poor ventilation." In fact, improvement of dust conditions in the anthracite mines has been one of the outstanding achievements in dust suppression in recent years, and ventilation is in general very good in these mines to-day. I am, etc.,

Medical Research Council
Medical Research Unit (S. Wales)

C. M. FLETCHER.

Survival in Pulmonary Tuberculosis
C. M.
Publication (June 12, p. 1142)
Effect on mortality

Survival in Pulmonary Tuberculosis

BRITISH
MEDICAL JOURNAL

minor errors, and mainly to plead for more
search into this important subject.
My attempt to assess the value of pneumothorax therapy
based on the fate of nearly 700 cases compared with that of
more than 3,000 cases treated by conservative methods only,
was not universally popular, as the results were less favourable
to collapse therapy than many anticipated and than some felt
was borne out by their own experience. Possibly it was in-
sufficiently realized that the cases investigated were treated
during the decade 1921-30, and, so far as collapse therapy was
concerned, naturally included in those early years a high pro-
portion of cases that to-day would be either abandoned early as
unsuitable for pneumothorax or reinforced or replaced by
other collapse measures. Nevertheless, a glance again at my
conclusions in 1936 shows that even now they are not altogether
out of accord with clinical experience. May I quote the
following :
"Incomplete collapse obtained by means of
pneumothorax therapy may not only be un-
continued,"

"Incomplete collapse obtained by means of artificial pneumothorax therapy, may not only be unavailing in producing quiescence, it may actually prove an added source of danger to the patient if continued."

"Incomplete-collapse cases, and those with pockets of indifferent results and, forming 60% of the whole, are the general level of the results."

"Complete-collapse cases, forming 40% of the whole, are the total, showing a 60% success rate."

“Complete-collapse cases and those with pockets only yield indifferent results and, forming 60% of the whole, they drag down the general level of the results.”

“Complete-collapse cases on the other hand, accounting for 40% of the total, show more encouraging results. Out of 208 such cases investigated in detail 65.9% of the patients were alive after three years, while when the disease was strictly unilateral the percentage survival rose to 77.4.” Furthermore it was recorded that in the complete-collapse cases who were sputum-negative the charge from residential treatment no less than 50% were alive after three years.”

Clearly what

Clearly what is needed to-day is for a more recently treated group of patients to be followed up and analysed in a similar fashion. Accurate statistical follow-up work in tuberculosis is of immense importance. No one realized this more than myself when I was largely responsible for drastically curtailing the L.C.C. tuberculosis statistical work in September, 1939. It is very easy to stop work of this sort. How difficult it is to get it going again—but how necessary! Possibly it has not been reasonable to expect the L.C.C. to start this invaluable and meticulous work again in view of the impending dissolution of its hospital arrangements. May I appeal to Regional Boards to have regard to the work of their predecessors and, while cutting out ruthlessly any dead wood that may be found, to carry on and enlarge all those arrangements and schemes that were so well founded?

A large Region may find that it is spending one million pounds annually on tuberculosis. Is it too much? I am sure it is not. I am sure, say 10% of that sum, say 100,000 pounds, would be well spent in following up and analysing a more recently treated group of patients to be followed up and analysed in a similar fashion. Accurate statistical follow-up work in tuberculosis is of immense importance. No one realized this more than myself when I was largely responsible for drastically curtailing the L.C.C. tuberculosis statistical work in September, 1939. It is very easy to stop work of this sort. How difficult it is to get it going again—but how necessary! Possibly it has not been reasonable to expect the L.C.C. to start this invaluable and meticulous work again in view of the impending dissolution of its hospital arrangements. May I appeal to Regional Boards to have regard to the work of their predecessors and, while cutting out ruthlessly any dead wood that may be found, to carry on and enlarge all those arrangements and schemes that were so well founded?

one million pounds annually on its arrangements for tuberculosis. Is it too much to ask that a small proportion of this sum, say 1%, should be devoted to an attempt to ascertain what are the results of this vast expenditure?—I am, etc.,
London, N.W.11.

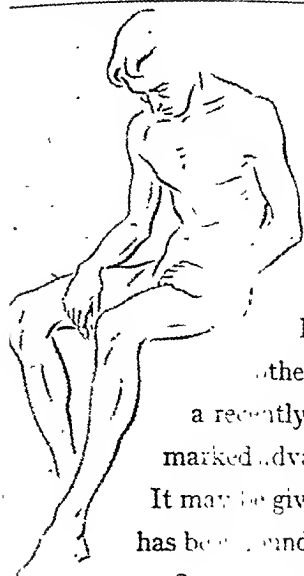
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 F. J. B.

Coronary Artery Disease and Hypercholesteræmie
 R.—Drs. E. Sherwood Jones and
 (37) draw attention
 cholesteræmie

SIR,—Drs. E. Sherwood Jones and P. W. Robertson (June 12, p. 1137) draw attention to the question of the relationship of hypercholesteræmic xanthomatosis to arterial atheroma. Such a relationship was especially discussed by the Russian pathologist, S. S. Chalatow, in his German monograph, *Cutaneous Xanthoma and Xanthomatosis* (London, 1924, p. 14). I illustrated the question by the history of a London surgeon with whom I was acquainted. In 1902, at the age of 41 years, he had tuberous xanthoma of both elbows. About seven years later he began to suffer from intermittent claudication of both lower limbs, at first slight but gradually increasing in severity. Intermittent claudication continued till his death in 1909. At post-mortem examination proved that it was due to atheroma (atherosclerosis) of the arteries of the lower limbs.

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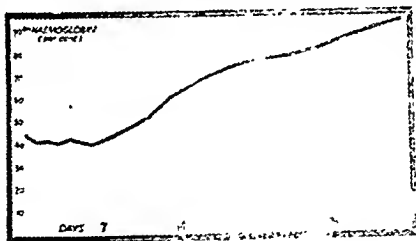
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M.27

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cholesterol estimated at 400 mg. per 100 ml., was demonstrated by Dr. H. J. Anderson in 1943 (*Proc. R. Soc. Med.*, 36, 179). Effort angina was first complained of at the age of 52. A sister was known to have had similar "nodules" and angina of effort. There may also be a connexion between arterial atheroma and gall-bladder stones, especially solitary cholesterol stones (D. M. B. Gross, *J. Path. Bact.*, 1929, 32, 503). This would serve to illustrate the whole subject of the occasional association of different types of local or systemic errors of lipid (notably cholesterol) metabolism.

A man with hypercholesterolaemic xanthomatosis told me that a brother of his had recovered from similar lumps on his elbows without medical treatment; but I understood that that brother had recently had to have one leg amputated for what seemed to be ischaemic gangrene—very likely connected with atheromatous disease.—I am, etc.,

London, W.1.

F. PARKES WEBER.

Intestinal Lesions in Hypertension

SIR.—Dr. George J. Cunningham (June 5, p. 1075) has described the morbid anatomy of intestinal lesions due to malignant hypertension. In the past two years I have had three cases showing the clinical counterpart of this condition, which is not uncommon.

Case I was a woman of 37 with a B.P. of 280/170. There were marked retinal changes but no albuminuria. She was struck down one day by severe epigastric pain. This made her roll about in agony and she was so ill she could not attract help from her neighbours. Her attack lasted for four hours and went as suddenly as it came without any treatment. She had a similar attack 18 months later, and the pain was abated by morphine. I saw her after her first attack. The pain was not a colic. There was no evidence of either gall-stones or coronary thrombosis, and the physician who saw her a week later agreed with my diagnosis of "visceral angina." Vaso-spasm can occur in any part of the body and be accompanied by excruciating pain. The second case was similar in character, the pain being referred to the right femoral region. In the third case the pain was in the lumbar region.

In each case there was severe pain not fitting into any usual clinical picture. Each case had a marked hypertension. Morphine relieved the symptoms, which did not recur immediately. Two cases have had recurrent attacks several months after the first. The pain is so severe as to make it a first-class medical emergency. Amyl nitrite had no dramatic effect on the pain, although it appeared to give some relief while the morphine was doing its work.—I am, etc.

Leicester.

C. A. H. WATTS

The Spread of Q Fever

SIR.—Your annotation (June 12, p. 1155) prompts me to add Iraq to the list of countries in which Q fever has been found.

In May, 1945, a British sergeant serving in that country fell out of sorts for a few days and thought he was developing a "cold." This did not take the usual course, instead he lost appetite and had intense headache.

He was admitted to hospital with the provisional diagnosis of typhoid or typhus. Mental disturbance, familiar in typhus but which I have not seen recorded in Q fever, became prominent. He was a "difficult" patient, unwilling to take food or sleep and not fully aware of what he was doing. Later he became weaker, confused, and his talk became irrational. The severe headache continued. Subsequently he had no recollection of being taken to hospital or of events for the first nine days of his stay there.

In addition to his mental symptoms, a condition of his circulatory system gave cause for alarm. His blood pressure fell markedly and his pulse was irregular. This was associated with missed heart beats and accompanied by oedema of the ankles. Congestion at the bases of his lungs was revealed by percussion and auscultation. No x-ray examination was done.

Fever was high during his first eight days in hospital. His maximum temperature on the day of admission was 101.5° F. (38.6° C.); this rose to 104° F. (40.2° C.) on the fourth, fifth, and sixth days in hospital. On the ninth day in hospital and twelfth day of illness it fell to near normal.

Twenty-five days after entering hospital he returned home very weak and having lost much weight. The best way to hasten his convalescence appeared to be to get him out of the heat of Iraq, so, as soon as he was fit to travel, which was two weeks after he

left hospital and six weeks after the onset of illness, he was taken by air to England. He was still weak, had difficulty in accommodating and occasional double vision, and it was not till two months later that he felt fit to journey by himself to Canada to join his family.

Complete Widal and Weil-Felix reactions carried out during his illness gave negative results, as did blood culture. It was not till he arrived in Canada that a retrospective diagnosis of Q fever was made on a sample of serum sent to Dr. Norman H. Topping, of the National Institute of Health, U.S. Public Health Service, who reported positive complement fixation to an end titre of 1:1,024 with Q fever antigen.

The source of infection is unknown. There was no contact with cattle, but seven days before the onset of his own illness the patient examined an Iraqi soldier severely ill with an undiagnosed febrile condition. While doing so he had a distinct sensation of an insect crawling on his knee (he was wearing shorts at the time).

During the six months I remained in Iraq I looked for further cases of Q fever both by testing sera from suspects against an agglutinating antigen kindly supplied by Dr. F. M. Burrett and by sending sera to Dr. Norman H. Topping. No more were found, but I cannot believe the case now reported to be unique. Obscure febrile illnesses are common in Iraq and some may well prove to be Q fever.—I am, etc.,

University of Sheffield.

C. P. BEATTIE.

Pain in Childbirth

SIR.—I read with interest the quotation from *The Soul of a White Ant* which appeared in Dr. J. A. Hadfield's letter (June 12, p. 1155). I do agree that scientific investigation of the matter of pain and anaesthetics in childbirth is called for. Eugene Marais's hypothesis assumes that the half-wild Kaffir buck did indeed suffer pain in labour. Can he disprove that the administration of anaesthetic relieved them, not of pain, but of the satisfaction of completing a natural function? I have known many human mothers who, having been anaesthetized during labour, said afterwards that they found it hard to believe that the baby was theirs, or that they had really had a baby. What chance then for a half-wild Kaffir buck?

The difficulty of assessing the intensity of pain, particularly in animals, is almost insurmountable. During labour my pulse rate increased and I perspired, but I was in no more pain than when I lift the end of a heavy sideboard at spring-cleaning time. Since reading Dr. Grantly Dick Read's *Revelation of Childbirth* (which I commend to Eugene Marais and to Dr. Hadfield) I gave birth to a daughter and later to a son, in each case without pain, though at the first confinement a kindly G.P. thought I was suffering and I was very briefly anaesthetized, but not until after the head was born. My son was born before the doctor arrived. It was a natural and painless labour such as a half-wild Kaffir buck might be expected to enjoy. As he was born—and ever since—I loved him. I submit that if mother love is brought about by a release of hormones—and it seems to me to be very likely—then it is the completion of normal, painless labour, and awareness of bringing forth a child, that are the stimuli.—I am, etc.,

York.

GWENDOLINE ROWNTREE.

SIR.—Dr. J. A. Hadfield (June 12, p. 1155) suggests that, as pain in childbirth is necessary for the development of the maternal instinct in animals, anaesthesia during labour may inhibit the development of this instinct in women. It may be true that the stimulus of pain is necessary in animals, but before we deprive women of the great benefit of painless labour it is necessary to assess the value of this "maternal instinct" which would be so dearly bought.

In the first place, are instincts necessarily good? They are essential to the maintenance of life among animals, but the whole progress of man is a struggle to tame and subliminate his instincts, and where possible to substitute reason for instinctive reaction. Even if we were to accept the necessity for reliance on such reactions, we should hardly try to emulate the animals. Consider the duration of maternal feeling in a bitch, a cat, or a vixen: after a few weeks of lactation the young ones are more and more neglected, and soon the mother is unable even to recognize her offspring. If this is the "maternal instinct" which women are supposed to lose by avoiding the pains of labour, I do not think that the human race will be very much worse off without it.

A human being is more than a bundle of reflexes and does not rely on instinct as a guide to behaviour. If instinct ruled, most children would be illegitimate, as there is no such thing as a natural "paternal instinct." The love of a father for his children is highly conditioned, and in the form in which it is seen to-day it is a relatively modern development, the father having become an important part of the human family only in the last few thousand years. I would suggest that it is the indulgence of the so-called "maternal instinct" which breaks up many homes and upsets the proper development of many children to-day. I can hardly believe that the lack of anaesthesia in labour produces this distortion of mother-love, but if it were so it would be a very strong argument in favour of anaesthesia for all mothers.

It is always dangerous to apply the findings in animal experiments to human beings, even in those physical realms in which the lower animals most resemble man, but here we are asked to accept that the human mind requires the stimulus of pain to produce an attitude and an emotional state—the feeling of a woman for her child—which is not in any way comparable with an animal instinct but is made up of tradition, social sense, and a desire for immortality. A woman's love for her child grows with the months and the years; an animal's diminishes rapidly, and disappears completely as soon as its offspring are able to live a separate existence. Pain in labour may well be a necessary stimulus for animals, but in human beings I suggest that it is superfluous and atavistic, resembling the vermiform appendix, and if it can be obliterated by the safe use of anaesthesia that is but one more proof of man's ability to master his environments and reach up to Heaven.—I am, etc.,

Col hester

MARGARET PUXON.

SIR.—Dr. J. A. Hadfield's letter (June 12, p. 1155) touches many controversial aspects of the pain of childbirth. It is not possible to reply adequately to his suggestions and contentions, for neither space nor time is available. The observations and deductions of a clinical obstetrician upon this matter probably differ in perspective from those of the academic psychiatrist and may therefore be of assistance to him in his research. The biological purpose of pain is protective. The individual does not demand protection in an uncomplicated physiological function. Pain has no biological value in normal labour, because it is not present. Pain in labour is a pathological, not a physiological, phenomenon.

Eugene Marais's experiments with Kaffir buck (whether or not his deductions are accurate) are not applicable to women. He writes: "Where pain is negligible, mother love and care are feeble. Where pain is absent, there is absolutely no mother love." If in ten years Marais has found no single exception to this rule in animals, may I say that in thirty years I have never found it to be true of the human mother. Moreover, it is not infrequently recorded that the mother-child relationship is disturbed by the resentment of the mother to her child because of the agony of her ill-conducted labour. Many thousands of women have their babies without anaesthesia or physical pain, and the number is rapidly increasing. They are taught how to avoid the pain of childbirth. They are the conscious witnesses of their own satisfying achievement; they know the profound emotional experience of motherhood accomplished without pain but with joy. Do they by this means destroy the "maternal instinct important for the individual and social psychology"?

It is not pain in labour which "unlocks the door of mother love." Anaesthesia of itself does not inhibit the maternal instinct. When a child is born, the sight of it, the sound of it, and the touch of it open up the floodgates of mother love, which remain open for all time. Through each of the special senses an impression is indelibly imprinted upon the mind, and each impression is the foundation upon which, by sight, sound, and touch, the love of a mother is intensified and matured with the years. Upon the integrity of these processes the psychology and philosophy of parenthood develop, and the depressions from their unselfish purpose lead on directly or indirectly to every social evil.

To-day the pain of labour can almost entirely be avoided in 80% to 95% of normal births. It must be obliterated by other means when it cannot be avoided. In human society a woman who is asked about when her baby is born is usually willing to accept that the child ascribed to her is hers, although many have an unpleasant sense of apprehension but an error might have been made. The general desire for a child, through faith in the rightness of her instincts, overrules the limitations of the unnatural birth, and the pain is established with the return to consciousness; but we do not know of any animal tendency comparable to that of the natural human mother in the highly developed sense of smell of the

newborn, as well as the other sensual impressions, is destroyed by anaesthesia. There is no social conscience or custom to establish the identity of their young. The elements of instinctive possessiveness have been blotted out, and so she disowns, because the natural link to ownership is absent.

It is not the pain but the perfection of birth which liberates maternal instinct when the young are born. Some of us who have been amongst animals from our earliest childhood, known their habits, and closely studied their behaviour are unwilling to accept the statement that all animals suffer in natural parturition. Physical effort and emotional variation within the normal may easily be mistaken for pain unless signs, symptoms, and reactions are carefully investigated and understood.

And finally it is regrettable that the already sordid view of child birth that science has allowed to persist should be accentuated by an authority of Dr. Hadfield's standing. Pain, hypnosis, masochism: are tags upon which the casual reader hangs his ultimate impressions of a publication. Has no one in our profession the courage to state the truth that so many women are fully aware of? Upon it the greatest and most wonderful of all natural functions. Upon it the human race depends, not only for existence, but for its progression to an ultimate purpose.

The health, sociology, and philosophy of the people stand simply and firmly upon the birth of a child and the love of a mother. No branch of our science holds greater potentialities or has better opportunities for service to humanity. We should be careful, therefore, not to make unguarded statements or even suggestions which may deflect the public mind from the truth, and anything concerning childbirth is rightly considered by the Press to be of interest to the community. The pain of childbirth must be avoided or overcome, for no woman should be allowed to suffer when her baby is born. When it is discussed let us emphasize its elimination rather than suggest its necessity. There is still much to learn, but realistic approach is safer than speculative, and practical experience is more profitable than philandering with pansophism. There are still beautiful things in life, and whether we are politicians, psychiatrists, or gynaecologists we have no right to distort them or withhold them from the public, of whom we are the servants.—I am, etc.,

London, W.1.

GRANTLY DICK READ.

SIR,—Despite the risk of entering into discussion with a psychologist I really must join issue with Dr. J. A. Hadfield when he resurrects (June 12, p. 1155) the archaic suggestion that there might be any "diminution of maternal devotion resulting from the complete or partial administration of anaesthetics in childbirth."

Animal experiments are notoriously misleading when their results are applied to human activities without previous clinical trial. Dr. Hadfield's quotation of the experiment upon Kaffir buck proving no exception. I can give two experiences with other species which counter the conclusions to be drawn from anaesthetizing Kaffir buck during parturition. One was that of a broody hen who, like countless of her sisters, successfully hatched a clutch of eggs not her own. It was so long since she had laid an egg that she must have completely forgotten the feelings associated with the "pains of labour" (if indeed an egg is painful to lay), yet her maternal devotion was so fierce that she flew at all and sundry who approached her foster chicks except the writer, who had administered to her each day while she was "sitting." Another example is that of tigresses, who appear to lose all maternal instinct during captivity. At Whipsnade before the recent war tiger cubs were continually being deserted and had to be taken to Regent's Park, where they were reared by a collie bitch who growled fiercely if anyone approached the cage behind the scenes where they were kept. These two examples show how little the pain of childbirth has to do with maternal devotion in species other than that of the Kaffir buck, which latter probably refused their offspring because they did not see them born (during the anaesthetic) and failed to recognize them subsequently.

As an anaesthetist I have during the past sixteen years given scores of anaesthetics during childbirth to wives of personal friends and colleagues. Most of these mothers I meet fairly frequently and can assure Dr. Hadfield that their mother love is in no way diminished. In addition, I have yet to meet the father whose paternal affection is in any way affected by being denied a participation in the pain of parturition.—I am, etc.,

King's College Hospital.

A. H. GALLEY.

National Hearing-aid

SIR.—In a letter (June 12, p. 1154) "Hearing-aid Wearer" gives examples supporting her claim "that very great changes are required in the training of those who fit hearing-aids to new wearers and of those responsible for their maintenance." She cites several preventable difficulties leading to acute distress which she and others have met with in their endeavour to mitigate their great handicap.

It is because I sympathize with her so sincerely that I call her attention to an article by Mr. R. Scott Stevenson (May 22, p. 990) on the "Working of a Hearing-aid Clinic." She will there learn that a hearing-aid clinic such as she demands is actually in existence. To quote the article in question, "The Metropolitan Ear, Nose and Throat Hospital started its Hearing-aid Clinic in the spring of 1937 in conjunction with one of the afternoon out-patient clinics." In spite of the setback occasioned by the outbreak of war it has met with such success that, the article continues, it "at present occupies four rooms, works to an appointment system, and is open every day from 9.30 a.m. to 5 p.m. (often later), except on Saturdays, when its hours are 9.30 a.m. to noon." Since no one can do good audiometry "without knowledge of the methods available and the problems to be met" (ibid.) the hospital has not only its own trained audiometrists, it also trains others. This instruction entails in addition to a sound technique a real understanding of the special problems of the deaf and wisdom in their handling. It follows that the audiometrists trained in this way have a practical grasp of the best method of helping the patient to choose the best hearing-aid. As Mr. Scott Stevenson pertinently remarks in the same article, "Comfort in hearing is as important in making a choice as is clearness."—I am, etc.,

London, W.1.

HILDA WEBER.

Biography of Banting

SIR.—The review of the biography of Sir Frederick Banting (June 5, p. 1084) I read with considerable distaste. In the first place as a review and criticism it is of no literary merit whatsoever, and secondly it gives the intending reader no idea of the real substance of Lord Stevenson's book. I have recently read this book and found in it all that I could possibly want to know of Banting and his achievements. In particular I feel that Dr. Stevenson has given us a very clear picture of the basic character of Banting, and has revealed how a simple farmer, being with many of the faults and a few of the virtues, goes to make up the average type of individual. Dr. Stevenson, I feel, has stressed the particularly obscure and must be remembered that at the time of and for a while after the discovery of insulin Banting was a common little fellow, a poor man, a saviour of mankind, rather than by the way a rich and he describes so well the nature of Dr. Banting in the exalted position in which he was placed. He also gives us a clear insight into the nature of Dr. Banting's mind, and the descriptions of the part in his life and the end of Dr. Banting's travel do not add a doubt.

None of this has been mentioned by your reviewer, and in my opinion, a serious omission for apart from the discovery of insulin Banting was a most interesting and a most human character.—I am, etc.

London, S.W.19.

GEORGE F. B. H.

Viennese Twilight

SIR.—May I say a few words in support of Dr. B. Aschner's constitutional theory which he defends in a letter in the *Journal* of May 12, p. 1002? Approximately 15 years ago, after his *Technik der Konstitutionsdiagnostik* appeared he was invited by the Medical Society in Bratislava (Czechoslovakia) to give a lecture, and there he was strongly attacked by two leading physicians for his "scientific" views. Then I rose to speak, reporting on some successes which I attained by Aschner's methods in a few cases of psychosis and nervous organ complaints. Official psychiatry in Vienna deemed it a scientific duty to reject Aschner's suggestions, as well as to deny his right to discuss the treatment of mental disorders, since he was lecturer in gynaecology. Nevertheless, not a few neuro-psychiatrists and physicians employed some of his methods.

However small the number of cures achieved by Aschner might have been, they concerned patients of a large variety in whom customary clinical treatment had utterly failed. We may or may not accept the view that emetics, drastic laxatives, hydrotherapy, and bleeding rid the organism of toxic substances; undeniably, for the unbiased observer, these measures do seem to work in some cases.

For the psycho-analytically minded physician an alternative or additional explanation offers itself. All the procedures mentioned stimulate organs and functions which we must regard as the somatic contributories to emotionality. The significance of affective cathexis of organs need not be particularly stressed in this era of psychosomatic medicine. Likewise, the fundamental role of the affect-ego (the perception of the self by feelings) in mental health will be before long generally acknowledged. So it is possible to approach Aschner's suggestion from an angle that strikes one as more modern than the idea of crude detoxication.

No doubt the impression made by Aschner's publications on the mind of a modern physician might create confusion; one can hardly rid oneself of the feeling that what he advocates is a return to primitiveness. This, however, is perhaps an emotional reaction rather than an intellectual; and the psycho-analyst is suspicious of such responses, even if they come from excellent physicians.—I am, etc.,

Londor W.1

S. LOUW.

Test of Death

SIR.—In Dr. A. P. Luff's *Textbook of Forensic Medicine and Toxicology*, London: Longmans, 1895 (vol. 1, p. 40), what I have found a very useful test is described—that it is impossible to press the pupil out of its circular shape during life. A medical man is not often present at the actual time of the death of a patient, but I have found this test very useful when I have been there. On one occasion a nurse said to me, "He has gone," but as I could not press the pupil out of its circular shape I said "No." The patient breathed again once and then I could press the pupil out of its circular shape. There was no further respiration.—I am, etc.,

NA SMITH GIM

G. P. BLECHLEY.

Chicken-pox with Paralysis of Leg

SIR.—I think that this unusual combination is worthy of record. A male child, aged 4, started with a mild attack of chicken-pox, which is epidemic in this area at present. There were apparently no constitutional symptoms. Six days after the onset of the rash he complained of inability to stand up, and examination revealed an almost complete paralysis of the left quadriceps group of muscles. The knee jerk was normal throughout. There was no rash to suggest an associated herpes zoster with motor paralysis. Pain was not complained of and there were no constitutional symptoms. The following day there was considerable improvement, and on the next day motor power was apparently normal. A lumbar puncture was not done. Three weeks later there was no evidence of motor weakness.—I am, etc.,

St Helen's Lane

JAMES KAY.

Doctors and Clergy

SIR.—The subject of co-operation between doctors and clergy was discussed at the Annual Conference of the Church of England Hospital Chaplains Fellowship which was held recently at St. Leonard's L.C.C. Hospital, Shoreditch. The Rev. F. S. Sinker, himself a doctor, pressed for a closer understanding among the rank and file of the two professions. While he admitted faults on the part of the Church, notably in giving insufficient training for hospital chaplains, he claimed that the priest's ministry is concerned not only with giving consolation but also with the actual conquest of disease. Doctors could help the work of chaplains by discussing cases with them, giving them the prognosis, indicating anything that might retard recovery, and agreeing on the chaplain's lines of treatment. The chaplain might come across facts concerning a patient's social background or moral condition which might have considerable influence on the course of treatment prescribed. By conversation and by the use of the Sacraments in

suitable cases he could help to instil the will to recovery, to give insight, and set the mind at rest over social problems.

The conference was also addressed by the superintendent physician of Horton Hospital, Dr. W. D. Nicol, who outlined the psychological background of disease and indicated how chaplains could assist the cure of functional disorders; and also by Canon Lindsay Dewar, who claimed that the existence of the soul must be regarded as a fact and a fact that must be reckoned with in considering the integration of the whole human personality. A belief in divine forgiveness was, he asserted, in some cases a prerequisite of physical healing.—I am, etc.,

BERNARD A. WALL.
Hon. Sec., Church of England
Hospital Chaplains Fellowship.

London, E.8.

"Young" Doctors

SIR,—Is it not time that the B.M.A. should shed some light on the possible future of the ever-increasing number of "young" ex-Service doctors? What nonsense is written and spoken of the "shortage" of doctors—general practitioners and specialists. Flight Lieutenant G. J. E. Ansell expressed the state of affairs for those wishing to enter general practice (May 22, p. 1004), and one has but to apply for a senior hospital appointment to see the "shortage" of specialists—would-be or established. Indeed, one needs only to glance through the columns of advertised posts for medical and surgical registrars to see that there is no shortage of men who are preparing to be the specialists of to-morrow, for what hospital committee would dream of offering such scandalously low salaries to men who "must hold diploma of F.R.C.S. of Eng. or Ed." or "must hold diploma of M.R.C.P." if there were any shortage?

At present my family's income would be higher if my wife went out to work and I stayed at home to look after the baby. My wife is a member of the Society of Radiographers, and in return for 18 months' study she is able to command a higher income for 35 hours' work per week than most hospital residents receive after six years' studying to qualify, plus a variable number of years' postgraduate study for higher qualifications. It is surely time that more concern should be shown for the so-called "young" doctors—young in the profession, perhaps, but old enough to have served their country, and old enough to be husbands and fathers.

No longer can it be said that it is an honour and a privilege to work in a hospital for a low salary, and that the future will reward us well; no longer will we be able to earn large incomes in private practice after a period of poorly paid hospital appointments, and so "make up for it," as one of my ex-chiefs used to put it. Without capital the ex-Serviceman can neither settle down in general practice nor work for years in hospital for a mere pittance while becoming a mature specialist.

At present many of us are "unemployed" and, in fact, on a glorified dole, being supported by Ministry of Education grants (for which we are grateful) while we continue preparing for higher qualifications; but this cannot go on for ever, and when these postgraduate qualifications are won and the grants stop where are we to find the necessary jobs to bring in an adequate income? It is all very well loving one's work, and enjoying the privilege of serving the sick, but this does not support a family or pay for the upkeep and education of the next generation.—I am, etc.,

London N.W.6

P. HOPKINS.

Medical Photography

SIR,—What exactly would be the position in a hospital if every clinician was indeed to take his own medical photographs—as envisaged by Dr. J. H. Twiston Davies (May 22, p. 1001)? Surely chaos worse confounded. Dr. Twiston Davies airily says "the hospital need only provide a studio, some non-mobile equipment, and the part-time services of a technician for professional work." Leaving on one side the argument that the task of a clinician is to tend patients and not to take medical photographs, let us consider what fun there would be in the studio with its non-mobile equipment when several clinicians, each with different types of patients, were competing for the use of the apparatus and later for the services of the part-time technician. On a practical incidentally, what the technician would do with

the other part of his time after he had processed and print the efforts of the clinicians and done the necessary filing a record work—if Dr. Twiston Davies regards this as necessary.

Are the clinicians to give proof of any photographic ability before they are let loose with the non-mobile equipment, and the hospital to pay for the cost of the photographic material these clinician-medical-photographers use in their efforts? Dr. Twiston Davies says, "The hospital photographic department is an absurdity based on a misunderstanding of the function of art in medicine." Would he also say that "the hospital physiotherapy department and the hospital x-ray department are absurdities based on a misunderstanding of the function of electricity in medicine"? Of course not, so why should he condemn the medical photographer whose work aids in teaching the medical student, records the progress of the patient while the clinician is treating him, and assists the clinician in arriving at his diagnosis?

Every teaching hospital should have its own department of medical photography—not only to serve the needs of teacher-clinicians who are too busy doing their proper work to take medical photographs, but also to supply the ever-increasing demand for the many forms of visual teaching aids now in request by medical teachers.—I am, etc.,

Department of Medical Photography,
St. Bartholomew's Hospital, London, E.C.1. NORMAN K. HARRISON.

R.C.S. Suppression of Opinion

SIR,—In the annotation headed "Surgeons in Camera" (May 8, p. 888) you referred to the meeting of Fellows of the Royal College of Surgeons of England held on Wednesday, April 28. That meeting was summoned by a requisition of March 11, signed by 33 Fellows in order to discuss the position of the National Health Service Act in relation to the British Medical Association plebiscite held early this year. The importance of that meeting lay in the fact that it was the first meeting of Fellows (who are the electors of the Council) held since the Act became law at which resolutions dealing with the Act had been permitted. It is regrettable that the three resolutions which were passed at the recent meeting criticizing the Act should have been withheld from the profession and from the public.

A meeting of Fellows on Nov. 29, 1946, was held without the three weeks' notice required by the regulations, and this prevented resolutions from being put forward. Subsequently, when resolutions were put forward at the meeting, they were ruled out of order because notice had not been given, but the medical press were present and the meeting was reported in your columns (Dec. 7, 1946, p. 869). The recent meeting was advertised in the medical journals and attended by Fellows from all over the country. On arrival the Fellows found the agenda paper had been marked "confidential." No preparation had been made for scrutiny of voting, and no preparations had been made for a ballot. After some two hours, when a ballot was called for on the second motion, the meeting was declared secret. It subsequently appeared that the medical press had been excluded from the meeting, and no report of the meeting and the resolutions has as yet appeared in the medical or lay press.

During the past few years the President of the Royal College of Surgeons has used his position and prestige to make pronouncements about the policy of the College as a corporate body—pronouncements that have profoundly influenced both public opinion and the course of events. Those pronouncements would have been more acceptable to the medical profession had there been any evidence that they also represented the views of the Fellows. The recent resolutions were the considered views of the Fellows, and as such should have been accorded the publicity which presidential announcements have received in the past.

The ancient structure of the Royal College of Surgeons may be adequate for dealing with routine College business, but it is not adequate for politics. If the College is to take part in medical politics it is essential that in the future the Fellows should have a ready and speedy method of making their views known. The Fellows of the largest medical college in the country are a responsible body of men, and their views should be of value both to the medical community and to the

community at large. The recent resolutions at the Comitia of the Royal College of Physicians were published in both the medical and other journals, whereas the resolutions passed at the recent meeting of Fellows of the Royal College of Surgeons have not been made known either to the medical profession or to the public. The fact that such a suppression of opinion can occur is a serious criticism of the constitution of the College of Surgeons.—We are, etc.,

A. ROY DINGLEY.
CHARLES HAMBLEN-THOMAS
JOHN HOSFORD.
NORMAN A. JORY.
REGINALD L. MURLEY.
REGINALD T. PAYNE.
ALEX. E. ROCHE.
W. ETHERINGTON WILSON.

Professional Confidence

SIR.—The Lord Chancellor, in his speech in the Lords on the Second Reading of the N.H.S. Bill, which became the Act of 1946, declared that the "very great powers" entrusted by its provisions to the Minister of Health gave him the position of commander-in-chief of an army in the field (Lords Hansard, Oct. 8, 1946). This analogy prompts consideration of the position of medical officers in the fighting Services and lends point to a subject which has been brought to my notice by a medical constituent serving as M.O. to an R.A.F. unit in Germany. He writes that, at a conference of A.O.C.s held in November, 1947, at an R.A.F. unit in Germany attended by all doctors, padres, and commanding officers of the wing, M.O.s were reminded that a long-standing regulation required them to divulge to the commanding officer the names and full medical details of patients under their professional care suffering from venereal disease. It further appeared that these records thus obtained could be passed on to others than the C.O. and could furnish data which could influence the subsequent career of the individual concerned. In this connexion an *inter alia* clause to M.O.s is quoted: "where personnel, civilian or military, is considered *ipso facto* that they are lacking in qualities required of service personnel and that promotion or the grant of short-service or permanent commissions or re-engagement is likely to be jeopardized thereby." The question of the retention in the Service of per cent offenders should be carefully considered.

I approached the Minister for Air with a view to having these facts were correctly stated and received his confirmation that such a conference was held at which the regulation as described was brought to the notice of the participants. It is pleasant to record that some A.O.C.s have agreed to comply. The Minister, however, has referred the service authorities are "informed" that their rule and that the regulation is necessary to preserve the discipline of the troops and has been in force for a long time in all the Services.

Under the new Health Act the well as doctors will come under similar discipline. This will be required to compile far fuller records of patients than at any time previously, and is consequently to be given due consideration in doing so. The records are to be kept in the hands of the authority, and will thus be accessible to the eyes of many lay persons. I submit, therefore, that the regulation constitutes a practically complete destruction of the rule of the professional secret which has been the basis of the rule of the profession for the time being. It is a blow to my medical colleagues. To your Terms of Service, etc.

House of Commons.

Terms of Service for Specialists

SIR.—Now that major differences between the profession and the Minister are being settled, it is pertinent to call attention to certain lesser matters which would therefore mention four points relevant to the terms of service for whole-time specialists.

(1) *Superannuation*.—M.O.s will have to make a choice between alternative scales. The differences between these are in

many cases rather subtle, and there would seem to be a definite opportunity for actuarial advice from the B.M.A. as to the most advantageous choice in different types of work. If this is not practicable, then many of us will have to employ an actuary to guide us as to the best choice.

(2) *Travelling Allowances*.—Previously there have been wide variations in the scales paid by different authorities. It should be agreed that in the new Service nobody shall be the worse off in this respect, and especially should agreement be reached as to the allowance in respect of replacement of a car nowadays, an item which has often been conveniently ignored in recent years.

(3) *Lecture Fees*.—Presumably the remuneration of specialists will be for services rendered in regard to the diagnosis and treatment of patients. However, most specialists do a certain amount of incidental lecturing on their specialty, especially to the nursing profession, and much of this has hitherto been given without remuneration. Is the State expecting that in future its nursing employees will continue to receive a substantial part of their general and special training by free lectures from its medical employees? Should a scale of lecture fees be recommended by the Association?

(4) *Clinical Society Meetings*.—Of recent years the more progressive local authorities have increasingly appreciated the value of merely permitting but encouraging their medical officers to attend the various meetings of important clinical societies in their specialties, and paying their expenses to go to such meetings. It is unnecessary to stress the importance of this or to call attention to the fear-reminiscent backward authorities which still obstruct the efforts of their medical officers to attend such very useful meetings. A clear understanding ought to be reached in the new Service that a specialist will be expected to attend the meetings of important clinical societies, and a definite agreement should be reached regarding expenses and leave of absence to go to such meetings at a certain annual provincial meetings at which medical officers from all over the country—and often from abroad—attend. It is a very stimulating and refreshing.

—I am, etc.

ROBERT JACK.

15, 11, 10, 10, 10, 10.

The S.R.M.

SIR.—I have many others with whom I spoke after the S.R.M. I can only find a few to disgust, first, the split in the profession for which I hold the Council and in particular the Presidents of the Royal Colleges responsible and secondly at the arranging of free speech in what I have always hitherto thought to be a democratic body. I was glad to read Mr. C. E. EVANS' letter (June 12, p. 1155). My own case was similar, but if anything a more flagrant straggling.

Following Dr. Cove-Smith's request for an alteration in the order of the agenda I put the following question to the chairman: "Is not Recommendation A nothing but a thinly veiled vote of confidence in the action of the Council, and, if it is passed, will it not be your duty to rule as 'out of order' motions 56 to 70?" (the motions criticizing the action of the Council and the *Journal*). In reply the chairman definitely stated that he would not rule them out of order and we should have plenty of time to discuss them in the afternoon. My Division had sent me up with a motion, tabled 57 on the agenda, and I was on the rostrum ready to speak while No. 56 was being debated. Representatives will remember that during this debate a point of order was raised from the Hall: "As we have agreed to Recommendation A, are not this and succeeding motions dealing with the action of the Council out of order?" The chairman thereupon (I thought with almost indecent haste) replied, "I rule them out of order." I went across the rostrum to him and reminded him of his assurance to me of the morning, only to receive the reply, "I have ruled them out of order." I am convinced that the motion to change the order of the agenda was lost because of the promise by the chairman to allow the motions of censure to be discussed in the afternoon, but it would appear that it had been the intention of those in high quarters that these motions should be suppressed.

The meeting appeared to start as though charged with high-tension electricity, with all exits heavily mined with high-explosive and with machine-gun nests in all strategic positions, but before long it became apparent that the wires had been short-circuited, the fuses of the mines drawn, and the machine-guns loaded with blank ammunition. I write this letter at the request of and with the full approval of my Division.—I am, etc.,

A. G. HOLMAN.

East Norfolk Division.

Remuneration of Specialists

SIR.—The Spens Report at last gives hope to the whole-time specialist that his services will be adequately rewarded. The recommendations still have to be interpreted by bodies yet to be formed, and here there are endless possibilities for injustices. It would of course be impossible to cover every individual case by general regulations, but the problem of the ex-Service specialist is one where great difficulty may be encountered in assessing the salary of individual persons.

Let us have it clearly understood that those who during the war joined the Armed Forces before being appointed to the staff of a civil hospital have, since demobilization, been at a disadvantage in obtaining suitable employment compared with those who remained civilians; also that Service specialists on the staffs of Service hospitals were the equals of their civilian colleagues who enjoyed similar responsibilities in different circumstances; and that therefore military service as a specialist in charge of hospital beds should count in the same way as civilian experience when the number of increments to which one is entitled is being considered, regardless of the status of the appointment at present being held.—I am, etc.,

Birmingham.

W. M. PHILIP.

Working in the N.H.S.

SIR.—The National Health Service Act comes into operation on July 5, 1948. Following the Representative Meeting of the British Medical Association on May 28, 1948, it is incumbent upon every practitioner participating in the scheme to co-operate whole-heartedly and to make every endeavour within his limited scope to ensure the success of the Health Service in the national interest. The Minister of Health, Mr. Aneurin Bevan, in formulating and drafting all the necessary steps in this great national movement, expressed deep concern for the past hardships in life which had inevitably to be faced up to by the doctors. The hardships to which the Minister referred were particularly stressed as being: (a) The purchase of a practice by the young doctor, thus giving him a millstone for probably ten years; (b) the health of the doctor suffering through long arduous hours of work and being on duty 24 hours out of 24. The Minister considered that no doctor could give of his best living in such an overworked and harassed state.

The Minister in giving the nation the National Health Service has effectively eliminated the first of these factors (the doctor's millstone). The question of the doctor's working hours and hours of duty cannot at the moment be dealt with by the Ministry owing to the facts that: (a) No health centres are built; (b) not sufficient doctors to maintain a normal working week (as is obtained in other spheres of life); (c) not enough specialized equipment for the hospitals and clinics; (d) not a sufficient number of nurses to aid any clinics or even to maintain the present hospital beds at full strength. Bearing all these facts in mind the Minister has stated that he would like the doctors to encourage partnerships and group practice so that adequate self-organization can be put into operation in order to facilitate the working of the Act and in order to work in close co-operation, thus enabling each man to have adequate leisure and periods of rest.

SUGGESTED SCHEME FOR DISCUSSION

All the hospital out-patients and clinics (which are equivalent to the doctor's surgeries) are as far as possible always held in the mornings.

All the new health centres (when built, equipped, and staffed) will hold their clinics in the mornings. In all instances only a skeleton staff of doctors are left on duty each evening to cope with emergency medical cases and accidents.

This scheme above as at present obtains in our hospitals and out-patients should be applicable to the general practitioners' surgeries or clinics, thus enabling the doctors to give the Minister the full co-operation he desires in order to make the Act a success and relieve the doctor to a certain extent of the strain of overwork.

The plan is therefore open to discussion: That general practitioners' evening surgery completely and thus fall into line with the hospitals and health centres (future). (a) It is suggested that the present morning surgery, usually one hour—i.e., 9 a.m. to 10 a.m.—be extended into a morning clinic lasting from, say, 8.30 a.m. to 11 a.m., or alternatively 8.30 a.m. to 10.30 a.m. as desired. (b) That a portion of early evening should be devoted to an out-patient and general clinic, and at this time diphtheria immuniza-

tion could be undertaken. (c) Following the morning clinic the routine visits can be completed. (d) On an average day (epidemic excepted) the doctor's work should be finished by, say, 6 p.m. (e) In partnership practices organization and mutual help could produce a rota system whereby after a given time, say 6 p.m., or two doctors according to the size of the firm could remain on duty for emergencies and night calls. (f) In the case of the single-handed doctor a mutual working arrangement can be made either with another single practitioner or he could take his turn in the system of the firm for night duty.

It should not be overlooked that under the new system at least estimated 80% of all private patients have gone who under the old system were panel dependants.

What would be the advantages under such working arrangements?

(1) The patients would have added facilities in the extended morning time; this particularly refers to the women who often found the evening surgery inconvenient owing to the fact that men returning from work have to have their meals cooked.

(2) The fact that some people would miss their morning work would to a large extent deter the "lead-swingers" or people coming for trivial and idiotic things; thus the patient attending the morning clinic would for the most part really need medical attention.

(3) The expectant mothers could have a clinic of their own which so many women prefer.

(4) The doctors, if they co-operate, will know when the day's work ends and will not have to face a gruelling evening surgery.

(5) The doctors' wives would know in future what time the evening meal would be and not be forced to wait until surgery finished. In these days of little or no domestic help the doctor's wife is not only harassed by 'phone and door but frequently has to face the washing-up at 9 p.m. and 10 p.m.

(6) All that such a scheme as suggested calls for is co-operation by small groups of friends, and it would not only make for a happier and steadier life for the practitioner and his family but would also meet all the needs of the National Health Service in giving a better and fuller service to the public.—I am, etc.,

Soham, Cambs.

N. GRAHAM.

Dispensing in N.H.S.

SIR.—There is one aspect of the new Health Service to which singularly little attention has been paid—the dispensing of patients' prescriptions. All doctors practising in industrial or urban areas will give their patients prescriptions, which they will take to their nearest chemist. There are in some areas ten doctors served by one chemist, and in the winter months it is likely that as many as 500 patients will go to the chemist following busy surgery hours and ask for their prescriptions to be made up.

Chemists have no waiting-rooms, their shops are usually small and often not open during the evening surgery hours, and the resulting chaos may well be a feature of the new Service. It is quite possible that doctors will be asked to take over dispensing again, or else they will be partly blamed for yet another ill-prepared feature of the new Act. Is this problem being considered?—I am, etc.,

Doncaster.

R. W. L. WARD.

Post Office Medical Officers and N.H.S.

SIR.—Among the many anomalies and injustices of the so-called comprehensive National Health Service is that which affects part-time post office medical officers. These medical officers will in many cases lose the medical care of post office personnel which they have had for a number of years.

In the case of cities and large towns most of the P.O. employees on the medical officer's capitation list live outside in the suburbs. They will naturally select a doctor in their home area and thus the P.O.M.O. will lose them as patients. Not only will a happy relationship between the P.O.M.O. and patient be lost, but the P.O.M.O. will be heavily hit financially in the case where he has had medical care of a staff of 600 or so post office employees. The new Treasury medical service will no doubt afford him some form of remuneration in the matter of special reports, etc., but this will not nearly make up the monetary loss. In fact, in cities

ROBERT POOTS.

Obituary

BRITISH
MEDICAL

A. M. GOSSAGE, C.B.E., D.M., F.R.C.P.

Dr. A. M. Gossage died on June 8 at the Westminster Hospital, where for many years he had been consulting physician. Alfred Milne Gossage, the second son of William Herbert Gossage, was born in Lancashire in 1864. He was educated at Clifton and Magdalen College, Oxford, where he took a first-class in natural science in 1886 before going on to the Westminster Hospital. He qualified in 1890, and graduated B.M., B.Ch. in 1891. He was house-physician at the Brompton Hospital and medical registrar at the Westminster Hospital before going on to the honorary staff. Dr. Gossage was elected F.R.C.P. in 1903, and proceeded D.M. in 1907. Apart from his long association with the Westminster Hospital he was also physician to the East London Hospital for Children, which later became the Princess Elizabeth of York Hospital for Children and in 1942 was united with the Queen's Hospital for Children to form the Queen Elizabeth Hospital for Children. Dr. Gossage contributed a number of articles to the medical press and was also responsible for the sections on heredity and syphilis in Garrod and Batten's *Diseases of Children* and for the accounts of Raynaud's disease and infantile convulsions in *System of Treatment* edited by Latham and English. He was a member of the British Medical Association for many years and was secretary of the section of Diseases of Children at the annual meeting in 1900.

Dr. Gossage will be remembered as a good physician and an earnest teacher. He was also a charming person and a trustworthy friend. During the first world war he served in the R.A.M.C. with the rank of major, and in 1920 he was awarded the C.B.E. He married Bertha Pillans, third daughter of Pillans Scarth Stevenson, of Montreal, and they had a son and a daughter. He had been living for some years past in retirement at Chalfont St. Giles.

C. J. PATTEN, M.D., Sc.D.

Charles Joseph Patten was born at Ballybrack, Co. Dublin, in 1870. He died, after a very brief illness, at his home in Farnham, Surrey, at the age of 78. He had been living in Farnham for only about a year.

Patten was educated at the High School, Dublin, and proceeded to Trinity College. Here he took up the study of biology and of medicine. From the first he showed that aptitude for natural history which was so apparent to all who knew him in later years, and took a triple first in the senior moderatorship with a gold medal in natural science. After graduating in 1896 he joined Cunningham's staff as demonstrator of anatomy and was comparatively new, and the clear picture of topographical relations which it gave appealed with special force to the Irish school of anatomists. Working under Cunningham's direction, Patten shaped those descriptions until quite lately. It was natural, therefore, that in 1901 he should be called to fill the chair at the Sheffield Medical School left vacant by the resignation of Christopher (now Lord) Addison, shortly before he planned the new department of anatomy then set up, with an eye upon that of his beloved T.C.D., down to the detail of the parquet floor. He held his chair at Sheffield for thirty-four years, retiring in 1935 with the dignity of professor emeritus, of his many friends he continued to live in Sheffield, leaving it only after the second world war.

Prof. Patten was one of the last of the "classical" school of topographical anatomists. Many whose names are in the forefront of clinical medicine and surgery to-day received their introduction to anatomy at his hands; and he saw to it that the material they studied was both sufficient and well cared for. There are among the primary duties of the head of an anatomical school; he took them seriously. This may seem a small matter in these days of tissue culture and electron microscopy, but as Prof. Cave has said, the first business of

a professor of anatomy is to provide for the needs of the of medicine. There would have been no Harvey had been a Vesalius before him.

One of the earliest members of the Anatomical Society Patten served on its council and contributed many papers to its meetings. He was external examiner to several in England and Ireland, and was unusually popular with candidates. To the general public, however, he was best known as an ornithologist. He had an extraordinary both popular and scientific papers on their ways. He put of their calls and song. He was a good mimic and interested in choral music, human as well as avian. He special interest, too, in the problem of bird migration, in many weeks a year in off-shore lighthouses around the coast that he might gather data for its solution. Two and informative books sum up his observations on this subject. As a man he was a most kindly chief, and a assured of a delightful evening. Those who came to his house and State often differed profoundly from those of his but that made no difference to the welcome they received. later years were clouded by a severe affection of his eyes, this did not seem to dim his essential good humour. He a widow, a son, and a daughter, to whom we extend our sympathy.—M. A. MacC.

Prof. Francis Davies writes: Patten's anatomical were in the field of physical anthropology, particularly variations in skull osteology in primates and anomalies in human myology. But his great interest over many years was the study of bird life, and it is in this sphere that he became known. He studied birds as a naturalist rather than as an ornithologist; it was their ways and habits, their nesting, and particularly their migration that appealed most to him. He was numerous papers and several delightful books on bird life, and was an excellent photographer. His book *The Aquatic Birds of Great Britain*, which was published in 1912, is a standard work of cheerfulness, his generosity, tolerance, ready help, and pronounced sense of humour. He had the gift of excellent and could imitate the sound and song of numerous birds. Australia he added several bird songs to his repertoire used to delight and startle his colleagues with the cry of a laughing jackass. He prepared a fine collection of bird skins many of which he presented to the Weston Park Museum, Sheffield. Patten was a devoted disciple of Charles Darwin, whom he literally worshipped. He will be missed by a wide circle of friends.

HENRY JELLETT, M.D., F.R.C.P.I.

Dr. Henry Jellett, who has just died in New Zealand, was a distinguished graduate of Dublin University. He was the son of the Very Rev. Henry Jellett, D.D., Dean of St. Patrick's Cathedral, Dublin, and was born in Killinardish, Co. Cork on May 29, 1872. After a successful undergraduate career he decided to specialize in midwifery and gynaecology. He graduated in 1894, proceeding M.D. two years later, and was elected F.R.C.P.I. in 1898. Having served his time as assistant master to the late Sir William Smyth at the Rotunda Hospital, Jellett became gynaecologist to Dr. Steevens' Hospital. Later he was appointed King's Professor of Midwifery in Dublin University and gynaecologist to Sir Patrick Dun's Hospital. He had only acted as professor for one year when, in 1910, he was elected Master of the Rotunda Hospital. He resigned his mastership in order to serve as commandant of the Munro Ambulance Corps in 1914, but when he returned from France in 1917 he was re-elected Master and completed the usual period of seven years. Towards the end of the war he was awarded the Croix de Guerre and was made Chevalier de l'Ordre de la Couronne de Belgique.

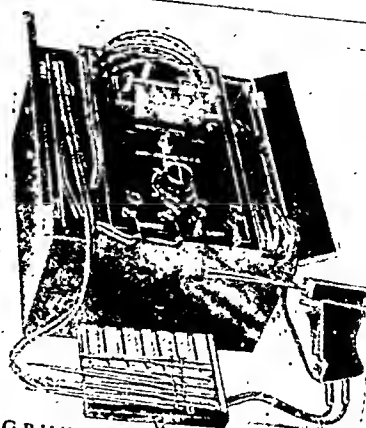
Jellett is chiefly known for his textbooks on midwifery and gynaecology, which had a world-wide circulation and went into many editions. During his mastership of the Rotunda he made many improvements, the most noteworthy being a new labour ward. He was a very skilled operator and was the originator of a useful addition to the prolapse operation—a shortening of the utero-sacral ligaments which are cut away from the

HANDS AND THE MAN . . . NO. 3



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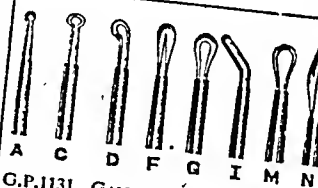
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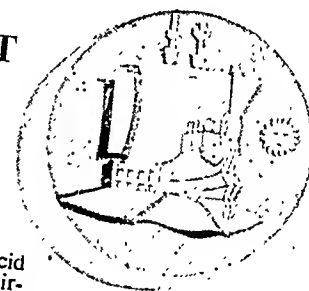
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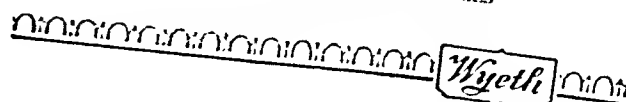
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OBITUARY

posterior surface of the cervix and sewn in front. At one time he advocated prophylactic pubiotomy, suggesting that the pelvis could be measured and pubiotomy done at about the sixth or seventh month, but this idea never became popular. When he finished his term as Master at the Rotunda he emigrated to New Zealand, where he was appointed consulting obstetrician to the Health Department. He told the writer that the climate of Ireland was giving him rheumatism. His very dominant character did not appear to suit the New Zealanders, and during his last years he devoted himself to growing apples and to his favourite sport of fishing. Jellett could not be called a popular man, but he was a very sincere worker in the fields of gynaecology and obstetrics and his work will be remembered for a long time.—B. S.

MAX HIRSCH, M.D.

Dr. Max Hirsch, who was one of the best-known gynaecologists in Germany before the war, died on May 20 in Birmingham at the age of 71. He qualified at Berlin University in 1901, and from the start of his career he applied his knowledge of gynaecology and obstetrics to the problems of social medicine, eugenics, anthropology, biology, and psychology. He founded in 1912 the *Archiv für Frauenkunde und Konstitutionsforschung*, and two years later published the results of an inquiry into the causes of the decrease in the birth rate, with particular reference to abortion and birth control. Other monographs he wrote were on gynaecological diseases in certain industries and on the effects of occupation upon pregnancy and childbirth in Saxony's main textile district. Some of his notably those on medical marriage certificates, marriage counsels, and maternity allowances, helped to bring about legislative changes. In Halban and Seitz's *Biology and Pathology of Women*, Hirsch wrote the chapter about the relation between occupation and the diseases of women.

Hirsch initiated in 1927 a statistical and clinical inquiry into the results of obstetric practice over the preceding fifty years. His conclusion that the achievements of obstetrics in Germany had not kept pace with the progress of medicine provoked much discussion. Finally a special committee was set up by the Leipzig Society for Gynaecology and Obstetrics. Hirsch was a member of this committee, and his *Reichs-Birthstatistik* was accepted as a basis for further inquiries.

Hirsch was made a member of the Health Council of the Ministry of Public Welfare in 1919, of the German Committee on Population Policy in 1928, and he had been president of the Association of Medical Sexologists since 1922. He edited the *Handbuch der Inneren Sekretion*, published in 1932, conducted a large consulting practice, and gave many lectures to postgraduate students.

All these activities came to an abrupt end in 1933, when, in line with the anti-Jewish policy of the Nazis, he was removed from scientific life and public positions, forbidden to practise, and finally imprisoned by the Gestapo. He found refuge in this country with the help of the Society for the Protection of Science and Learning, and after temporary registration had been in charge of maternity units until the beginning of his fatal disease in October, 1947. Hirsch was a man of outstanding personality and profound culture. He was especially interested in classics and in the literature of many periods. His friends from various walks of life saw how he bore his illness with admirable patience, fortitude, and dignity, knowing that the end was inevitable.—E. S.

WILLIAM LLOYD, F.R.C.S.

Mr. William Lloyd, who was honorary aurist and laryngologist to the Music Hall Benevolent Home, died at his home in Harrow-on-the-Hill on June 11 at the age of 73. William Lloyd was born in South Wales in 1874 and educated at the University College of Wales and the London Hospital, qualified L.S.A. in 1898 and took the Scottish triple qualification a year later. He was a house-surgeon at the London Throat Hospital and senior clinical assistant in the Nose, Throat, and Ear Department of the London Hospital. Later he was on the staff of the Kensington and Fulham General Hospital and built up a large practice among operatic, stage, and music-hall artists. He attended Signor Caruso on a charge of indirect advertisement which followed the appearance in a London newspaper of an article by a patient of his who was also a journalist. William Lloyd was not mentioned by name in the article and the action of the General Medical Council in this case was the subject of a question in the House of Commons a few days later. His name was restored to the *Register* in 1927. William Lloyd published a number of articles in this and other journals, and his best-known work was a book on hay-fever and hay-asthma, which went into a third edition in 1931.

Dr. R. Tudor Edwards writes:

The passing of Mr. William Lloyd last week at the age of 73, at Harrow-on-the-Hill, brought to its close a most interesting and dynamic life. His parents were farmers in Carmarthenshire. He was an enthusiastic Welshman, and recently remembered his old school at Carmarthen by endowing it with two annual scholarships of £50 each to be competed for by Welsh-speaking boys. In granting these scholarships he also presented to the school a set of original photographs of Captain Scott's Antarctic expedition. These were by Mr. Herbert Ponting, official photographer to the expedition. Mr. Lloyd was kind by nature, an individualist, forceful, and a very hard worker. He led a tumultuous life and, like his old patient, David Lloyd George, brought all his troubles on his own head. An example of this may be seen in that while he took the F.R.C.S. he never registered it because he objected to paying the registration fee—on principle. He lived in Brook Street, Grosvenor Square, from 1906 until the house was blitzed in 1940. During those years he was consulted by most of the leading singers, politicians, and musical artists of bygone days. Their gratitude is demonstrated in hundreds of letters and tokens. A large photograph of Caruso, who was his patient on and off for fifteen years, bears the message, "To William Lloyd, with the most profound expression of sympathy and friendship—Enrico Caruso." He was a keen sportsman and played rugby for the London Sporting Club for forty years. During the 1914-18 war he organized a matinee at the Alhambra for London Welsh troops which raised £8,000. He travelled the world over and was a great lover of nature, but was never happier than when talking of his native Wales.

Dr. GERALD CHAMBERS, who died on May 19, graduated at Leeds in 1924, and at an early stage of his career decided to specialize in radiology. After a short time in London, when he was assistant radiologist to St. George's Hospital and clinical assistant in radiology at the London Hospital, he was appointed radiologist to the General Hospital, Shanghai. He remained there until shortly before the war, when he returned to this country. He settled in Plymouth and was appointed radiologist to the Prince of Wales Hospital. In 1941 Dr. Chambers joined the Royal Air Force and was in charge of the radiology department at a large general hospital until the end of the war. On first acquaintance "Tom" Chambers was rather shy, but when his natural reserve was penetrated he showed himself to be the kindest and quietest of friends. His sound common sense and endearing him to all who were fortunate enough to get to know him. He possessed a very equable temperament, but could not stand injustice, and this alone could rouse him to anger. He was a first-class diagnostician with a wide experience which made him a valued member of the hospital staff. Since his demobilization in 1945 he had suffered from constant and gradually increasing pain. This he bore with great fortitude, and his passing was to him a relief. He leaves a widow, two daughters, and a son, and to them our deepest sympathy is extended.—A. W. B.

Dr. FRANK GORDON MACNAIR died at Avondale on May 26 at the age of 46. He graduated M.B., Ch.B. at Edinburgh in 1925, and was in general practice in Dumfriesshire for a short time before becoming an assistant in the department of pharmacology at Edinburgh University. He proceeded M.D. in 1930, and moved to Marple, in Cheshire, where he again entered general practice and established a reputation as a wise and understanding physician. Dr. Macnair devoted much of his time to the Stockport Infirmary in the capacity of assistant medical officer only when he decided to concentrate on the study of psychiatry. He had already taken part of the D.P.M. when his final illness developed. He leaves a widow and two children, and will be widely missed not only by his former patients but by a large circle of friends.—D. R. A.

Medico-Legal

CONTRACEPTIVES AND NON-CONSUMMATION

[FROM OUR MEDICO-LEGAL CORRESPONDENT]

The troublesome decision of the Court of Appeal in *Cowen v. Cowen*, which held that insistence on the use of a contraceptive could amount to wilful refusal to consummate a marriage, was declared invalid by the decision of the House of Lords in *Baxter v. Baxter*.¹ Consummation means in law what it means in ordinary speech, and intercourse even with the use of a contraceptive is consummation. In the case of *Horton v. Horton*,² decided about the same time, their Lordships' House declined to define the phrase "wilful refusal of consummation," but said that it connoted a settled and definite decision come to without just excuse. Similarly, the Attorney-General stated on Jan. 27, when asked by a member at Question Time, that the Government did not intend to introduce amending legislation to nullify the effect of *Baxter v. Baxter*. The member described the present definition of consummation as pernicious and contrary to public policy, but the Government held the view that this was one of the fields of human relationship—not now very numerous, some may think—which cannot properly be dealt with by legislation. The Attorney-General hinted that there was some misunderstanding of the effect of the decision. He pointed out that the case did not decide that one of the parties to the marriage was entitled to refuse marital relations unless contraceptives were used, nor that where they were so refused the other party had no remedy. The Lord Chancellor said in deciding the *Baxter* appeal that the proper occasion for considering the subjects raised by it was when the sexual life of the spouses and the responsibility of either or both for a childless home formed the background to some other claim for relief. Examples given recently by a learned writer³ were a divorce suit based on desertion or cruelty, or the defence of a suit brought on some other ground by a spouse guilty of such a refusal. This writer, however, did not see very much importance in such a "background," for desertion requires actual separation for three years, and desertion of the "constructive" kind envisaged here, in which the petitioner has left the home because the respondent has made life in it impossible, requires conduct amounting to expulsion. A suit based on cruelty requires proof of injury to health or a reasonable apprehension of it.

Two Relevant Cases

An actual case, however, was decided recently by the High Court⁴ in which (as the *Law Notes* writer points out) refusal of normal intercourse was held to provide reasonable ground for a husband to leave his wife. This husband had been very anxious to have a family, but the parties had decided not to have children during the war. After the war the wife refused to bear a child or to allow normal intercourse, and the justices believed the husband's evidence that she was always nagging and "bawling" at him. There was a final quarrel, the husband left the home, and both parties petitioned for nullity on the ground of non-consummation, but neither was able to prove the case. The wife then summoned the husband for maintenance, and the bench dismissed her summonses, holding that her conduct was such that normal married life was not possible, and that she was not genuinely prepared to cohabit with the husband again. The wife appealed to the Divisional Court, and Lord Merriman, the President, said that every word of the Lord Chancellor's remarks, in *Baxter v. Baxter*, about the responsibility of one or both spouses for a childless home forming the background to another claim for relief applied precisely to the present case, and the justices had been quite right in assessing the bearing of the parties' sexual life on the parting between them. But he emphasized that there was nothing irrevocable about any of these matters. Although the wife had been sterilized by an operation, she could mend her ways and resume cohabitation in the full sense of the

word; if she did so, the husband would not be entitled to take the view that it had been finally decided that because she had refused to bear children the marriage was at an end.

On the other hand, the "background" did not help another husband who asked the court to allow him to present a petition for divorce before three years had elapsed from the date of the marriage, a course only allowed if the court considers it justified by exceptional hardship.⁵ He maintained that his wife's refusal to allow intercourse without a contraceptive because she did not want children constituted the exceptional hardship required by Herbert's Act. Mr. Justice Pilcher refused, and the Court of Appeal supported him. Mr. Justice Bucknill said that married couples ought not to be encouraged to take such an ill-advised step as to sue for divorce merely because things had gone wrong. On the husband's other ground of exceptional hardship—namely, that he had not been able to get his petition for nullity heard and decided before the House of Lords' decision in *Baxter v. Baxter*, which laid down that a marriage can be consummated by intercourse with a contraceptive—the Lord Justice said that the contention had no merit and that those who got their decrees before *Baxter v. Baxter* were the lucky ones.

Coitus Interruptus

Another question that has given rise to a difference of judicial opinion is whether a marriage has been consummated when there has been no intercourse except coitus interruptus.⁶ This question was also left undecided in *Baxter v. Baxter* but has recently been considered in two other cases. On May 10 Mr. Justice Finnemore in the undefended case of *Grimes (otherwise Edwards) v. Grimes* held that the husband's insistence on the practice against the wishes of the wife amounted in law to wilful refusal to consummate the marriage. It was not natural or complete intercourse and it could be distinguished from the practice of using contraceptives.

On the following day Mr. Justice Willmer, in the defended suit of *White (otherwise Berry) v. White*, disagreed with this decision. He held that coitus interruptus was not wilful refusal to consummate, though if it caused injury to the wife's health it might amount to legal cruelty. His Lordship therefore granted the wife a decree nisi of divorce on the ground of cruelty, though he dismissed her petition for nullity.

Universities and Colleges

UNIVERSITY OF SHEFFIELD

The following appointments were made at a meeting of the University Council on June 18: *Full-time Medical Officer for the Student Health Service*, P. W. W. Gifford, M.B., Ch.B. *Full-time Assistant Lecturer in Pathology*, B. E. Heard, M.B., Ch.B. *Part-time Tutor in Obstetrics*, S. J. Barr, M.B., Ch.B., M.R.C.O.G. *Part-time Assistant Tutor in Obstetrics*, T. Smith, M.B., Ch.B. Glas., F.R.C.S. Ed., F.R.F.P.S.

The Council received the resignations of Dr. G. B. Oliver (Honorary Lecturer in Industrial Medicine), Mr. M. F. A. Woodruff (Tutor in Surgery), and Dr. G. L. Hermitte (Lecturer in Histology) and thanked them for their services to the University.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

The Faculty of Dental Surgery of the Royal College of Surgeons of England has arranged a series of lectures on anatomy, applied physiology and pathology in their application to dental surgery to be given at the College (Lincoln's Inn Fields, London, W.C.) on Mondays to Fridays, from July 5 to 30, at 5 p.m. and 6.15 p.m. each day. The Faculty also announces a series of lectures on general, oral, and dental surgery to be given at the College on Mondays to Fridays, from Sept. 6 to Oct. 1, at 5 p.m. and 6.15 p.m. each day, except on Sept. 7 and 10 (6.15 p.m. only) and Sept. 16 and 22 (5 p.m. only). The admission fee for each course is £12 12s. (Fellows and Members and Fellows and Licentiates in Dental Surgery of the College will be admitted for £10 10s.) Admission cards may be obtained from Mr. W. F. Davis, secretary of the Faculty of Dental Surgery.

The following lectures will be delivered at the College (Lincoln's Inn Fields, London, W.C.), at 5 p.m. on each day: July 1, Hunterian Lecture by Prof. John Loewenthal, "Treatment of Intractable Ulceration of the Leg, with special reference to Streptomycin"; July 8, Surgery Lecture by Dr. Richard B. Cattell (Surgeon, Lahey Clinic), "Carcinoma of the Pancreas"; July 16, Charles Tomes

¹ *British Med. J. Journal*, 1948, 1, 231.

² 1947, 2 A.B.R. 871.

³ *Law Notes*, 1948, 67, 62.

⁴ *Law Notes*, 1948, 1 A.B.R. 193.

⁵ *Law Notes*, 1948, March 16 (*Fisher v. Fisher*).

⁶ *Law Notes*, 1948, 67, 123.

UNIVERSITIES AND COLLEGES

Mr. Wilson added that the National Research Development Corporation would work at all times in close co-operation with the Board of Trade, with the Government production departments generally, and with the Medical Research Council and other scientific bodies. It would have a close relationship with existing experimental stations, and would help to speed up the implementation of the fundamental research undertaken in the Government departments and the universities.

After a brief discussion Mr. BELCHER replied for the Government and the Bill was read a second time without a division.

FACTORIES BILL

the subject of an annotation

Mr. ISAACS

After a brief discussion
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[illegible]

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FACTORIES Bill was the subject of

The new Factories Bill was introduced in our issue of April 10 (p. 698).

Moving the Second Reading on June 11, Mr. Isaacacs said the purpose of the Bill was to extend the medical examination to all young persons entering factory employment and to provide for re-examination at least once a year. These clauses were intended to bring British law into line with the International Labour Convention of 1946. The Government was not in a position to adopt that Convention, but intended to introduce legislation gradually. Clause 6 dealt with the provision of seats in factories. Clause 7 changed the name of "examining surgeon" to "appointed factory doctor" and altered in some degree the manner of his appointment. Mr. Isaacacs held it was better to use the word "doctors." In many cases factories had fully employed doctors for duties which were not covered by the Act. The Ministry of Labour wished to see these doctors more widely used, but doubted whether it could legally appoint them as examining doctors. The Ministry was aware that it was thought the firm's doctor was less likely than an outside doctor to give a certificate that he had the complete confidence and decisions of factory doctors regard to the appointment and decisions of factory doctors. If that could not be got, half their value was lost. Clause 12 gave power to make health or safety regulations about dangerous equipment, such as fire extinguishers, which were not in use in a manufacturing process. A complete, comprehensive industrial medical service could not be established at the moment. More suitable doctors were required before that could be done, but the training of doctors was receiving a new slant in this direction and a powerful association of medical men had banded together to encourage this work.

The debate was adjourned.

When the Report Stage of the Representation of the People Bill was in the House of Commons on June 11, 1948, the Government's proposal for the representation was rejected by a majority of 100.

When the Report Stage of the Representation of the People Bill was taken in the House of Commons on June 14, 1911, the Government's proposal for the extension of the franchise was rejected by 217 to 174. The debate was adjourned.

DEVELOPMENT OF INVENTIONS BILL

University Seats.—When the Report of the Committee on the University Seats of the People Bill was taken in the House of Commons, a proposal to retain university representation was rejected by 88 to 82.

Medical Regulations.—The National Health Service (General Medical Councils) (Scotland) Regulations, 1948, were laid before the House of Commons on June 15, as were the Medical and Dental (Scotland) Regulations, 1948, and the Medical and Dental (Scotland) Regulations, 1948, and the Medical and Dental (Scotland) Regulations, 1948.

N.H.S. Regulations, 1948.—The National Health Service Executive Council, 1948, presented to Parliament on June 15, 1948, and the National Health Service Regulations, 1948, and the National Health Service Board Financial Regulations, 1948, the National Health Service (Supplementary Ophthalmic Services) Regulations, 1948, on June 16 and the National Health Service (Dissolved Authorities) Regulations, 1948, on June 17.

National Insurance and N.H.S.—Major TUFTON-BEAMISH asked
 on June 17 how far persons who defaulted with their subscriptions
 to the National Insurance General Scheme or to the Industrial
 Injuries Insurance would still receive the full scale of medical ser-
 vices provided under the Health Act after July 5. Mr. BEVAN
 answered that entitlement to the health service did not depend on
 contributions at all.

Quinquennial Reports on National Insurance Scheme.—Provision
 in the National Insurance Act, 1946, for quinquennial reports
 on the financial condition of the National Insurance Agency or
 otherwise on the operation of the scheme was referred to the
 Treasury, and the Treasury will

Quinquennial Reports on National Insurance Scheme.—Provision is made in the National Insurance Act, 1946, for quinquennial reports by the Government Actuary on the financial condition of the National Insurance Fund, and on the adequacy or otherwise of the operation of the scheme. These reports are to be made to the Treasury, and are to be laid before Parliament. The first Interim Report will cover the period from July 5, 1948, to March 31, 1950.

No. 23

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended June 5.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included), (b) London (administrative county), (c) Scotland, (d) Eire, (e) Northern Ireland. Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London), (b) London (administrative county), (c) The 16 principal towns in Scotland, (d) The 13 principal towns in Eire, (e) The 10 principal towns in Northern Ireland. A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1948					1947 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever ..	42	6	20	2	1	63	8	21	3	2
Deaths	—	1	—	—	—	—	—	2	—	—
Diphtheria	166	17	36	13	4	196	22	46	18	7
Deaths	1	—	—	—	—	2	—	—	—	—
Dysentery	95	18	64	—	—	53	14	40	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Encephalitis lethargica, acute	—	—	1	—	—	4	—	1	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Erysipelas	—	—	34	11	8	—	—	24	10	2
Deaths	—	—	—	—	—	—	—	—	—	—
Infective enteritis or diarrhoea under 2 years	—	—	—	12	—	—	—	18	7	3
Deaths	33	3	8	—	—	71	9	15	—	—
Measles*	10,824	818	195	162	74	13,535	681	145	132	17
Deaths†	—	—	—	—	—	4	—	—	2	—
Ophthalmia neonatorum	58	7	5	—	—	75	1	21	1	—
Deaths	—	—	—	—	—	—	—	—	—	—
Paratyphoid fever	2	—	1 (B)	1 (B)	—	16	1	1 (B)	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal	479	19	3	6	2	467	32	5	6	10
Deaths (from influenza)	3	—	—	—	—	2	1	—	1	—
Pneumonia, primary	—	—	180	51	—	—	—	221	21	—
Deaths	175	31	—	12	7	43	—	—	8	7
Polio-encephalitis, acute	1	—	—	—	—	2	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Poliomyelitis, acute	21	4	1	2	—	22	3	—	7	—
Deaths‡	—	—	—	—	—	—	—	—	—	—
Puerperal fever	—	2	14	—	—	—	2	8	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Puerperal pyrexia	130	7	12	—	—	128	4	10	—	—
Deaths	—	—	—	—	—	1	—	—	—	—
Relapsing fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Scarlet fever	1,547	107	257	37	36	730	74	126	22	31
Deaths§	—	—	—	—	—	1	—	—	—	—
Smallpox	—	—	—	—	—	7	—	—	—	—
Deaths	—	—	—	—	—	2	—	—	—	—
Typhoid fever	1	—	—	4	—	2	1	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Whooping-cough*	3,207	243	51	96	19	2,050	231	145	46	16
Deaths	4	1	—	1	—	11	2	4	3	—
Deaths (0-1 year)	298	45	49	25	17	473	67	75	38	15
Infant mortality rate (per 1,000 live births)	—	—	—	—	—	—	—	—	—	—
Deaths (excluding still-births)	4,218	682	617	174	120	4,707	851	595	189	112
Annual death rate (per 1,000 persons living)	—	—	12.5	10.9	—	—	—	12.4	11.9	—
Live births	7,924	1,252	952	456	293	9,613	1,404	1,178	462	323
Annual rate per 1,000 persons living	—	—	19.2	25.5	—	—	—	23.7	29.1	—
Stillbirths	187	19	34	—	—	235	31	36	—	—
Rate per 1,000 total births (including stillbirths)	—	—	34	—	—	—	—	30	—	—

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Deaths from measles and scarlet fever for England and Wales, London (administrative county), will no longer be published.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ The number of deaths from poliomyelitis and polio-encephalitis for England and Wales, London (administrative county), are combined.

|| Includes puerperal fever for England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Travellers to Japan

The following are amended instructions about the inoculation and vaccination certificates required from travellers entering Japan. (1) Vaccination against smallpox and typhoid fever within the preceding twelve months. Persons arriving from an epidemic smallpox area, however, may be required to show evidence of a successful vaccination within the preceding six days. (2) Other special immunizations may be required as deemed necessary by competent quarantine authorities on the basis of actual or threatened epidemics in Japan or to prevent the introduction of epidemic disease into Japan. (3) Person arriving without the required certificates will be given the necessary vaccinations and placed under observation or surveillance for a sufficient period to determine their freedom from these diseases.

These regulations do not apply to allied personnel associated with the occupation forces of Japan, for whom immunization against smallpox, typhoid-paratyphoid, typhus, and cholera are required, in addition to diphtheria immunization for children under 15 years of age, unless they are Schick-negative.

Discussion of Table

In England and Wales a decreased incidence was recorded for measles 2,644, acute pneumonia 100, and dysentery 27, while an increase was reported for scarlet fever 331 and whooping-cough 122.

The largest decreases in the notifications of measles were Warwickshire 457, London 316, Essex 227, Surrey 221, Middlesex 221, Lancashire 181, and Durham 167. The returns for acute pneumonia showed a small fall in all areas except Yorkshire and the northern counties. The increased incidence of scarlet fever was mainly contributed by the northern half of the country; the largest increases were Yorkshire West Riding 45, Lancashire 35, Staffordshire 26, and Durham 26.

Only small fluctuations occurred in the local trends of diphtheria; one-seventh of the total cases were notified in Liverpool C.B. The only variations of any size in the local return of whooping-cough were increases in Lancashire 58 and Kent 54.

Notifications of dysentery were the lowest for the present year. A new outbreak of dysentery affecting 11 persons was notified from Essex; the other large returns were Lancashire 24, London 18, and Yorkshire West Riding 11. The largest return of poliomyelitis were Yorkshire West Riding 5, London 4, Middlesex 4, and Lancashire 3.

In Scotland decreases were recorded in the notification of scarlet fever 19 and measles 15, while the notifications of dysentery increased by 21. The rise in the incidence of dysentery was due to an increase in existing outbreaks; the largest return was Glasgow 33.

In Eire the notifications of measles increased by 23 and those of whooping-cough decreased by 21. Cases of diarrhoea and enteritis reached the low level of 12, of which 9 were notified in Dublin C.B. The increased incidence of measles was fairly general throughout the country.

In Northern Ireland the incidence of measles remained at the level of the preceding two weeks. An increase of 13 was recorded in the notifications of scarlet fever.

Quarterly Returns for Northern Ireland

During the fourth quarter of 1947 the births were equivalent to a rate of 20.5, being 1.3 below the rate for the December quarter of the preceding year. The infant mortality rate was 59 per 1,000 registered births and was 6 above the rate for the preceding fourth quarter but 6 below the average of the corresponding quarters of the five preceding years. Maternal mortality was 1.9 per 1,000 births and was 0.7 below the five-year average. The general death rate was 11.1 per 1,000 and was 1.4 below the average of the preceding five December quarters. Deaths under two years attributed to diarrhoea and enteritis numbered 69. Deaths from pulmonary tuberculosis numbered 165 and from other forms of tuberculosis 33; these were 3 and 27, respectively, below the average of the five preceding fourth quarters.

Quarterly Returns for Scotland

The birth rate for the first quarter of this year was 19.3, being 4.3 below the rate for the corresponding quarter of 1947 but 0.7 above the average of the corresponding quarters of 1943-7. Infant mortality was 51 per 1,000 registered live birth—a new low level, 12 below the value for the March quarter of 1947 and 19 below the five years' average. Maternal mortality was 1.5 per 1,000 births, the lowest rate ever recorded in Scotland, and was 1.5 below the average of the preceding

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ve first quarters. The general death rate was 13.1 per 1,000. The lowest recorded for the first quarter of any year. This rate was 3.7 below the rate for the first quarter of 1947 and 1.9 below the five-year average. The death rate from all forms of tuberculosis was 78 per 100,000 and that from respiratory tuberculosis was 66; these rates were respectively 5 below and 2 above the five years' average. Deaths from infectious diseases included influenza 53, measles 41, cerebrospinal fever 18, whooping-cough 12, and diphtheria 12.

Week Ending June 12

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 1,562, whooping-cough 3,298, diphtheria 160, measles 12,225, acute pneumonia 460, cerebrospinal fever 45, acute poliomyelitis 13, dysentery 95, paratyphoid 6, and typhoid 3.

Medical News

Northern Ireland Mental Health Bill

A Mental Health Bill for Northern Ireland has been published. It contains provisions for the prevention, diagnosis, and treatment of mental illness. Emphasis is laid on the making of suitable arrangements for the welfare of patients including after-care. Specialist services will be available at out-patient clinics and will ordinarily be secured through a recommendation made by the patient's own doctor. Persons admitted to mental hospitals will fall into one of two groups. There will be the voluntary patients who know that they need treatment and will apply to obtain it. Patients in the second group will be admitted as "temporary patients" on the recommendation of only one medical practitioner. Treatment in the temporary category may continue for a period of up to two years. When it is found that it is no longer proper to retain a mentally ill person as a temporary patient, steps may be taken to have him certified by a judicial authority as a person of unsound mind.

For the first time in Northern Ireland provision is to be made for mental defectives—defined as persons suffering from arrested or incomplete development of mind which renders them socially inefficient to such an extent that they require care in their own interests or in the public interest. Part 4 of the Bill is concerned with the powers of medical inspectors appointed by the Ministry of Health for the purposes of the mental health arrangements and with other safeguards designed to secure the liberty of the subject.

R.A.M.C. Jubilee Scrapbook

To commemorate the Golden Jubilee of the R.A.M.C. it has issued an illustrated *Jubilee Scrapbook* (Gale and Polden, 2s. 6d.; profits are contributed to the R.A.M.C. War Memorial Fund). The scrapbook is well illustrated with photographs of royalty visiting the R.A.M.C. in peace and war and includes notes and stories of celebrated occasions.

Dentists Reject Health Service

The Representative Board of the British Dental Association, which represents about 8,000 of Britain's 12,000 dentists, met at Birmingham on June 20 and issued the following statement:

"The views expressed at special branch meetings held during last week and the extraordinary general meeting in Birmingham on Saturday showed clearly that the members of the association are solidly behind the present policy of the association. The members are profoundly dissatisfied at the complete refusal in connexion with to grant any of the association's basic principles in which the health service, at the hurried and incomplete way in which the remuneration negotiations were carried through, and the lack of security in the present position by which a whole-salaried service can be introduced by regulation alone. The letter to be sent to members will point out that, although the Acts have been passed, the National Health Service cannot be successful without the willing co-operation of the majority of their members will not willingly go into the Service."

Dentists Say Yes

The incorporated Dental Society and the Public Dental Service Association are leaving it to their members to decide individually whether or not to enter the Service. They state that there is nothing in the Act or Regulations to justify their recommending dentists not to join.

Pharmacists Accept Health Service

The National Pharmaceutical Union has stated that with a few exceptions pharmacists will serve under the National Health Service.

Opticians to Enter Service

The joint emergency committee representing the opticians has advised them to enter the supplementary ophthalmic scheme of the N.H.S. on July 5, though the Minister's terms are not entirely adequate. The Minister's decision that people must obtain a certificate from a doctor before visiting an optician for the first time, instead of going direct, is accepted by the Committee under protest. The Committee considers that the remuneration is too low, but has been assured that the matter can be taken up through the Whitley Council.

Empire Cancer Campaign

A delegation from the British Empire Cancer Campaign left England on June 24 to visit Canada and the U.S.A. until Aug. 4. Its members are Lord Horder, Sir Stanford Cade, Prof. F. Dickens, Prof. B. W. Windeyer, Dr. P. R. Peacock, and Captain F. B. Tours, R.N. (ret.). The delegation will discuss recent developments in cancer research with interested organizations.

Conservatives and the Health Service

Sir Hugh Lucas Tooth at the Ladies Carlton Club on June 19 said that both Conservatives and Socialists promised a comprehensive health service at the last election, the Conservatives emphasizing the need for retaining tradition, the Socialists for centralization. The Conservatives opposed the National Health Service Bill because they regarded it as hopelessly over-centralized. Now that the Act was on the statute book the position was changed. The Conservatives had not and would not sabotage the will of Parliament; indeed, they had done all they could to bring about an agreement, fairly arrived at, between the Minister and the doctors so as to make the Act as successful as possible.

Harveian Society Dinner

The Harveian Society of London held the Buckston Browne dinner on June 17, the President, Mr. E. G. Muir, F.R.C.S., being in the chair. The health of the Society was proposed by the President of the Royal College of Obstetricians and Gynaecologists, and responded to by Mr. Muir. Lord Balfour of Burleigh and Sir Frederick Sellers responded to the toast of the guests, which was proposed by Mr. Rodney Smith, F.R.C.S. The Harveian Society was founded in 1831 under the name of the Western London Medical Society, which was changed within a month to the present title. It was not until 1856 that the members of the Society dined together. The late Sir Buckston Browne established a fund to enable men to dine together once a year, and also made it possible for the Society to offer a prize and medal for the best essay on a subject of medical interest selected by the Council.

Ambulance by Radio

The first wireless-controlled ambulance service in Britain was started in the Yorkshire West Riding on May 24. There are four ambulances fitted with short-wave sets and the master station is at Birkenhead. If the service is a success it will be expanded to cover the whole county.

Dr. C. Gray Imrie

The honorary degree of D.Sc. has been conferred on Cyril Gray Imrie, M.D., F.R.C.P., honorary physician to the Sheffield Royal Hospital, by the University of Western Ontario, from which he graduated in 1911.

Committee on Psychiatry

Psychiatrists in the North-west Metropolitan Hospital Region have elected an advisory committee to represent various aspects of the psychiatric service. The following are the members: *Mental Hospitals*: Dr. A. C. Dalzell, Dr. J. B. S. Lewis, Dr. S. A. MacKeith (deputy chairman). *Mental Deficiency*: Dr. N. H. M. Burke, Dr. J. H. Watkin. *Adult Out-patient Clinics*: Dr. E. A. Bennet, Dr. B. C. M. Gilson, Dr. J. D. Sutherland (honorary secretary). *Child Guidance Clinics*: Dr. J. Bowlby (honorary treasurer). *Dr. W. Moodie*, Dr. D. W. Winnicott. *Teaching Hospitals*: Dr. N. McDiarmid. *General*: Dr. J. Rickman. *Representative of Psychiatrists*: Dr. D. Odum, Dr. J. L. Ferard. *Professional Social Workers*: Miss M. L. Williams. Further information may be obtained from the honorary secretary, at 2, Beaumont Street, London, W.1.

Commonwealth Fund Fellowships

The following members of the medical profession have been appointed to Fellowships tenable by British graduates in American universities for one year from September, 1948, by the Committee of Award of the Commonwealth Fund Fellowships (35, Portman Square, London, W.1): G. M. Carstairs, M.B., Ch.B.; R. B. Hunter, M.B.E., M.B., Ch.B.; M.R.C.P.Ed.; R. W. Riddell, M.B., B.S., M.R.C.P.Ed.; G. A. Smart, M.D., M.R.C.P.

Dr. Chuni Lal Katial

On June 8 the Freedom of the Borough of Finsbury was granted to Chuni Lal Katial, M.B., B.S., D.T.M. Dr. Katial was Mayor of Finsbury in 1938-9 and was a first-aid medical officer throughout the war. He is leaving Finsbury to become Director of all India's industrial health services.

Air Marshal Sir Harold Whittingham

Air Marshal Sir Harold Whittingham, B.O.A.C.'s Director of Medical Services, has flown to Toronto to attend meetings of the Airline Medical Directors Association, the Aero Medical Association, and the Medical Panel of the International Air Transport Association.

30-Million Volt Synchrotron

Following their operation of the world's first synchrotron in 1946, the Electronics Group of the Ministry of Supply's Atomic Energy Research Establishment has now made a larger machine, producing 30-million volt x rays. Details of the synchrotron were given in an annotation in the *Journal* of March 20 (p. 554).

Wills

Mr. John James Robb, of Dundee, left £37,870. Dr. John Braithwaite, formerly in practice in Boston, Lines., left £53,299; Dr. Edward Stainer, of Great Missenden, £12,706; Mr. Ernest Arnold Hodgson Hindhaugh, of Liverpool, £9,482; and Lieut.-Col. Joseph Hulbert, late I.M.S., £10,460.

COMING EVENTS**Medical Records Officers**

The Association of Medical Records Officers held a week-end school at Bristol Royal Infirmary on May 29-30 under the presidency of the Infirmary's House Governor, Mr. S. C. Merivale. Similar courses will be held at St. Bartholomew's Hospital, London, for the N.E. Metropolitan Region on June 26-27 and at the Manchester Royal Infirmary for the Manchester Region on July 17-18. It is hoped to hold further courses during the year at Cardiff, Liverpool, Leeds, London, Newcastle, and Sheffield.

Kettle Memorial Lecture

Prof. W. D. Newcomb, M.D., F.R.C.P., will deliver the Kettle Memorial Lecture on "Bone Growth and Absorption" in the lecture theatre of the Inoculation Department of St. Mary's Hospital Medical School, Praed Street, London, W., on Tuesday, June 29, at 5 p.m. All medical practitioners and medical undergraduates are invited to attend the lecture.

Nurses Conference

The Royal College of Nursing will hold its annual meeting and conference on June 30 to July 3. The annual general meeting will be at 3 p.m. on July 1 at the Central Hall, Westminster, and the professional conference on "The Nurses in the Social Order" will follow at 8 p.m. Speakers include Miss K. S. Armstrong, former editor of the *Nursing Times*, and Miss M. B. Powell, Matron at St. George's Hospital.

Cameron Prize Lecture

Prof. E. B. Astwood, M.D., C.M., Ph.D., Research Professor of Medicine, Tufts Medical School, Boston, Mass., U.S.A., will deliver the University of Edinburgh Cameron Prize Lecture for 1948 in the Anatomy Lecture Theatre, University New Buildings, Teviot Place, Edinburgh, on Friday, July 2, at 5 p.m. His subject is "The Use of Radioactive Iodine in the Study of Thyroid Function in Man." All students and graduates are invited to attend the lecture.

Society of Medical Officers of Health County Borough Group

The annual meeting and conference of the County Borough Group of the Society of Medical Officers of Health will be held at Aberdare Hall, Cathays Park, Cardiff, on Friday, Saturday, and Sunday, July 2, 3, and 4, under the presidency of Dr. J. Greenwood Wilson (Cardiff). The speakers will be Dr. E. K. Maedonald (Leicester), on "The fragments that remain . . ."; Dr. Charles M. Fletcher, Director of the Medical Research Council's Pneumoconiosis Research Unit; Sir Frederick Rees, Principal, University College of South Wales and Monmouthshire, Cardiff, on "Post-war Planning"; Dr. D. A. Williams (Llandaff), Mr. D. B. E. Foster (Ponarth), and Miss Mary Davies (health nurse, Cardiff Health Department), on "Follow-up of Ex-hospital Patients"; and Dr. W. G. Patterson, Senior Administrative Medical Officer, Newcastle-upon-Tyne Regional Hospital Board, on "The Regional Hospital Board and the Medical Officer of Health." The Lord Mayor of Cardiff has accepted an invitation to join the group at its inaugural dinner on the evening of July 2 and will entertain them to luncheon. It is hoped at Cardiff Castle, on July 3. The vice-president and honorary secretary of the group is Dr. R. M. Galloway, 10, Stapleton Avenue, Haver, Bolton, Lancs.

Oxford Graduates' Medical Club

The summer dinner of the Oxford Graduates' Medical Club will be held at Christ Church, Oxford, on Friday, July 16, at 7 for 7.30 p.m., when the chair will be taken by Prof. A. W. M. Ellis D.M., F.R.C.P. All men who are Oxford graduates, studying or practising medicine, are members of the club, and it is hoped that there will be a good attendance at this the first post-war dinner. Accommodation is restricted, making it impossible to allow guests on this occasion. The joint honorary secretary of the club Mr. E. A. Crook, M.Ch., F.R.C.S. (149, Harley Street, London, W.1), asks those who intend to be present at the dinner to let him know by July 1 at the latest; he would also be glad of the permanent addresses of all members. The cost of the dinner is 30s., inclusive of wine, and day dress will be worn.

SOCIETIES AND LECTURES**Monday**

INSTITUTE OF LARYNGOLOGY AND OTOLGY, 330, Gray's Inn Road, London, W.C.—June 28, 5.30 p.m. "Medical and Surgical Treatment in Relation to the Physiology of the Nose," by Dr. Arthur Proetz (St. Louis, U.S.A.). Followed by questions and discussion.

Tuesday

EDINBURGH POSTGRADUATE BOARD FOR MEDICINE.—At Edinburgh Royal Infirmary, June 29, 5 p.m. "Changing Concepts in Therapeutics," by Prof. D. M. Dunlop.

INSTITUTE OF DERMATOLOGY, 5, Lisle Street, Leicester Square, London, W.C.—June 29, 5 p.m. "Pitfalls in Skin Therapy," by Dr. H. Gordon.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Praed Street, London, W.—In Lecture Theatre of the Inoculation Department, June 29, 5 p.m. Kettle Memorial Lecture: "Bone Growth and Absorption," by Prof. W. D. Newcomb.

Thursday

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C., July 1, 5 p.m. "Treatment of Intractable Ulceration of the Leg, with Special Reference to Sireptomycin," Hunterian Lecture by Prof. John Loewenthal (University of Manchester).

Friday

EDINBURGH UNIVERSITY.—In Anatomy Lecture Theatre, University New Buildings, Teviot Place, Edinburgh, June 29, 5 p.m. "The Use of Radioactive Iodine in the Study of Thyroid Function in Man," Cameron Prize Lecture by Prof. E. B. Astwood, Research Professor of Medicine, Tufts Medical School, Boston, Mass., U.S.A.

BIRTHS, MARRIAGES, AND DEATHS**BIRTHS**

Blainkin.—On June 12, 1948, at 12, Avenue Road, London, N.W., to Dr. Lillian Rivlin, wife of George Blainkin, a daughter—Lynne.
Crane.—On June 11, 1948, to Dr. Nest Crane (née Llewellin), wife of Dr. J. E. Crane, Carmarthen, a daughter.
Ingills.—On June 10, 1948, to Joan (née Dobson), wife of Dr. A. Ingills, a son.
McCoy.—On June 14, 1948, at Cambridge, to Pauline, wife of John McCoy, M.B., D.P.H., a daughter—Jennifer.
Martin.—On June 16, 1948, in London, to Eileen, wife of Dr. J. D. M. Martin, a daughter.
Morel.—On June 3, 1948, at Barnstaple, N. Devon, to Daphne (née Elmstic), wife of Dr. Mervyn Morel, F.R.C.S., a son—Paul Gordon.
Rudd.—On June 13, 1948, at The Gables Nursing Home, Aylesbury, to Margaret (née Coghill), wife of Dr. Peter Rudd, Winslow, Bucks, a daughter.
Scadding.—On June 17, 1948, in London, the wife of Dr. J. G. Scadding, a son.
Van Essen.—On May 29, 1948, at Guy's Hospital, in Janet C. Van Essen (née Trotter), M.B., Ch.B., wife of William M. Van Essen, F.R.C.S.Ed., of 14, Oakhill Road, Beckenham, Kent, a daughter—Morna Janet, a sister for Christopher.

DEATHS

Arkle.—On June 16, 1948, at "Marfield," Town Row, West Derby, Liverpool, Alexander Septimus Arkle, M.R.C.S., L.R.C.P.
Baker.—On June 19, 1948, at 2, Robertson Road, Bournemouth, Nugent Brander Baker, L.R.C.P.&S.Ed., L.R.F.P.S.Glas.
Barnes.—On June 17, 1948, at St. Albans, Heris, Augusta Schram Barnes, M.B., Ch.B.Ed., aged 36.
Edwards.—On June 17, 1948, at Westgate House, Leominster, Harford Norman Edwards, M.R.C.S., L.R.C.P.
Edwards.—On June 14, 1948, at Ainsdale, Percy Edwards, O.B.E., M.R.C.S., L.R.C.P., L.S.A., formerly of Liverpool, aged 84.
Mott.—On June 11, 1948, at The Woodlands, Hurnway, Christchurch, Hants, Georgiana Alexandra, widow of Sir Frederick Walker Mott, K.B.E., Hon.L.L.D., M.D., F.R.C.P., F.R.S.
Patten.—On June 13, 1948, Charles Joseph Patten, M.D., Sc.D., Emeritus Professor of Anatomy, Sheffield University, of Leyton House, Hale Road, Farnham, Surrey.
Porteous.—On June 12, 1948, at Douglas, Isle of Man, Edward John Porteous, M.B., Ch.B.Ed.
Salisbury.—Recently, Harold Kenneth Salisbury, M.R.C.S., L.R.C.P., of Woodstock Road, Redland, Bristol.
Sharp.—On June 19, 1948, at Struan Lodge, Musselburgh, Midlothian, James Sharp, M.B., Ch.B.Ed.

Any Questions?

Correspondents should give their names and addresses (not for publication) and include all relevant details in their questions, which should be typed. We publish here a selection of those questions and answers which seem to be of general interest.

General Tonics

Q.—In answer to a question on early signs of rheumatoid arthritis (April 17, p. 770) reference is made to treatment by "general tonics, especially cod-liver oil." What are general tonics? Is cod-liver oil one? If so, what is the evidence for this, and how is it thought to act in the case of a patient who without it is already receiving an adequate diet? Extract of mull and cod-liver oil, and also Parrish's food, are often prescribed for children to improve their general health. What benefit is obtained from such treatment, and how is it produced?

A.—Cod-liver oil had been known to have special value in respiratory infections for many years before vitamins were heard of, and there is no evidence that the value of the oil in respiratory infections (that is, in making children more resistant to bronchitis and pneumonia, and in improving those suffering from chronic bronchitis) is due to vitamins. Cod-liver oil contains a relatively large amount of iodine, and this may play a part. Aside from respiratory infections it is not easy to find precise evidence that cod-liver oil is a tonic. Its content of iodine may make it of value in conditions in which there is mild thyroid deficiency, of which rheumatoid arthritis is sometimes considered to be one. Unless an "adequate diet" contains a good deal of sea-fish it may be inadequate in its content of iodine. Mild thyroid deficiency can also be remedied by giving small doses of thyroid. The dose can be increased until there is a rise in the pulse rate or until the patient complains that he feels nervous or irritable.

General tonics used to include Parrish's food or Easton's syrup. These acted as bitters stimulating a greater flow of gastric juice and thus increasing the appetite. When the patient's appetite improved he felt stronger. It is not likely, however, that those with rheumatoid arthritis will do better if they eat more. The only other form of tonic which can be cited is the administration of large doses of vitamin B₁ (aneurin). Tablets containing 25 mg. given four times a day may be beneficial in lumbago. Why, is not known.

High Diastolic Pressure in the Elderly

Q.—In what circumstances can a good prognosis be given when the diastolic pressure is 130 mm. Hg or above in patients over, say, 50 years of age?

A.—One can never give a good prognosis in a patient whose diastolic blood pressure reaches 130 mm. Hg or above unless it has been induced by temporary extreme exertion of emotion. Even in such cases its occurrence would suggest a pathologically raised blood pressure in normal circumstances. In cases due to possibly removable causes, such as unilateral renal disease, coarctation of the aorta, or adrenal tumour, operation would be too late to avoid permanent and perhaps progressive damage to the kidneys and cardiovascular system. Indeed, in the case of coarctation the time for operation would have been long past. Factors mitigating somewhat the gravity of the prognosis would be a good response to treatment, a female as opposed to a male patient, the absence of family history, and the absence of angina pectoris or congestive heart failure. The less enlarged the heart and the fewer the secondary changes in the kidneys and retinae the better; but, whatever other findings there are, the outlook cannot be anything but gloomy.

Paludrine in Malaria

Q.—What dose of paludrine do you advise for (a) curative and (b) prophylactic purposes for a child aged 10? From which points of view, is paludrine more effective than the older remedies or not?

A.—(a) If the malaria is due to *Plasmodium falciparum* 0.1 g. of paludrine twice daily for 14 days should not only control the attack but may completely eradicate the infection from the

child—depending on the strain of *P. falciparum*. If the malaria is due to any other species of malaria parasite no short-term treatment can be guaranteed to eradicate the infection completely. In such cases 0.1 g. of paludrine twice daily may be given until the acute attack is controlled, and thereafter 0.1 g. weekly may be taken for 6 to 12 months in the hope that by this time the infection will have disappeared spontaneously. These relapsing types of infection, however, are better treated by the initial combination of a schizonticidal drug to control the acute symptoms and some such compound as pamaquin or pentaquine, which by a devitalizing action on exo-erythrocytic parasites make relapse less likely. (b) 0.1 g. of paludrine every day.

With African strains of *P. falciparum* fever has occurred even when daily suppressive doses of paludrine were being taken, and, in addition, in the control of acute attacks paludrine is slower and less effective than mepacrine. Its relation to the possible onset of blackwater fever has not yet been determined. At present in the treatment of acute attacks mepacrine is probably more satisfactory because it is known not to precipitate the onset of blackwater fever following infection with African strains of *P. falciparum*.

Immunization against Scarlet Fever

Q.—What is the present position with regard to active immunization against scarlet fever?

A.—Active immunization against scarlet fever requires 4 to 5 weekly subcutaneous or intramuscular injections of streptococcal toxin increasing in dosage from 500 skin-test doses until a total of 80,000 to 100,000 S.T.D. has been given. There is often some local reaction with redness and swelling of the arm, and susceptible children occasionally have a generalized rash with fever (miniature scarlet fever). All that is effected by such a course of inoculations is an antitoxic immunity which will inhibit formation of the scarlatinal rash but which does not protect the child against infection by *Str. pyogenes*. Scarlet fever is now a mild disease which attacks less than 10% of the child population. An affected child can be safely nursed at home and can be treated effectively with penicillin and antitoxin, so that there seems no point in recommending active immunization in a private family under present conditions.

Colour Reaction due to Sulphones

Q.—What is the nature of the colour reaction stated to be given by sulphones in patients suffering from leprosy? Would anaesthetics of the procaine series be likely to produce similar colour reactions?

A.—A colour reaction develops in patients treated with sulphones such as diasones, which is used in leprosy. It is a blue coloration of the skin due to a dye which is formed in the body from the sulphone and which circulates in the blood. It is not a true cyanosis, and the oxygen-carrying power of the blood is not diminished as it is, for example, when methaemoglobin is formed. There is no reason to suppose that anaesthetics of the procaine series would produce similar colour reactions.

Overlapping Rib

Q.—Can the lowest rib overlap the one above? A middle-aged man complains of occasional "overlapping" of the lowest rib on the right side, which he says is the result of a contusion in this spot sustained in a motor-car accident fifteen months ago. He suffers great pain when this overlapping (or underlapping) occurs. X-ray examination has revealed no bone injury or deformity. Is this condition possible? If so, is it attributable to the injury and is it likely to be permanent?

A.—It is difficult to give a direct answer to this question without an examination of the patient. It can be stated, however, that the phenomenon described—of "overlapping" of the lowest rib—is not common. Sometimes after injury there is a disruption of the lower rib cartilages, and one may override or underlap its neighbour during deep respiration or when bending forwards. Usually the patient can feel and hear a "click," which is painful. As a rule in genuine lesions of this type the doctor can also feel one cartilage slipping on another. There is a great tendency for psychologically unstable patients to

make a habit of producing the "click," as they also do when clicks occur elsewhere—e.g., the jaw, the shoulder, the hip. It is rarely necessary to go to the length of exploring and excising a portion of the affected cartilage.

"Chill on the Liver"

Q.—What is the underlying pathology of a "chill on the liver"? A patient has on four occasions within the last 15 years complained of attacks of anorexia, nausea, and generalized abdominal discomfort. His stools were putty coloured, but there was no clinical evidence of jaundice. Each attack lasted three or four days and always started a day or so after exposure to damp and cold.

A.—Not only is the pathology of "chill on the liver" unknown but the term itself is employed to describe various dissimilar functional disturbances. It is often used by laymen, but in no clearly defined sense. Essex Wynter (*Minor Medicine*, 1907) employed it to mean an attack in which there was complaint of pain or discomfort in the right hypochondrium with anorexia and constipation; he postulated transient engorgement of the liver. Leonard Williams (*Minor Maladies*, 1919) understood by a "chill on the liver" a febrile attack with myalgia. In the above instance a third meaning is given to the expression; here the symptomatology certainly suggests an ephemeral disturbance of liver function. An isolated bout of this nature might well be taken for an abortive attack of infective hepatitis; so-called biliary dyskinesia might be responsible. Disturbances of this kind are not rare in patients with hepatic cirrhosis, and occur also in those subject to migraine.

Hereditary Trophoedema

Q.—Is there any cure or beneficial treatment for hereditary trophoedema?

A.—Hereditary trophoedema, or Milroy's disease, can be a grievous affliction, especially if bilateral. The usual treatments for lymphoedema are indicated—sleeping with the foot of the bed well elevated and wearing elastic stockings in the daytime. Sometimes elastic bandages are stronger and more effective than the stockings. If the swelling cannot be brought under control by these supports then the constant wearing of glue bandages (Unna's type) is indicated. This is a great nuisance but is preferred by the patient to the unsightly swelling, although bathing is made impossible by the bandages. Radical operations of the Sistrunk type are worth while in the severer cases; large areas of redundant skin and all the deep fascia possible are removed after completely reducing the leg by rest and posture, combined if possible with the use of the "pneumassage" machine devised by Hunt. An interesting case of Milroy's disease was described in detail by Braham and Howells in the *Journal of May 1* (p. 830).

Dreams of Persons Born Blind

Q.—Is anything known about the dreams of individuals born blind? Do these people dream and, if so, what is the content of their dreams?

A.—People born blind have very profuse dreams; and as one has just expressed it to the writer, "Their dreams are just as mad as those of other people." The question is presumably based on the supposition that dreams are visual, and that as the individual born blind has never had the capacity nor the material for visualization he will not dream. But dreams of a non-visual kind are not uncommon—for example, kinaesthetic dreams (floating, etc.), and auditory dreams (conversation or sentences). We should therefore expect those born blind to dream, though not visually. (Some claim that they have visual dreams, just as some claim that they have a perception of colour, but a description of their experience suggests something very different from that of those with sight.) They dream in terms of their every-day experiences and by means of their other senses. Indeed, those who have seen but have lost their sight may have visual dreams for a time, but tend to lose them in favour of auditory and other sensations. It seems that we dream in terms of the sense most used by us in our accommodation to the outside world—with most people this is the visual sense; to the blind it is usually auditory, olfactory, or tactile, and those born blind therefore appear to dream most commonly

in these terms. Helen Keller (who was not, however, born blind) had a frequent nightmare of walking endlessly round a curved object (tactile and kinaesthetic), not knowing where it goes or in what direction. She also had dreams of committing murder to save the lives of others.

NOTES AND COMMENTS

Gifts from America.—Dr. H. J. FENN, 95, Shooters Hill, London S.E.18, writes: I wish to bring to your notice the existence of the Amateur Radio International Friendship Association. This organization, which is typical of the "Ham Spirit" which pervades the world of amateur radio, resulted from the chance contact between an American and a British amateur, both of whom were recovering from illness. The American, wishing to celebrate the contact, asked for details of two persons or families who were hard hit by sickness, the war, or old age, and sent them each a gift parcel. Further he sold the idea to others, and the Association came into being. The situation now is that there are more would-be donors than recipients. It would be appreciated if members of the B.M.A. could spare a little time to assist in furthering this work by submitting details of genuine cases of hardship caused by sickness, old age, war conditions, or physical disability. It would be a help if members used their headed notepaper and typed the following details: full name, age, sex. In the case of children, state whether normal, over- or under-size, since clothing may be sent. Full postal address. Additional details required are religious affiliations; fraternity associations, i.e., Masonic, Rotarian, etc. Usual occupation. Hobbies, if any. Any other useful data. It should be borne in mind that donors often prefer to help members of the same Church, or person of the same name or occupation, or who seem to have the same tastes. If possible an indication of the cause of hardship should be given. Every effort is made in America to place details of each case with a donor who is likely to have some community of interest with the recipient.

Pitressin Tannate.—Parke, Davis and Company point out the statement that pitressin tannate is "water-soluble" (June 1, p. 1120) is incorrect. This should have read "water-insoluble."

INCOME TAX

All inquiries will receive an authoritative reply but only a selection can be published.

Attending Scientific and/or Council and Committee Meetings

The question raised is not capable of a simple answer; whether such expenses can be deducted for income-tax purposes depends on the circumstances of the member and the purpose served by his attendance at meetings at the institute in question.

I. Cases in which the earnings of the member are derived from employment, etc., and are therefore assessable under Schedule E.

The statutory rule requires that to be deductible expenses must be incurred wholly, exclusively, and necessarily in the performance of the duties of the employment. It may be assumed, we think, that an employee could not successfully contend that his attendance at such meetings was part of the duties required by the terms of his service contract. Accordingly the expense of attendance would not be legally deductible.

II. Cases where the earnings are assessed under Schedule D.

The statutory rule is less rigid, and it is the practice in such cases to admit as deductible such expenses as the maintenance (not the building up) of a medical reference library on the ground that it is in essence the maintenance of the "tools" of the practitioner. A natural extension of such allowances is to permit the cost of attending lectures, etc., the purpose of which is similar, i.e., to keep the practitioner's knowledge up to date. (This, however, would not extend to a widening and substantial improvement of professional knowledge, e.g., to attending a special course in tropical medicine or public health.)

Applying these considerations to the question, we conceive that inspectors of taxes might legitimately allow the cost incurred by a general practitioner of attending a meeting the purpose of which was to afford further professional knowledge, but refuse it if the purpose was to advance or protect the general interests of the profession.

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Atlopij* *Western*, London. ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the British Medical Journal alone. Authors desiring REPRINTS should communicate with the Publishing Manager, B.M.A. House, Tavistock Square, W.C.1, on receipt of proofs. ADVERTISEMENTS should be addressed to the Advertisement Manager, B.M.A. House, Tavistock Square, London, W.C.1 (hours 9 a.m. to 5 p.m.). TELEPHONE: EUSTON 2111. TELEGRAMS: *Admedadn*, *Western*, London. MEMBERS' SUBSCRIPTIONS should be sent to the SECRETARY of the Association, EUSTON 2111. TELEGRAMS: *Mediseca*, *Western*, London. B.M.A. SCOTTISH OFFICE: 7, Drumchapel Gardens, Edinburgh.

SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL

LONDON SATURDAY JUNE 26 1948

HEARD AT HEADQUARTERS

Charities Still Buoyant

It is worthy of note that the amounts received by the B.M.A. for the various medical charities during the first three months of this year were at almost exactly the same level as for the corresponding period in 1947. The amount received from January to March last year, taking earmarked and non-earmarked subscriptions together, was £7,000, and this year it was £6,987. During the first three months of this year there was an unprecedented crisis in the medical profession: large numbers of practitioners must have felt insecure in their personal position, and must have survived their commitments with more than ordinary concern, so that there would be a great temptation to let charitable appeals await more settled weather. Yet the amount subscribed was practically the same as before, and the subscriptions to the two principal charities—the Royal Medical Benevolent Fund and Epsom College—were larger than usual. A member suggested at the last Council meeting that a well-designed Christmas card showing the B.M.A. building should be produced in good time for next season and sold for the benefit of medical charities. Another member suggested that a more interesting picture might be a group of the members of the Council in session, but the member who had made the original suggestion replied that he was anxious to ensure that there was a profit.

Ministry of Education Circular 102

The special committee of the Association which was set up last year to consider the question of fees for treatment of school-children has had to report that it is unable to make further progress. Certain proposals were put forward by the Association for a revision of the fees as set out in the Ministry's circular 102 in respect of the treatment of school-children at voluntary hospitals; a slight modification was obtained, but its effect was quite small; and the Ministry of Education's reply to repeated representations has been that if the Association wishes to pursue the matter the only course is to enter into negotiations with the local authority associations, when the Ministry would consider the result. A tentative approach was made to the local authority association mainly concerned, but it was learned that that body would not feel disposed to negotiate revision of fees about which it had not been consulted in the first place and which it had accordingly accepted only under protest.

Contracts in General Practice

The attention of the Central Ethical Committee has been drawn to a number of difficulties which have recently confronted purchasers of practices and employers of assistants where through lack of foresight their interests have been inadequately safeguarded in their agreements. At a time such as the present, when contracts are being framed hurriedly, it is important that all possible contingencies should be covered. In a number of cases principals have discovered that their previous assistants have been able to return and practise in the locality, and in other cases practitioners have bought practices only to find that the vendor has returned to practise in the locality which he had vacated. Such departure from the traditional standards of ethics is to be deplored and can be safeguarded only by adequate legally enforceable agreements made at the time of transaction.

Complaints Anticipated

Mr. Bevan seems to covet the role of St. Sebastian, to whom, pierced by a thousand javelins, he likened himself at a meeting at the Royal College of Nursing the other day. He expects a flood of complaints directly July 5 is upon us. "I don't know," he told the nurses, "but what I shall not try to go about disguised after July 5. For every mistake you make I shall have to bleed." The National Health Service Act, he said, placed a megaphone at the mouth of every person with a complaint. As time went on, of course, the complaints would dwindle, and perhaps after a season would be transmuted into praises. The National Health Service would eventually no longer be news, for there was no news but bad news. To say that a health service was working smoothly was not news; to bring up scandals and charges of inefficiency was news of the first order. There would come a time when there would be no headlines, no buffetings of the Minister, no questions in Parliament. Meanwhile Mr. Bevan described himself as the central registrar for defects.

No Patchwork for Health Centres

The very name of health centre has a fascination for some people, and probably the greatest surprise they will experience after July 5 is to find the urban landscape very much as before instead of being decorated by 2,000 new buildings functioning as health centres, none of them more than a mile away from the house of anyone who lives in a town. An architect on the staff of the Ministry of Health was questioned on the subject at a recent conference and declared that there was no intention of making health centres out of patched-up buildings. The Minister had made it clear, he said, that in order to get his scheme launched properly health centres must be in new buildings, not existing buildings adapted for the purpose. A private architect on the same occasion also said that it was imperative that health centres should be specially designed. To the British mode of life the health centre is a new creation and calls for a new architectural form. Even reference to America does not reveal much satisfactory information. But the Minister also holds that dwelling-houses must have precedence over health centres and even over maternity homes.

Under the Influence

Convictions for being under the influence of drink while in charge of a car may be expected to be slightly more frequent among doctors than among other classes of the community, not because doctors are more addicted to alcoholic indulgence, but because they are constantly driving cars at all hours of day and night in the course of their occupation. One of the respondents on this occasion had been before the Council on a similar charge 25 years ago, when the then President, Sir Donald MacAlister, as was his wont in every such case, exacted a pledge of total abstinence from him. Sir Donald would never let an erring doctor go away without promising never to touch drink again. The present President takes a different line, believing that the Council ought not to ask for such assurances and ought to judge not according to what a man promises but according to what he performs.

A Ninetieth Annual Meeting

The Metropolitan Counties Branch of the Association held what was described as its ninetieth annual meeting the other day, though in fact the official history of the Association gives the Branch as having been established in 1853. Its formation marks the end of the Association's existence as a provincial

society. With the taking in of the metropolitan counties the Association, so to speak, came to town. The Branch was from the first active in its support of the Association's policy on medical reform, reform of the Poor Law, and reform in the teaching of midwifery. Some great men in Association annals have been presidents of the Branch, and Mr. A. M. A. Moore, the new president, with becoming humility, mentioned the names of some of his predecessors within comparatively recent years, including the late Mr. Bishop Harman, for many years treasurer of the Association, and the late Mr. E. B. Turner, one-time chairman of the Representative Body. Mr. Moore in his presidential address gave an unusually interesting discourse on the anatomy of the hand and foot and some common or less common abnormalities. Owing to a long previous discussion on some business connected with the rules and other matters, the meeting had lasted an hour before the presidential address was reached, but Mr. Moore held his audience for another hour, and made the dry bones live and dance before them.

Field Epidemiology

A lively contribution was made to the proceedings of the Harrogate conference of the Royal Sanitary Institute by Dr. W. H. Bradley, senior medical officer of the Ministry of Health. Dr. Bradley pointed out that, while there had been many outstanding achievements in field epidemiology, there still remained a vast range of infections, "collywobblers, molligrubs," of which very little was known. Epidemiology, he said, was now a job for a team. The days of individualistic study were over, though he hoped that from time to time British medicine might sport a genius like Pickles, a general practitioner who knew how to play a solitary game to the general advantage. But on the whole it was a matter for team work. The great thing to remember was that the first case of infection in any district was the one which mattered most. "I believe," said Dr. Bradley, "the family doctor realizes this as much as the medical officer of health, and I think they should always get together on these occasions and bring in the rest of the epidemiological team." The final high-light which Dr. Bradley projected was a picture of the medical officer of health divesting himself of his committee suit, donning a pair of stout boots, and heading for the field, which promised a greater harvest than the office desk, and he hoped the general practitioner would join him there.

SUPPLY OF VACCINES IN N.H.S.

After July 5 lymph for smallpox vaccination will be available free of charge to medical practitioners in the Service, who should apply for it at the nearest or most convenient laboratory shown in the following list. They will receive officially printed application forms, with prepaid postage.

Birmingham: City Bact. Labs., 150, Great Charles Street, Birmingham, 3. (Telephone: Central 1724.) **Bristol:** Dept. of Preventive Medicine, Whitley Road, Clifton, Bristol, 8. (Telephone: Bristol 38257.) **Cambridge:** Public Health Lab., Dept. of Pathology, Tennis Court Road, Cambridge. (Telephone: Cambridge 55526.) **Cardiff:** Public Health Laboratory, Institute of Preventive Medicine, The Parade, Cardiff. (Telephone: Cardiff 8288.) **Carlisle:** Path. Lab., Cumberland Infirmary, Carlisle. (Telephone: Carlisle 590.) **Carmarthen:** Public Health Laboratory, Penlan Road, Carmarthen. (Telephone: Carmarthen 7271.) **Conway:** Public Health Laboratory, "Bryn Hyfryd," Conway. (Telephone: Conway 2178.) **Derby:** County Offices, St. Mary's Gate, Derby. (Telephone: Derby 47131, Extn. 120.) **Dorchester:** County Laboratory, Glyde Path Road, Dorchester, Dorset. (Telephone: Dorchester 600.) **Exeter:** Public Health Laboratory, 7, Dix's Field, Exeter. (Telephone: Exeter 4550.) **Hereford:** Public Health Laboratory, County Offices, Hereford. (Telephone: Hereford 3071.) **Ipswich:** Public Health Lab., County Lab., Bond Street, Ipswich. (Telephone: Ipswich 51398.) **Leeds:** Bact. Dept., School of Medicine, Leeds, 2. (Telephone: Leeds 20071.) **Leicester:** Public Health Lab., Isolation Hosp., Groby Road, Leicester. (Telephone: Anstey 383.) **Lincoln:** Public Health Laboratory, St. Edmunds Chambers, Bank Street, Lincoln. (Telephone: Lincoln 8607.) **Liverpool:** Bact. Dept., City Labs., 126, Mount Pleasant, Liverpool. (Telephone: Royal 3636/7.) **London** (Colindale): Central Public Health Laboratory, Colindale Avenue, London, N.W.9. (Telephone: Colindale 6041 and 4031; Telegrams: Defender, Hyde, London.) **Maidstone:** County Laboratory, Maidstone. (Telephone: Maidstone 4121, Extn. 286.) **Manchester:** Public

Health Lab., York Place, Manchester, 13. (Telephone: Rusholme 1446.) **Newcastle:** Public Health Lab., Gen. Hosp., Westgate Street, Newcastle-upon-Tyne. (Telephone: Newcastle 34920.) **Northallerton:** Public Health Laboratory, County Hall, Northallerton, Yorks. (Telephone: Northallerton 88.) **Northampton:** Public Health Laboratory, General Hospital, Northampton. (Telephone: Northampton 347.) **Norwich:** Public Health Laboratory, Isolation Hospital, Bowthorpe Road, Norwich. (Telephone: Norwich 21095.) **Oxford:** Public Health Laboratory, Walton Street, Oxford. (Telephone: Oxford 47884/5.) **Sheffield:** Public Health Lab., City General Hospital, Sheffield, 5. (Telephone: Sheffield 36751.) **Stafford:** Public Health Lab., Martin Street, Stafford. (Telephone: Stafford 377.) **Wakefield:** Public Health Laboratory, County Medical Offices, Wood Street, Wakefield. (Telephone: Wakefield 3781.) **Winchester:** Public Health Laboratory, Royal Hampshire County Hospital, Winchester. (Telephone: Winchester 3807.)

Stocks of prophylactic for diphtheria immunization—A.P.T. and T.A.F.—will be held by medical officers of health for use as required. They will make their own arrangements about issuing it to general practitioners.

Correspondence

Supply of Doctors' Cars

Medical practitioners write to us from time to time about their difficulties in obtaining motor-cars, and one has stated recently, "In my particular locality not a single ex-Service doctor has been able to purchase a car, despite correspondence with the manufacturers, distributors, and agents." The following letter from the Society of Motor Manufacturers and Traders, Ltd., may therefore be of interest.

SIR,—From time to time there have been comments on the question of the supplies of new cars for doctors. The motor industry and trade have constantly had this question under review and we wish to place on record the following points.

At no time has the industry undertaken to give absolute priority to doctors. The term used is "preferential delivery," and that is only intended to apply in cases where a doctor has no serviceable car or no car at all.

As delivery dates for the ordinary public have been anything up to three or four years and now may be considerably more, a doctor is getting preferential delivery if he obtains a car in, say, one year less time than the ordinary public. That may still mean that he has to wait a very considerable time, and doctors are not expected to refrain from placing an order until their car is on its last legs.

The efforts of the trade to meet doctors' requirements have been frustrated to some extent by a minority of doctors who have abused the privilege. The trade holds a considerable body of evidence of this abuse.

The position is complicated by the fact that the orders by doctors are by make. All makers are exporting a very large percentage indeed of their output, and some, of recent months have been exporting practically the whole of their output. Orders placed for these latter makes, therefore, have been and will be even still further delayed.

It will be recalled that the export percentage for motor-car has been consistently increased over the last two years, and this has added to the difficulty of forward planning of deliveries. In fact, less than a quarter of the number of new cars that were available each year before the war are now allocated to the home market, despite the enormous pent-up demand.

A recent survey of the position has been made and it demonstrates that distributors and retailers have been giving preferential delivery of cars to doctors. No less than 47% of doctors' orders have been fulfilled in the last two years, whereas in the same period only 18% of orders placed by all other users have been fulfilled. Other users include Government departments, police, nationalized corporations, large industrial fleet owners as well as other essential users.—We are, etc.,

R. GRESHAM COOKE,

Director,

Society of Motor Manufacturers and Traders, Ltd.

A. W. GRAFTON,

Secretary, Motor Agents Association, Ltd.

Seating at Representative Meetings

SIR.—The position with regard to the seating of representatives at the Special Representative Meeting last month was chaotic. Dr. Stephenson had raised the question of some organized form of reservation, and the Council's reply was very feeble. The fact that there are not enough seats to go round was made an excuse for limiting reservation to individuals, so that Groups were scattered all over the hall, and the scramble for seats between 9 a.m. and 10 a.m. was unseemly and deplorable. The fact that there is a shortage calls for organization rather than *laissez-faire*.

I suggest that this organization might be on the following lines:

(1) Elimination of desks so as to provide sufficient rows of seats to accommodate the whole Representative Body on the floor of the hall.

(2) What desks can still remain should be at the back of the hall, so that crowding is near the speaker rather than at the far end, and the disappointment of having to be at the back may be balanced by having a desk on which to express one's feelings.

(3) Seats should be allotted before the meeting to Groups by ballot, and the Group secretaries should be responsible for sending in the number required beforehand.

It all means a little extra staff work, but it would be very greatly appreciated, and it would be well worth while. Other representatives may have better suggestions, and this letter is intended to bring the matter up and to keep it before the Agenda Committee until order is restored out of the present chaos.—I am, etc.,

Great Dunmow, Essex.

G O BARBER

Mortuary Accommodation

SIR.—The Annual Report of the Council of the B.M.A. (Supplement, April 10, p. 87, Section 118) states that in March, 1947, the Minister of Health was asked if he would exercise his powers under Section 198 of the Public Health Act, 1936, to require local authorities to provide mortuaries and, where necessary, suitable premises for post-mortem examinations. The Minister, quite rightly, did not feel justified, in view of the predominant claim of housing, in taking any action at the present time. Nevertheless, the B.M.A. Council now proposes (para. iv) that the Minister be asked to give the matter his urgent attention, recommending that mortuaries be established at central points in each coroner's jurisdiction with refrigeration, post-mortem rooms, and "with facilities for histological examinations"; and (para. v) "that in general local hospital mortuaries be not utilized for this purpose."

The extravagant expenditure in setting up such establishments, save perhaps in the largest cities, could never be justified in times of plenty; even to think of it in these days of economic distress is ludicrous. The correct place for the performance of coroners' necropsies is a properly equipped hospital post-mortem room. Why have two buildings, two lots of mortuary attendants, and two histological units when one will do? And why this unnecessary demand on the pathologist's time in travelling from one place to the other?

The present position does not call for so drastic a remedy as the B.M.A. Council imagine. Adequate mortuary accommodation is available in most local authority areas, and there are hospital post-mortem rooms within reach of practically all the coroners if they care to make use of them. Many of the coroners do in fact now cause the cadavers to be moved to the pathologist's post-mortem room, where usually there is also good mortuary accommodation. But there are some who are not clear as to the difference between a mortuary and a post-mortem room and who, rather than cause the body to be moved, are content for an examination to be performed under primitive and often well-nigh impossible conditions. This reluctance to help the pathologist is not, as we have heard it stated, out of respect for the dead or for the relatives, but to economize in transport, a pathologist (at 6d. or 1s. a mile as laid down by the local authority) costing less than an undertaker (perhaps 2s. 6d. a mile on the average).

For this reason, one can only deplore the B.M.A. Council's recommendation, "That as an interim measure urgent consideration should be given to practical steps for mobilizing pathologists and enabling them to travel to the various outlying mortuaries with fully equipped motorized laboratories." This grotesque suggestion is completely at variance with the known wishes of pathologists,

who are presumably the "competent practitioners" referred to earlier on in the report. Is it really seriously suggested that pathologists should travel round in fully equipped motorized post-mortem rooms with self-contained running water and drainage, or is the "fully equipped motorized laboratory" another name for the pathologist's car containing a bag of instruments?

It was anticipated that the appointed day would see the end of this archaic and literally parochial practice which pathologists have for so long condemned and which the B.M.A. Council is now recommending. It is to be hoped that the Minister will reject paras. 118 (iv, excluding the last sentence), (v) and (vi), and 119 of the Council's otherwise admirable report.—I am, etc.,

Worcester.

W. H. McMENEY, M.D.

B.M.A. LIBRARY

The following books have been added to the Library:

- Ballenger, W. L., and Ballenger, H. C.: Diseases of the Nose, Throat and Ear. Ninth edition. 1947.
Bessis, M.: La Maladie Hémolytique du Nouveau-Né. 1947.
Brown, W.: Oxford Essays on Psychology. 1948.
Burch, G. E., and Reaser, P.: Primer of Cardiology. 1947.
Burt, C.: Mental and Scholastic Tests. Second edition. 1947.
Cavadias, A. P.: Clinical Endocrinology and Constitutional Medicine. 1947.
Child Study Association of America: Parents' Questions. Second edition. 1947.
Doménech-Alsina, F.: Diagnóstico y Terapéutica Quirúrgica de Urgencia. 1947.
Edwards, H. C.: Recent Advances in Surgery. Third edition. 1948.
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MEDICAL INSURANCE AGENCY

The annual meeting of the Medical Insurance Agency was held on June 3, when a quite exceptional expansion of all branches of the Agency's business in 1947 was revealed. Rebates of premium to members of the profession amounted to £11,060, and the allocations to medical charities will, largely by reason of the covenant system, benefit them by about £15,000: a sum of £1,000 was entrusted to the Royal Medical Benevolent Fund to be used entirely at discretion in connexion with either a second edition of Westmoreland Lodge, which was opened last February, or the provision of accommodation for sick or bedridden beneficiaries. A "sick-bay" hostel is a logical and necessary development of the Westmoreland Lodge venture. During the past two years the "Loans on Practises" scheme, approved by the B.M.A., has brought hundreds of new clients to the Agency, but this activity has, of course, now ceased. At the meeting on June 3 Dr. J. A. Brown, Sir Francis Fraser, Sir Robert Hutchison, Dr. Roche Lynch, Sir Ewen Maclean, and Mr. H. S. Souttar were reappointed members of the committee of management for the ensuing three years. Dr. James Fenton was reappointed chairman and Dr. Henry Robinson honorary secretary. A vote of thanks to the manager and staff was recorded with enthusiasm.

The Agency was started in 1907 on the joint initiative of the then Editor of the *Journal*, Dr. (later Sir) Dawson Williams, and the then Editor of the *Lancet*, Dr. (later Sir) Squire Sprigge. The increasing value of the Agency to the medical profession is clearly proved by this year's report. It has established its claim to provide the medical profession with skilled, honest, and unbiased advice in insurance matters.

Association Notices

N.H.S. SUPPLEMENTARY OPHTHALMIC SERVICE

Notice to Ophthalmologists in Scotland

A separate central list of medical practitioners having the prescribed qualifications for participation in the Supplementary Ophthalmic Service will be compiled for Scotland. Application forms received at B.M.A. House, London, from practitioners in Scotland will therefore be automatically forwarded to the Scottish Secretary, B.M.A. House, Drumsheugh Gardens, Edinburgh, for submission to the Scottish Qualifications Committee.

Diary of Central Meetings

JUNE

- | | |
|---------|--|
| 25 Fri | Annual Representative Meeting, Large Examination Hall, Bene't Street, Cambridge, 9.30 a.m. |
| 26 Sat | Annual Representative Meeting, Cambridge, 9.30 a.m. |
| 28 Mon | Council, Small Examination Hall, Bene't Street, Cambridge, 9 a.m. Annual Representative Meeting, Cambridge, 10 a.m. |
| 29 Tues | Annual Representative Meeting, Cambridge, 9.30 a.m. Annual General Meeting, Large Examination Hall, Bene't Street, Cambridge, 12.30 p.m. Adjourned Annual General Meeting and President's Address, Senate House, 8.30 p.m. |
| 30 Wed | Council, Small Examination Hall, Bene't Street, Cambridge, 9 a.m. |

Meetings of Branches and Divisions

NORTH OF ENGLAND BRANCH

The first meeting of the Spring Course of Scientific Meetings was held in the Royal Victoria Infirmary on March 11. Prof. F. J. Nutter demonstrated cases of disseminated sclerosis and discussed the disease, paying particular attention to its many modes of onset and its prognosis. This was followed by a lecture by Prof. F. A. E. Crew on the biological and medical aspects of marriage. He commented on the increase in the divorce rate and pointed out that marriage is a social institution and that the family is a biological unit for the security of the species. He also discussed the

tendency of Governments to become more paternal and to take over a considerable number of the functions of the parent and suggested that we must decide on what functions in life we can allow the bureaucrats to take over. There were 150 members present.

The second meeting was held at the Royal Victoria Infirmary on March 25, when Mr. W. A. Hewitson demonstrated cases of carcinoma of the breast. This was followed by a lecture by Prof. G. Grey Turner on some considerations in the surgery of the mouth and jaws. He discussed epithelioma of the tongue, its lymphatic spread and operative treatment, and malignant neoplasms of the jaw, stressing the use of preliminary gastrotomy in treatment. His lecture was illustrated by an excellent series of lantern slides. It was attended by a large number of members.

The last meeting of the series was held on April 8 and took the form of a "brains trust." The members of the team were Mr. C. Gordon Irwin, Prof. A. Kennedy, Mr. F. McGuckin, Dr. Gavin Muir, Dr. J. B. Tilley, and Dr. H. F. Wattsford. The question master was Prof. E. Farquhar Murray.

There were 130 members present and it was a very enjoyable evening, being both entertaining and instructive. More questions had been submitted than time permitted discussion of, but the questions dealt with ranged from purely surgical—"What is the present position of the injection treatment of varicose veins?"—to the political—"Should the Minister of Health be a doctor?" The opinion of the brains trust when replying to the question "Do you believe that physicians live longer than surgeons?" was that surgeons lived longer than physicians, but physicians ckd out more years. All the members agreed that if they were to begin their career again they would take up medicine once more. In reply to the question "On what points should a selection committee for candidates for medicine concentrate?" the brains trust was no very helpful, and it was left to Prof. Kennedy to expound the view that the function of the committee was merely to exclude those (1) who will fail examinations, and (2) those who will go mad in training. A question on whether abortion should be legalized on sociological and economic grounds provoked a good discussion. Eventually it was agreed that abortion could be agreed to on these grounds only in very rare cases.

MONMOUTHSHIRE DIVISION

The strength of the Division has increased slightly during the year there being 198 members at March 31 as compared with 192 in 1947. The executive committee of the Division met on nine occasions during the year and their business was mainly concerned with instructions and guidance from Headquarters on the National Health Service.

Five general meetings of the medical profession, at which members and non-members of the B.M.A. were present, were held during the year, and there was an average attendance of 59 people at these meetings. The most successful was held in January and was addressed by Dr. D. P. Stevenson, Deputy Secretary of the B.M.A. on "The Terms of Service under the National Health Service Act." The meeting was attended by 136 medical men and women and a vote at the end of the meeting showed that only three of those present were willing to take service under the Act as it then stood. After the Minister had replied to the Negotiating Committee's further general meeting of the profession was held, at which 60 members were present; 42 voted that they were unwilling to enter the National Health Service, while 14 voted for acceptance.

Despite the preoccupation of the profession with medico-political time was found during the year to hold four meetings connected solely with professional matters. An informative address was given in October to 65 members by Dr. Clarke-Kennedy on "Psychosomatic Medicine." In September a successful clinical meeting was held at which 39 members were present, and interesting cases were demonstrated by members. Also during September the opportunity was taken to exhibit the topical film of "Anterior Poliomyelitis," with which were shown films on "Nitrous Oxide and Ether Anaesthesia" and the "Surgical Treatment of Pyloric Stenosis"—the latter by kind permission of Mr. Rice-Edwards. In November an interesting demonstration of cases treated by plastic surgery was given by Mr. Emlin Lewis.

CORRECTIONS TO PROGRAMME OF ANNUAL MEETING

The Section of Anatomy and Anthropology meets on Friday, July 2, not July 1 as stated in the *Supplement* of June 12 (p. 162).

The address of Dr. J. C. Belisario, who is speaking in the Section of Dermatology (June 12, p. 162), should have been Sydney, Australia not U.S.A.

In the Section of Child Health the following lecture-demonstration has been arranged for Thursday, July 1, at 2.30 p.m. (Meeting Place: Agriculture Department; entrance, Tennis Court Road): "The State of Nutrition of German Children." Selected subjects are being brought on a visit to this country by Prof. R. A. McCance (Cambridge) and Miss E. M. Widdowson (Cambridge).

In the combined meeting of the Sections of Medicine and Surgery on Thursday, July 1, Dr. Rae Gilchrist (Edinburgh) will speak, not Dr. A. R. Gilchrist (Aberdeen).

BRITISH MEDICAL JOURNAL

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION



Edited by
HUGH CLEGG, M.A., M.B., F.R.C.P.

VOLUME I 1948
JANUARY TO JUNE

KEY TO DATES AND PAGES

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